

**REPORT ON
PRE-DESIGN INVESTIGATION
SENECA FALLS FORMER MGP SITE, SITE NO. 8-50-010
SENECA FALLS, NEW YORK**

by Haley & Aldrich of New York
Rochester, New York

for New York State Department of Environmental Conservation
Albany, New York

File No. 34507-023
March 2016





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New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, New York 12233-7014

Attention: Mr. Douglas MacNeal, P.E.

Subject: Pre-Design Investigation Report
Seneca Falls Former MGP Site, Site No. 8-50-010
Seneca Falls, New York

Dear Mr. MacNeal:

On behalf of New York State Electric & Gas (NYSEG), Haley & Aldrich of New York (Haley & Aldrich) is pleased to present this Pre-Design Investigation (PDI) Report for the Seneca Falls Former Manufactured Gas Plant (MGP) Site located in Seneca Falls, New York. The work was completed in accordance with the PDI Work Plan dated 20 October 2015 (revised version) and conditionally approved by the New York State Department of Environmental Conservation on 15 October 2015.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

A handwritten signature in black ink, appearing to read 'Doug Allen'.

Douglas C. Allen, P.G.
Senior Project Manager

A handwritten signature in black ink, appearing to read 'Colin Sweeney'.

Colin Sweeney
Vice President

Enclosures

c: RG&E; Attn: Jeremy Wolf

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1. Introduction

New York State Electric & Gas (NYSEG) retained Haley & Aldrich of New York (Haley & Aldrich) to complete a Pre-Design Investigation (PDI) and prepare this PDI Report for the Seneca Falls Former MGP Site located in Seneca Falls, New York (Figure 1). The PDI was completed in accordance with the PDI Work Plan dated 20 October 2015. The PDI Work Plan was approved by the New York State Department of Environmental Conservation (NYSDEC) in an electronic message dated 15 October 2015. A final version of the PDI Work Plan, with modifications requested by NYSDEC in the 15 October 2015 approval, was submitted to NYSDEC on 20 October 2015.

1.1 PURPOSE

The PDI was completed to collect additional data necessary to prepare Remedial Design documents.

1.2 SITE DESCRIPTION

The Seneca Falls Former MGP Site is located at 187 Fall Street in Seneca Falls, New York. The Site is bordered to the east by residential properties (181-185 Fall Street), to the south by the Seneca River and Canal (a Class C surface water), to the west by a gasoline filling station (193 Fall Street), and to the north by Fall Street (Figure 2). The northern portion of the Site (the Upland Area) which includes a paved vehicle parking area and building slab is separated from the southern portion of the Site (the Lowland Area) by a steep slope. The residential property which abuts the Upland Area to the east, 185 Fall Street, is currently vacant and owned by NYSEG.

The Site is located in a mixed residential and commercial portion of Seneca Falls Village and is currently used to park used cars in accordance with a lease agreement between NYSEG and a neighboring used car dealer. The Site and adjacent properties are zoned as “Highway Commercial”, which includes various commercial uses. Residential use within this zoning designation is allowed for properties where residential use pre-dated the current zoning ordinance.

1.3 BACKGROUND

Based on the outcome of Remedial Investigation (RI) activities completed in 2007, 2008, and 2009, Haley & Aldrich prepared a Feasibility Study (FS) report in 2015 to identify and evaluate remedial alternatives to address potential exposure pathways to MGP-related materials that were identified during the RI. The potential exposure pathways included the following:

- On-site (Upland and Lowland Areas): Complete exposure pathways to surface soil were identified for current and future scenarios: an on-site utility worker, trespasser, or Rochester Gas and Electric (RG&E)/NYSEG employee occasionally visiting the Site. A complete exposure pathway to surface soil was identified for a future construction worker under the scenario that a new building is constructed at the Site. Complete exposure pathways to subsurface soil were identified for current and future utility workers, and for a future construction worker under the scenario that a new building is constructed at the Site.
- Off-site Residence at 185 Fall Street: Complete exposure pathways to surface soil and subsurface soil were identified for a current and future resident or construction worker.

- For the Seneca River and Canal: Complete exposure pathways to sediment were identified for current and future trespassers and boaters.

To address the current and future exposure pathways, the NYSDEC-approved FS recommended In-Situ-Solidification/Stabilization (ISS) of impacted soil in the Upland Area, capping of impacted soils in the Lowland Area, excavation and off-site treatment/disposal of surface and subsurface soil at 185 Fall Street, dredging of impacted Seneca River and Canal sediments, institutional controls, and monitored natural attenuation (MNA) of impacted groundwater. This recommended remedial alternative was approved by NYSDEC in a Record of Decision (ROD) issued on 31 March 2015.

1.4 OBJECTIVES

The objectives of the PDI field activities completed at the Site included the following:

- Develop a comprehensive Site plan with ground surface topography, underground utilities, and the limits of federal and state wetlands (if present) to support the Remedial Design and future remediation construction;
- Collect Upland Area soil samples and Seneca River and Canal sediment samples for waste characterization purposes and disposal facility pre-approval; and,
- Collect Upland Area soil samples for ISS bench scale testing and geotechnical parameter testing to support the Remedial Design.

1.5 REPORT ORGANIZATION

Following this introductory section, the PDI Report is organized as follows:

- Section 2 describes the PDI field activities and laboratory analyses;
- Section 3 describes the PDI observations, field surveys, and analytical results;
- Section 4 presents the conclusions and recommendation for additional work; and,
- Section 5 describes the report limitations.

2. Pre-Design Investigation Scope of Work

The field and laboratory tasks completed to fulfill the PDI objectives are described below.

2.1 UPDATED SITE SURVEY

Haley & Aldrich contracted with a licensed land surveyor, Hoffman Land Surveying and Geomatics, Inc. (Hoffman Land Surveying) of Ontario, New York, to obtain an updated comprehensive survey of the Site and adjacent features necessary to support the Remedial Design. The survey included topography, property lines, ordinary high water along the Seneca River and Canal, a bathymetric survey of the proposed remediation area in the Seneca River and Canal, and the Fall Street right-of-way as well as underground and overhead electrical lines. Prior to the survey, underground utilities were located (as practicable) and marked in the field by Trec Environmental, Inc. (Trec) of Spencerport, New York.

Haley & Aldrich also completed a wetlands survey along the Seneca River and Canal to flag federal and state wetlands, if any, in the vicinity of the proposed remediation. The outcome of the wetlands delineation was documented in a wetland and stream delineation report (with supporting figures, photos and data forms) describing the delineation methodology, and the number, size, and characteristics of the wetlands and streams identified within the boundaries of the Site and 193 Fall Street Lowland Area where remediation construction is planned.

2.2 MONITORING WELL ABANDONMENT

Monitoring well MW-08-02, installed inside the below-grade former gas holder, was abandoned by Parratt-Wolff, Inc. prior to test pit activities due to the location of one test pit (TP-15-03) excavated adjacent to the well. MW-08-02 was abandoned in accordance with NYSDEC CP-43 Groundwater Monitoring Well Decommissioning Policy. The 2-inch PVC well was perforated at the bottom then pulled from the ground while simultaneously applying a cement-bentonite grout to the inside of the well. The void left by the removed PVC well materials was backfilled with grout to ground surface.

2.3 SEDIMENT AND SOIL SAMPLING

Haley & Aldrich obtained soil and sediment samples to the support the Remedial Design and facilitate future remediation construction activities. The PDI sample locations are summarized in Table I and shown on Figure 2 and included the following:

- Waste Characterization Sediment Samples: Five sediment samples (SE-15-01 through SE-15-05) were collected from the Seneca River and Canal for waste characterization laboratory testing to establish acceptance by a disposal facility (Seneca Meadows, Inc. in Waterloo, New York). The sediment sample locations were accessed from the shoreline and collected with a hand auger by Haley & Aldrich staff. Samples were placed in laboratory-supplied glassware and submitted to TestAmerica Analytical Laboratory of Amherst, New York (TestAmerica) for chemical analysis of waste characterization parameters including Toxicity Characteristic Leaching Procedure (TCLP) volatile organic compounds (VOCs), TCLP semi-volatile organic compounds (SVOCs), TCLP RCRA metals, polychlorinated biphenyls (PCBs), reactive cyanide, reactive sulfide, flashpoint, percent solids, paint filter (free liquids), and pH/corrosivity.

- Waste Characterization Soil Samples: Six samples of representative soil from the Upland Area of the Site and the vacant 185 Fall Street property were collected for waste characterization laboratory testing to establish acceptance by a disposal facility (Seneca Meadows). The samples were collected from five test pits (TP-15-01 through TP-15-05) completed in the Upland Area of the Site and 185 Fall Street backyard. The test pits were completed by Parratt-Wolff, Inc. of East Syracuse, New York (Parratt-Wolff) utilizing a Deere 135D track-mounted excavator. Test pits located on the former building concrete floor slab were saw-cut prior to excavation. Waste characterization soil samples were submitted to TestAmerica for chemical analysis including TCLP VOCs, TCLP SVOCs, TCLP RCRA metals, PCBs, reactive cyanide, reactive sulfide, flashpoint, percent solids, paint filter (free liquids) and pH/corrosivity.
- Bench Scale Samples: Approximately 15 gallons of homogenized soil were collected for ISS bench scale testing from the four test pits (TP-15-01 through TP-15-04) completed on the Upland Area of the Site. The soil was shipped to Timely Engineering Soil Test, LLC (Timely) in Tucker, Georgia for ISS bench scale testing.
- Geotechnical Samples: Unit weight and grain size distribution analyses were completed for the three bench scale samples submitted to Timely.

The five test pits were logged in the field to provide further information regarding subsurface conditions. The test pit methodology, field sample collection, worker health and safety, and community air monitoring was completed in accordance with the NYSDEC-approved Preliminary Site Assessment Work Plan dated September 2007 and Remedial Investigation Work Plan dated June 2009, which include the Field Sampling Plan, Quality Assurance Project Plan, Community Air Monitoring Plan, and site-specific Health & Safety Plan. Sediment samples were collected with manual coring methods in accordance with the methodology described in the Remedial Investigation Work Plan dated June 2009.

2.4 BENCH SCALE TESTING

Timely completed bench scale treatability testing using soil obtained from the Upland Area of the Site to determine an effective mix design (reagent type(s) and additive rate) for the ISS. The purpose of the design phase bench scale testing was to demonstrate feasibility and provide information to the remedial contractor bidders about reagent needs. The bench scale treatability testing program included:

- Measure the moisture content and density of the homogenized untreated soil;
- Prepare trial batches of 3:1 granulated ground blast furnace slag (GGBFS) to Portland Type I/II cement at additive rates of 6%, 9% and 12%. Note that the additive rates were revised from the PDI Work Plan due to the fine-grained nature of the soil observed during test pit operations, and to provide a better range of additive rates for the bench scale testing;
- Measure grout viscosity and slump for the three trial batches, which is useful to understand field mixing properties and field quality control;
- Unconfined compression strength of the three trial batches at 14 and 28 days curing, along with an additional test at 61 days; and,
- Permeability testing of the three trial batches at 28 days curing.

3. Field Observations and Results

3.1 TOPOGRAPHIC SURVEY

Subsurface utilities were located and marked in the field by Trec on 18 November 2015. Ground surface topography, subsurface utility locations, and other Site features were surveyed by Hoffman Land Surveying on 19 and 20 November 2015. The Seneca River and Canal bathymetric survey in the proposed work area was completed by Hoffman Land Surveying on 12 and 19 December 2015. The survey plan is provided as Appendix A.

3.2 WETLANDS DELINEATION

Wetlands and stream delineation was completed by Haley & Aldrich on 29 October 2015. The study area included the Upland Area of the Former MGP Site, and the lowland portions of the Former MGP Site and 193 Fall Street where remediation construction is planned. No wetlands were observed during the field study, and no state-regulated wetlands were mapped in close proximity to the study area. A wetlands delineation report is provided as Appendix B.

3.3 SEDIMENT AND SOIL SAMPLING

Field observations and laboratory results for soil and sediment are described below.

3.3.1 Sediment Observations

Sediment coring was completed by Haley & Aldrich staff on 18 November 2015. Sediment coring locations are shown on Figure 2 and sediment core observations are summarized on Table II. Key observations included the following:

- Soft sediment was encountered at each of the five sediment coring locations. Brick material was observed in sediment cores SE-15-01 and SE-15-02;
- Clinker-like material (CLM) was observed in sediment core SE-15-02; and,
- Tar-like material (TLM) was observed within the top 1 foot (relative to the mudline) of sediment at location SE-15-04.

3.3.2 Test Pit Observations

Test pits were completed by Parratt-Wolff on 19 and 20 November 2015. Completed test pit locations are shown on Figure 2 and test pit observations are summarized on Table III. Key observations included the following:

- For test pits completed on-site (TP-15-01 through TP-15-04), the depth to glacial till varied from 3.5 to 7 feet below ground surface (ft bgs). Fill material including apparent building demolition debris (brick, glass, etc.) was observed above the glacial till at all test pit locations;

- Wood fragments, which appeared to be broken lumber, with TLM were observed at approximately 5 ft bgs at test pit TP-15-01 completed in the northeast corner of the former building floor slab;
- A concrete structure was observed at test pit TP-15-02, located in the northern portion of the parking area adjacent to the building floor slab. The structure was circular with standing water to a depth of at least 15 ft bgs. No odor or sheen was noted in the standing water;
- CLM and ash-like material (ALM) was observed in the fill material at test pit location TP-15-04 completed on the eastern side of the former building floor slab;
- Black staining was observed within the fill material at on-site test pit locations TP-15-01, TP-15-02, and TP-15-04;
- Water was observed entering test pit TP-15-03 at a depth of approximately 8 ft bgs, completed within the apparent footprint of the former below-grade gas holder; and,
- A layer of white-colored material, potentially decomposed concrete or mortar, was observed from 1.5 to 2 ft bgs at test pit TP-15-05 completed in the backyard of 185 Fall Street. This layer was underlain by fill material with black staining, demolition debris, CLM, and ALM to the top of glacial till which was observed at 4 ft bgs.

Test pit logs are included as Appendix C.

3.3.3 Waste Characterization Sample Results

Waste characterization analytical results for soil and sediment are summarized on Table IV. Samples submitted for waste characterization purposes included the following:

- One composite sample was collected from each test pit from the fill material within 2 feet of ground surface (five samples total);
- One composite sample was collected from test pit TP-15-03, completed inside the apparent former below grade gas holder, from a depth of 6 to 8 ft bgs, to further characterize holder contents; and,
- One composite sample was collected from each sediment sampling location (five samples total).

Laboratory analytical reports are provided as Appendix D.

3.3.4 Treatability Testing and Geotechnical Sample Results

Treatability testing and geotechnical sample results are summarized on Table V. The laboratory results for the three batch samples submitted for testing indicated the following:

- The moisture content, wet density, and dry density of the homogenized untreated soil was 15.2%, 124.4 pounds per cubic foot (pcf), and 108.0 pcf, respectively;

- Three trial batches of 3:1 GGBFS to Portland cement were prepared with additive rates of 6%, 9% and 12%;
- The slump for the 6%, 9%, and 12% additive rate batches was 3.75 inches, 4.0 inches, and 4.25 inches, respectively;
- After a curing period of 28 days, the 6%, 9%, and 12% additive rate batches achieved unconfined compressive strengths of 9 pounds per square inch (psi), 35 psi, and 66 psi, respectively;
- To further evaluate test batch performance, the unconfined compressive strength was measured for the 9% and 12% additive rate batches after a curing period of 61 days. The unconfined compressive strengths were 44 psi and 80 psi, respectively; and,
- The permeability values of the 6%, 9%, and 12% additive rate batches after 28 days of curing were 9.0×10^{-7} centimeters per second (cm/sec), 5.2×10^{-7} cm/sec, and 3.0×10^{-7} cm/sec, respectively.

The laboratory treatability testing report is provided as Appendix E.

3.4 INVESTIGATION DERIVED WASTE MANAGEMENT

No investigation derived waste (IDW) was produced during the PDI field work.

4. Conclusions and Recommendations

The PDI provided adequate field and laboratory information to complete the Remedial Design (RD) in accordance with the NYSDEC-approved remedial alternative. No additional field investigations are recommended at this time.

5. Limitations

This report has been prepared for the exclusive use of NYSEG in connection with the Seneca Falls Former MGP Site located at 187 Fall Street in Seneca Falls, New York. The conclusions and recommendations provided by Haley & Aldrich are based solely on the scope of work conducted and the sources of information referenced in this report.

References

1. Haley & Aldrich of New York, 2007. Preliminary Site Assessment Work Plan, September 2007.
2. Haley & Aldrich of New York, 2009. Remedial Investigation Work Plan, June 2009.
3. NYSDEC, 2010. "DER-10 Technical Guidance – Site Investigation and Remediation", May 2010.
4. Haley & Aldrich of New York, 2013. Remedial Investigation Report, April 2013.
5. Haley & Aldrich of New York, 2015. Feasibility Study, January 2015.
6. New York State Department of Environmental Conservation, 2015. Record of Decision, March 2015.
7. Haley & Aldrich of New York, 2015. Pre-Design Investigation Work Plan, October 2015.

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TABLE I
INVESTIGATION LOCATIONS AND RATIONALE
 PRE-DESIGN INVESTIGATION SUMMARY REPORT
 SENECA FALLS FORMER MGP SITE
 SENECA FALLS, NEW YORK

Exploration Identification	Exploration Type	Location Description	Rational	Target Exploration Depth	Actual Exploration Depth and Description	Laboratory Analyses/Methods ¹	
						Waste Characterization	Treatability Testing ²
TP-15-01	Test Pit	On-site, northeastern portion of the former building floor slab	Collect soil samples for waste characterization and treatability testing, observe subsurface conditions in the vicinity of the "Former Gas Fitter" building.	Top of glacial till	Terminated at 9 feet bgs in glacial till	1	Yes
TP-15-02	Test Pit	On-site, northern portion of the asphalt parking lot	Collect soil samples for waste characterization and treatability testing, observe subsurface conditions in the vicinity of the "Former Coal Shed" building.	Top of glacial till	Terminated at 7 feet bgs in glacial till	1	Yes
TP-15-03	Test Pit	On-site within former below-grade gas holder	Collect soil samples for waste characterization and treatability testing, observe subsurface conditions in the vicinity of the former below-grade gas holder.	Equipment maximum depth or test pit stability	Terminated at 10 feet bgs in apparent fill or reworked glacial till	2	Yes
TP-15-04	Test Pit	On-site, eastern portion of the former building floor slab	Collect soil samples for waste characterization and treatability testing, observe subsurface conditions in the vicinity of the "Former Coal Shed" building.	Top of glacial till	Terminated at 9 feet bgs in glacial till	1	Yes
TP-15-05	Test Pit	185 Fall Street backyard	Collect soil samples for waste characterization and treatability testing, observe subsurface conditions in 185 Fall Street backyard.	Top of glacial till	Terminated at 5 feet bgs in glacial till	1	No
SE-15-01	Sediment Core	Seneca River adjacent to 193 Fall Street shoreline	Collect representative sediment samples for waste characterization	Hand auger refusal	Terminated 1.9 feet below top of sediment	1	No
SE-15-02	Sediment Core	Seneca River adjacent to 193 Fall Street shoreline	Collect representative sediment samples for waste characterization	Hand auger refusal	Terminated 2.1 feet below top of sediment	1	No

TABLE I
INVESTIGATION LOCATIONS AND RATIONALE
PRE-DESIGN INVESTIGATION SUMMARY REPORT
SENECA FALLS FORMER MGP SITE
SENECA FALLS, NEW YORK

Exploration Identification	Exploration Type	Location Description	Rational	Target Exploration Depth	Actual Exploration Depth and Description	Laboratory Analyses/Methods ¹	
						Waste Characterization	Treatability Testing ²
SE-15-03	Sediment Core	Seneca River adjacent to 193 Fall Street shoreline	Collect representative sediment samples for waste characterization	Hand auger refusal	Terminated 2.0 feet below top of sediment	1	No
SE-15-04	Sediment Core	Seneca River adjacent to 193 Fall Street and Site property boundary	Collect representative sediment samples for waste characterization	Hand auger refusal	Terminated 2.5 feet below top of sediment	1	No
SE-15-05	Sediment Core	Seneca River adjacent to Site	Collect representative sediment samples for waste characterization	Hand auger refusal	Terminated 1.9 feet below top of sediment	1	No

Notes:

1. Laboratory analysis/methods:
Waste Characterization included TCLP VOCs, TCLP SVOCs, TCLP RCRA metals, PCBs, reactive cyanide and sulfide, flashpoint, percent solids, paint filter and pH/corrosivity;
Treatability Testing included moisture content, grain size, and bulk density; and grout viscosity, slump, compressive strength, and permeability testing of three trial batches.

2. Three treatability testing samples consisted of homogenized soils from four test pits.

3. "feet bgs" indicates feet below ground surface.

TABLE II
SEDIMENT FIELD OBSERVATIONS SUMMARY
 PRE-DESIGN INVESTIGATION SUMMARY REPORT
 SENECA FALLS FORMER MGP SITE
 SENECA FALLS, NEW YORK

Exploration Identification	Exploration Location	Approximate Top of Sediment Elevation (feet msl)	Maximum Exploration Depth	Exploration Observations
SE-15-01	Seneca River adjacent to 193 Fall Street shoreline	427.1	Water depth - 1.5 feet Sediment depth - 1.9 feet	Silty/soft bottom conditions. Brick debris observed in sediment core.
SE-15-02	Seneca River adjacent to 193 Fall Street shoreline	426.8	Water depth - 1.6 feet Sediment depth - 2.1 feet	Silty/soft bottom conditions. Some brick debris observed in sediment core, along with CLM.
SE-15-03	Seneca River adjacent to 193 Fall Street shoreline	426.3	Water depth - 2.1 feet Sediment depth - 2.0 feet	Gravel/sandy bottom conditions.
SE-15-04	Seneca River adjacent to 193 Fall Street and Site property boundary	426.7	Water depth - 1.7 feet Sediment depth - 2.5 feet	Silty/soft bottom conditions. TLM observed within the top 1 foot of sediment core.
SE-15-05	Seneca River adjacent to Site shoreline	426.6	Water depth - 1.9 feet Sediment depth - 1.9 feet	Silty/soft bottom conditions.

Notes:

1. "Sediment Depth" refers to depth below mudline.
2. "TLM" indicates tar-like material.
3. "CLM" indicates clinker-like material.

TABLE III
TEST PIT FIELD OBSERVATIONS SUMMARY
PRE-DESIGN INVESTIGATION SUMMARY REPORT
SENECA FALLS FORMER MGP SITE
SENECA FALLS, NEW YORK

Exploration Identification	Exploration Location	Approximate Ground Surface Elevation (feet msl)	Maximum Exploration Depth (feet bgs)	Exploration Observations	Maximum PID Detection (ppmv)	Maximum PID Detection Interval (feet bgs)
TP-15-01	On-site, northeastern portion of the former building floor slab	456.5	9	Concrete floor slab and subbase material to 0.6 feet bgs. Fill observed from 0.6 to 6 feet bgs. Black stained gravelly silt with sand and petroleum-like odor at 3 feet bgs. Wood fragment with TLM observed on east side of test pit at 5 feet bgs. Building demolition debris and red brick from 2.5 to 6 feet bgs. Glacial till observed from 6 to 9 feet bgs.	12.3	5.5
TP-15-02	On-site, northern portion of the parking lot	456.5	7	Asphalt and subbase material to 0.6 feet bgs. Fill observed from 0.6 to 3.5 feet bgs. Black stained sand with building demolition debris, red brick, glass, and tile from 0.6 to 3.5 ft bgs. Circular concrete structure observed at 5 feet bgs on western side of excavation, approximately 4 feet diameter, filled with water to a depth of at least 15 feet bgs (no sheen or odor). Glacial till observed from 3.5 to 7 feet bgs.	ND	NA
TP-15-03	On-site within former below-grade gas holder	456.5	10	Concrete floor slab and subbase material to 0.6 feet bgs. Fill observed from 0.6 to 6 feet bgs. Apparent fill or reworked glacial till observed from 8 to 10 feet bgs. Water observed entering the test pit at 8 feet bgs.	ND	NA
TP-15-04	On-site, eastern portion of the former building floor slab	456.5	9	Concrete floor slab and subbase material to 0.6 feet bgs. Fill observed from 0.6 to 7 feet bgs. Black stained gravelly silt with CLM and ALM from 4 to 7 feet bgs. Glacial till observed from 7 to 9 feet bgs.	ND	NA
TP-15-05	185 Fall Street backyard	447.5	5	Topsoil observed to 1.5 feet bgs. Layer of white-colored material (possible crushed concrete) observed from 1.5 to 2 feet bgs. Fill observed from 2 to 4 feet bgs. Black stained sand with silt, brick and building demolition debris, broken clay pipe, and CLM and ALM observed from 2 to 4 feet bgs. Glacial till observed from 4 to 5 feet bgs.	ND	NA

Notes:
1. "feet bgs" indicates feet below ground surface.
2. "ALM" indicates ash-like material.
3. "CLM" indicates clinker-like material.
4. "TLM" indicates tar-like material.
5. "ND" indicates not detected.
6. "NA" indicates not applicable.

TABLE IV
SOIL AND SEDIMENT SAMPLE ANALYTICAL RESULTS
PRE-DESIGN INVESTIGATION SUMMARY REPORT
SENECA FALLS FORMER MGP SITE
SENECA FALLS, NEW YORK

	Location	RCRA	SE-15-01	SE-15-02	SE-15-03	SE-15-04	SE-15-05	TP-15-01	TP-15-02	TP-15-03	TP-15-03	TP-15-04
	Sample Date	Toxicity	11/18/2015	11/18/2015	11/18/2015	11/18/2015	11/18/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015
	Sample Type	Characteristic	N	N	N	N	N	N	N	N	N	N
	Sample Depth (bgs)	Threshold	0 - 1.9 (ft)	0 - 2.1 (ft)	0 - 2 (ft)	0 - 2.5 (ft)	0 - 1.9 (ft)	0.6 - 2 (ft)	0.6 - 2 (ft)	0.6 - 2 (ft)	6 - 8 (ft)	0.6 - 2 (ft)
	Sample Name		SE1501-111815-1100	SE1502-111815-1130	SE1503-111815-1300	SE1504-111815-1215	SE1505-111815-1330	TP1501-111915-1440	TP1502-111915-1320	TP1503-111915-1530	TP1503-111915-1545	TP1504-111915-1145
Inorganic Compounds (mg/kg)												
Reactive Cyanide		-	< 9.8	< 9.8	< 9.7	< 9.6	< 9.5	< 10	< 10	< 10	< 10	< 10
TCLP Inorganic Compounds (mg/L)												
Arsenic	5		0.0092 J	0.012 J	0.0071 J	0.011 J	0.0069 J	< 0.015	0.012 J	< 0.015	< 0.015	< 0.015
Barium	100		0.47 J	0.65 J	0.94 J	0.86 J	0.54 J	0.41 J	0.8 J	0.43 J	0.39 J	0.29 J
Cadmium	1		0.0012 J	0.0026	0.0011 J	0.0071	0.0085	0.00071 J	0.0038	0.00093 J	0.0023	0.00063 J
Chromium	5		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02 ^	< 0.02
Lead	5		0.41	1.4	0.3	0.31	0.017 J	0.0051 J	0.059	0.0082 J	< 0.02	0.0034 J
Mercury	0.2		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00044	< 0.0002	< 0.0002	< 0.0002
Selenium	1		< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Silver	5		< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
Other (Deg F)												
Flash Point Closed Cup		-	> 176	> 176	> 176	> 176	> 176	> 176	> 176	> 176	> 176	> 176
Other (mg/kg)												
Reactive Sulfide		-	< 9.8	< 9.8	< 9.7	< 9.6	< 9.5	< 10	< 10	< 10	< 10	< 10
Other (ml/100g)												
Free Liquid		-	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
Other (su)												
pH (lab)		-	7.47 HF	8.01 HF	8.26 HF	7.69 HF	7.74 HF	8.28 HF	8.23 HF	7.7 HF	8.44 HF	7.63 HF
PCBs (mg/kg)												
Aroclor-1016 (PCB-1016)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
Aroclor-1221 (PCB-1221)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
Aroclor-1232 (PCB-1232)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
Aroclor-1242 (PCB-1242)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
Aroclor-1248 (PCB-1248)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
Aroclor-1254 (PCB-1254)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
Aroclor-1260 (PCB-1260)	-		< 0.41	< 0.34	< 0.31	< 0.39	< 0.33	< 0.22	< 0.26	< 0.24	< 0.27	< 0.21
TCLP Semi-Volatile Organic Compounds (mg/L)												
1,4-Dichlorobenzene	7.5		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4,5-Trichlorophenol	400		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2,4,6-Trichlorophenol	2		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2,4-Dinitrotoluene	0.13		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Methylphenol	200		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
3-Methylphenol	200		< 0.01	0.00088 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-Methylphenol	200		< 0.01	0.00088 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.13		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobutadiene	0.5		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hexachloroethane	3		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nitrobenzene	2		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Pentachlorophenol	100		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyridine	5		< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.0013 JB	0.0011 JB	0.0017 JB	0.0012 JB
TCLP Volatile Organic Compounds (mg/L)												
1,1-Dichloroethene	0.7		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-Dichloroethane	0.5		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-Butanone (Methyl Ethyl Ketone)	200		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05 *	< 0.05 *	< 0.05 *	< 0.05 *	< 0.05 *
Benzene	0.5		< 0.01	< 0.01	< 0.01	0.033	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	0.5		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	100		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform (Trichloromethane)	6		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethene	0.7		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethene	0.5		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl chloride	0.2		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

TABLE IV
SOIL AND SEDIMENT SAMPLE ANALYTICAL R
PRE-DESIGN INVESTIGATION SUMMARY REP
SENECA FALLS FORMER MGP SITE
SENECA FALLS, NEW YORK

	Location	TP-15-05
	Sample Date	11/20/2015
	Sample Type	N
	Sample Depth (bgs)	0 - 2 (ft)
	Sample Name	TP1505-112015-0900
Inorganic Compounds (mg/kg)		
Reactive Cyanide		< 10
TCLP Inorganic Compounds (mg/L)		
Arsenic		0.0095 J
Barium		0.91 J
Cadmium		0.0042
Chromium		< 0.02 ^
Lead		0.16
Mercury		< 0.0002
Selenium		< 0.025
Silver		< 0.006
Other (Deg F)		
Flash Point Closed Cup		> 176
Other (mg/kg)		
Reactive Sulfide		< 10
Other (ml/100g)		
Free Liquid		PASS
Other (su)		
pH (lab)		8.61 HF
PCBs (mg/kg)		
Aroclor-1016 (PCB-1016)		< 0.27
Aroclor-1221 (PCB-1221)		< 0.27
Aroclor-1232 (PCB-1232)		< 0.27
Aroclor-1242 (PCB-1242)		< 0.27
Aroclor-1248 (PCB-1248)		< 0.27
Aroclor-1254 (PCB-1254)		< 0.27
Aroclor-1260 (PCB-1260)		< 0.27
TCLP Semi-Volatile Organic Compounds (mg/L		
1,4-Dichlorobenzene		< 0.01
2,4,5-Trichlorophenol		< 0.005
2,4,6-Trichlorophenol		< 0.005
2,4-Dinitrotoluene		< 0.005
2-Methylphenol		< 0.005
3-Methylphenol		< 0.01
4-Methylphenol		< 0.01
Hexachlorobenzene		< 0.005
Hexachlorobutadiene		< 0.005
Hexachloroethane		< 0.005
Nitrobenzene		< 0.005
Pentachlorophenol		< 0.01
Pyridine		0.0014 JB
TCLP Volatile Organic Compounds (mg/L)		
1,1-Dichloroethene		< 0.01
1,2-Dichloroethane		< 0.01
2-Butanone (Methyl Ethyl Ketone)		< 0.05 *
Benzene		< 0.01
Carbon tetrachloride		< 0.01
Chlorobenzene		< 0.01
Chloroform (Trichloromethane)		< 0.01
Tetrachloroethene		< 0.01
Trichloroethene		< 0.01
Vinyl chloride		< 0.01

Notes:
1. <: Result is not detected above the indicated reporting limit.
2. Results in **bold** are detected.
3. Lab qualifiers defined as follows:
 B: Compound was found in the blank and sample.
 HF: Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
 J: Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
 *: LCS or LCSD is outside acceptance limits.
 ^: ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4. TCLP: Toxicity characteristic leaching procedure.
5. Detected results were screened against the RCRA Toxicity Characteristic Threshold for Hazardous Waste.
Shaded cells indicate the detected value is above the RCRA Toxicity Characteristic Threshold.

TABLE V**TREATABILITY TESTING RESULTS**

PRE-DESIGN INVESTIGATION SUMMARY REPORT

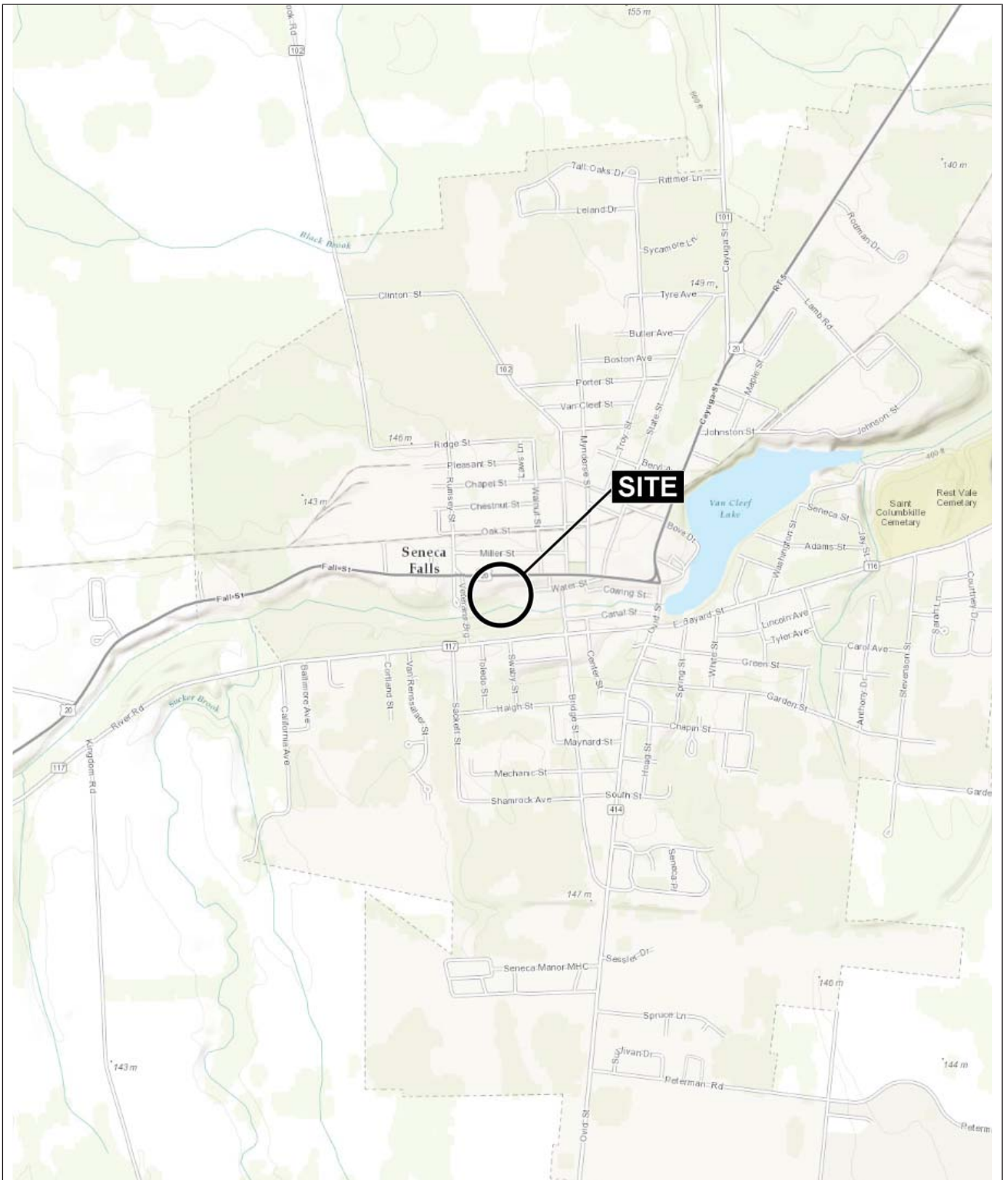
SENECA FALLS FORMER MGP SITE

SENECA FALLS, NEW YORK

Batch Additive Rate	Curing Age (days)	Slump (inches)	Viscosity (seconds)	Swell (%)	Unconfined Compressive Strength (psi)	Moisture Content (%)	Wet Density (pcf)	Dry Density (pcf)	Hydraulic Conductivity (cm/sec)
Untreated	-	-	-	-	-	15.2	124.4	108.0	-
6%	0	3.75	33	15.7	-	-	-	-	-
	14	-	-	-	-	-	-	-	-
	28	-	-	-	9	25.2 / 25.6	122.1 / 122.6	97.2 / 97.9	9.0X10 ⁻⁷
9%	0	4.00	34	18.5	-	-	-	-	-
	14	-	-	-	23	24.7 / 25.6	122.0 / 122.5	97.1 / 98.2	6.4X10 ⁻⁷
	28	-	-	-	35	24.4 / 25.8	121.6 / 122.5	96.6 / 98.5	5.2X10 ⁻⁷
	61	-	-	-	44	25.2	121.6	97.1	-
12%	0	4.25	36	21.2	-	-	-	-	-
	14	-	-	-	40	24.6 / 25.3	121.2 / 121.4	96.7 / 97.4	3.7X10 ⁻⁷
	28	-	-	-	66	23.8 / 25.1	120.1 / 121.4	97.0 / 97.0	3.0X10 ⁻⁷
	61	-	-	-	80	24.7	121.1	97.1	-

Notes:

1. "psi" = pounds per square inch.
2. "pcf" = pounds per cubic foot.
3. "cm/sec" = centimeters per second.
4. "-" = not tested.
5. Multiple results are due to duplicate tests run on different molds.
6. % swell of material was measured after mixing relative to unit weight of received soil.



MAP SOURCE: ESRI

SITE COORDINATES: 42°54'35"N, 76°48'14"W



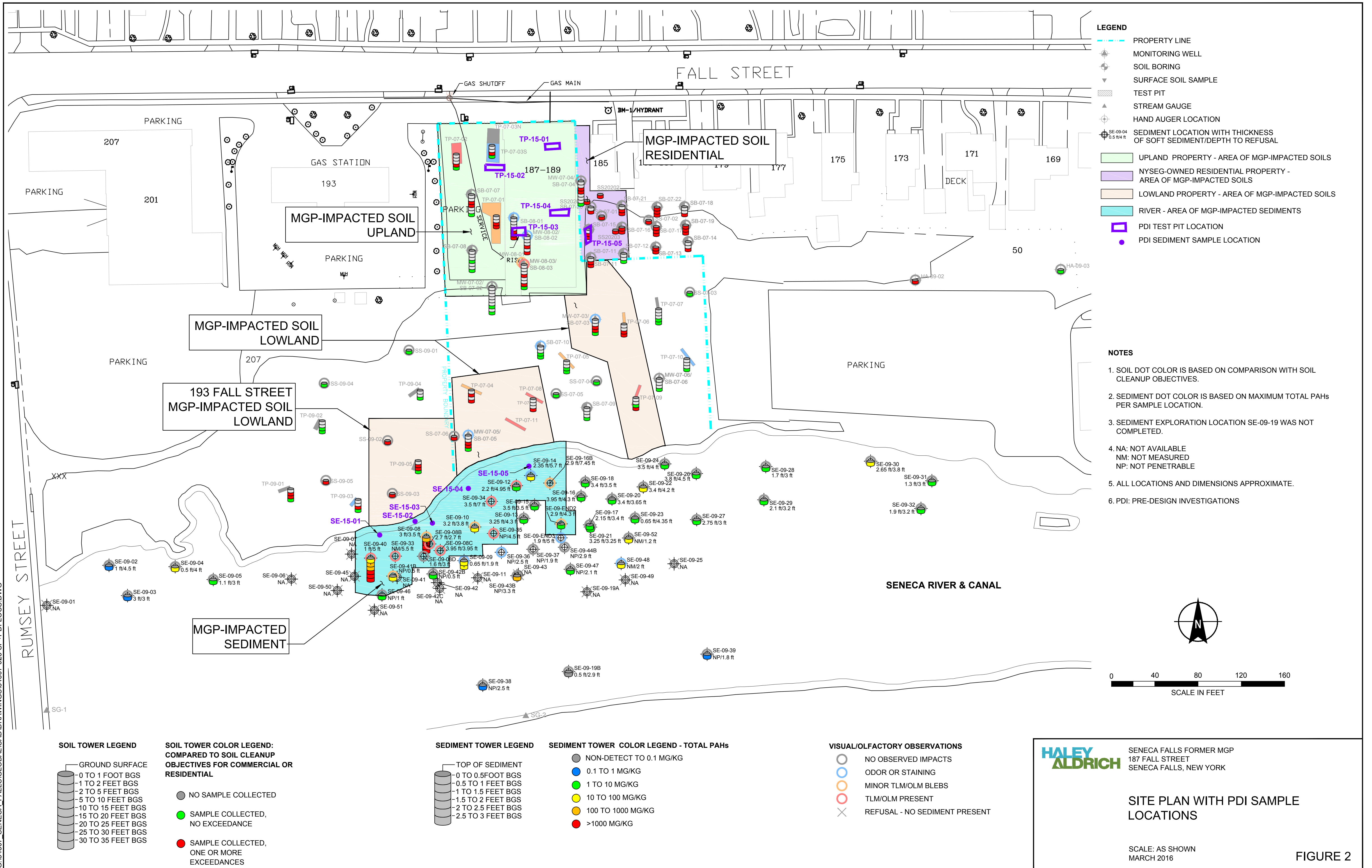
**HALEY
ALDRICH**

SENECA FALLS FORMER MGP
187 FALL STREET
SENECA FALLS, NEW YORK

PROJECT LOCUS

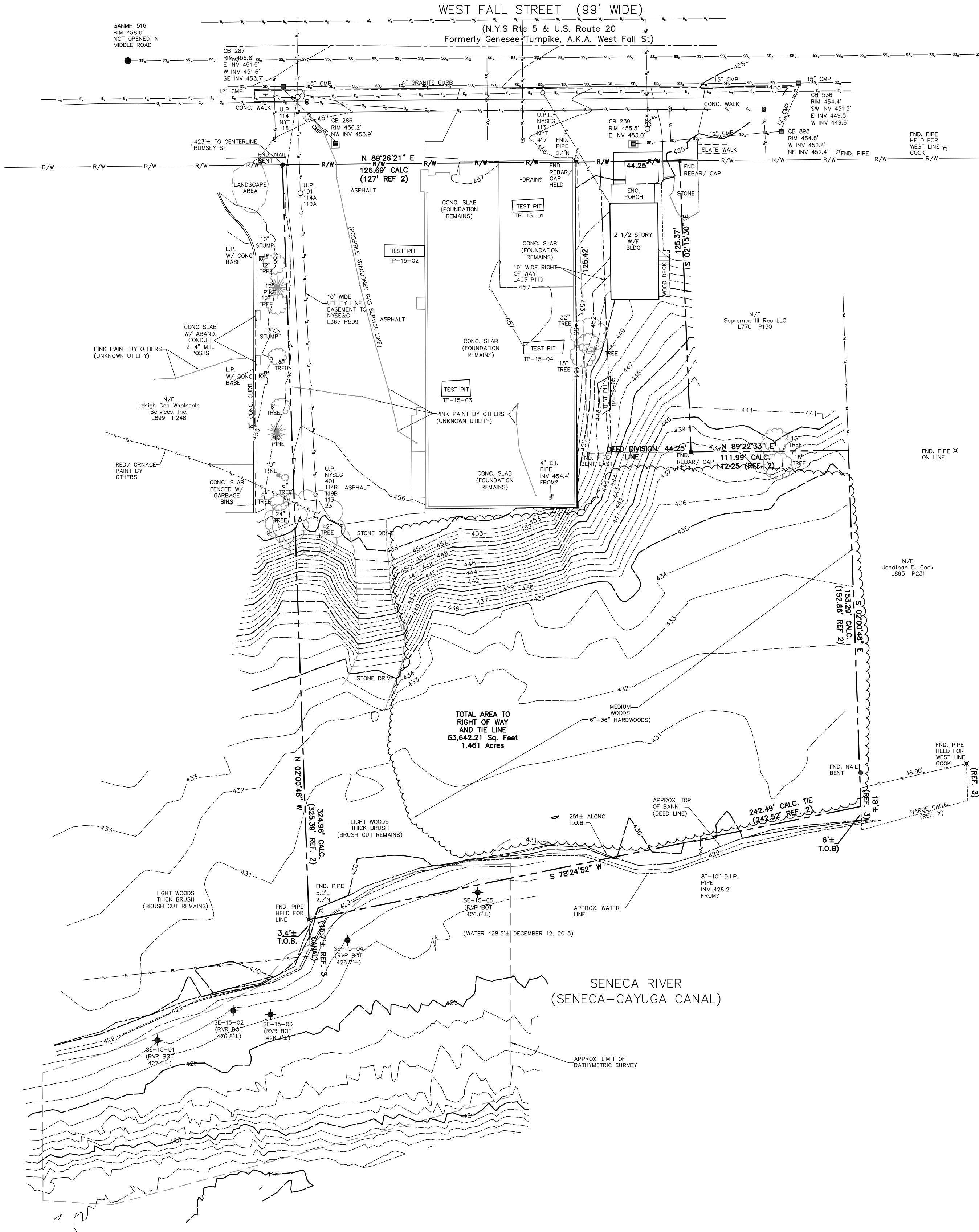
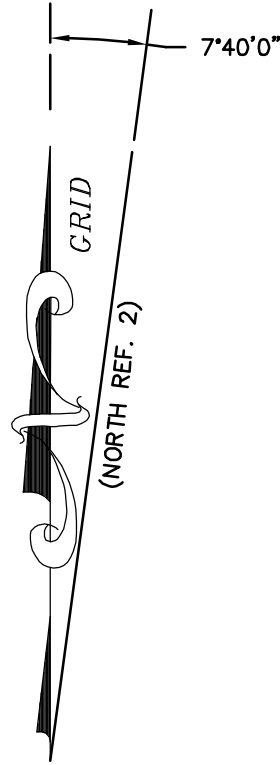
APPROXIMATE SCALE: 1 IN = 2000 FT
MARCH 2016

FIGURE 1



APPENDIX A

Site Survey Plan



SITE NOTES:

- 1) Features shown hereon are based on a survey performed November 19 & 20 and December 12 & 19, 2015.
- 2) Communication, Electric, Water, Unidentified, Drainage and Sanitary are shown based on point markings and/or pins by others observed during the field survey and features observed during the field survey. These locations are considered approximate and require verification.
- 3) Coordinates shown reference NY State Plane Coordinates, NAD83, New York Central Zone, in US Survey feet through ties to exiting control provided by H&A.
- 4) Elevations shown reference existing control provided by H&A, established by others. It appears to be based on the North American Vertical Datum 1988 (NAVD88).
- 5) River Bottom contours were obtained through sonar methods utilizing RTK, GPS and should be considered approximate and for general bottom grade. River bottom was irregular and bottom was silt and vegetated.
- 6) Bearings shown hereon based on grid coordinates per note 4 above.
- 7) Sanitary and water service lines shown running toward foundation remains within the public right of way are based on markings by others and considered approximate. Lines to foundation remains was not apparent or observable during the field survey.

REFERENCES:

- 1) Map entitled "SURVEY MAP of the premises of WALTER J. & CATHERINE M. SMITHOOVER" by Donald D. Shepherd, dated February 1, 1990, being project No. SF9001-02 and filed in the SCCO February 23, 1990 as MC 70-130.
- 2) Map entitled "SURVEY MAP of the premises of ROGER E. LEWIS REALTY, INC." by Donald D. Shepherd, dated July 11, 1996, being project No. SF9611-07 and filed in the SCCO September 6, 1996 as MC 96-261.
- 3) Map entitled "Lands of Federal Home Loan Mortgage Corporation" by Charles E. Carroll dated August 17, 2011, being project No. SF6.262 and filed in the SCCO August 29, 2011 as MC 11-206.
- 4) Map entitled "Boundary Survey" by Eardman Anthony dated August 9, 2012, being project No. 19397.01.
- 5) Other deeds listed hereon.

TITLE:

This Survey was completed with the aid of an abstract by title search for easements by Monroe Abstract & Title Corporation, Abstract No. 22492, Acct. No. 54906 dated October 24, 1989. An updated abstract of title was not provided. Parcel is subject to any easements, restrictions and encumbrances that research beyond that completed may show.

RIGHT OF WAY:

The Right of Way of NY Route 5 & US Route 20 is 99' per referenced noted. Right of Way Shown based on evidence recovered and references noted.

NOTES:

Survey completed without the benefit of an Abstract of Title and is therefore subject to any easement, restrictions, Covenants and right of way of record.

EASEMENTS:

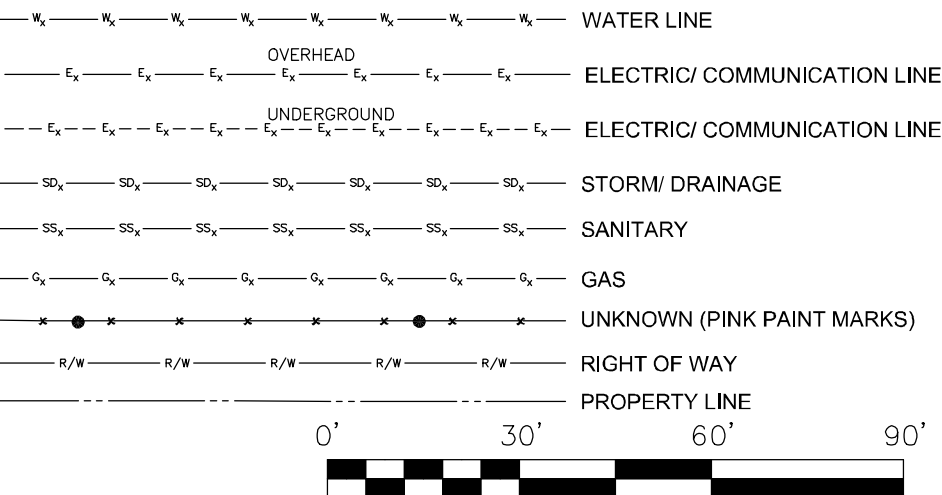
Parcel is subject to any easement, restrictions, covenants and right of way of record.

LEGEND:

- MONITORING WELL
- DRAINAGE MANHOLE
- SANITARY MANHOLE
- UNKNOWN MAHOLE
- SOIL BORING
- PAINT MARKINGS (UTILITY BY OTHERS)
- UTILITY POLE
- LIGHT POLE
- HYDRANT
- WATER VALVE
- WATER SERVICE VALVE
- GAS LINE OR SERVICE VALVE
- SIGN
- CATCHBASIN

ABBREVIATIONS:

- SV - SOIL VAPOR
- SB - SOIL BORING
- MW - MONITORING WELL
- ENVIR. - ENVIRONMENTAL
- CL - CENTER
- MEAS. - MEASURE
- COMB. - COMBINED
- FF - FINISHED FLOOR
- ELE. - ELECTRIC
- NIF - NOW OR FORMERLY
- CONC. - CONCRETE
- UP - UTILITY POLE
- UPL - UTILITY POLE WITH LIGHT
- EP - EDGE OF PAVEMENT
- (TYP.) - TYPICAL
- APPRX. - APPROXIMATE
- FND. - FOUND
- T.O.B. - TOP OF BANK



TOPOGRAPHIC AND GEOTECHNICAL SURVEY

DRAWN LH	DATE 02/05/16	FORMER NYSE&G COGEN FACILITY 187-189 & 185 FALLS STREET SENECA FALLS, NY
APPROVED	DATE	
SCALE 1" = 30'	SHEET SV-1	PROJECT NO. 15-029

CLIENT:

HALEY AND ALDRICH OF NEW YORK
200 TOWN CENTRE DRIVE
SUITE 2
ROCHESTER, N.Y. 14623

APPENDIX B

Wetlands Delineation Report



Haley & Aldrich of New York
200 Town Centre Drive
Suite 2
Rochester, NY 14623
585.359.9000

18 January 2016
File No. 34507-023

TO: Doug Allen, Haley & Aldrich
Jim Pippin, Haley & Aldrich

FROM: Jon Becker, Haley & Aldrich

SUBJECT: Wetland and Stream Delineation Letter Report
Seneca Falls Former MGP Site

1. INTRODUCTION

This Wetland and Stream Delineation Report summarizes the results of field work performed by Haley & Aldrich of New York (Haley & Aldrich) to locate and identify wetlands and waterbodies within and immediately adjacent to New York State Electric & Gas Corporation's (NYSEG) Seneca Falls Former Manufactured Gas Plant (MGP) site (the Study Area). The Study Area consists of approximately 1.2 acres and is located between the south side of Fall Street and north side of the Seneca River and Canal within the Village of Seneca Falls, Seneca County, New York as shown on Figure 1.

2. METHODOLOGY

Prior to field investigations, a desktop review of publicly available data sources was conducted. Data consulted included, U.S. Geological Survey topographic quadrangle maps, NYS Department of Environmental Conservation (NYSDEC) Freshwater Wetland Maps, National Wetland Inventory (NWI) maps, Natural Resources Conservation Service (NRCS) County Soil survey, Federal Emergency Management Agency (FEMA) Flood Insurance maps, and the National Hydrography dataset.

The field delineation was performed on 29 October 2015 within the Study Area to identify wetlands and streams. The delineation was performed in accordance with criteria set forth in the U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetland Delineation Manual (1987) and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0).

Hydrophytic vegetation was assessed by identifying plant species and their assigned wetland indicator rating of obligate, facultative wet, facultative, facultative upland, and upland. Hydric soil was determined by soil features such as color matrix, hue, evidence of redox features which may include indicators like saturation, gleyed matrix, mottling, hydrogen sulfide odor, and organic/peat layers present. Hydrology was determined based on a number of indicators based on the USACE manual.

Additional surface waters, including stream channels and drainage ways, were investigated and characterized. To the extent practicable, these waters were investigated to determine drainage patterns and potential connections to other Waters of the U.S.

3. SITE SETTING

The Study Area encompasses approximately 1.2 acres on two (2) parcels and comprises a former MGP site that borders the Seneca River and Canal within the Village of Seneca Falls, New York (see Figure 1). Topography at the site can be characterized as sloping from Fall Street to a remnant floodplain shelf. According to FEMA mapping the 100 year floodplain is defined by the boundaries of the Seneca River to the south of the Study Area. The formerly developed portion of the former MGP site is occupied by a building floor slab along with a paved parking lot immediately west of the floor slab. This portion of the Study Area is generally flat with an elevation of approximately 456 feet above sea level that steeply slopes south to the remnant floodplain shelf. The remnant shelf located in lower portion of the Study Area has a gentle slope to the south towards the Seneca River and Canal, ranging in elevation from approximately 430 to 433 feet above sea level. Surface drainage (at a macro scale) is believed to be to the south toward the Seneca River and Canal.

According to EPA Watershed mapping, the Study Area is located in the Finger Lakes watershed which is further broken down into the Seneca watershed. According to NYSDEC freshwater wetland mapping, there are no state regulated wetlands mapped within close proximity to the Study Area. According to NWI mapping, only Seneca River (R2UBH) is mapped within close proximity to the Study Area (see Figure 2). The Seneca River is mapped by NYSDEC as a Class C stream.

Mapped soil types within the Study Area (see Figure 2) include Schoharie silty clay loam (ShB). This soil type consists of very deep, moderately well drained soils that are formed in clayey lacustrine sediments.

4. WETLANDS AND STREAMS

The wetland and stream delineation within the Study Area was completed by a qualified Haley & Aldrich wetland scientist on 29 October 2015. Field data forms are provided as Attachment 1 and photographs are provided as Attachment 2. There were no wetlands nor any evidence of hydrology observed within the Study Area. Land cover within the Study Area was found to be predominantly a mixed mesophytic forest. Vegetation within the Study Area was dominated by upland canopy species such as black locust (*Robinia pseudoacacia*) and black walnut (*Juglans nigra*). The shrub layer was found to be dominated by red maple (*Acer rubrum*) saplings, staghorn sumac (*Rhus typhina*), and tartarian honeysuckle (*Lonicera tatarica*). Within the past year the site had been logged which has opened the Study Area up to allow for a large presence of raspberry (*Rubus spp.*) bushes. Also observed in the herbaceous layer was a large presence of garlic mustard (*Alliaria petiolate*), goldenrod spp. (*Solidago spp.*), wild grape (*Vitis vinifera*), and pockets of canary reed grass (*Phalaris arundinacea*).

Upland soils encountered within the Study Area consisted of a fine grained silt loam having a hue of 10YR 3/3. Minor amounts (approximately 5%) of gravel consisting primarily of sandstone were observed throughout the soil sample.

The Seneca River and Canal flows easterly and has an unconsolidated bottom that appears to be heavily silted. Along the Study Area the river is approximately 200 feet wide with no definable bank structure.

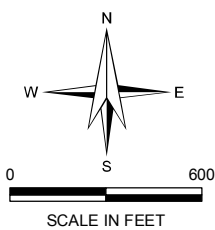
REFERENCES

1. Cowardin, L.M., et al. 1979. *Classification of wetlands and deepwater habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington D.C. 131 pp.
2. Edinger, G.J., et al. 2002. *Ecological Communities of New York State, Second Edition*. New York Heritage Program, NYS Department of Environmental Conservation, Albany, NY, 134 pp.
3. Reschke, Carol. 1990. *Ecological Communities of New York State*. New York Heritage Program, NYS Department of Environmental Conservation, Latham, NY 96 pp. and maps.
4. U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Environmental Laboratory, Vicksburg, MS, 92 pp.
5. U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, 162 pp.
6. National Wetlands Inventory Wetlands, Electronic Vector Quad Maps of New York, United States Geological Survey.
7. New York State Department of Environmental Conservation Hydrography Network and Water bodies, NYS Hydrologic Units.
8. New York State Department of Environmental Conservation (NYSDEC) website, (<http://www.dec.state.ny.us/>)
9. Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. (<http://websoilsurvey.nrcs.usda.gov/>)



LEGEND

--- STUDY AREA



BASE MAPPING SOURCE: ESRI (IMAGERY DATED 2013)

**HALEY
ALDRICH**

SENECA FALLS FORMER MGP SITE
NEW YORK STATE ELECTRIC & GAS CORPORATION
VILLAGE OF SENECA FALLS, SENECA COUNTY, NEW YORK

AERIAL OVERVIEW

SCALE: AS SHOWN
JANUARY 2016

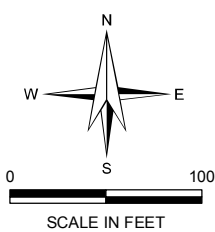
FIGURE 1

G:\34507 Seneca Falls\Global\GIS\Map Documents\2016-0113 AerialOverview D1.mxd



LEGEND

- ◆ PHOTO LOCATION
- - - STUDY AREA
- . - DELINEATED STREAM EDGE
- ▨ NWI WETLAND
- DELINEATION FLAG POINT



BASE MAPPING SOURCE: ESRI (IMAGERY DATED 2013)

**HALEY
ALDRICH**

SENECA FALLS FORMER MGP SITE
NEW YORK STATE ELECTRIC & GAS CORPORATION
VILLAGE OF SENECA FALLS, SENECA COUNTY, NEW YORK

AERIAL OVERVIEW

SCALE: AS SHOWN
JANUARY 2016

FIGURE 2

Attachment 1
Wetland Determination and Stream Inventory Data Forms

Stream Inventory Data Form

Project Information

Project Name:	SENECA FALLS FORMER MGP SITE	Observer Name:	J. BELKER
Project Number:	34507-023	Date:	29 OCT 2015
Map Sheet Number:	—	State: NY	County: SENECA
GPS Point No(s).	—	Weather:	RAIN / SUN
Associated Data Sheet No(s).	N/A	Stream Location: (Address, nearest road, structure etc.)	187 FALL ST

Stream Information

Stream Name:	SENECA RIVER	Stream Width:	200 ft. +/-
Perceptible Flow:	Yes ☒ No ☐	Water Width:	200 ft. +/-
Direction of Flow:	EAST	Bank to Bank:	ft.
Flow Type:	Perennial ☒ Intermittent ☐ Ephemeral ☐	Bankfull Width:	ft.
Probed Stream Depth:	inches	Channel Substrate:	SILTY MUCK
		Observed Water Quality:	STAINED BUT CLEAR

Aquatic Habitat

- ☐ Sand Bar
- ☐ Sand/Gravel Beach Bar
- ☐ Mud Bar
- ☒ Overhanging
- ☒ Trees/Shrubs
- ☐ Cobble Riffles
- ☐ Deep Ponds/Holes
- ☒ Aquatic Vegetation
- ☐ Other

Wildlife Observed (Species)

- ☒ Waterfowl
- ☒ Fish
- ☐ Turtles
- ☒ Frogs
- ☐ Invertebrates
- ☐ Salamanders
- ☐ Other:

Observed Use:

- ☐ Drinking
- ☐ Irrigation
- ☐ Swimming
- ☒ Fishing
- ☐ Drainage
- ☒ Boating
- ☐ Other:

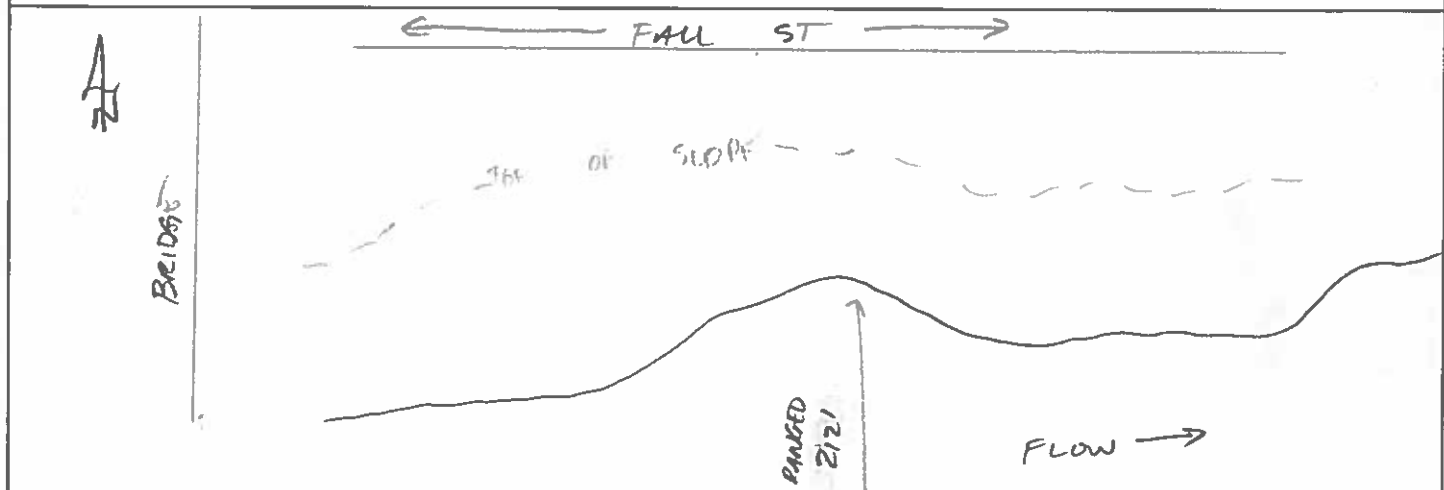
Left Bank Height:	0-1	Right Bank Height:	0-1
Left Bank Slope:	N/A	Right Bank Slope:	N/A
Bank Substrate:	SILT LOAM	Erosion Potential:	SLIGHT

Stream Inventory Data Form

Stream Information (continued)		Data Sheet No.
Meander:	N/A	Dominant Vegetative Species Type:
Gradient:	GENTLE	Trees:
Adjacent Community Type:	INDUSTRIAL/RESIDENTIAL	B. WALNUT B. LOCUST MAPLES (RED, SILVER)
Est. % of Canopy Closure Over Stream Channel:	0-5	Shrubs:
Threatened or Endangered Species Presence:	NONE OBSERVED	HONEY SUCKLE SUMAC
Species Names If Present:		Herbaceous:
Regulatory Status:	IMPAIRED CLASS C	G. MUSTARD

Notes

Sketch



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SENECA FALLS MGP City/County: JENECIA Sampling Date: 29 OCT 2015
 Applicant/Owner: NYSEG State: NY Sampling Point: UPLAND
 Investigator(s): J. BECKER Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): none Slope (%): 0-2
 Subregion (LRR or MLRA): LRR 2 Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: SCHOMBERG NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No ☒	
Wetland Hydrology Present? Yes _____ No ☒	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Marl Deposits (B15)	☐ Moss Trim Lines (B16)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	☐ Shallow Aquitard (D3)
☐ Sparsely Vegetated Concave Surface (B8)		☐ Microtopographic Relief (D4)
		☐ FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes _____ No _____	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No ☒
Water Table Present? Yes _____ No _____	Depth (inches): _____	
Saturation Present? Yes _____ No _____ (includes capillary fringe)	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

Sampling Point: UPLAND

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>BLACK WALNUT</u> <u>JUGLANS NIGRA</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
2. <u>BLACK LOCUST</u> <u>ROBINIA PSEUDONIA</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
3. <u>RED MAPLE</u> <u>ACER RUBRUM</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ = Total Cover			

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>RED MAPLE</u> <u>ACER RUBRUM</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>
2. <u>STAGHORN SUMAC</u> <u>RHUS TYPHINIA</u>	<u>10</u>	<u>N</u>	<u>UPL</u>
3. <u>HONEY SUCKLE</u> <u>LONICERA TATARICA</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ = Total Cover			

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>RASPBERRY</u> <u>SPP. RUBUS SPP.</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
2. <u>GOLDENROD</u> <u>SPP. SOLIDAGO SPP.</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
3. <u>GARLIC MUSTARD</u> <u>ALLIARIA PETIOLATE</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
_____ = Total Cover			

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>WILD GRAPE</u> <u>VITIS VINIFERA</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>—</u>	x 1 = <u>—</u>
FACW species <u>—</u>	x 2 = <u>—</u>
FAC species <u>2</u>	x 3 = <u>6</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>2</u>	x 5 = <u>10</u>
Column Totals: <u>9</u> (A)	<u>36</u> (B)
Prevalence Index = B/A = <u>4</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
 - ☐ 2 - Dominance Test is >50%
 - ☐ 3 - Prevalence Index is ≤3.0¹
 - ☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - ☐ Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes _____ No X

SOIL

Sampling Point: UPLAND

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| ___ Histosol (A1) | ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| ___ Histic Epipedon (A2) | ___ Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| ___ Black Histic (A3) | ___ Loamy Mucky Mineral (F1) (LRR K, L) |
| ___ Hydrogen Sulfide (A4) | ___ Loamy Gleyed Matrix (F2) |
| ___ Stratified Layers (A5) | ___ Depleted Matrix (F3) |
| ___ Depleted Below Dark Surface (A11) | ___ Redox Dark Surface (F6) |
| ___ Thick Dark Surface (A12) | ___ Depleted Dark Surface (F7) |
| ___ Sandy Mucky Mineral (S1) | ___ Redox Depressions (F8) |
| ___ Sandy Gleyed Matrix (S4) | |
| ___ Sandy Redox (S5) | |
| ___ Stripped Matrix (S6) | |
| ___ Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No ☒

Remarks:

Attachment 2
Delineation Photo Log

**ATTACHMENT 2
DELINEATION PHOTO LOG**

NYSEG SENECA FALLS FORMER MGP SITE, VILLAGE OF SENECA FALLS, SENECA COUNTY, NEW YORK
FILE NO. 34507-023



Photo 1

View looking southeast towards Seneca River from Fall Street.



Photo 2

View looking south towards Seneca River from southwestern corner of concrete parking lot.

**ATTACHMENT 2
DELINEATION PHOTO LOG**

NYSEG SENECA FALLS FORMER MGP SITE, VILLAGE OF SENECA FALLS, SENECA COUNTY, NEW YORK
FILE NO. 34507-023



Photo 3

View looking southwest from western corner of Study Area.



Photo 4.

View looking west along Seneca River from western edge of Study Area.

**ATTACHMENT 2
DELINEATION PHOTO LOG**

NYSEG SENECA FALLS FORMER MGP SITE, VILLAGE OF SENECA FALLS, SENECA COUNTY, NEW YORK
FILE NO. 34507-023



Photo 5

View looking south towards Seneca River from approximate center of Study Area.



Photo 6

View looking east from middle of Study Area.

**ATTACHMENT 2
DELINEATION PHOTO LOG**

NYSEG SENECA FALLS FORMER MGP SITE, VILLAGE OF SENECA FALLS, SENECA COUNTY, NEW YORK
FILE NO. 34507-023



Photo 7.

View looking east from the eastern portion of the Study Area.

APPENDIX C

Test Pit Logs

TEST PIT LOG

Test Pit No. TP-15-01

Project	SENECA FALLS FORMER MGP SITE
Location	SENECA FALLS, NEW YORK
Client	ROCHESTER GAS & ELECTRIC CORP.
Contractor	PARRATT-WOLFF
Equipment Used	DEERE 135D EXCAVATOR

File No.	34507-023
H&A Rep	R. Lydell
Date	19 Nov 2015
Weather	50°F, cloudy

Ground El.: 456.6 (est.)
El. Datum: NAVD 88

Location: See Plan

Groundwater depths/entry rates (in./min.): N/A

[illegible]

Obstructions:

Remarks:

Sample I.D.: TP1501-111915-1440 0.5-2.0 ft.
ISS Sample TP1501 2.0-6.0 ft.

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None		
Toughness	L - Low	M - Medium	H - High		
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High	
Dry Strength	N - None	L - Low	M - Medium	H - High	V - Very High

Standing Water in Completed Pit

at depth _____ ft
measured after _____ hours elapsed

Boulders

<u>Diameter (in.)</u>	<u>Number</u>	<u>Approx. Vol. (cu.ft)</u>
12 to 24		=
over 24		=

Test Pit Dimensions (ft)

Pit Length x Width (ft)
Pit Depth (ft) 9.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

HA-TESTPIT-07-1 HA-LIB09-BOS_MAN.GLB HA-TP07-1.GDT G:\34507_SENECA_FALLS\2016-0115-HAL-TEST PITS TP15-01_TP15-05.GPJ Jan 26, 16

TEST PIT LOG Test Pit No. TP-15-02														
Project SENECA FALLS FORMER MGP SITE Location SENECA FALLS, NEW YORK Client ROCHESTER GAS & ELECTRIC CORP. Contractor PARRATT-WOLFF Equipment Used DEERE 135D EXCAVATOR File No. 34507-023 H&A Rep R. Lydell Date 19 Nov 2015 Weather 50°F, cloudy														
Ground El.: 456.6 (est.)		Location: See Plan		Groundwater depths/entry rates (in./min.): N/A										
El. Datum: NAVD 88														
Depth (ft)	Sample ID	Stratum Change Elev./Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (color, natural grain size and artificial component percentage estimates, maximum particle size, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC INTERPRETATION)	Gravel		Sand			Field Tests				
					% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
0		456.2		-ASPHALT- PID=0.0 ppm										
		0.4		-SUBBASE PID=0.0 ppm										
1	S1 0.5 - 2.0	456.0	SP	Black stained poorly graded SAND (SP), mps < 1 mm, no odor, moist/dry, brick and debris throughout, occasional glass and tile PID=0.0 ppm			10	80	5	5				
2				-FILL- PID=0.0 ppm										
3														
4		453.1	MH	Red-brown SILT with sand (MH), mps < 1/2 in., no odor, moist/dry -GLACIAL TILL- PID=0.0 ppm		5	5	10	5	75				
5		3.5												
6				PID=0.0 ppm										
7		449.6		PID=0.0 ppm										
		7.0		BOTTOM OF EXPLORATION 7.0 FT West side of excavation 5 ft bgs concrete structure with water. Concrete structure approximately 4.0 ft in diameter. Water at least 15.0 ft deep. Possible former MGP structure.										
Obstructions:			Remarks: Sample I.D.: TP1502-111915-1320 0.5-2.0 ft.		Field Tests									
					Dilatancy R - Rapid S - Slow N - None Toughness L - Low M - Medium H - High Plasticity N - Nonplastic L - Low M - Medium H - High Dry Strength N - None L - Low M - Medium H - High V - Very High									
Standing Water in Completed Pit				Boulders			Test Pit Dimensions (ft)							
at depth		ft		Diameter (in.)		Number		Approx. Vol. (cu.ft)		Pit Length x Width (ft)				
measured after		hours elapsed		12 to 24		=								
				over 24		=				Pit Depth (ft) 7.0				
NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.														

TEST PIT LOG

Test Pit No. TP-15-03

Project	SENECA FALLS FORMER MGP SITE
Location	SENECA FALLS, NEW YORK
Client	ROCHESTER GAS & ELECTRIC CORP.
Contractor	PARRATT-WOLFF
Equipment Used	DEERE 135D EXCAVATOR

File No.	34507-023
H&A Rep	R. Lydell
Date	19 Nov 2015
Weather	50°F, cloudy

Ground El.: 456.6 (est.)
El. Datum: NAVD 88

Location: See Plan

Groundwater depths/entry rates (in./min.): Water entering excavation at 8.0 ft bgs

[illegible]

Obstructions:

Remarks:

Sample I.D.: TP1503-111915-1530 0.5 - 2.0 ft
TP1503-111915-1545 6.0 - 8.0 ft.
ISS Sample: TP1503 2.0 - 8.0 ft.

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None		
Toughness	L - Low	M - Medium	H - High		
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High	
Dry Strength	N - None	L - Low	M - Medium	H - High	V - Very High

Standing Water in Completed Pit

at depth	ft
measured after	hours elapsed

Boulders

<u>Diameter (in.)</u>	<u>Number</u>	<u>Approx. Vol. (cu.ft)</u>
12 to 24		=
over 24		=

Test Pit Dimensions (ft)

Pit Length x Width (ft)
Pit Depth (ft) 10.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

TEST PIT LOG

Test Pit No. TP-15-04

Project	SENECA FALLS FORMER MGP SITE
Location	SENECA FALLS, NEW YORK
Client	ROCHESTER GAS & ELECTRIC CORP.
Contractor	PARRATT-WOLFF
Equipment Used	DEERE 135D EXCAVATOR

File No.	34507-023
H&A Rep	R. Lydell
Date	19 Nov 2015
Weather	50°F, cloudy

Ground El.: 456.6 (est.)
El. Datum: NAVD 88

Location: See Plan

Groundwater depths/entry rates (in./min.): N/A

[illegible]

Obstructions:

Remarks:

Sample I.D.: TP1504-111915-1145 0.5 - 2.0 ft.
ISS Sample: TP1504 2.0 - 7.0 ft.

Field Tests

Dilatancy	R - Rapid	S - Slow	N - None		
Toughness	L - Low	M - Medium	H - High		
Plasticity	N - Nonplastic	L - Low	M - Medium	H - High	
Dry Strength	N - None	L - Low	M - Medium	H - High	V - Very High

Standing Water in Completed Pit

at depth _____ ft
measured after _____ hours elapsed

Boulders

<u>Diameter (in.)</u>	<u>Number</u>	<u>Approx. Vol. (cu.ft)</u>
12 to 24		=
over 24		=

Test Pit Dimensions (ft)

Pit Length x Width (ft)
Pit Depth (ft) 9.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

HA-TESTPIT-07-1 HA-LIB09-BOS_MAN.GLB HA-TP07-1.GDT G:\34507_SENECA_FALLS\2023\FIELD\GINT\2016-0115-HA-TEST PITS TP-15-01_TP15-05.GPJ Jan 26, 16

 TEST PIT LOG						Test Pit No. TP-15-05								
Project SENECA FALLS FORMER MGP SITE Location SENECA FALLS, NEW YORK Client ROCHESTER GAS & ELECTRIC CORP. Contractor PARRATT-WOLFF Equipment Used DEERE 135D EXCAVATOR						File No. 34507-023 H&A Rep R. Lydell Date 20 Nov 2015 Weather 45°F, clear								
Ground El.: 456.6 (est.)		Location: See Plan		Groundwater depths/entry rates (in./min.): N/A										
El. Datum: NAVD 88														
Depth (ft)	Sample ID	Stratum Change Elev./Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (color, natural grain size and artificial component percentage estimates, maximum particle size, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC INTERPRETATION)	Gravel		Sand			Field Tests				
					% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
0	S1 0.0 - 2.0	455.1 1.5	SP- SM	Brown poorly graded SAND with silt (SP-SM), mps 2 in., no odor, moist/dry -TOPSOIL- PID=0.0 ppm	5	5	10	60	10	10				
			White layer, no odor Possible crushed concrete/construction debris PID=0.0 ppm											
2		454.6 2.0	SP- SM	Black stained poorly graded SAND with silt (SP-SM), mps < 1/2 in., no odor, brick and construction material throughout Occasional clay pipe, CLM and ALM -FILL-			10	20	50	10	10			
3														
4		452.6 4.0	MH	Red-brown SILT with sand (MH), mps < 1/2 in., no odor, moist/dry -GLACIAL TILL-		5	5	10	5	75				
5		451.6 5.0		BOTTOM OF EXPLORATION 5.0 FT										

Obstructions:	Remarks: Sample I.D.: TP1505-112015-0900 0 - 2.0 ft.	Field Tests	
		Dilatancy R - Rapid S - Slow N - None Toughness L - Low M - Medium H - High Plasticity N - Nonplastic L - Low M - Medium H - High Dry Strength N - None L - Low M - Medium H - High V - Very High	

Standing Water in Completed Pit		Boulders		Test Pit Dimensions (ft)
at depth	ft	Diameter (in.)	Number	Pit Length x Width (ft)
measured after	hours elapsed	12 to 24	=	Pit Depth (ft)
		over 24	=	5.0

NOTE: Soil identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

APPENDIX D

Soil and Sediment Analytical Results

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-91340-1

Client Project/Site: RG&E Seneca Falls MGP Site

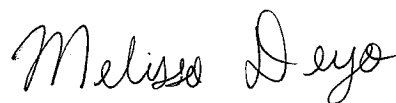
For:

Haley & Aldrich, Inc.

3 Bedford Farms Drive

Beford, New Hampshire 03110

Attn: Douglas C. Allen



Authorized for release by:

12/3/2015 4:02:08 PM

Melissa Deyo, Project Manager I

(716)504-9874

melissa.deyo@testamericainc.com

LINKS

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results through

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Job ID: 480-91340-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-91340-1

Receipt

The samples were received on 11/19/2015 2:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.6° C and 0.9° C.

GC/MS VOA

Method(s) 8260C: The following samples were diluted due to the nature of the TCLP matrix: SE1501-111815-1100 (480-91340-1), SE1502-111815-1130 (480-91340-2), SE1504-111815-1215 (480-91340-3), SE1503-111815-1300 (480-91340-4) and SE1505-111815-1330 (480-91340-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-277733 recovered above the upper control limit for Carbon Tetrachloride and 1,1-Dichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: SE1501-111815-1100 (480-91340-1), SE1502-111815-1130 (480-91340-2), SE1504-111815-1215 (480-91340-3), SE1503-111815-1300 (480-91340-4) and SE1505-111815-1330 (480-91340-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) analyzed in batch 480-276397 was outside the method criteria for the following analyte(s): Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8082A: Decachlorobiphenyl surrogate recovery for the following sample was outside control limits: SE1504-111815-1215 (480-91340-3). Matrix interference is suspected and Tetrachloro-m-xylene was within control limits; therefore, re-extraction and re-analysis were not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) 9045C, 9045D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: SE1501-111815-1100 (480-91340-1), SE1502-111815-1130 (480-91340-2), SE1504-111815-1215 (480-91340-3), SE1503-111815-1300 (480-91340-4) and SE1505-111815-1330 (480-91340-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-275832 and analytical batch 480-276163.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1501-111815-1100

Lab Sample ID: 480-91340-1

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0092	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.47	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0012	J	0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.41		0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	7.47	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: SE1502-111815-1130

Lab Sample ID: 480-91340-2

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	failed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Methylphenol	0.00088	J	0.010	0.00040	mg/L	1		8270D	TCLP
4-Methylphenol	0.00088	J	0.010	0.00036	mg/L	1		8270D	TCLP
Arsenic	0.012	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.65	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0026		0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	1.4		0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	8.01	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: SE1504-111815-1215

Lab Sample ID: 480-91340-3

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.033		0.010	0.0041	mg/L	10		8260C	TCLP
Arsenic	0.011	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.86	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0071		0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.31		0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	7.69	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: SE1503-111815-1300

Lab Sample ID: 480-91340-4

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0071	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.94	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0011	J	0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.30		0.020	0.0030	mg/L	1		6010C	TCLP

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1503-111815-1300 (Continued)

Lab Sample ID: 480-91340-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	8.26	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0069	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.54	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0085		0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.017	J	0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	7.74	HF	0.100	0.100	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1501-111815-1100

Date Collected: 11/18/15 11:00

Date Received: 11/19/15 02:15

Lab Sample ID: 480-91340-1

Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/02/15 13:53	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/02/15 13:53	10
Benzene	ND		0.010	0.0041	mg/L			12/02/15 13:53	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/02/15 13:53	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/02/15 13:53	10
Chloroform	ND		0.010	0.0034	mg/L			12/02/15 13:53	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/02/15 13:53	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/02/15 13:53	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/02/15 13:53	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/02/15 13:53	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		66 - 137		12/02/15 13:53	10
4-Bromofluorobenzene (Surr)	82		73 - 120		12/02/15 13:53	10
Toluene-d8 (Surr)	92		71 - 126		12/02/15 13:53	10
Dibromofluoromethane (Surr)	117		60 - 140		12/02/15 13:53	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/20/15 12:54	11/23/15 14:02	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/20/15 12:54	11/23/15 14:02	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/20/15 12:54	11/23/15 14:02	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/20/15 12:54	11/23/15 14:02	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/20/15 12:54	11/23/15 14:02	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/20/15 12:54	11/23/15 14:02	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/20/15 12:54	11/23/15 14:02	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/20/15 12:54	11/23/15 14:02	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/20/15 12:54	11/23/15 14:02	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/20/15 12:54	11/23/15 14:02	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/20/15 12:54	11/23/15 14:02	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/20/15 12:54	11/23/15 14:02	1
Pyridine	ND		0.025	0.00041	mg/L		11/20/15 12:54	11/23/15 14:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		52 - 132	11/20/15 12:54	11/23/15 14:02	1
2-Fluorobiphenyl	91		48 - 120	11/20/15 12:54	11/23/15 14:02	1
2-Fluorophenol (Surr)	49		20 - 120	11/20/15 12:54	11/23/15 14:02	1
Nitrobenzene-d5 (Surr)	80		46 - 120	11/20/15 12:54	11/23/15 14:02	1
p-Terphenyl-d14 (Surr)	99		67 - 150	11/20/15 12:54	11/23/15 14:02	1
Phenol-d5 (Surr)	36		16 - 120	11/20/15 12:54	11/23/15 14:02	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0092	J	0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 02:08	1
Barium	0.47	J	1.0	0.10	mg/L		11/20/15 11:10	11/21/15 02:08	1
Cadmium	0.0012	J	0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 02:08	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 02:08	1
Lead	0.41		0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 02:08	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 02:08	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 02:08	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1501-111815-1100

Lab Sample ID: 480-91340-1

Date Collected: 11/18/15 11:00

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:49	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/21/15 17:47	1
Cyanide, Reactive	ND		9.8	9.8	mg/Kg		11/19/15 05:15	11/19/15 14:47	1
Sulfide, Reactive	ND		9.8	9.8	mg/Kg		11/19/15 05:15	11/19/15 14:36	1
pH	7.47	HF	0.100	0.100	SU			11/23/15 20:00	1

Client Sample ID: SE1501-111815-1100

Lab Sample ID: 480-91340-1

Date Collected: 11/18/15 11:00

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 54.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.41	0.081	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
PCB-1221	ND		0.41	0.081	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
PCB-1232	ND		0.41	0.081	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
PCB-1242	ND		0.41	0.081	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
PCB-1248	ND		0.41	0.081	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
PCB-1254	ND		0.41	0.19	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
PCB-1260	ND		0.41	0.19	mg/Kg	☼	11/20/15 08:12	11/21/15 02:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	89		60 - 154				11/20/15 08:12	11/21/15 02:15	1
DCB Decachlorobiphenyl	67		65 - 174				11/20/15 08:12	11/21/15 02:15	1

Client Sample ID: SE1502-111815-1130

Lab Sample ID: 480-91340-2

Date Collected: 11/18/15 11:30

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/02/15 14:21	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/02/15 14:21	10
Benzene	ND		0.010	0.0041	mg/L			12/02/15 14:21	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/02/15 14:21	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/02/15 14:21	10
Chloroform	ND		0.010	0.0034	mg/L			12/02/15 14:21	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/02/15 14:21	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/02/15 14:21	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/02/15 14:21	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/02/15 14:21	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		66 - 137					12/02/15 14:21	10
4-Bromofluorobenzene (Surr)	82		73 - 120					12/02/15 14:21	10
Toluene-d8 (Surr)	92		71 - 126					12/02/15 14:21	10

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1502-111815-1130

Lab Sample ID: 480-91340-2

Date Collected: 11/18/15 11:30

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	117		60 - 140		12/02/15 14:21	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/20/15 12:54	11/23/15 14:29	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/20/15 12:54	11/23/15 14:29	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/20/15 12:54	11/23/15 14:29	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/20/15 12:54	11/23/15 14:29	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/20/15 12:54	11/23/15 14:29	1
3-Methylphenol	0.00088	J	0.010	0.00040	mg/L		11/20/15 12:54	11/23/15 14:29	1
4-Methylphenol	0.00088	J	0.010	0.00036	mg/L		11/20/15 12:54	11/23/15 14:29	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/20/15 12:54	11/23/15 14:29	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/20/15 12:54	11/23/15 14:29	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/20/15 12:54	11/23/15 14:29	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/20/15 12:54	11/23/15 14:29	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/20/15 12:54	11/23/15 14:29	1
Pyridine	ND		0.025	0.00041	mg/L		11/20/15 12:54	11/23/15 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	105		52 - 132	11/20/15 12:54	11/23/15 14:29	1
2-Fluorobiphenyl	102		48 - 120	11/20/15 12:54	11/23/15 14:29	1
2-Fluorophenol (Surr)	58		20 - 120	11/20/15 12:54	11/23/15 14:29	1
Nitrobenzene-d5 (Surr)	92		46 - 120	11/20/15 12:54	11/23/15 14:29	1
p-Terphenyl-d14 (Surr)	107		67 - 150	11/20/15 12:54	11/23/15 14:29	1
Phenol-d5 (Surr)	40		16 - 120	11/20/15 12:54	11/23/15 14:29	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.012	J	0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 02:11	1
Barium	0.65	J	1.0	0.10	mg/L		11/20/15 11:10	11/21/15 02:11	1
Cadmium	0.0026		0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 02:11	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 02:11	1
Lead	1.4		0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 02:11	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 02:11	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 02:11	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:51	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	failed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/21/15 17:47	1
Cyanide, Reactive	ND		9.8	9.8	mg/Kg		11/19/15 05:15	11/19/15 14:51	1
Sulfide, Reactive	ND		9.8	9.8	mg/Kg		11/19/15 05:15	11/19/15 14:36	1
pH	8.01	HF	0.100	0.100	SU			11/23/15 20:00	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1502-111815-1130

Lab Sample ID: 480-91340-2

Date Collected: 11/18/15 11:30

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 71.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.34	0.066	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1
PCB-1221	ND		0.34	0.066	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1
PCB-1232	ND		0.34	0.066	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1
PCB-1242	ND		0.34	0.066	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1
PCB-1248	ND		0.34	0.066	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1
PCB-1254	ND		0.34	0.16	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1
PCB-1260	ND		0.34	0.16	mg/Kg	☼	11/20/15 08:12	11/21/15 02:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		60 - 154	11/20/15 08:12	11/21/15 02:31	1
DCB Decachlorobiphenyl	65		65 - 174	11/20/15 08:12	11/21/15 02:31	1

Client Sample ID: SE1504-111815-1215

Lab Sample ID: 480-91340-3

Date Collected: 11/18/15 12:15

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/02/15 14:48	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/02/15 14:48	10
Benzene	0.033		0.010	0.0041	mg/L			12/02/15 14:48	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/02/15 14:48	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/02/15 14:48	10
Chloroform	ND		0.010	0.0034	mg/L			12/02/15 14:48	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/02/15 14:48	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/02/15 14:48	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/02/15 14:48	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/02/15 14:48	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		66 - 137		12/02/15 14:48	10
4-Bromofluorobenzene (Surr)	83		73 - 120		12/02/15 14:48	10
Toluene-d8 (Surr)	90		71 - 126		12/02/15 14:48	10
Dibromofluoromethane (Surr)	114		60 - 140		12/02/15 14:48	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/20/15 12:54	11/23/15 14:55	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/20/15 12:54	11/23/15 14:55	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/20/15 12:54	11/23/15 14:55	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/20/15 12:54	11/23/15 14:55	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/20/15 12:54	11/23/15 14:55	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/20/15 12:54	11/23/15 14:55	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/20/15 12:54	11/23/15 14:55	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/20/15 12:54	11/23/15 14:55	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/20/15 12:54	11/23/15 14:55	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/20/15 12:54	11/23/15 14:55	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/20/15 12:54	11/23/15 14:55	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/20/15 12:54	11/23/15 14:55	1
Pyridine	ND		0.025	0.00041	mg/L		11/20/15 12:54	11/23/15 14:55	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1504-111815-1215

Lab Sample ID: 480-91340-3

Date Collected: 11/18/15 12:15

Matrix: Solid

Date Received: 11/19/15 02:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	99		52 - 132	11/20/15 12:54	11/23/15 14:55	1
2-Fluorobiphenyl	93		48 - 120	11/20/15 12:54	11/23/15 14:55	1
2-Fluorophenol (Surr)	54		20 - 120	11/20/15 12:54	11/23/15 14:55	1
Nitrobenzene-d5 (Surr)	85		46 - 120	11/20/15 12:54	11/23/15 14:55	1
p-Terphenyl-d14 (Surr)	107		67 - 150	11/20/15 12:54	11/23/15 14:55	1
Phenol-d5 (Surr)	37		16 - 120	11/20/15 12:54	11/23/15 14:55	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.011	J	0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 02:24	1
Barium	0.86	J	1.0	0.10	mg/L		11/20/15 11:10	11/21/15 02:24	1
Cadmium	0.0071		0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 02:24	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 02:24	1
Lead	0.31		0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 02:24	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 02:24	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 02:24	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:53	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/21/15 17:47	1
Cyanide, Reactive	ND		9.6	9.6	mg/Kg		11/19/15 05:15	11/19/15 14:53	1
Sulfide, Reactive	ND		9.6	9.6	mg/Kg		11/19/15 05:15	11/19/15 14:36	1
pH	7.69	HF	0.100	0.100	SU			11/23/15 20:00	1

Client Sample ID: SE1504-111815-1215

Lab Sample ID: 480-91340-3

Date Collected: 11/18/15 12:15

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 59.8

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.39	0.075	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
PCB-1221	ND		0.39	0.075	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
PCB-1232	ND		0.39	0.075	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
PCB-1242	ND		0.39	0.075	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
PCB-1248	ND		0.39	0.075	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
PCB-1254	ND		0.39	0.18	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
PCB-1260	ND		0.39	0.18	mg/Kg	☼	11/20/15 08:12	11/21/15 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		60 - 154				11/20/15 08:12	11/21/15 02:47	1
DCB Decachlorobiphenyl	53	X	65 - 174				11/20/15 08:12	11/21/15 02:47	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1503-111815-1300

Lab Sample ID: 480-91340-4

Date Collected: 11/18/15 13:00

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/02/15 15:16	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/02/15 15:16	10
Benzene	ND		0.010	0.0041	mg/L			12/02/15 15:16	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/02/15 15:16	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/02/15 15:16	10
Chloroform	ND		0.010	0.0034	mg/L			12/02/15 15:16	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/02/15 15:16	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/02/15 15:16	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/02/15 15:16	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/02/15 15:16	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		66 - 137		12/02/15 15:16	10
4-Bromofluorobenzene (Surr)	84		73 - 120		12/02/15 15:16	10
Toluene-d8 (Surr)	92		71 - 126		12/02/15 15:16	10
Dibromofluoromethane (Surr)	117		60 - 140		12/02/15 15:16	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/20/15 12:54	11/23/15 15:21	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/20/15 12:54	11/23/15 15:21	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/20/15 12:54	11/23/15 15:21	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/20/15 12:54	11/23/15 15:21	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/20/15 12:54	11/23/15 15:21	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/20/15 12:54	11/23/15 15:21	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/20/15 12:54	11/23/15 15:21	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/20/15 12:54	11/23/15 15:21	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/20/15 12:54	11/23/15 15:21	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/20/15 12:54	11/23/15 15:21	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/20/15 12:54	11/23/15 15:21	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/20/15 12:54	11/23/15 15:21	1
Pyridine	ND		0.025	0.00041	mg/L		11/20/15 12:54	11/23/15 15:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	104		52 - 132	11/20/15 12:54	11/23/15 15:21	1
2-Fluorobiphenyl	101		48 - 120	11/20/15 12:54	11/23/15 15:21	1
2-Fluorophenol (Surr)	54		20 - 120	11/20/15 12:54	11/23/15 15:21	1
Nitrobenzene-d5 (Surr)	87		46 - 120	11/20/15 12:54	11/23/15 15:21	1
p-Terphenyl-d14 (Surr)	103		67 - 150	11/20/15 12:54	11/23/15 15:21	1
Phenol-d5 (Surr)	38		16 - 120	11/20/15 12:54	11/23/15 15:21	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0071	J	0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 02:28	1
Barium	0.94	J	1.0	0.10	mg/L		11/20/15 11:10	11/21/15 02:28	1
Cadmium	0.0011	J	0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 02:28	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 02:28	1
Lead	0.30		0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 02:28	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 02:28	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 02:28	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1503-111815-1300

Lab Sample ID: 480-91340-4

Date Collected: 11/18/15 13:00

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:55	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/21/15 17:47	1
Cyanide, Reactive	ND		9.7	9.7	mg/Kg		11/19/15 05:15	11/19/15 14:54	1
Sulfide, Reactive	ND		9.7	9.7	mg/Kg		11/19/15 05:15	11/19/15 14:36	1
pH	8.26	HF	0.100	0.100	SU			11/23/15 20:00	1

Client Sample ID: SE1503-111815-1300

Lab Sample ID: 480-91340-4

Date Collected: 11/18/15 13:00

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 67.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.31	0.061	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1
PCB-1221	ND		0.31	0.061	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1
PCB-1232	ND		0.31	0.061	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1
PCB-1242	ND		0.31	0.061	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1
PCB-1248	ND		0.31	0.061	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1
PCB-1254	ND		0.31	0.15	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1
PCB-1260	ND		0.31	0.15	mg/Kg	☼	11/20/15 08:12	11/21/15 03:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	69		60 - 154	11/20/15 08:12	11/21/15 03:03	1
DCB Decachlorobiphenyl	81		65 - 174	11/20/15 08:12	11/21/15 03:03	1

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Date Collected: 11/18/15 13:30

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/02/15 15:43	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/02/15 15:43	10
Benzene	ND		0.010	0.0041	mg/L			12/02/15 15:43	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/02/15 15:43	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/02/15 15:43	10
Chloroform	ND		0.010	0.0034	mg/L			12/02/15 15:43	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/02/15 15:43	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/02/15 15:43	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/02/15 15:43	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/02/15 15:43	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		66 - 137		12/02/15 15:43	10
4-Bromofluorobenzene (Surr)	82		73 - 120		12/02/15 15:43	10
Toluene-d8 (Surr)	92		71 - 126		12/02/15 15:43	10

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Date Collected: 11/18/15 13:30

Matrix: Solid

Date Received: 11/19/15 02:15

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	118		60 - 140		12/02/15 15:43	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/20/15 12:54	11/23/15 15:48	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/20/15 12:54	11/23/15 15:48	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/20/15 12:54	11/23/15 15:48	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/20/15 12:54	11/23/15 15:48	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/20/15 12:54	11/23/15 15:48	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/20/15 12:54	11/23/15 15:48	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/20/15 12:54	11/23/15 15:48	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/20/15 12:54	11/23/15 15:48	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/20/15 12:54	11/23/15 15:48	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/20/15 12:54	11/23/15 15:48	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/20/15 12:54	11/23/15 15:48	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/20/15 12:54	11/23/15 15:48	1
Pyridine	ND		0.025	0.00041	mg/L		11/20/15 12:54	11/23/15 15:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	96		52 - 132	11/20/15 12:54	11/23/15 15:48	1
2-Fluorobiphenyl	96		48 - 120	11/20/15 12:54	11/23/15 15:48	1
2-Fluorophenol (Surr)	53		20 - 120	11/20/15 12:54	11/23/15 15:48	1
Nitrobenzene-d5 (Surr)	85		46 - 120	11/20/15 12:54	11/23/15 15:48	1
p-Terphenyl-d14 (Surr)	98		67 - 150	11/20/15 12:54	11/23/15 15:48	1
Phenol-d5 (Surr)	36		16 - 120	11/20/15 12:54	11/23/15 15:48	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0069	J	0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 02:31	1
Barium	0.54	J	1.0	0.10	mg/L		11/20/15 11:10	11/21/15 02:31	1
Cadmium	0.0085		0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 02:31	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 02:31	1
Lead	0.017	J	0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 02:31	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 02:31	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 02:31	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:57	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/21/15 17:47	1
Cyanide, Reactive	ND		9.5	9.5	mg/Kg		11/19/15 05:15	11/19/15 14:56	1
Sulfide, Reactive	ND		9.5	9.5	mg/Kg		11/19/15 05:15	11/19/15 14:36	1
pH	7.74	HF	0.100	0.100	SU			11/23/15 20:00	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Date Collected: 11/18/15 13:30

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 71.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.33	0.065	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1
PCB-1221	ND		0.33	0.065	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1
PCB-1232	ND		0.33	0.065	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1
PCB-1242	ND		0.33	0.065	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1
PCB-1248	ND		0.33	0.065	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1
PCB-1254	ND		0.33	0.16	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1
PCB-1260	ND		0.33	0.16	mg/Kg	☼	11/20/15 08:12	11/21/15 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		60 - 154	11/20/15 08:12	11/21/15 03:18	1
DCB Decachlorobiphenyl	71		65 - 174	11/20/15 08:12	11/21/15 03:18	1

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (66-137)	BFB (73-120)	TOL (71-126)	DBFM (60-140)
LCS 480-276789/4	Lab Control Sample	93	107	95	104
LCS 480-277733/4	Lab Control Sample	104	92	97	106
MB 480-276789/6	Method Blank	97	98	90	111
MB 480-277733/6	Method Blank	113	85	94	117

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (66-137)	BFB (73-120)	TOL (71-126)	DBFM (60-140)
480-91340-1	SE1501-111815-1100	117	82	92	117
480-91340-2	SE1502-111815-1130	113	82	92	117
480-91340-3	SE1504-111815-1215	113	83	90	114
480-91340-4	SE1503-111815-1300	114	84	92	117
480-91340-5	SE1505-111815-1330	117	82	92	118
LB 480-275834/1-A	Method Blank	100	96	93	110

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	TPH (67-150)	PHL (16-120)
LCS 480-276163/2-A	Lab Control Sample	104	97	54	88	106	38
LCSD 480-276163/3-A	Lab Control Sample Dup	103	94	53	83	104	38
MB 480-276163/1-A	Method Blank	81	82	42	69	101	30

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

TPH = p-Terphenyl-d14 (Surr)

PHL = Phenol-d5 (Surr)

TestAmerica Buffalo

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	TPH (67-150)	PHL (16-120)
480-91340-1	SE1501-111815-1100	91	91	49	80	99	36
480-91340-2	SE1502-111815-1130	105	102	58	92	107	40
480-91340-3	SE1504-111815-1215	99	93	54	85	107	37
480-91340-4	SE1503-111815-1300	104	101	54	87	103	38
480-91340-5	SE1505-111815-1330	96	96	53	85	98	36
LB 480-275832/1-D	Method Blank	111	107	58	93	115	41

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPH = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (60-154)	DCB2 (65-174)
480-91340-1	SE1501-111815-1100	89	67
480-91340-2	SE1502-111815-1130	79	65
480-91340-3	SE1504-111815-1215	70	53 X
480-91340-4	SE1503-111815-1300	69	81
480-91340-5	SE1505-111815-1330	90	71
LCS 480-276052/2-A	Lab Control Sample	108	117
MB 480-276052/1-A	Method Blank	99	103

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-276789/6

Matrix: Solid

Analysis Batch: 276789

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			11/25/15 00:22	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			11/25/15 00:22	1
Benzene	ND		0.0010	0.00041	mg/L			11/25/15 00:22	1
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			11/25/15 00:22	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			11/25/15 00:22	1
Chloroform	ND		0.0010	0.00034	mg/L			11/25/15 00:22	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			11/25/15 00:22	1
Trichloroethene	ND		0.0010	0.00046	mg/L			11/25/15 00:22	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			11/25/15 00:22	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			11/25/15 00:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137		11/25/15 00:22	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/25/15 00:22	1
Toluene-d8 (Surr)	90		71 - 126		11/25/15 00:22	1
Dibromofluoromethane (Surr)	111		60 - 140		11/25/15 00:22	1

Lab Sample ID: LCS 480-276789/4

Matrix: Solid

Analysis Batch: 276789

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0250	0.0233		mg/L		93	75 - 127
2-Butanone (MEK)	0.125	0.131		mg/L		105	57 - 140
Benzene	0.0250	0.0244		mg/L		97	71 - 124
Carbon tetrachloride	0.0250	0.0263		mg/L		105	72 - 134
Chlorobenzene	0.0250	0.0248		mg/L		99	72 - 120
Chloroform	0.0250	0.0248		mg/L		99	73 - 127
Tetrachloroethene	0.0250	0.0280		mg/L		112	74 - 122
Trichloroethene	0.0250	0.0258		mg/L		103	74 - 123
Vinyl chloride	0.0250	0.0217		mg/L		87	65 - 133
1,1-Dichloroethene	0.0250	0.0252		mg/L		101	58 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		66 - 137
4-Bromofluorobenzene (Surr)	107		73 - 120
Toluene-d8 (Surr)	95		71 - 126
Dibromofluoromethane (Surr)	104		60 - 140

Lab Sample ID: MB 480-277733/6

Matrix: Solid

Analysis Batch: 277733

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			12/02/15 11:27	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			12/02/15 11:27	1
Benzene	ND		0.0010	0.00041	mg/L			12/02/15 11:27	1

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-277733/6

Matrix: Solid

Analysis Batch: 277733

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			12/02/15 11:27	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			12/02/15 11:27	1
Chloroform	ND		0.0010	0.00034	mg/L			12/02/15 11:27	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			12/02/15 11:27	1
Trichloroethene	ND		0.0010	0.00046	mg/L			12/02/15 11:27	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			12/02/15 11:27	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			12/02/15 11:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		66 - 137					12/02/15 11:27	1
4-Bromofluorobenzene (Surr)	85		73 - 120					12/02/15 11:27	1
Toluene-d8 (Surr)	94		71 - 126					12/02/15 11:27	1
Dibromofluoromethane (Surr)	117		60 - 140					12/02/15 11:27	1

Lab Sample ID: LCS 480-277733/4

Matrix: Solid

Analysis Batch: 277733

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0250	0.0259		mg/L		104	75 - 127
2-Butanone (MEK)	0.125	0.130		mg/L		104	57 - 140
Benzene	0.0250	0.0262		mg/L		105	71 - 124
Carbon tetrachloride	0.0250	0.0309		mg/L		124	72 - 134
Chlorobenzene	0.0250	0.0251		mg/L		100	72 - 120
Chloroform	0.0250	0.0257		mg/L		103	73 - 127
Tetrachloroethene	0.0250	0.0259		mg/L		104	74 - 122
Trichloroethene	0.0250	0.0262		mg/L		105	74 - 123
Vinyl chloride	0.0250	0.0271		mg/L		108	65 - 133
1,1-Dichloroethene	0.0250	0.0286		mg/L		115	58 - 121
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		66 - 137				
4-Bromofluorobenzene (Surr)	92		73 - 120				
Toluene-d8 (Surr)	97		71 - 126				
Dibromofluoromethane (Surr)	106		60 - 140				

Lab Sample ID: LB 480-275834/1-A

Matrix: Solid

Analysis Batch: 276789

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			11/25/15 00:49	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			11/25/15 00:49	10
Benzene	ND		0.010	0.0041	mg/L			11/25/15 00:49	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			11/25/15 00:49	10
Chlorobenzene	ND		0.010	0.0075	mg/L			11/25/15 00:49	10
Chloroform	ND		0.010	0.0034	mg/L			11/25/15 00:49	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			11/25/15 00:49	10

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 480-275834/1-A

Matrix: Solid

Analysis Batch: 276789

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.010	0.0046	mg/L			11/25/15 00:49	10
Vinyl chloride	ND		0.010	0.0090	mg/L			11/25/15 00:49	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			11/25/15 00:49	10

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		66 - 137		11/25/15 00:49	10
4-Bromofluorobenzene (Surr)	96		73 - 120		11/25/15 00:49	10
Toluene-d8 (Surr)	93		71 - 126		11/25/15 00:49	10
Dibromofluoromethane (Surr)	110		60 - 140		11/25/15 00:49	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-276163/1-A

Matrix: Solid

Analysis Batch: 276397

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276163

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.0025	0.00012	mg/L		11/20/15 12:54	11/23/15 10:32	1
2,4-Dinitrotoluene	ND		0.0013	0.00011	mg/L		11/20/15 12:54	11/23/15 10:32	1
2,4,5-Trichlorophenol	ND		0.0013	0.00012	mg/L		11/20/15 12:54	11/23/15 10:32	1
2,4,6-Trichlorophenol	ND		0.0013	0.00015	mg/L		11/20/15 12:54	11/23/15 10:32	1
2-Methylphenol	ND		0.0013	0.00010	mg/L		11/20/15 12:54	11/23/15 10:32	1
3-Methylphenol	ND		0.0025	0.00010	mg/L		11/20/15 12:54	11/23/15 10:32	1
4-Methylphenol	ND		0.0025	0.000090	mg/L		11/20/15 12:54	11/23/15 10:32	1
Hexachlorobenzene	ND		0.0013	0.00013	mg/L		11/20/15 12:54	11/23/15 10:32	1
Hexachlorobutadiene	ND		0.0013	0.00017	mg/L		11/20/15 12:54	11/23/15 10:32	1
Hexachloroethane	ND		0.0013	0.00015	mg/L		11/20/15 12:54	11/23/15 10:32	1
Nitrobenzene	ND		0.0013	0.000073	mg/L		11/20/15 12:54	11/23/15 10:32	1
Pentachlorophenol	ND		0.0025	0.00055	mg/L		11/20/15 12:54	11/23/15 10:32	1
Pyridine	ND		0.0063	0.00010	mg/L		11/20/15 12:54	11/23/15 10:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	81		52 - 132	11/20/15 12:54	11/23/15 10:32	1
2-Fluorobiphenyl	82		48 - 120	11/20/15 12:54	11/23/15 10:32	1
2-Fluorophenol (Surr)	42		20 - 120	11/20/15 12:54	11/23/15 10:32	1
Nitrobenzene-d5 (Surr)	69		46 - 120	11/20/15 12:54	11/23/15 10:32	1
p-Terphenyl-d14 (Surr)	101		67 - 150	11/20/15 12:54	11/23/15 10:32	1
Phenol-d5 (Surr)	30		16 - 120	11/20/15 12:54	11/23/15 10:32	1

Lab Sample ID: LCS 480-276163/2-A

Matrix: Solid

Analysis Batch: 276397

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276163

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.0500	0.0286		mg/L		57	32 - 120
2,4-Dinitrotoluene	0.0500	0.0519		mg/L		104	65 - 154
2,4,5-Trichlorophenol	0.0500	0.0496		mg/L		99	65 - 126

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-276163/2-A

Matrix: Solid

Analysis Batch: 276397

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276163

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	0.0500	0.0500		mg/L		100	64 - 120
2-Methylphenol	0.0500	0.0383		mg/L		77	39 - 120
3-Methylphenol	0.0500	0.0360		mg/L		72	39 - 120
4-Methylphenol	0.0500	0.0360		mg/L		72	39 - 120
Hexachlorobenzene	0.0500	0.0493		mg/L		99	14 - 130
Hexachlorobutadiene	0.0500	0.0298		mg/L		60	14 - 130
Hexachloroethane	0.0500	0.0235		mg/L		47	14 - 130
Nitrobenzene	0.0500	0.0429		mg/L		86	45 - 123
Pentachlorophenol	0.100	0.0866		mg/L		87	39 - 136
Pyridine	0.0500	0.0204		mg/L		41	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	104		52 - 132
2-Fluorobiphenyl	97		48 - 120
2-Fluorophenol (Surr)	54		20 - 120
Nitrobenzene-d5 (Surr)	88		46 - 120
p-Terphenyl-d14 (Surr)	106		67 - 150
Phenol-d5 (Surr)	38		16 - 120

Lab Sample ID: LCSD 480-276163/3-A

Matrix: Solid

Analysis Batch: 276397

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 276163

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dichlorobenzene	0.0500	0.0275		mg/L		55	32 - 120	4	36
2,4-Dinitrotoluene	0.0500	0.0516		mg/L		103	65 - 154	1	20
2,4,5-Trichlorophenol	0.0500	0.0492		mg/L		98	65 - 126	1	18
2,4,6-Trichlorophenol	0.0500	0.0485		mg/L		97	64 - 120	3	19
2-Methylphenol	0.0500	0.0389		mg/L		78	39 - 120	2	27
3-Methylphenol	0.0500	0.0366		mg/L		73	39 - 120	2	30
4-Methylphenol	0.0500	0.0366		mg/L		73	39 - 120	2	24
Hexachlorobenzene	0.0500	0.0483		mg/L		97	14 - 130	2	15
Hexachlorobutadiene	0.0500	0.0278		mg/L		56	14 - 130	7	44
Hexachloroethane	0.0500	0.0220		mg/L		44	14 - 130	7	46
Nitrobenzene	0.0500	0.0409		mg/L		82	45 - 123	5	24
Pentachlorophenol	0.100	0.0826		mg/L		83	39 - 136	5	37
Pyridine	0.0500	0.0230		mg/L		46	10 - 120	12	49

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	103		52 - 132
2-Fluorobiphenyl	94		48 - 120
2-Fluorophenol (Surr)	53		20 - 120
Nitrobenzene-d5 (Surr)	83		46 - 120
p-Terphenyl-d14 (Surr)	104		67 - 150
Phenol-d5 (Surr)	38		16 - 120

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 480-275832/1-D

Matrix: Solid

Analysis Batch: 276397

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 276163

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/20/15 12:54	11/23/15 12:17	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/20/15 12:54	11/23/15 12:17	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/20/15 12:54	11/23/15 12:17	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/20/15 12:54	11/23/15 12:17	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/20/15 12:54	11/23/15 12:17	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/20/15 12:54	11/23/15 12:17	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/20/15 12:54	11/23/15 12:17	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/20/15 12:54	11/23/15 12:17	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/20/15 12:54	11/23/15 12:17	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/20/15 12:54	11/23/15 12:17	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/20/15 12:54	11/23/15 12:17	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/20/15 12:54	11/23/15 12:17	1
Pyridine	ND		0.025	0.00041	mg/L		11/20/15 12:54	11/23/15 12:17	1
Surrogate	LB %Recovery	LB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	111		52 - 132				11/20/15 12:54	11/23/15 12:17	1
2-Fluorobiphenyl	107		48 - 120				11/20/15 12:54	11/23/15 12:17	1
2-Fluorophenol (Surr)	58		20 - 120				11/20/15 12:54	11/23/15 12:17	1
Nitrobenzene-d5 (Surr)	93		46 - 120				11/20/15 12:54	11/23/15 12:17	1
p-Terphenyl-d14 (Surr)	115		67 - 150				11/20/15 12:54	11/23/15 12:17	1
Phenol-d5 (Surr)	41		16 - 120				11/20/15 12:54	11/23/15 12:17	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-276052/1-A

Matrix: Solid

Analysis Batch: 276208

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.19	0.038	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
PCB-1221	ND		0.19	0.038	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
PCB-1232	ND		0.19	0.038	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
PCB-1242	ND		0.19	0.038	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
PCB-1248	ND		0.19	0.038	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
PCB-1254	ND		0.19	0.091	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
PCB-1260	ND		0.19	0.091	mg/Kg		11/20/15 08:12	11/20/15 22:48	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		60 - 154				11/20/15 08:12	11/20/15 22:48	1
DCB Decachlorobiphenyl	103		65 - 174				11/20/15 08:12	11/20/15 22:48	1

Lab Sample ID: LCS 480-276052/2-A

Matrix: Solid

Analysis Batch: 276208

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	2.35	2.50		mg/Kg		106	51 - 185

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 480-276052/2-A

Matrix: Solid

Analysis Batch: 276208

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1260	2.35	2.68		mg/Kg		114	61 - 184
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Tetrachloro-m-xylene	108		60 - 154				
DCB Decachlorobiphenyl	117		65 - 174				

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-276110/2-A

Matrix: Solid

Analysis Batch: 276291

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 01:47	1
Barium	ND		1.0	0.10	mg/L		11/20/15 11:10	11/21/15 01:47	1
Cadmium	ND		0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 01:47	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 01:47	1
Lead	ND		0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 01:47	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 01:47	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 01:47	1

Lab Sample ID: LCS 480-276110/3-A

Matrix: Solid

Analysis Batch: 276291

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.08		mg/L		108	80 - 120
Barium	1.00	1.05		mg/L		105	80 - 120
Cadmium	1.00	1.03		mg/L		103	80 - 120
Chromium	1.00	1.02		mg/L		102	80 - 120
Lead	1.00	1.02		mg/L		102	80 - 120
Selenium	1.00	1.07		mg/L		107	80 - 120
Silver	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: LCSD 480-276110/16-A

Matrix: Solid

Analysis Batch: 276291

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 276110

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	1.00	1.10		mg/L		110	80 - 120	2	20
Barium	1.00	1.08		mg/L		108	80 - 120	3	20
Cadmium	1.00	1.05		mg/L		105	80 - 120	1	20
Chromium	1.00	1.04		mg/L		104	80 - 120	1	20
Lead	1.00	1.02		mg/L		102	80 - 120	1	20
Selenium	1.00	1.09		mg/L		109	80 - 120	2	20
Silver	1.00	1.09		mg/L		109	80 - 120	1	20

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LB 480-275832/1-B

Matrix: Solid

Analysis Batch: 276291

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 276110

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/20/15 11:10	11/21/15 01:44	1
Barium	ND		1.0	0.10	mg/L		11/20/15 11:10	11/21/15 01:44	1
Cadmium	ND		0.0020	0.00050	mg/L		11/20/15 11:10	11/21/15 01:44	1
Chromium	ND		0.020	0.010	mg/L		11/20/15 11:10	11/21/15 01:44	1
Lead	ND		0.020	0.0030	mg/L		11/20/15 11:10	11/21/15 01:44	1
Selenium	ND		0.025	0.0087	mg/L		11/20/15 11:10	11/21/15 01:44	1
Silver	ND		0.0060	0.0017	mg/L		11/20/15 11:10	11/21/15 01:44	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-276128/2-A

Matrix: Solid

Analysis Batch: 276275

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276128

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:35	1

Lab Sample ID: LCS 480-276128/3-A

Matrix: Solid

Analysis Batch: 276275

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276128

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00668	0.00745		mg/L		112	80 - 120

Lab Sample ID: LB 480-275832/1-C

Matrix: Solid

Analysis Batch: 276275

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 276128

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/15 11:30	11/20/15 15:33	1

Method: 1010A - Ignitability, Pensky-Martens Closed Cup Method

Lab Sample ID: LCS 480-276347/1

Matrix: Solid

Analysis Batch: 276347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	82.00		Degrees F		101	97.5 - 102.5

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 480-275920/1-A
Matrix: Solid
Analysis Batch: 275965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275920

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		10.0	10.0	mg/Kg		11/19/15 05:15	11/19/15 14:34	1

Lab Sample ID: LCS 480-275920/2-A
Matrix: Solid
Analysis Batch: 275965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275920

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	1000	385.0		mg/Kg		39	10 - 100

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 480-275922/1-A
Matrix: Solid
Analysis Batch: 275957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275922

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		10.0	10.0	mg/Kg		11/19/15 05:15	11/19/15 14:36	1

Lab Sample ID: LCS 480-275922/2-A
Matrix: Solid
Analysis Batch: 275957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1000	340.6		mg/Kg		34	10 - 100

Method: 9045D - pH

Lab Sample ID: LCS 480-276578/1
Matrix: Solid
Analysis Batch: 276578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.030		SU		100	99 - 101

Lab Sample ID: 480-91340-4 DU
Matrix: Solid
Analysis Batch: 276578

Client Sample ID: SE1503-111815-1300
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.26	HF	8.260		SU		0	5

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method: 9095B - Paint Filter

Lab Sample ID: 480-91340-3 DU

Matrix: Solid

Analysis Batch: 276547

Client Sample ID: SE1504-111815-1215

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Free Liquid	passed		passed		mL/100g		NC	

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

GC/MS VOA

Leach Batch: 275834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	1311	
480-91340-2	SE1502-111815-1130	TCLP	Solid	1311	
480-91340-3	SE1504-111815-1215	TCLP	Solid	1311	
480-91340-4	SE1503-111815-1300	TCLP	Solid	1311	
480-91340-5	SE1505-111815-1330	TCLP	Solid	1311	
LB 480-275834/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 276789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 480-275834/1-A	Method Blank	TCLP	Solid	8260C	275834
LCS 480-276789/4	Lab Control Sample	Total/NA	Solid	8260C	
MB 480-276789/6	Method Blank	Total/NA	Solid	8260C	

Analysis Batch: 277733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	8260C	275834
480-91340-2	SE1502-111815-1130	TCLP	Solid	8260C	275834
480-91340-3	SE1504-111815-1215	TCLP	Solid	8260C	275834
480-91340-4	SE1503-111815-1300	TCLP	Solid	8260C	275834
480-91340-5	SE1505-111815-1330	TCLP	Solid	8260C	275834
LCS 480-277733/4	Lab Control Sample	Total/NA	Solid	8260C	
MB 480-277733/6	Method Blank	Total/NA	Solid	8260C	

GC/MS Semi VOA

Leach Batch: 275832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	1311	
480-91340-2	SE1502-111815-1130	TCLP	Solid	1311	
480-91340-3	SE1504-111815-1215	TCLP	Solid	1311	
480-91340-4	SE1503-111815-1300	TCLP	Solid	1311	
480-91340-5	SE1505-111815-1330	TCLP	Solid	1311	
LB 480-275832/1-D	Method Blank	TCLP	Solid	1311	

Prep Batch: 276163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	3510C	275832
480-91340-2	SE1502-111815-1130	TCLP	Solid	3510C	275832
480-91340-3	SE1504-111815-1215	TCLP	Solid	3510C	275832
480-91340-4	SE1503-111815-1300	TCLP	Solid	3510C	275832
480-91340-5	SE1505-111815-1330	TCLP	Solid	3510C	275832
LB 480-275832/1-D	Method Blank	TCLP	Solid	3510C	275832
LCS 480-276163/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 480-276163/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 480-276163/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 276397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	8270D	276163
480-91340-2	SE1502-111815-1130	TCLP	Solid	8270D	276163

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

GC/MS Semi VOA (Continued)

Analysis Batch: 276397 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-3	SE1504-111815-1215	TCLP	Solid	8270D	276163
480-91340-4	SE1503-111815-1300	TCLP	Solid	8270D	276163
480-91340-5	SE1505-111815-1330	TCLP	Solid	8270D	276163
LB 480-275832/1-D	Method Blank	TCLP	Solid	8270D	276163
LCS 480-276163/2-A	Lab Control Sample	Total/NA	Solid	8270D	276163
LCSD 480-276163/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	276163
MB 480-276163/1-A	Method Blank	Total/NA	Solid	8270D	276163

GC Semi VOA

Prep Batch: 276052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	3550C	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	3550C	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	3550C	
480-91340-4	SE1503-111815-1300	Total/NA	Solid	3550C	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	3550C	
LCS 480-276052/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 480-276052/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 276208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	8082A	276052
480-91340-2	SE1502-111815-1130	Total/NA	Solid	8082A	276052
480-91340-3	SE1504-111815-1215	Total/NA	Solid	8082A	276052
480-91340-4	SE1503-111815-1300	Total/NA	Solid	8082A	276052
480-91340-5	SE1505-111815-1330	Total/NA	Solid	8082A	276052
LCS 480-276052/2-A	Lab Control Sample	Total/NA	Solid	8082A	276052
MB 480-276052/1-A	Method Blank	Total/NA	Solid	8082A	276052

Metals

Leach Batch: 275832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	1311	
480-91340-2	SE1502-111815-1130	TCLP	Solid	1311	
480-91340-3	SE1504-111815-1215	TCLP	Solid	1311	
480-91340-4	SE1503-111815-1300	TCLP	Solid	1311	
480-91340-5	SE1505-111815-1330	TCLP	Solid	1311	
LB 480-275832/1-B	Method Blank	TCLP	Solid	1311	
LB 480-275832/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 276110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	3010A	275832
480-91340-2	SE1502-111815-1130	TCLP	Solid	3010A	275832
480-91340-3	SE1504-111815-1215	TCLP	Solid	3010A	275832
480-91340-4	SE1503-111815-1300	TCLP	Solid	3010A	275832
480-91340-5	SE1505-111815-1330	TCLP	Solid	3010A	275832
LB 480-275832/1-B	Method Blank	TCLP	Solid	3010A	275832

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Metals (Continued)

Prep Batch: 276110 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-276110/3-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 480-276110/16-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
MB 480-276110/2-A	Method Blank	Total/NA	Solid	3010A	

Prep Batch: 276128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	7470A	275832
480-91340-2	SE1502-111815-1130	TCLP	Solid	7470A	275832
480-91340-3	SE1504-111815-1215	TCLP	Solid	7470A	275832
480-91340-4	SE1503-111815-1300	TCLP	Solid	7470A	275832
480-91340-5	SE1505-111815-1330	TCLP	Solid	7470A	275832
LB 480-275832/1-C	Method Blank	TCLP	Solid	7470A	275832
LCS 480-276128/3-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 480-276128/2-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 276275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	7470A	276128
480-91340-2	SE1502-111815-1130	TCLP	Solid	7470A	276128
480-91340-3	SE1504-111815-1215	TCLP	Solid	7470A	276128
480-91340-4	SE1503-111815-1300	TCLP	Solid	7470A	276128
480-91340-5	SE1505-111815-1330	TCLP	Solid	7470A	276128
LB 480-275832/1-C	Method Blank	TCLP	Solid	7470A	276128
LCS 480-276128/3-A	Lab Control Sample	Total/NA	Solid	7470A	276128
MB 480-276128/2-A	Method Blank	Total/NA	Solid	7470A	276128

Analysis Batch: 276291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	TCLP	Solid	6010C	276110
480-91340-2	SE1502-111815-1130	TCLP	Solid	6010C	276110
480-91340-3	SE1504-111815-1215	TCLP	Solid	6010C	276110
480-91340-4	SE1503-111815-1300	TCLP	Solid	6010C	276110
480-91340-5	SE1505-111815-1330	TCLP	Solid	6010C	276110
LB 480-275832/1-B	Method Blank	TCLP	Solid	6010C	276110
LCS 480-276110/3-A	Lab Control Sample	Total/NA	Solid	6010C	276110
LCSD 480-276110/16-A	Lab Control Sample Dup	Total/NA	Solid	6010C	276110
MB 480-276110/2-A	Method Blank	Total/NA	Solid	6010C	276110

General Chemistry

Prep Batch: 275920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	7.3.3	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	7.3.3	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	7.3.3	
480-91340-4	SE1503-111815-1300	Total/NA	Solid	7.3.3	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	7.3.3	
LCS 480-275920/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	
MB 480-275920/1-A	Method Blank	Total/NA	Solid	7.3.3	

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

General Chemistry (Continued)

Prep Batch: 275922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	7.3.4	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	7.3.4	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	7.3.4	
480-91340-4	SE1503-111815-1300	Total/NA	Solid	7.3.4	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	7.3.4	
LCS 480-275922/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	
MB 480-275922/1-A	Method Blank	Total/NA	Solid	7.3.4	

Analysis Batch: 275957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	9034	275922
480-91340-2	SE1502-111815-1130	Total/NA	Solid	9034	275922
480-91340-3	SE1504-111815-1215	Total/NA	Solid	9034	275922
480-91340-4	SE1503-111815-1300	Total/NA	Solid	9034	275922
480-91340-5	SE1505-111815-1330	Total/NA	Solid	9034	275922
LCS 480-275922/2-A	Lab Control Sample	Total/NA	Solid	9034	275922
MB 480-275922/1-A	Method Blank	Total/NA	Solid	9034	275922

Analysis Batch: 275965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	9012	275920
480-91340-2	SE1502-111815-1130	Total/NA	Solid	9012	275920
480-91340-3	SE1504-111815-1215	Total/NA	Solid	9012	275920
480-91340-4	SE1503-111815-1300	Total/NA	Solid	9012	275920
480-91340-5	SE1505-111815-1330	Total/NA	Solid	9012	275920
LCS 480-275920/2-A	Lab Control Sample	Total/NA	Solid	9012	275920
MB 480-275920/1-A	Method Blank	Total/NA	Solid	9012	275920

Analysis Batch: 276017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	Moisture	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	Moisture	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	Moisture	
480-91340-4	SE1503-111815-1300	Total/NA	Solid	Moisture	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	Moisture	

Analysis Batch: 276347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	1010A	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	1010A	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	1010A	
480-91340-4	SE1503-111815-1300	Total/NA	Solid	1010A	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	1010A	
LCS 480-276347/1	Lab Control Sample	Total/NA	Solid	1010A	

Analysis Batch: 276547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	9095B	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	9095B	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	9095B	
480-91340-3 DU	SE1504-111815-1215	Total/NA	Solid	9095B	

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

General Chemistry (Continued)

Analysis Batch: 276547 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-4	SE1503-111815-1300	Total/NA	Solid	9095B	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	9095B	

Analysis Batch: 276578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91340-1	SE1501-111815-1100	Total/NA	Solid	9045D	
480-91340-2	SE1502-111815-1130	Total/NA	Solid	9045D	
480-91340-3	SE1504-111815-1215	Total/NA	Solid	9045D	
480-91340-4	SE1503-111815-1300	Total/NA	Solid	9045D	
480-91340-4 DU	SE1503-111815-1300	Total/NA	Solid	9045D	
480-91340-5	SE1505-111815-1330	Total/NA	Solid	9045D	
LCS 480-276578/1	Lab Control Sample	Total/NA	Solid	9045D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1501-111815-1100

Date Collected: 11/18/15 11:00

Date Received: 11/19/15 02:15

Lab Sample ID: 480-91340-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			275834	11/19/15 08:51	JLS	TAL BUF
TCLP	Analysis	8260C		10	277733	12/02/15 13:53	GVF	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3510C			276163	11/20/15 12:54	CPH	TAL BUF
TCLP	Analysis	8270D		1	276397	11/23/15 14:02	CAS	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3010A			276110	11/20/15 11:10	KJ1	TAL BUF
TCLP	Analysis	6010C		1	276291	11/21/15 02:08	AMH	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	7470A			276128	11/20/15 11:30	JRK	TAL BUF
TCLP	Analysis	7470A		1	276275	11/20/15 15:49	JRK	TAL BUF
Total/NA	Analysis	1010A		1	276347	11/21/15 17:47	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			275920	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9012		1	275965	11/19/15 14:47	KMF	TAL BUF
Total/NA	Prep	7.3.4			275922	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9034		1	275957	11/19/15 14:36	KMF	TAL BUF
Total/NA	Analysis	9045D		1	276578	11/23/15 20:00	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276017	11/19/15 20:54	CMK	TAL BUF

Client Sample ID: SE1501-111815-1100

Date Collected: 11/18/15 11:00

Date Received: 11/19/15 02:15

Lab Sample ID: 480-91340-1

Matrix: Solid

Percent Solids: 54.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276052	11/20/15 08:12	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276208	11/21/15 02:15	KS	TAL BUF

Client Sample ID: SE1502-111815-1130

Date Collected: 11/18/15 11:30

Date Received: 11/19/15 02:15

Lab Sample ID: 480-91340-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			275834	11/19/15 08:51	JLS	TAL BUF
TCLP	Analysis	8260C		10	277733	12/02/15 14:21	GVF	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3510C			276163	11/20/15 12:54	CPH	TAL BUF
TCLP	Analysis	8270D		1	276397	11/23/15 14:29	CAS	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3010A			276110	11/20/15 11:10	KJ1	TAL BUF
TCLP	Analysis	6010C		1	276291	11/21/15 02:11	AMH	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	7470A			276128	11/20/15 11:30	JRK	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1502-111815-1130

Lab Sample ID: 480-91340-2

Date Collected: 11/18/15 11:30

Matrix: Solid

Date Received: 11/19/15 02:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	7470A		1	276275	11/20/15 15:51	JRK	TAL BUF
Total/NA	Analysis	1010A		1	276347	11/21/15 17:47	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			275920	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9012		1	275965	11/19/15 14:51	KMF	TAL BUF
Total/NA	Prep	7.3.4			275922	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9034		1	275957	11/19/15 14:36	KMF	TAL BUF
Total/NA	Analysis	9045D		1	276578	11/23/15 20:00	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276017	11/19/15 20:54	CMK	TAL BUF

Client Sample ID: SE1502-111815-1130

Lab Sample ID: 480-91340-2

Date Collected: 11/18/15 11:30

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 71.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276052	11/20/15 08:12	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276208	11/21/15 02:31	KS	TAL BUF

Client Sample ID: SE1504-111815-1215

Lab Sample ID: 480-91340-3

Date Collected: 11/18/15 12:15

Matrix: Solid

Date Received: 11/19/15 02:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			275834	11/19/15 08:51	JLS	TAL BUF
TCLP	Analysis	8260C		10	277733	12/02/15 14:48	GVF	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3510C			276163	11/20/15 12:54	CPH	TAL BUF
TCLP	Analysis	8270D		1	276397	11/23/15 14:55	CAS	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3010A			276110	11/20/15 11:10	KJ1	TAL BUF
TCLP	Analysis	6010C		1	276291	11/21/15 02:24	AMH	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	7470A			276128	11/20/15 11:30	JRK	TAL BUF
TCLP	Analysis	7470A		1	276275	11/20/15 15:53	JRK	TAL BUF
Total/NA	Analysis	1010A		1	276347	11/21/15 17:47	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			275920	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9012		1	275965	11/19/15 14:53	KMF	TAL BUF
Total/NA	Prep	7.3.4			275922	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9034		1	275957	11/19/15 14:36	KMF	TAL BUF
Total/NA	Analysis	9045D		1	276578	11/23/15 20:00	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276017	11/19/15 20:54	CMK	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1504-111815-1215

Lab Sample ID: 480-91340-3

Date Collected: 11/18/15 12:15

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 59.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276052	11/20/15 08:12	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276208	11/21/15 02:47	KS	TAL BUF

Client Sample ID: SE1503-111815-1300

Lab Sample ID: 480-91340-4

Date Collected: 11/18/15 13:00

Matrix: Solid

Date Received: 11/19/15 02:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			275834	11/19/15 08:51	JLS	TAL BUF
TCLP	Analysis	8260C		10	277733	12/02/15 15:16	GVF	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3510C			276163	11/20/15 12:54	CPH	TAL BUF
TCLP	Analysis	8270D		1	276397	11/23/15 15:21	CAS	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3010A			276110	11/20/15 11:10	KJ1	TAL BUF
TCLP	Analysis	6010C		1	276291	11/21/15 02:28	AMH	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	7470A			276128	11/20/15 11:30	JRK	TAL BUF
TCLP	Analysis	7470A		1	276275	11/20/15 15:55	JRK	TAL BUF
Total/NA	Analysis	1010A		1	276347	11/21/15 17:47	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			275920	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9012		1	275965	11/19/15 14:54	KMF	TAL BUF
Total/NA	Prep	7.3.4			275922	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9034		1	275957	11/19/15 14:36	KMF	TAL BUF
Total/NA	Analysis	9045D		1	276578	11/23/15 20:00	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276017	11/19/15 20:54	CMK	TAL BUF

Client Sample ID: SE1503-111815-1300

Lab Sample ID: 480-91340-4

Date Collected: 11/18/15 13:00

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 67.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276052	11/20/15 08:12	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276208	11/21/15 03:03	KS	TAL BUF

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Date Collected: 11/18/15 13:30

Matrix: Solid

Date Received: 11/19/15 02:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			275834	11/19/15 08:51	JLS	TAL BUF
TCLP	Analysis	8260C		10	277733	12/02/15 15:43	GVF	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Date Collected: 11/18/15 13:30

Matrix: Solid

Date Received: 11/19/15 02:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3510C			276163	11/20/15 12:54	CPH	TAL BUF
TCLP	Analysis	8270D		1	276397	11/23/15 15:48	CAS	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	3010A			276110	11/20/15 11:10	KJ1	TAL BUF
TCLP	Analysis	6010C		1	276291	11/21/15 02:31	AMH	TAL BUF
TCLP	Leach	1311			275832	11/19/15 08:48	JLS	TAL BUF
TCLP	Prep	7470A			276128	11/20/15 11:30	JRK	TAL BUF
TCLP	Analysis	7470A		1	276275	11/20/15 15:57	JRK	TAL BUF
Total/NA	Analysis	1010A		1	276347	11/21/15 17:47	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			275920	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9012		1	275965	11/19/15 14:56	KMF	TAL BUF
Total/NA	Prep	7.3.4			275922	11/19/15 05:15	KMF	TAL BUF
Total/NA	Analysis	9034		1	275957	11/19/15 14:36	KMF	TAL BUF
Total/NA	Analysis	9045D		1	276578	11/23/15 20:00	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276017	11/19/15 20:54	CMK	TAL BUF

Client Sample ID: SE1505-111815-1330

Lab Sample ID: 480-91340-5

Date Collected: 11/18/15 13:30

Matrix: Solid

Date Received: 11/19/15 02:15

Percent Solids: 71.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276052	11/20/15 08:12	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276208	11/21/15 03:18	KS	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
7470A	7470A	Solid	Mercury
9012	7.3.3	Solid	Cyanide, Reactive
9034	7.3.4	Solid	Sulfide, Reactive
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
1010A	Ignitability, Pensky-Martens Closed Cup Method	SW846	TAL BUF
9012	Cyanide, Reactive	SW846	TAL BUF
9034	Sulfide, Reactive	SW846	TAL BUF
9045D	pH	SW846	TAL BUF
9095B	Paint Filter	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91340-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-91340-1	SE1501-111815-1100	Solid	11/18/15 11:00	11/19/15 02:15
480-91340-2	SE1502-111815-1130	Solid	11/18/15 11:30	11/19/15 02:15
480-91340-3	SE1504-111815-1215	Solid	11/18/15 12:15	11/19/15 02:15
480-91340-4	SE1503-111815-1300	Solid	11/18/15 13:00	11/19/15 02:15
480-91340-5	SE1505-111815-1330	Solid	11/18/15 13:30	11/19/15 02:15

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Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

Chain of Custody Record

TAL-4124 (1007)

Client		Project Manager		Date	Chain of Custody Number
Halley & Aldrich		Doug Allen		11/18/15	292377
Address		Telephone Number (Area Code)/Fax Number		Lab Number	
3 Bedford Farms Drive		603-341-3320			
City	State	Zip Code	Site Contact	Lab Contact	Page 1 of 1
Bedford	NH	03110		M. Deyo	
Project Name and Location (State)		Carrier/Waybill Number		Analysis (Attach list if more space is needed)	
Seneca Falls MGP site				pH/correctivity	
Contract/Purchase Order/Quote No.				Percent Solids	

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Preservatives							TCLP v	TCLP se	TCLP R	PCBS	Reactive	Reactive	flashpo	Percent	part flt	pH/cor					
			Air	Aqueous	Sed	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc																
SE1501-111815-1100	11/18/15	1100			X										X	X	X	X	X	X	X	X	X	X	X	X	X	Normal
SE1502-111815-1130		1130																										
SE1504-111815-1215		1215																										
SE1503-111815-1300		1300																										
SE1505-111815-1330		1330																										
AP 11/18/15																												

Possible Hazard Identification		Sample Disposal		QC Requirements (Specify)					
☐ Non-Hazard	☐ Flammable	☐ Skin Irritant	☐ Poison B	☒ Return To Client	☐ Disposal By Lab	☐ Archive For	☐ Months	(A fee may be assessed if samples are retained longer than 1 month)	
Turn Around Time Required		Other Standard		1. Received By		2. Received By		3. Received By	
24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐		Other Standard		Date 11/18/15 Time 1420		Date 11/18/15 Time 1420		Date 11/18/15 Time 1420	
1. Relinquished By		Relinquished By		Relinquished By		Relinquished By		Relinquished By	
2. Relinquished By		Relinquished By		Relinquished By		Relinquished By		Relinquished By	
3. Relinquished By		Relinquished By		Relinquished By		Relinquished By		Relinquished By	
Comments		Comments		Comments		Comments		Comments	
DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy		DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy		DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy		DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy		DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 480-91340-1

Login Number: 91340

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	H AND A
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-91551-1

Client Project/Site: RG&E Seneca Falls MGP Site

For:

Haley & Aldrich, Inc.

3 Bedford Farms Drive

Beford, New Hampshire 03110

Attn: Douglas C. Allen



Authorized for release by:

12/7/2015 10:35:39 AM

Rebecca Jones, Project Management Assistant I

rebecca.jones@testamericainc.com

Designee for

Melissa Deyo, Project Manager I

(716)504-9874

melissa.deyo@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Job ID: 480-91551-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-91551-1

Receipt

The samples were received on 11/21/2015 1:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.1° C and 0.2° C.

GC/MS VOA

Method(s) 8260C: Due to the co-elution of Ethyl Acetate with 2-Butanone in the full spike solution, these analytes exceeded control limits in the laboratory control sample (LCS) associated with batch 277923: TP1504-111915-1145 (480-91551-1), TP1502-111915-1320 (480-91551-2), TP1501-111915-1440 (480-91551-3), TP1503-111915-1530 (480-91551-4), TP1503-111915-1545 (480-91551-5) and TP1505-112015-0900 (480-91551-6).

Method(s) 8260C: The following samples were diluted due to the nature of the TCLP sample matrix: LB 480-276443/1-A, TP1504-111915-1145 (480-91551-1), TP1502-111915-1320 (480-91551-2), TP1501-111915-1440 (480-91551-3), TP1503-111915-1530 (480-91551-4), TP1503-111915-1545 (480-91551-5) and TP1505-112015-0900 (480-91551-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) analyzed in batch 480-277509 was outside the method criteria for the following analyte: pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

Method(s) 6010C: The low level continuing calibration verification (CCVL 480-276979/41) for analytical batch 480-276979 contained TCLP Chromium above the upper quality control limit. All reported samples associated with this CCVL were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples TP1503-111915-1545 (480-91551-5) and TP1505-112015-0900 (480-91551-6) was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method(s) 9045D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: TP1504-111915-1145 (480-91551-1), TP1502-111915-1320 (480-91551-2), TP1501-111915-1440 (480-91551-3), TP1503-111915-1530 (480-91551-4), TP1503-111915-1545 (480-91551-5) and TP1505-112015-0900 (480-91551-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with 276687.

Method(s) 3550C: The following sample: TP1501-111915-1440 (480-91551-3) was decanted prior to preparation.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1504-111915-1145

Lab Sample ID: 480-91551-1

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	failed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyridine	0.0012	J B	0.025	0.00041	mg/L	1		8270D	TCLP
Barium	0.29	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.00063	J	0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.0034	J	0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	7.63	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: TP1502-111915-1320

Lab Sample ID: 480-91551-2

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyridine	0.0013	J B	0.025	0.00041	mg/L	1		8270D	TCLP
Arsenic	0.012	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.80	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0038		0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.059		0.020	0.0030	mg/L	1		6010C	TCLP
Mercury	0.00044		0.00020	0.00012	mg/L	1		7470A	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	8.23	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: TP1501-111915-1440

Lab Sample ID: 480-91551-3

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.41	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.00071	J	0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.0051	J	0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	8.28	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: TP1503-111915-1530

Lab Sample ID: 480-91551-4

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyridine	0.0011	J B	0.025	0.00041	mg/L	1		8270D	TCLP
Barium	0.43	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.00093	J	0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.0082	J	0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1503-111915-1530 (Continued)

Lab Sample ID: 480-91551-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.70	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyridine	0.0017	J B	0.025	0.00041	mg/L	1		8270D	TCLP
Barium	0.39	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0023		0.0020	0.00050	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	8.44	HF	0.100	0.100	SU	1		9045D	Total/NA

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Free Liquid	passed				mL/100g	1		9095B	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyridine	0.0014	J B	0.025	0.00041	mg/L	1		8270D	TCLP
Arsenic	0.0095	J	0.015	0.0056	mg/L	1		6010C	TCLP
Barium	0.91	J	1.0	0.10	mg/L	1		6010C	TCLP
Cadmium	0.0042		0.0020	0.00050	mg/L	1		6010C	TCLP
Lead	0.16		0.020	0.0030	mg/L	1		6010C	TCLP
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010A	Total/NA
pH	8.61	HF	0.100	0.100	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1504-111915-1145

Date Collected: 11/19/15 11:45

Date Received: 11/21/15 01:50

Lab Sample ID: 480-91551-1

Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 12:27	10
2-Butanone (MEK)	ND	*	0.050	0.013	mg/L			12/03/15 12:27	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 12:27	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 12:27	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 12:27	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 12:27	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 12:27	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 12:27	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 12:27	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 12:27	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 137		12/03/15 12:27	10
4-Bromofluorobenzene (Surr)	95		73 - 120		12/03/15 12:27	10
Toluene-d8 (Surr)	97		71 - 126		12/03/15 12:27	10
Dibromofluoromethane (Surr)	94		60 - 140		12/03/15 12:27	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/01/15 19:02	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/01/15 19:02	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/01/15 19:02	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/01/15 19:02	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/01/15 19:02	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/01/15 19:02	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/01/15 19:02	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/01/15 19:02	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/01/15 19:02	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/01/15 19:02	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/01/15 19:02	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/01/15 19:02	1
Pyridine	0.0012	J B	0.025	0.00041	mg/L		11/24/15 11:06	12/01/15 19:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	101		52 - 132	11/24/15 11:06	12/01/15 19:02	1
2-Fluorobiphenyl	101		48 - 120	11/24/15 11:06	12/01/15 19:02	1
2-Fluorophenol (Surr)	55		20 - 120	11/24/15 11:06	12/01/15 19:02	1
Nitrobenzene-d5 (Surr)	89		46 - 120	11/24/15 11:06	12/01/15 19:02	1
p-Terphenyl-d14 (Surr)	105		67 - 150	11/24/15 11:06	12/01/15 19:02	1
Phenol-d5 (Surr)	37		16 - 120	11/24/15 11:06	12/01/15 19:02	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 12:55	1
Barium	0.29	J	1.0	0.10	mg/L		11/24/15 10:50	11/25/15 12:55	1
Cadmium	0.00063	J	0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 12:55	1
Chromium	ND		0.020	0.010	mg/L		11/24/15 10:50	11/25/15 12:55	1
Lead	0.0034	J	0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 12:55	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 12:55	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 12:55	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1504-111915-1145

Lab Sample ID: 480-91551-1

Date Collected: 11/19/15 11:45

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:32	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	failed				mL/100g			11/23/15 10:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/25/15 16:49	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/24/15 16:18	1
Sulfide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/25/15 07:55	1
pH	7.63	HF	0.100	0.100	SU			11/25/15 19:15	1

Client Sample ID: TP1504-111915-1145

Lab Sample ID: 480-91551-1

Date Collected: 11/19/15 11:45

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 90.8

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	11/23/15 12:01	11/23/15 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		60 - 154	11/23/15 12:01	11/23/15 18:03	1
DCB Decachlorobiphenyl	99		65 - 174	11/23/15 12:01	11/23/15 18:03	1

Client Sample ID: TP1502-111915-1320

Lab Sample ID: 480-91551-2

Date Collected: 11/19/15 13:20

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 12:51	10
2-Butanone (MEK)	ND	*	0.050	0.013	mg/L			12/03/15 12:51	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 12:51	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 12:51	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 12:51	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 12:51	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 12:51	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 12:51	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 12:51	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 12:51	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		66 - 137		12/03/15 12:51	10
4-Bromofluorobenzene (Surr)	96		73 - 120		12/03/15 12:51	10
Toluene-d8 (Surr)	97		71 - 126		12/03/15 12:51	10

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1502-111915-1320

Lab Sample ID: 480-91551-2

Date Collected: 11/19/15 13:20

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	90		60 - 140		12/03/15 12:51	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/01/15 19:28	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/01/15 19:28	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/01/15 19:28	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/01/15 19:28	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/01/15 19:28	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/01/15 19:28	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/01/15 19:28	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/01/15 19:28	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/01/15 19:28	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/01/15 19:28	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/01/15 19:28	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/01/15 19:28	1
Pyridine	0.0013	J B	0.025	0.00041	mg/L		11/24/15 11:06	12/01/15 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		52 - 132	11/24/15 11:06	12/01/15 19:28	1
2-Fluorobiphenyl	95		48 - 120	11/24/15 11:06	12/01/15 19:28	1
2-Fluorophenol (Surr)	55		20 - 120	11/24/15 11:06	12/01/15 19:28	1
Nitrobenzene-d5 (Surr)	84		46 - 120	11/24/15 11:06	12/01/15 19:28	1
p-Terphenyl-d14 (Surr)	93		67 - 150	11/24/15 11:06	12/01/15 19:28	1
Phenol-d5 (Surr)	36		16 - 120	11/24/15 11:06	12/01/15 19:28	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.012	J	0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 12:58	1
Barium	0.80	J	1.0	0.10	mg/L		11/24/15 10:50	11/25/15 12:58	1
Cadmium	0.0038		0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 12:58	1
Chromium	ND		0.020	0.010	mg/L		11/24/15 10:50	11/25/15 12:58	1
Lead	0.059		0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 12:58	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 12:58	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 12:58	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00044		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:33	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/25/15 16:49	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/24/15 16:18	1
Sulfide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/25/15 07:55	1
pH	8.23	HF	0.100	0.100	SU			11/25/15 19:15	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1502-111915-1320

Lab Sample ID: 480-91551-2

Date Collected: 11/19/15 13:20

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 90.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.050	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1
PCB-1221	ND		0.26	0.050	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1
PCB-1232	ND		0.26	0.050	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1
PCB-1242	ND		0.26	0.050	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1
PCB-1248	ND		0.26	0.050	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	11/23/15 12:01	11/23/15 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	97		60 - 154	11/23/15 12:01	11/23/15 18:17	1
DCB Decachlorobiphenyl	108		65 - 174	11/23/15 12:01	11/23/15 18:17	1

Client Sample ID: TP1501-111915-1440

Lab Sample ID: 480-91551-3

Date Collected: 11/19/15 14:40

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 13:15	10
2-Butanone (MEK)	ND	*	0.050	0.013	mg/L			12/03/15 13:15	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 13:15	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 13:15	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 13:15	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 13:15	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 13:15	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 13:15	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 13:15	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 13:15	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 137		12/03/15 13:15	10
4-Bromofluorobenzene (Surr)	99		73 - 120		12/03/15 13:15	10
Toluene-d8 (Surr)	96		71 - 126		12/03/15 13:15	10
Dibromofluoromethane (Surr)	92		60 - 140		12/03/15 13:15	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/01/15 19:54	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/01/15 19:54	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/01/15 19:54	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/01/15 19:54	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/01/15 19:54	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/01/15 19:54	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/01/15 19:54	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/01/15 19:54	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/01/15 19:54	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/01/15 19:54	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/01/15 19:54	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/01/15 19:54	1
Pyridine	ND		0.025	0.00041	mg/L		11/24/15 11:06	12/01/15 19:54	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1501-111915-1440

Lab Sample ID: 480-91551-3

Date Collected: 11/19/15 14:40

Matrix: Solid

Date Received: 11/21/15 01:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	86		52 - 132	11/24/15 11:06	12/01/15 19:54	1
2-Fluorobiphenyl	89		48 - 120	11/24/15 11:06	12/01/15 19:54	1
2-Fluorophenol (Surr)	50		20 - 120	11/24/15 11:06	12/01/15 19:54	1
Nitrobenzene-d5 (Surr)	79		46 - 120	11/24/15 11:06	12/01/15 19:54	1
p-Terphenyl-d14 (Surr)	86		67 - 150	11/24/15 11:06	12/01/15 19:54	1
Phenol-d5 (Surr)	33		16 - 120	11/24/15 11:06	12/01/15 19:54	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 13:02	1
Barium	0.41	J	1.0	0.10	mg/L		11/24/15 10:50	11/25/15 13:02	1
Cadmium	0.00071	J	0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 13:02	1
Chromium	ND		0.020	0.010	mg/L		11/24/15 10:50	11/25/15 13:02	1
Lead	0.0051	J	0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 13:02	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 13:02	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 13:02	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:35	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/25/15 16:49	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/24/15 16:18	1
Sulfide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/25/15 07:55	1
pH	8.28	HF	0.100	0.100	SU			11/25/15 19:15	1

Client Sample ID: TP1501-111915-1440

Lab Sample ID: 480-91551-3

Date Collected: 11/19/15 14:40

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 79.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	11/23/15 12:01	11/23/15 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		60 - 154				11/23/15 12:01	11/23/15 18:32	1
DCB Decachlorobiphenyl	98		65 - 174				11/23/15 12:01	11/23/15 18:32	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1503-111915-1530

Lab Sample ID: 480-91551-4

Date Collected: 11/19/15 15:30

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 13:38	10
2-Butanone (MEK)	ND	*	0.050	0.013	mg/L			12/03/15 13:38	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 13:38	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 13:38	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 13:38	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 13:38	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 13:38	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 13:38	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 13:38	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 13:38	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137		12/03/15 13:38	10
4-Bromofluorobenzene (Surr)	95		73 - 120		12/03/15 13:38	10
Toluene-d8 (Surr)	96		71 - 126		12/03/15 13:38	10
Dibromofluoromethane (Surr)	93		60 - 140		12/03/15 13:38	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/01/15 20:20	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/01/15 20:20	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/01/15 20:20	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/01/15 20:20	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/01/15 20:20	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/01/15 20:20	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/01/15 20:20	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/01/15 20:20	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/01/15 20:20	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/01/15 20:20	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/01/15 20:20	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/01/15 20:20	1
Pyridine	0.0011	J B	0.025	0.00041	mg/L		11/24/15 11:06	12/01/15 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	93		52 - 132	11/24/15 11:06	12/01/15 20:20	1
2-Fluorobiphenyl	97		48 - 120	11/24/15 11:06	12/01/15 20:20	1
2-Fluorophenol (Surr)	52		20 - 120	11/24/15 11:06	12/01/15 20:20	1
Nitrobenzene-d5 (Surr)	93		46 - 120	11/24/15 11:06	12/01/15 20:20	1
p-Terphenyl-d14 (Surr)	94		67 - 150	11/24/15 11:06	12/01/15 20:20	1
Phenol-d5 (Surr)	35		16 - 120	11/24/15 11:06	12/01/15 20:20	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 13:05	1
Barium	0.43	J	1.0	0.10	mg/L		11/24/15 10:50	11/25/15 13:05	1
Cadmium	0.00093	J	0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 13:05	1
Chromium	ND		0.020	0.010	mg/L		11/24/15 10:50	11/25/15 13:05	1
Lead	0.0082	J	0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 13:05	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 13:05	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 13:05	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1503-111915-1530

Lab Sample ID: 480-91551-4

Date Collected: 11/19/15 15:30

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:36	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/25/15 16:49	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/24/15 16:18	1
Sulfide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/25/15 07:55	1
pH	7.70	HF	0.100	0.100	SU			11/25/15 19:15	1

Client Sample ID: TP1503-111915-1530

Lab Sample ID: 480-91551-4

Date Collected: 11/19/15 15:30

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 88.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.048	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1
PCB-1221	ND		0.24	0.048	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1
PCB-1232	ND		0.24	0.048	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1
PCB-1242	ND		0.24	0.048	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1
PCB-1248	ND		0.24	0.048	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	11/23/15 12:01	11/23/15 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	93		60 - 154	11/23/15 12:01	11/23/15 18:47	1
DCB Decachlorobiphenyl	95		65 - 174	11/23/15 12:01	11/23/15 18:47	1

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Date Collected: 11/19/15 15:45

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 14:02	10
2-Butanone (MEK)	ND	*	0.050	0.013	mg/L			12/03/15 14:02	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 14:02	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 14:02	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 14:02	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 14:02	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 14:02	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 14:02	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 14:02	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 14:02	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		66 - 137		12/03/15 14:02	10
4-Bromofluorobenzene (Surr)	98		73 - 120		12/03/15 14:02	10
Toluene-d8 (Surr)	96		71 - 126		12/03/15 14:02	10

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Date Collected: 11/19/15 15:45

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	93		60 - 140		12/03/15 14:02	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/01/15 20:46	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/01/15 20:46	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/01/15 20:46	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/01/15 20:46	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/01/15 20:46	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/01/15 20:46	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/01/15 20:46	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/01/15 20:46	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/01/15 20:46	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/01/15 20:46	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/01/15 20:46	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/01/15 20:46	1
Pyridine	0.0017	J B	0.025	0.00041	mg/L		11/24/15 11:06	12/01/15 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	97		52 - 132	11/24/15 11:06	12/01/15 20:46	1
2-Fluorobiphenyl	95		48 - 120	11/24/15 11:06	12/01/15 20:46	1
2-Fluorophenol (Surr)	51		20 - 120	11/24/15 11:06	12/01/15 20:46	1
Nitrobenzene-d5 (Surr)	86		46 - 120	11/24/15 11:06	12/01/15 20:46	1
p-Terphenyl-d14 (Surr)	97		67 - 150	11/24/15 11:06	12/01/15 20:46	1
Phenol-d5 (Surr)	35		16 - 120	11/24/15 11:06	12/01/15 20:46	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 13:18	1
Barium	0.39	J	1.0	0.10	mg/L		11/24/15 10:50	11/25/15 13:18	1
Cadmium	0.0023		0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 13:18	1
Chromium	ND	^	0.020	0.010	mg/L		11/24/15 10:50	11/25/15 13:18	1
Lead	ND		0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 13:18	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 13:18	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 13:18	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:38	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/25/15 16:49	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/24/15 16:18	1
Sulfide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/25/15 07:55	1
pH	8.44	HF	0.100	0.100	SU			11/25/15 19:15	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Date Collected: 11/19/15 15:45

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 75.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.054	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1
PCB-1221	ND		0.27	0.054	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1
PCB-1232	ND		0.27	0.054	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1
PCB-1242	ND		0.27	0.054	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1
PCB-1248	ND		0.27	0.054	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1
PCB-1254	ND		0.27	0.13	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1
PCB-1260	ND		0.27	0.13	mg/Kg	☼	11/23/15 12:01	11/23/15 19:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		60 - 154	11/23/15 12:01	11/23/15 19:02	1
DCB Decachlorobiphenyl	100		65 - 174	11/23/15 12:01	11/23/15 19:02	1

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Date Collected: 11/20/15 09:00

Matrix: Solid

Date Received: 11/21/15 01:50

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 14:26	10
2-Butanone (MEK)	ND	*	0.050	0.013	mg/L			12/03/15 14:26	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 14:26	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 14:26	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 14:26	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 14:26	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 14:26	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 14:26	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 14:26	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 14:26	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137		12/03/15 14:26	10
4-Bromofluorobenzene (Surr)	96		73 - 120		12/03/15 14:26	10
Toluene-d8 (Surr)	95		71 - 126		12/03/15 14:26	10
Dibromofluoromethane (Surr)	93		60 - 140		12/03/15 14:26	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/02/15 13:49	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/02/15 13:49	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/02/15 13:49	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/02/15 13:49	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/02/15 13:49	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/02/15 13:49	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/02/15 13:49	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/02/15 13:49	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/02/15 13:49	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/02/15 13:49	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/02/15 13:49	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/02/15 13:49	1
Pyridine	0.0014	J B	0.025	0.00041	mg/L		11/24/15 11:06	12/02/15 13:49	1

TestAmerica Buffalo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Date Collected: 11/20/15 09:00

Matrix: Solid

Date Received: 11/21/15 01:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	89		52 - 132	11/24/15 11:06	12/02/15 13:49	1
2-Fluorobiphenyl	86		48 - 120	11/24/15 11:06	12/02/15 13:49	1
2-Fluorophenol (Surr)	48		20 - 120	11/24/15 11:06	12/02/15 13:49	1
Nitrobenzene-d5 (Surr)	77		46 - 120	11/24/15 11:06	12/02/15 13:49	1
p-Terphenyl-d14 (Surr)	98		67 - 150	11/24/15 11:06	12/02/15 13:49	1
Phenol-d5 (Surr)	34		16 - 120	11/24/15 11:06	12/02/15 13:49	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0095	J	0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 13:21	1
Barium	0.91	J	1.0	0.10	mg/L		11/24/15 10:50	11/25/15 13:21	1
Cadmium	0.0042		0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 13:21	1
Chromium	ND	^	0.020	0.010	mg/L		11/24/15 10:50	11/25/15 13:21	1
Lead	0.16		0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 13:21	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 13:21	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 13:21	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:40	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Free Liquid	passed				mL/100g			11/23/15 10:40	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>176.0		50.0	50.0	Degrees F			11/25/15 16:49	1
Cyanide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/24/15 16:18	1
Sulfide, Reactive	ND		10	10	mg/Kg		11/24/15 04:15	11/25/15 07:55	1
pH	8.61	HF	0.100	0.100	SU			11/25/15 19:15	1

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Date Collected: 11/20/15 09:00

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 78.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.053	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
PCB-1221	ND		0.27	0.053	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
PCB-1232	ND		0.27	0.053	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
PCB-1242	ND		0.27	0.053	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
PCB-1248	ND		0.27	0.053	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
PCB-1254	ND		0.27	0.13	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
PCB-1260	ND		0.27	0.13	mg/Kg	☼	11/23/15 12:01	11/23/15 19:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		60 - 154				11/23/15 12:01	11/23/15 19:17	1
DCB Decachlorobiphenyl	122		65 - 174				11/23/15 12:01	11/23/15 19:17	1

TestAmerica Buffalo

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (66-137)	BFB (73-120)	TOL (71-126)	DBFM (60-140)
LCS 480-277923/5	Lab Control Sample	98	96	95	91
MB 480-277923/7	Method Blank	101	97	96	93

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (66-137)	BFB (73-120)	TOL (71-126)	DBFM (60-140)
480-91551-1	TP1504-111915-1145	102	95	97	94
480-91551-2	TP1502-111915-1320	100	96	97	90
480-91551-3	TP1501-111915-1440	102	99	96	92
480-91551-4	TP1503-111915-1530	101	95	96	93
480-91551-5	TP1503-111915-1545	102	98	96	93
480-91551-6	TP1505-112015-0900	101	96	95	93
LB 480-276443/1-A	Method Blank	100	99	97	94

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	TPH (67-150)	PHL (16-120)
LCS 480-276687/2-A	Lab Control Sample	105	98	54	87	101	39
LCSD 480-276687/3-A	Lab Control Sample Dup	101	101	59	97	94	39
MB 480-276687/1-A	Method Blank	83	88	46	78	94	34

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPH = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

TestAmerica Buffalo

Surrogate Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	TPH (67-150)	PHL (16-120)
480-91551-1	TP1504-111915-1145	101	101	55	89	105	37
480-91551-2	TP1502-111915-1320	91	95	55	84	93	36
480-91551-3	TP1501-111915-1440	86	89	50	79	86	33
480-91551-4	TP1503-111915-1530	93	97	52	93	94	35
480-91551-5	TP1503-111915-1545	97	95	51	86	97	35
480-91551-6	TP1505-112015-0900	89	86	48	77	98	34
LB 480-276440/1-D	Method Blank	93	91	53	90	98	35

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

TPH = p-Terphenyl-d14 (Surr)

PHL = Phenol-d5 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (60-154)	DCB2 (65-174)
480-91551-1	TP1504-111915-1145	100	99
480-91551-1 MS	TP1504-111915-1145	114	119
480-91551-1 MSD	TP1504-111915-1145	109	113
480-91551-2	TP1502-111915-1320	97	108
480-91551-3	TP1501-111915-1440	100	98
480-91551-4	TP1503-111915-1530	93	95
480-91551-5	TP1503-111915-1545	101	100
480-91551-6	TP1505-112015-0900	99	122
LCS 480-276503/2-A	Lab Control Sample	115	117
MB 480-276503/1-A	Method Blank	99	103

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-277923/7

Matrix: Solid

Analysis Batch: 277923

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			12/03/15 10:59	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			12/03/15 10:59	1
Benzene	ND		0.0010	0.00041	mg/L			12/03/15 10:59	1
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			12/03/15 10:59	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			12/03/15 10:59	1
Chloroform	ND		0.0010	0.00034	mg/L			12/03/15 10:59	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			12/03/15 10:59	1
Trichloroethene	ND		0.0010	0.00046	mg/L			12/03/15 10:59	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			12/03/15 10:59	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			12/03/15 10:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		66 - 137		12/03/15 10:59	1
4-Bromofluorobenzene (Surr)	97		73 - 120		12/03/15 10:59	1
Toluene-d8 (Surr)	96		71 - 126		12/03/15 10:59	1
Dibromofluoromethane (Surr)	93		60 - 140		12/03/15 10:59	1

Lab Sample ID: LCS 480-277923/5

Matrix: Solid

Analysis Batch: 277923

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0250	0.0242		mg/L		97	75 - 127
2-Butanone (MEK)	0.125	0.235	*	mg/L		188	57 - 140
Benzene	0.0250	0.0235		mg/L		94	71 - 124
Carbon tetrachloride	0.0250	0.0220		mg/L		88	72 - 134
Chlorobenzene	0.0250	0.0238		mg/L		95	72 - 120
Chloroform	0.0250	0.0238		mg/L		95	73 - 127
Tetrachloroethene	0.0250	0.0239		mg/L		96	74 - 122
Trichloroethene	0.0250	0.0226		mg/L		90	74 - 123
Vinyl chloride	0.0250	0.0210		mg/L		84	65 - 133
1,1-Dichloroethene	0.0250	0.0223		mg/L		89	58 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		66 - 137
4-Bromofluorobenzene (Surr)	96		73 - 120
Toluene-d8 (Surr)	95		71 - 126
Dibromofluoromethane (Surr)	91		60 - 140

Lab Sample ID: LB 480-276443/1-A

Matrix: Solid

Analysis Batch: 277923

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			12/03/15 11:40	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			12/03/15 11:40	10
Benzene	ND		0.010	0.0041	mg/L			12/03/15 11:40	10

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 480-276443/1-A

Matrix: Solid

Analysis Batch: 277923

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.010	0.0027	mg/L			12/03/15 11:40	10
Chlorobenzene	ND		0.010	0.0075	mg/L			12/03/15 11:40	10
Chloroform	ND		0.010	0.0034	mg/L			12/03/15 11:40	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			12/03/15 11:40	10
Trichloroethene	ND		0.010	0.0046	mg/L			12/03/15 11:40	10
Vinyl chloride	ND		0.010	0.0090	mg/L			12/03/15 11:40	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			12/03/15 11:40	10
Surrogate	LB %Recovery	LB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		66 - 137					12/03/15 11:40	10
4-Bromofluorobenzene (Surr)	99		73 - 120					12/03/15 11:40	10
Toluene-d8 (Surr)	97		71 - 126					12/03/15 11:40	10
Dibromofluoromethane (Surr)	94		60 - 140					12/03/15 11:40	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-276687/1-A

Matrix: Solid

Analysis Batch: 277509

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.0025	0.00012	mg/L		11/24/15 11:06	12/01/15 16:25	1
2,4-Dinitrotoluene	ND		0.0013	0.00011	mg/L		11/24/15 11:06	12/01/15 16:25	1
2,4,5-Trichlorophenol	ND		0.0013	0.00012	mg/L		11/24/15 11:06	12/01/15 16:25	1
2,4,6-Trichlorophenol	ND		0.0013	0.00015	mg/L		11/24/15 11:06	12/01/15 16:25	1
2-Methylphenol	ND		0.0013	0.00010	mg/L		11/24/15 11:06	12/01/15 16:25	1
3-Methylphenol	ND		0.0025	0.00010	mg/L		11/24/15 11:06	12/01/15 16:25	1
4-Methylphenol	ND		0.0025	0.000090	mg/L		11/24/15 11:06	12/01/15 16:25	1
Hexachlorobenzene	ND		0.0013	0.00013	mg/L		11/24/15 11:06	12/01/15 16:25	1
Hexachlorobutadiene	ND		0.0013	0.00017	mg/L		11/24/15 11:06	12/01/15 16:25	1
Hexachloroethane	ND		0.0013	0.00015	mg/L		11/24/15 11:06	12/01/15 16:25	1
Nitrobenzene	ND		0.0013	0.000073	mg/L		11/24/15 11:06	12/01/15 16:25	1
Pentachlorophenol	ND		0.0025	0.00055	mg/L		11/24/15 11:06	12/01/15 16:25	1
Pyridine	0.000312	J	0.0063	0.00010	mg/L		11/24/15 11:06	12/01/15 16:25	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	83		52 - 132				11/24/15 11:06	12/01/15 16:25	1
2-Fluorobiphenyl	88		48 - 120				11/24/15 11:06	12/01/15 16:25	1
2-Fluorophenol (Surr)	46		20 - 120				11/24/15 11:06	12/01/15 16:25	1
Nitrobenzene-d5 (Surr)	78		46 - 120				11/24/15 11:06	12/01/15 16:25	1
p-Terphenyl-d14 (Surr)	94		67 - 150				11/24/15 11:06	12/01/15 16:25	1
Phenol-d5 (Surr)	34		16 - 120				11/24/15 11:06	12/01/15 16:25	1

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-276687/2-A

Matrix: Solid

Analysis Batch: 277509

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276687

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.0500	0.0346		mg/L		69	32 - 120
2,4-Dinitrotoluene	0.0500	0.0532		mg/L		106	65 - 154
2,4,5-Trichlorophenol	0.0500	0.0520		mg/L		104	65 - 126
2,4,6-Trichlorophenol	0.0500	0.0497		mg/L		99	64 - 120
2-Methylphenol	0.0500	0.0386		mg/L		77	39 - 120
3-Methylphenol	0.0500	0.0352		mg/L		70	39 - 120
4-Methylphenol	0.0500	0.0352		mg/L		70	39 - 120
Hexachlorobenzene	0.0500	0.0524		mg/L		105	14 - 130
Hexachlorobutadiene	0.0500	0.0380		mg/L		76	14 - 130
Hexachloroethane	0.0500	0.0333		mg/L		67	14 - 130
Nitrobenzene	0.0500	0.0424		mg/L		85	45 - 123
Pentachlorophenol	0.100	0.0990		mg/L		99	39 - 136
Pyridine	0.0500	0.0202		mg/L		40	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	105		52 - 132
2-Fluorobiphenyl	98		48 - 120
2-Fluorophenol (Surr)	54		20 - 120
Nitrobenzene-d5 (Surr)	87		46 - 120
p-Terphenyl-d14 (Surr)	101		67 - 150
Phenol-d5 (Surr)	39		16 - 120

Lab Sample ID: LCSD 480-276687/3-A

Matrix: Solid

Analysis Batch: 277509

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 276687

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.0500	0.0383		mg/L		77	32 - 120	10	36
2,4-Dinitrotoluene	0.0500	0.0504		mg/L		101	65 - 154	5	20
2,4,5-Trichlorophenol	0.0500	0.0520		mg/L		104	65 - 126	0	18
2,4,6-Trichlorophenol	0.0500	0.0512		mg/L		102	64 - 120	3	19
2-Methylphenol	0.0500	0.0390		mg/L		78	39 - 120	1	27
3-Methylphenol	0.0500	0.0370		mg/L		74	39 - 120	5	30
4-Methylphenol	0.0500	0.0370		mg/L		74	39 - 120	5	24
Hexachlorobenzene	0.0500	0.0508		mg/L		102	14 - 130	3	15
Hexachlorobutadiene	0.0500	0.0427		mg/L		85	14 - 130	11	44
Hexachloroethane	0.0500	0.0387		mg/L		77	14 - 130	15	46
Nitrobenzene	0.0500	0.0486		mg/L		97	45 - 123	13	24
Pentachlorophenol	0.100	0.0957		mg/L		96	39 - 136	3	37
Pyridine	0.0500	0.0139		mg/L		28	10 - 120	37	49

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	101		52 - 132
2-Fluorobiphenyl	101		48 - 120
2-Fluorophenol (Surr)	59		20 - 120
Nitrobenzene-d5 (Surr)	97		46 - 120
p-Terphenyl-d14 (Surr)	94		67 - 150

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-276687/3-A

Matrix: Solid

Analysis Batch: 277509

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 276687

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Phenol-d5 (Surr)	39		16 - 120

Lab Sample ID: LB 480-276440/1-D

Matrix: Solid

Analysis Batch: 277509

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 276687

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/24/15 11:06	12/01/15 17:43	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/24/15 11:06	12/01/15 17:43	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/24/15 11:06	12/01/15 17:43	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/24/15 11:06	12/01/15 17:43	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/24/15 11:06	12/01/15 17:43	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/24/15 11:06	12/01/15 17:43	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/24/15 11:06	12/01/15 17:43	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/24/15 11:06	12/01/15 17:43	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/24/15 11:06	12/01/15 17:43	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/24/15 11:06	12/01/15 17:43	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/24/15 11:06	12/01/15 17:43	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/24/15 11:06	12/01/15 17:43	1
Pyridine	0.00148	J	0.025	0.00041	mg/L		11/24/15 11:06	12/01/15 17:43	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	93		52 - 132	11/24/15 11:06	12/01/15 17:43	1
2-Fluorobiphenyl	91		48 - 120	11/24/15 11:06	12/01/15 17:43	1
2-Fluorophenol (Surr)	53		20 - 120	11/24/15 11:06	12/01/15 17:43	1
Nitrobenzene-d5 (Surr)	90		46 - 120	11/24/15 11:06	12/01/15 17:43	1
p-Terphenyl-d14 (Surr)	98		67 - 150	11/24/15 11:06	12/01/15 17:43	1
Phenol-d5 (Surr)	35		16 - 120	11/24/15 11:06	12/01/15 17:43	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-276503/1-A

Matrix: Solid

Analysis Batch: 276545

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.20	0.039	mg/Kg		11/23/15 12:01	11/23/15 17:03	1
PCB-1221	ND		0.20	0.039	mg/Kg		11/23/15 12:01	11/23/15 17:03	1
PCB-1232	ND		0.20	0.039	mg/Kg		11/23/15 12:01	11/23/15 17:03	1
PCB-1242	ND		0.20	0.039	mg/Kg		11/23/15 12:01	11/23/15 17:03	1
PCB-1248	ND		0.20	0.039	mg/Kg		11/23/15 12:01	11/23/15 17:03	1
PCB-1254	ND		0.20	0.094	mg/Kg		11/23/15 12:01	11/23/15 17:03	1
PCB-1260	ND		0.20	0.094	mg/Kg		11/23/15 12:01	11/23/15 17:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		60 - 154	11/23/15 12:01	11/23/15 17:03	1
DCB Decachlorobiphenyl	103		65 - 174	11/23/15 12:01	11/23/15 17:03	1

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 480-276503/2-A

Matrix: Solid

Analysis Batch: 276545

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	2.00	2.44		mg/Kg		122	51 - 185
PCB-1260	2.00	2.47		mg/Kg		123	61 - 184

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	115		60 - 154
DCB Decachlorobiphenyl	117		65 - 174

Lab Sample ID: 480-91551-1 MS

Matrix: Solid

Analysis Batch: 276545

Client Sample ID: TP1504-111915-1145

Prep Type: Total/NA

Prep Batch: 276503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
PCB-1016	ND		2.57	3.14		mg/Kg	☼	122	50 - 177
PCB-1260	ND		2.57	3.22		mg/Kg	☼	125	33 - 200

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	114		60 - 154
DCB Decachlorobiphenyl	119		65 - 174

Lab Sample ID: 480-91551-1 MSD

Matrix: Solid

Analysis Batch: 276545

Client Sample ID: TP1504-111915-1145

Prep Type: Total/NA

Prep Batch: 276503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
PCB-1016	ND		2.65	2.98		mg/Kg	☼	113	50 - 177	5	50
PCB-1260	ND		2.65	3.06		mg/Kg	☼	116	33 - 200	5	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	109		60 - 154
DCB Decachlorobiphenyl	113		65 - 174

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-276668/2-A

Matrix: Solid

Analysis Batch: 276979

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276668

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 12:39	1
Barium	ND		1.0	0.10	mg/L		11/24/15 10:50	11/25/15 12:39	1
Cadmium	ND		0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 12:39	1
Chromium	ND		0.020	0.010	mg/L		11/24/15 10:50	11/25/15 12:39	1
Lead	ND		0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 12:39	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 12:39	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 12:39	1

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-276668/3-A

Matrix: Solid

Analysis Batch: 276979

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276668

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.06		mg/L		106	80 - 120
Barium	1.00	1.01		mg/L		101	80 - 120
Cadmium	1.00	1.06		mg/L		106	80 - 120
Chromium	1.00	1.12		mg/L		112	80 - 120
Lead	1.00	1.02		mg/L		102	80 - 120
Selenium	1.00	1.18		mg/L		118	80 - 120
Silver	1.00	1.19		mg/L		119	80 - 120

Lab Sample ID: LCSD 480-276668/4-A

Matrix: Solid

Analysis Batch: 276979

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 276668

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	1.00	1.03		mg/L		103	80 - 120	4	20
Barium	1.00	0.974	J	mg/L		97	80 - 120	3	20
Cadmium	1.00	1.03		mg/L		103	80 - 120	3	20
Chromium	1.00	1.08		mg/L		108	80 - 120	3	20
Lead	1.00	0.992		mg/L		99	80 - 120	3	20
Selenium	1.00	1.13		mg/L		113	80 - 120	4	20
Silver	1.00	1.14		mg/L		114	80 - 120	4	20

Lab Sample ID: LB 480-276440/1-B

Matrix: Solid

Analysis Batch: 276979

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 276668

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		11/24/15 10:50	11/25/15 12:26	1
Barium	ND		1.0	0.10	mg/L		11/24/15 10:50	11/25/15 12:26	1
Cadmium	ND		0.0020	0.00050	mg/L		11/24/15 10:50	11/25/15 12:26	1
Chromium	ND		0.020	0.010	mg/L		11/24/15 10:50	11/25/15 12:26	1
Lead	ND		0.020	0.0030	mg/L		11/24/15 10:50	11/25/15 12:26	1
Selenium	ND		0.025	0.0087	mg/L		11/24/15 10:50	11/25/15 12:26	1
Silver	ND		0.0060	0.0017	mg/L		11/24/15 10:50	11/25/15 12:26	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-276686/2-A

Matrix: Solid

Analysis Batch: 276827

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 276686

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:20	1

Lab Sample ID: LCS 480-276686/3-A

Matrix: Solid

Analysis Batch: 276827

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 276686

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00668	0.00653		mg/L		98	80 - 120

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 480-276686/15-A
Matrix: Solid
Analysis Batch: 276827

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 276686

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.00668	0.00620		mg/L		93	80 - 120	5	20

Lab Sample ID: LB 480-276440/1-C
Matrix: Solid
Analysis Batch: 276827

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 276686

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/24/15 12:15	11/24/15 16:19	1

Method: 1010A - Ignitability, Pensky-Martens Closed Cup Method

Lab Sample ID: LCS 480-277009/1
Matrix: Solid
Analysis Batch: 277009

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	83.00		Degrees F		102	97.5 - 102.5

Lab Sample ID: 480-91551-6 DU
Matrix: Solid
Analysis Batch: 277009

Client Sample ID: TP1505-112015-0900
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Flashpoint	>176.0		>176.0		Degrees F		NC	10

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 480-276723/1-A
Matrix: Solid
Analysis Batch: 276842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276723

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		10.0	10.0	mg/Kg		11/24/15 04:15	11/24/15 16:18	1

Lab Sample ID: LCS 480-276723/2-A
Matrix: Solid
Analysis Batch: 276842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276723

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	1000	ND		mg/Kg		23	10 - 100

TestAmerica Buffalo

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 480-276729/1-A
Matrix: Solid
Analysis Batch: 276884

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276729

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		10.0	10.0	mg/Kg	-	11/24/15 04:15	11/25/15 07:55	1

Lab Sample ID: LCS 480-276729/2-A
Matrix: Solid
Analysis Batch: 276884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1000	761.4		mg/Kg	-	76	10 - 100

Method: 9045D - pH

Lab Sample ID: LCS 480-277058/1
Matrix: Solid
Analysis Batch: 277058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.020		SU	-	100	99 - 101

Lab Sample ID: 480-91551-6 DU
Matrix: Solid
Analysis Batch: 277058

Client Sample ID: TP1505-112015-0900
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.61	HF	8.610		SU	-	0	5

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

GC/MS VOA

Leach Batch: 276443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	1311	
480-91551-2	TP1502-111915-1320	TCLP	Solid	1311	
480-91551-3	TP1501-111915-1440	TCLP	Solid	1311	
480-91551-4	TP1503-111915-1530	TCLP	Solid	1311	
480-91551-5	TP1503-111915-1545	TCLP	Solid	1311	
480-91551-6	TP1505-112015-0900	TCLP	Solid	1311	
LB 480-276443/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 277923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	8260C	276443
480-91551-2	TP1502-111915-1320	TCLP	Solid	8260C	276443
480-91551-3	TP1501-111915-1440	TCLP	Solid	8260C	276443
480-91551-4	TP1503-111915-1530	TCLP	Solid	8260C	276443
480-91551-5	TP1503-111915-1545	TCLP	Solid	8260C	276443
480-91551-6	TP1505-112015-0900	TCLP	Solid	8260C	276443
LB 480-276443/1-A	Method Blank	TCLP	Solid	8260C	276443
LCS 480-277923/5	Lab Control Sample	Total/NA	Solid	8260C	
MB 480-277923/7	Method Blank	Total/NA	Solid	8260C	

GC/MS Semi VOA

Leach Batch: 276440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	1311	
480-91551-2	TP1502-111915-1320	TCLP	Solid	1311	
480-91551-3	TP1501-111915-1440	TCLP	Solid	1311	
480-91551-4	TP1503-111915-1530	TCLP	Solid	1311	
480-91551-5	TP1503-111915-1545	TCLP	Solid	1311	
480-91551-6	TP1505-112015-0900	TCLP	Solid	1311	
LB 480-276440/1-D	Method Blank	TCLP	Solid	1311	

Prep Batch: 276687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	3510C	276440
480-91551-2	TP1502-111915-1320	TCLP	Solid	3510C	276440
480-91551-3	TP1501-111915-1440	TCLP	Solid	3510C	276440
480-91551-4	TP1503-111915-1530	TCLP	Solid	3510C	276440
480-91551-5	TP1503-111915-1545	TCLP	Solid	3510C	276440
480-91551-6	TP1505-112015-0900	TCLP	Solid	3510C	276440
LB 480-276440/1-D	Method Blank	TCLP	Solid	3510C	276440
LCS 480-276687/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 480-276687/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 480-276687/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 277509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	8270D	276687
480-91551-2	TP1502-111915-1320	TCLP	Solid	8270D	276687
480-91551-3	TP1501-111915-1440	TCLP	Solid	8270D	276687

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

GC/MS Semi VOA (Continued)

Analysis Batch: 277509 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-4	TP1503-111915-1530	TCLP	Solid	8270D	276687
480-91551-5	TP1503-111915-1545	TCLP	Solid	8270D	276687
LB 480-276440/1-D	Method Blank	TCLP	Solid	8270D	276687
LCS 480-276687/2-A	Lab Control Sample	Total/NA	Solid	8270D	276687
LCSD 480-276687/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	276687
MB 480-276687/1-A	Method Blank	Total/NA	Solid	8270D	276687

Analysis Batch: 277687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-6	TP1505-112015-0900	TCLP	Solid	8270D	276687

GC Semi VOA

Prep Batch: 276503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	3550C	
480-91551-1 MS	TP1504-111915-1145	Total/NA	Solid	3550C	
480-91551-1 MSD	TP1504-111915-1145	Total/NA	Solid	3550C	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	3550C	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	3550C	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	3550C	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	3550C	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	3550C	
LCS 480-276503/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 480-276503/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 276545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	8082A	276503
480-91551-1 MS	TP1504-111915-1145	Total/NA	Solid	8082A	276503
480-91551-1 MSD	TP1504-111915-1145	Total/NA	Solid	8082A	276503
480-91551-2	TP1502-111915-1320	Total/NA	Solid	8082A	276503
480-91551-3	TP1501-111915-1440	Total/NA	Solid	8082A	276503
480-91551-4	TP1503-111915-1530	Total/NA	Solid	8082A	276503
480-91551-5	TP1503-111915-1545	Total/NA	Solid	8082A	276503
480-91551-6	TP1505-112015-0900	Total/NA	Solid	8082A	276503
LCS 480-276503/2-A	Lab Control Sample	Total/NA	Solid	8082A	276503
MB 480-276503/1-A	Method Blank	Total/NA	Solid	8082A	276503

Metals

Leach Batch: 276440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	1311	
480-91551-2	TP1502-111915-1320	TCLP	Solid	1311	
480-91551-3	TP1501-111915-1440	TCLP	Solid	1311	
480-91551-4	TP1503-111915-1530	TCLP	Solid	1311	
480-91551-5	TP1503-111915-1545	TCLP	Solid	1311	
480-91551-6	TP1505-112015-0900	TCLP	Solid	1311	
LB 480-276440/1-B	Method Blank	TCLP	Solid	1311	

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Metals (Continued)

Leach Batch: 276440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 480-276440/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 276668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	3010A	276440
480-91551-2	TP1502-111915-1320	TCLP	Solid	3010A	276440
480-91551-3	TP1501-111915-1440	TCLP	Solid	3010A	276440
480-91551-4	TP1503-111915-1530	TCLP	Solid	3010A	276440
480-91551-5	TP1503-111915-1545	TCLP	Solid	3010A	276440
480-91551-6	TP1505-112015-0900	TCLP	Solid	3010A	276440
LB 480-276440/1-B	Method Blank	TCLP	Solid	3010A	276440
LCS 480-276668/3-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 480-276668/4-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
MB 480-276668/2-A	Method Blank	Total/NA	Solid	3010A	

Prep Batch: 276686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	7470A	276440
480-91551-2	TP1502-111915-1320	TCLP	Solid	7470A	276440
480-91551-3	TP1501-111915-1440	TCLP	Solid	7470A	276440
480-91551-4	TP1503-111915-1530	TCLP	Solid	7470A	276440
480-91551-5	TP1503-111915-1545	TCLP	Solid	7470A	276440
480-91551-6	TP1505-112015-0900	TCLP	Solid	7470A	276440
LB 480-276440/1-C	Method Blank	TCLP	Solid	7470A	276440
LCS 480-276686/3-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 480-276686/15-A	Lab Control Sample Dup	Total/NA	Solid	7470A	
MB 480-276686/2-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 276827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	7470A	276686
480-91551-2	TP1502-111915-1320	TCLP	Solid	7470A	276686
480-91551-3	TP1501-111915-1440	TCLP	Solid	7470A	276686
480-91551-4	TP1503-111915-1530	TCLP	Solid	7470A	276686
480-91551-5	TP1503-111915-1545	TCLP	Solid	7470A	276686
480-91551-6	TP1505-112015-0900	TCLP	Solid	7470A	276686
LB 480-276440/1-C	Method Blank	TCLP	Solid	7470A	276686
LCS 480-276686/3-A	Lab Control Sample	Total/NA	Solid	7470A	276686
LCSD 480-276686/15-A	Lab Control Sample Dup	Total/NA	Solid	7470A	276686
MB 480-276686/2-A	Method Blank	Total/NA	Solid	7470A	276686

Analysis Batch: 276979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	TCLP	Solid	6010C	276668
480-91551-2	TP1502-111915-1320	TCLP	Solid	6010C	276668
480-91551-3	TP1501-111915-1440	TCLP	Solid	6010C	276668
480-91551-4	TP1503-111915-1530	TCLP	Solid	6010C	276668
480-91551-5	TP1503-111915-1545	TCLP	Solid	6010C	276668
480-91551-6	TP1505-112015-0900	TCLP	Solid	6010C	276668
LB 480-276440/1-B	Method Blank	TCLP	Solid	6010C	276668
LCS 480-276668/3-A	Lab Control Sample	Total/NA	Solid	6010C	276668

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Metals (Continued)

Analysis Batch: 276979 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 480-276668/4-A	Lab Control Sample Dup	Total/NA	Solid	6010C	276668
MB 480-276668/2-A	Method Blank	Total/NA	Solid	6010C	276668

General Chemistry

Analysis Batch: 276276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	Moisture	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	Moisture	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	Moisture	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	Moisture	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	Moisture	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	Moisture	

Analysis Batch: 276547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	9095B	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	9095B	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	9095B	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	9095B	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	9095B	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	9095B	

Prep Batch: 276723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	7.3.3	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	7.3.3	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	7.3.3	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	7.3.3	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	7.3.3	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	7.3.3	
LCS 480-276723/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	
MB 480-276723/1-A	Method Blank	Total/NA	Solid	7.3.3	

Prep Batch: 276729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	7.3.4	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	7.3.4	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	7.3.4	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	7.3.4	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	7.3.4	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	7.3.4	
LCS 480-276729/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	
MB 480-276729/1-A	Method Blank	Total/NA	Solid	7.3.4	

Analysis Batch: 276842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	9012	276723
480-91551-2	TP1502-111915-1320	Total/NA	Solid	9012	276723
480-91551-3	TP1501-111915-1440	Total/NA	Solid	9012	276723

TestAmerica Buffalo

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

General Chemistry (Continued)

Analysis Batch: 276842 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-4	TP1503-111915-1530	Total/NA	Solid	9012	276723
480-91551-5	TP1503-111915-1545	Total/NA	Solid	9012	276723
480-91551-6	TP1505-112015-0900	Total/NA	Solid	9012	276723
LCS 480-276723/2-A	Lab Control Sample	Total/NA	Solid	9012	276723
MB 480-276723/1-A	Method Blank	Total/NA	Solid	9012	276723

Analysis Batch: 276884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	9034	276729
480-91551-2	TP1502-111915-1320	Total/NA	Solid	9034	276729
480-91551-3	TP1501-111915-1440	Total/NA	Solid	9034	276729
480-91551-4	TP1503-111915-1530	Total/NA	Solid	9034	276729
480-91551-5	TP1503-111915-1545	Total/NA	Solid	9034	276729
480-91551-6	TP1505-112015-0900	Total/NA	Solid	9034	276729
LCS 480-276729/2-A	Lab Control Sample	Total/NA	Solid	9034	276729
MB 480-276729/1-A	Method Blank	Total/NA	Solid	9034	276729

Analysis Batch: 277009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	1010A	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	1010A	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	1010A	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	1010A	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	1010A	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	1010A	
480-91551-6 DU	TP1505-112015-0900	Total/NA	Solid	1010A	
LCS 480-277009/1	Lab Control Sample	Total/NA	Solid	1010A	

Analysis Batch: 277058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-91551-1	TP1504-111915-1145	Total/NA	Solid	9045D	
480-91551-2	TP1502-111915-1320	Total/NA	Solid	9045D	
480-91551-3	TP1501-111915-1440	Total/NA	Solid	9045D	
480-91551-4	TP1503-111915-1530	Total/NA	Solid	9045D	
480-91551-5	TP1503-111915-1545	Total/NA	Solid	9045D	
480-91551-6	TP1505-112015-0900	Total/NA	Solid	9045D	
480-91551-6 DU	TP1505-112015-0900	Total/NA	Solid	9045D	
LCS 480-277058/1	Lab Control Sample	Total/NA	Solid	9045D	

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1504-111915-1145

Date Collected: 11/19/15 11:45

Date Received: 11/21/15 01:50

Lab Sample ID: 480-91551-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276443	11/23/15 08:40	JLS	TAL BUF
TCLP	Analysis	8260C		10	277923	12/03/15 12:27	JWG	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3510C			276687	11/24/15 11:06	RMZ	TAL BUF
TCLP	Analysis	8270D		1	277509	12/01/15 19:02	CAS	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3010A			276668	11/24/15 10:50	CMM	TAL BUF
TCLP	Analysis	6010C		1	276979	11/25/15 12:55	AMH	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	7470A			276686	11/24/15 12:15	TAS	TAL BUF
TCLP	Analysis	7470A		1	276827	11/24/15 16:32	TAS	TAL BUF
Total/NA	Analysis	1010A		1	277009	11/25/15 16:49	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			276723	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	276842	11/24/15 16:18	LAW	TAL BUF
Total/NA	Prep	7.3.4			276729	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	276884	11/25/15 07:55	LAW	TAL BUF
Total/NA	Analysis	9045D		1	277058	11/25/15 19:15	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276276	11/21/15 07:38	CSW	TAL BUF

Client Sample ID: TP1504-111915-1145

Date Collected: 11/19/15 11:45

Date Received: 11/21/15 01:50

Lab Sample ID: 480-91551-1

Matrix: Solid

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276503	11/23/15 12:01	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276545	11/23/15 18:03	JMO	TAL BUF

Client Sample ID: TP1502-111915-1320

Date Collected: 11/19/15 13:20

Date Received: 11/21/15 01:50

Lab Sample ID: 480-91551-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276443	11/23/15 08:40	JLS	TAL BUF
TCLP	Analysis	8260C		10	277923	12/03/15 12:51	JWG	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3510C			276687	11/24/15 11:06	RMZ	TAL BUF
TCLP	Analysis	8270D		1	277509	12/01/15 19:28	CAS	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3010A			276668	11/24/15 10:50	CMM	TAL BUF
TCLP	Analysis	6010C		1	276979	11/25/15 12:58	AMH	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	7470A			276686	11/24/15 12:15	TAS	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1502-111915-1320

Lab Sample ID: 480-91551-2

Date Collected: 11/19/15 13:20

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	7470A		1	276827	11/24/15 16:33	TAS	TAL BUF
Total/NA	Analysis	1010A		1	277009	11/25/15 16:49	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			276723	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	276842	11/24/15 16:18	LAW	TAL BUF
Total/NA	Prep	7.3.4			276729	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	276884	11/25/15 07:55	LAW	TAL BUF
Total/NA	Analysis	9045D		1	277058	11/25/15 19:15	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276276	11/21/15 07:38	CSW	TAL BUF

Client Sample ID: TP1502-111915-1320

Lab Sample ID: 480-91551-2

Date Collected: 11/19/15 13:20

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276503	11/23/15 12:01	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276545	11/23/15 18:17	JMO	TAL BUF

Client Sample ID: TP1501-111915-1440

Lab Sample ID: 480-91551-3

Date Collected: 11/19/15 14:40

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276443	11/23/15 08:40	JLS	TAL BUF
TCLP	Analysis	8260C		10	277923	12/03/15 13:15	JWG	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3510C			276687	11/24/15 11:06	RMZ	TAL BUF
TCLP	Analysis	8270D		1	277509	12/01/15 19:54	CAS	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3010A			276668	11/24/15 10:50	CMM	TAL BUF
TCLP	Analysis	6010C		1	276979	11/25/15 13:02	AMH	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	7470A			276686	11/24/15 12:15	TAS	TAL BUF
TCLP	Analysis	7470A		1	276827	11/24/15 16:35	TAS	TAL BUF
Total/NA	Analysis	1010A		1	277009	11/25/15 16:49	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			276723	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	276842	11/24/15 16:18	LAW	TAL BUF
Total/NA	Prep	7.3.4			276729	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	276884	11/25/15 07:55	LAW	TAL BUF
Total/NA	Analysis	9045D		1	277058	11/25/15 19:15	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276276	11/21/15 07:38	CSW	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1501-111915-1440

Lab Sample ID: 480-91551-3

Date Collected: 11/19/15 14:40

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276503	11/23/15 12:01	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276545	11/23/15 18:32	JMO	TAL BUF

Client Sample ID: TP1503-111915-1530

Lab Sample ID: 480-91551-4

Date Collected: 11/19/15 15:30

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276443	11/23/15 08:40	JLS	TAL BUF
TCLP	Analysis	8260C		10	277923	12/03/15 13:38	JWG	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3510C			276687	11/24/15 11:06	RMZ	TAL BUF
TCLP	Analysis	8270D		1	277509	12/01/15 20:20	CAS	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3010A			276668	11/24/15 10:50	CMM	TAL BUF
TCLP	Analysis	6010C		1	276979	11/25/15 13:05	AMH	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	7470A			276686	11/24/15 12:15	TAS	TAL BUF
TCLP	Analysis	7470A		1	276827	11/24/15 16:36	TAS	TAL BUF
Total/NA	Analysis	1010A		1	277009	11/25/15 16:49	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			276723	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	276842	11/24/15 16:18	LAW	TAL BUF
Total/NA	Prep	7.3.4			276729	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	276884	11/25/15 07:55	LAW	TAL BUF
Total/NA	Analysis	9045D		1	277058	11/25/15 19:15	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276276	11/21/15 07:38	CSW	TAL BUF

Client Sample ID: TP1503-111915-1530

Lab Sample ID: 480-91551-4

Date Collected: 11/19/15 15:30

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276503	11/23/15 12:01	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276545	11/23/15 18:47	JMO	TAL BUF

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Date Collected: 11/19/15 15:45

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276443	11/23/15 08:40	JLS	TAL BUF
TCLP	Analysis	8260C		10	277923	12/03/15 14:02	JWG	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Date Collected: 11/19/15 15:45

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3510C			276687	11/24/15 11:06	RMZ	TAL BUF
TCLP	Analysis	8270D		1	277509	12/01/15 20:46	CAS	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3010A			276668	11/24/15 10:50	CMM	TAL BUF
TCLP	Analysis	6010C		1	276979	11/25/15 13:18	AMH	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	7470A			276686	11/24/15 12:15	TAS	TAL BUF
TCLP	Analysis	7470A		1	276827	11/24/15 16:38	TAS	TAL BUF
Total/NA	Analysis	1010A		1	277009	11/25/15 16:49	ZRJ	TAL BUF
Total/NA	Prep	7.3.3			276723	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	276842	11/24/15 16:18	LAW	TAL BUF
Total/NA	Prep	7.3.4			276729	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	276884	11/25/15 07:55	LAW	TAL BUF
Total/NA	Analysis	9045D		1	277058	11/25/15 19:15	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276276	11/21/15 07:38	CSW	TAL BUF

Client Sample ID: TP1503-111915-1545

Lab Sample ID: 480-91551-5

Date Collected: 11/19/15 15:45

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 75.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276503	11/23/15 12:01	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276545	11/23/15 19:02	JMO	TAL BUF

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Date Collected: 11/20/15 09:00

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			276443	11/23/15 08:40	JLS	TAL BUF
TCLP	Analysis	8260C		10	277923	12/03/15 14:26	JWG	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3510C			276687	11/24/15 11:06	RMZ	TAL BUF
TCLP	Analysis	8270D		1	277687	12/02/15 13:49	CAS	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	3010A			276668	11/24/15 10:50	CMM	TAL BUF
TCLP	Analysis	6010C		1	276979	11/25/15 13:21	AMH	TAL BUF
TCLP	Leach	1311			276440	11/23/15 08:37	JLS	TAL BUF
TCLP	Prep	7470A			276686	11/24/15 12:15	TAS	TAL BUF
TCLP	Analysis	7470A		1	276827	11/24/15 16:40	TAS	TAL BUF
Total/NA	Analysis	1010A		1	277009	11/25/15 16:49	ZRJ	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Date Collected: 11/20/15 09:00

Matrix: Solid

Date Received: 11/21/15 01:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7.3.3			276723	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	276842	11/24/15 16:18	LAW	TAL BUF
Total/NA	Prep	7.3.4			276729	11/24/15 04:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	276884	11/25/15 07:55	LAW	TAL BUF
Total/NA	Analysis	9045D		1	277058	11/25/15 19:15	MGH	TAL BUF
Total/NA	Analysis	9095B		1	276547	11/23/15 10:40	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	276276	11/21/15 07:38	CSW	TAL BUF

Client Sample ID: TP1505-112015-0900

Lab Sample ID: 480-91551-6

Date Collected: 11/20/15 09:00

Matrix: Solid

Date Received: 11/21/15 01:50

Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			276503	11/23/15 12:01	CAM	TAL BUF
Total/NA	Analysis	8082A		1	276545	11/23/15 19:17	JMO	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
7470A	7470A	Solid	Mercury
9012	7.3.3	Solid	Cyanide, Reactive
9034	7.3.4	Solid	Sulfide, Reactive
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
1010A	Ignitability, Pensky-Martens Closed Cup Method	SW846	TAL BUF
9012	Cyanide, Reactive	SW846	TAL BUF
9034	Sulfide, Reactive	SW846	TAL BUF
9045D	pH	SW846	TAL BUF
9095B	Paint Filter	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: RG&E Seneca Falls MGP Site

TestAmerica Job ID: 480-91551-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-91551-1	TP1504-111915-1145	Solid	11/19/15 11:45	11/21/15 01:50
480-91551-2	TP1502-111915-1320	Solid	11/19/15 13:20	11/21/15 01:50
480-91551-3	TP1501-111915-1440	Solid	11/19/15 14:40	11/21/15 01:50
480-91551-4	TP1503-111915-1530	Solid	11/19/15 15:30	11/21/15 01:50
480-91551-5	TP1503-111915-1545	Solid	11/19/15 15:45	11/21/15 01:50
480-91551-6	TP1505-112015-0900	Solid	11/20/15 09:00	11/21/15 01:50

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

Chain of Custody Record

TAL-4124 (1007)

Client Halley & Aldrich	Project Manager Dana Allen	Date 11/20/15	Chain of Custody Number 292378
Address 3 Bedford Farms Drive	Telephone/Fax Number (Area Code)/Fax Number 603-341-3320	Lab Number	
City Bedford	State NH	Zip Code 03110	Page 1 of 1
Project Name and Location (State) Seneca Falls MGP site	Lab Contact M. Devo		
Contract/Purchase Order/Quote No.	Carrier/Waybill Number		

Special Instructions/
Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH										
													TCLP	TCLP 1	PCBS	Reactive	Reactive	Flashp	Perce	Dist H ₂ O	pH/10	
TP1504-111915-1145	11/19/15	1145				X	G						X	X	X	X	X	X	X	X	X	Normal
TP1502-111915-1320	11/19/15	1320				X	G															
TP1501-111915-1440		1440				X	G															
TP1503-111915-1530		1530				X	G															
TP1503-111915-1545	11/20/15	1545				X	G															
TP1505-112015-0900		0900				X	G															



480-91551 Chain of Custody

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown	Sample Disposal ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
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Turn Around Time Required ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other	QC Requirements (Specify)
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1. Relinquished By Randy Inghel	Date 11/20/15	Time 1240
2. Relinquished By Reggie 11/15, Syn	Date 11-20-15	Time 19:03
3. Relinquished By	Date	Time

Comments	0.2, 0.1 #1
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DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 480-91551-1

Login Number: 91551

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	H AND A
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

APPENDIX E

Treatability Testing Results



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Document Title: Soil-Grout Mixing Molding Procedure
Document No.: TEST-SOP – 12B
Revision/Date : No. 01B, Effective: 01-15-2016
Page No.: 1 of 5

Standard Test Method for

SOIL-GROUT MIXING MOLDING PROCEDURE

1.0 SCOPE

- 1.1 This test method covers the laboratory preparation of grout and grout-soil mixtures to be used for physical property test measurements. This method applies to laboratory mixed and cast specimens and has partial application for samples mixed and/or cast in the field

2.0 REFERENCED DOCUMENTS

2.1 ASTM Standards:

- C 143 Standard Test Method for Slump of Hydraulic-Cement Concrete
- C 192 Practice for Making and Curing Concrete Test Specimens in the Laboratory
- D 6910 Standard Test Method for Marsh Funnel Viscosity of Clay Construction Slurries
- D1632 Standard Practice for Making and Curing Soil-Cement Test Specimens in the Laboratory
- C 511 Specification for Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes
- D 1633 Test Method for Compressive Strength of Molded Soil-Cement Cylinders
- D 4832 Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders

3.0 SUMMARY OF PROCEDURE

- 3.1 Ingredients of a predetermined composition are mixed in the laboratory and cast in plastic molds. Following an initial cure period, test specimens are either trimmed or capped to appropriate ASTM end conditions relative to smoothness, perpendicularity and surface texture.



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4.0 SAFETY

- 4.1 Wear latex gloves whenever handling samples.
- 4.2 Wear safety glasses in active laboratory areas.
- 4.3 Use caution when handling any contaminated materials. Wear protective clothing and use hoods.
- 4.4 Use caution when using the mixer. Keep mixing utensils and loose clothing away from mobile mixer attachments.
- 4.5 Use caution when handling knife. Be careful not to cut yourself.

5.0 APPARATUS AND MATERIALS

- 5.1 Stainless Steel Bowl
- 5.2 Mixer: an electric hand-held mixer capable of mixing batches at a fixed speed.
- 5.3 Mixer Attachments
- 5.4 Spatulas
- 5.5 5/8" (Diameter) Tamping Rod (L=16-24"): used for compaction and removing voids in sample. Slump Mold (metal or plastic), see Fig. 1 of ASTM C143/143M, or modified mold with proportional dimensions, if there are not sufficient amount of material (soil-grout) to use standard size slump mold.
- 5.6 Balance: of 0.01 gram readability (class GP1).
- 5.7 Balance: of 0.1 gram readability (class GP2).
- 5.8 Graduated Cylinder, Marsh Funnel per ASTM D6910
- 5.9 2" x 4" Plastic Molds, or 3"x6".
- 5.10 3" x 3" Plastic Molds
- 5.11 Knife, straightedge



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5.12 Spoons and Scoops

5.13 Humidity Meter and Thermometer

5.14 Humidity Chamber

6.0 SAMPLE PREPARATION

6.1 Remove oversize gravel. Thoroughly mix soil in order to achieve uniform distribution of soil particles and moisture content and keep composite in a plastic bag inside of a plastic drum with cover.

6.2 Take moisture content of soil composite and record.

6.3 Using mixture recipe, determine the necessary mass of each constituent. Weigh each item.

7.0 PROCEDURE

7.1 Thoroughly mix dry ingredients except for soil in the stainless steel bowl (grout mixture)

7.2 Measure tap water or liquid requested by client in graduated cylinder (based on requested water/cement ratio) and add to ingredients in bowl. Mix thoroughly using hand-held mixer and spatula.

7.3 Add soil weighed in separate tare to mixed ingredients in stainless steel bowl and mix by electric mixer.

7.3A Place soil-cement mix into slump mold by scoop in 3 layers (approximately 1/3 volume of mold each layer). Rod each layer 25 times over the cross section with the rounded end of the rod. After completion of Top Layer strike off the surface of material with rod and by straightedge make surface horizontal. Remove material around mold. Raise Mold vertically by steady upward lift in 5+/-2 seconds without disturbance of sample. Place mold next to sample cone and measure slump by determining the difference between the top of mold and the displaced original center of the top surface of the specimen. Report slump to the nearest 1/4".



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- 7.3B If slump of material is less than requested by client (for example 4-5”) collect all material back to the mixing bowl and add some additional water (based on consistency of material, original slump and experience for various soil types). Record additional amount of water and mix again with electric mixer. After mixing repeat step 7.3A of this procedure.
- 7.3C If slump in previous step is at target, follow to next step. If target slump is not achieve, repeat step 7.3B. Record TOTAL amount of additional water needed to achieve target slump.
- 7.4 Place the mixture into the appropriate plastic molds. Label mold with sample mixture number and mix date.
- 7.5 Use a tamping rod, as well as vigorous tapping of the mold against a hard surface, to densify the sample and drive out air bubbles (in 3 layers). Other methods may be acceptable, based on properties of material.
- 7.6 Check the smoothness and level of the top of the sample with a straightedge.
- 7.7 Place molds into a humidity chamber. A couple of mold containers full of water were placed in the humidity chamber as well in order to maintain a humid environment for the duration of curing time. Keep molds in humidity chamber to cure until further testing.
- 7.8 Based on original amount of water (from w/c ratio) and additional amount of water from step 7.3C perform new mix of grout and observe time in seconds needed to empty 1Qt (946mL) Marsh funnel.

8.0 CALCULATIONS

- 8.1 Not Applicable.

9.0 QUALITY CONTROL

- 9.1 Ensure that all equipment is thoroughly clean.
- 9.2 Balance should be calibrated yearly.
- 9.3 Suggested mixing time is 8 minutes but may vary between projects.



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10.0 REPORT

- 10.1 Record mix design and each prepared sample ID on batch worksheet.
 - 10.1.1 Batch Number (TEST unique control number). Weight of each mix constituent
 - 10.1.2 Moisture content of base soil
 - 10.1.3 Date of mix preparation, number and size of each sample cast from the batch.
 - 10.1.4 Additional amount of water (if needed) to achieve target slump and Final Slump value.
 - 10.1.5 Report viscosity in seconds from step 7.8 (if requested).



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Tested By	EB
Date	12/01/15
Checked By	<i>EB</i>

Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Bulk
Sample ID	20967/Composite (TP-15-02/03/04)	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 422/AASHTO T 88

Standard Test Method for Particle-Size Analysis of Soils (with Double Separation per ASTM D6913 and Hydrometer Analysis)

<i>As-Received Moisture Content (Total Sample)</i>				<i>Moisture Content of FINER PORTION</i>			
Mass of Wet Sample & Tare, g	1363.0	Mass of Wet Sample & Tare, g	1193.1	1st Subsample	2nd Subsample	1054.40	
Mass of Dry Sample & Tare, g	1214.8	Mass of Dry Sample & Tare, g	1075.5			955.30	
Mass of Tare, g	158.2	Mass of Tare, g	304.0			298.30	
Moisture Content, %	14.0	Moisture Content, %	15.2			15.1	
Mass of Total Sample before separation on 3/8" sieve & Tare, g				1st Subsample	2nd Subsample	101.20	
Mass of Tare, g						0.0	
Total Mass of Dry Sample, g						87.94	
						90.1	84.0

SIEVE ANALYSIS

COARSER PORTION OF SAMPLE (RETAINED ON 3/8" SIEVE)					2nd Subsample of FINER PORTION OF SAMPLE (PASSING #4 SIEVE:Hydrometer Backsieve)				
Mass of Tare, g		0.00	% PASSING						
Sieve Size		Sample & Tare, g	% RETAINED	(of Total)					
12"	COBBLES		0	100					
3"	COARSE GRAVEL		0	100					
2.5"		0.0	0	100					
2"		93.0	0	100					
1.5"		694.1	1	99					
1"	FINE GRAVEL	1981.3	3	97					
.75"		3521.4	6	94					
.5"		5418.3	9	91					
.375"		6291.4	10	90					
#4	COARSE SAND	70.9	7	84					
#4 <First Subsample of Finer Portion<3/8"									

		Cumulative		% PASSING	
Sieve Size		Mass retained, g		(of Total)	
#10	MEDIUM	2.92	81		
#20	SAND	6.55	78		
#40	FINE SAND	9.84	75		
#60		17.32	67		
#100		39.03	47		
#200	FINES	63.85	23		
Remarks					

#4 <First Subsample of Finer Portion<3/8"

HYDROMETER ANALYSIS

Length of Dispersion Period	1 Minute
Mechanical Dispersion Device ID #	61
Amount of Dispersing Agent (ml)	125.0
Specific Gravity (assumed)	2.650
Specific Gravity (tested)	
Starting time	10:42

PARTICLE-SIZE ANALYSIS

% COBBLES	0	% MEDIUM SAND	7
% COARSE GRAVEL	6	% FINE SAND	52
% FINE GRAVEL	10	% FINES	23
% COARSE SAND	3	% TOTAL SAMPLE	100
% CLAY(<0.005mm)	8	% CLAY(<0.002mm)	5

Date	Time	Testing time (min)	Reading	Temp (°C)	K	Composite Correction	Actual Reading	Effective Depth (cm)	a	Particle Diam. (mm)	Percent Passing
12/02/15	10:44	2	23.0	17.6	0.01399	8.0	15.0	13.9	1.00	0.0369	14.3
12/02/15	10:47	5	21.0	17.6	0.01399	8.0	13.0	14.2	1.00	0.0236	12.4
12/02/15	10:57	15	19.0	17.6	0.01399	8.0	11.0	14.6	1.00	0.0138	10.5
12/02/15	11:12	30	18.0	17.6	0.01399	8.0	10.0	14.7	1.00	0.0098	9.5
12/02/15	11:42	60	17.0	17.6	0.01399	8.0	9.0	14.9	1.00	0.0070	8.6
12/02/15	14:52	250	15.0	17.6	0.01399	8.0	7.0	15.2	1.00	0.0035	6.7
12/03/15	10:42	1440	13.0	17.6	0.01399	8.0	5.0	15.6	1.00	0.0015	4.8

Hydrometer 152H ID # 305527
Sieve Shaker ID # 555

Oven ID # 15/496/610
Balance ID# 139/142/700



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Date **12/01/15**

Checked By **LB**

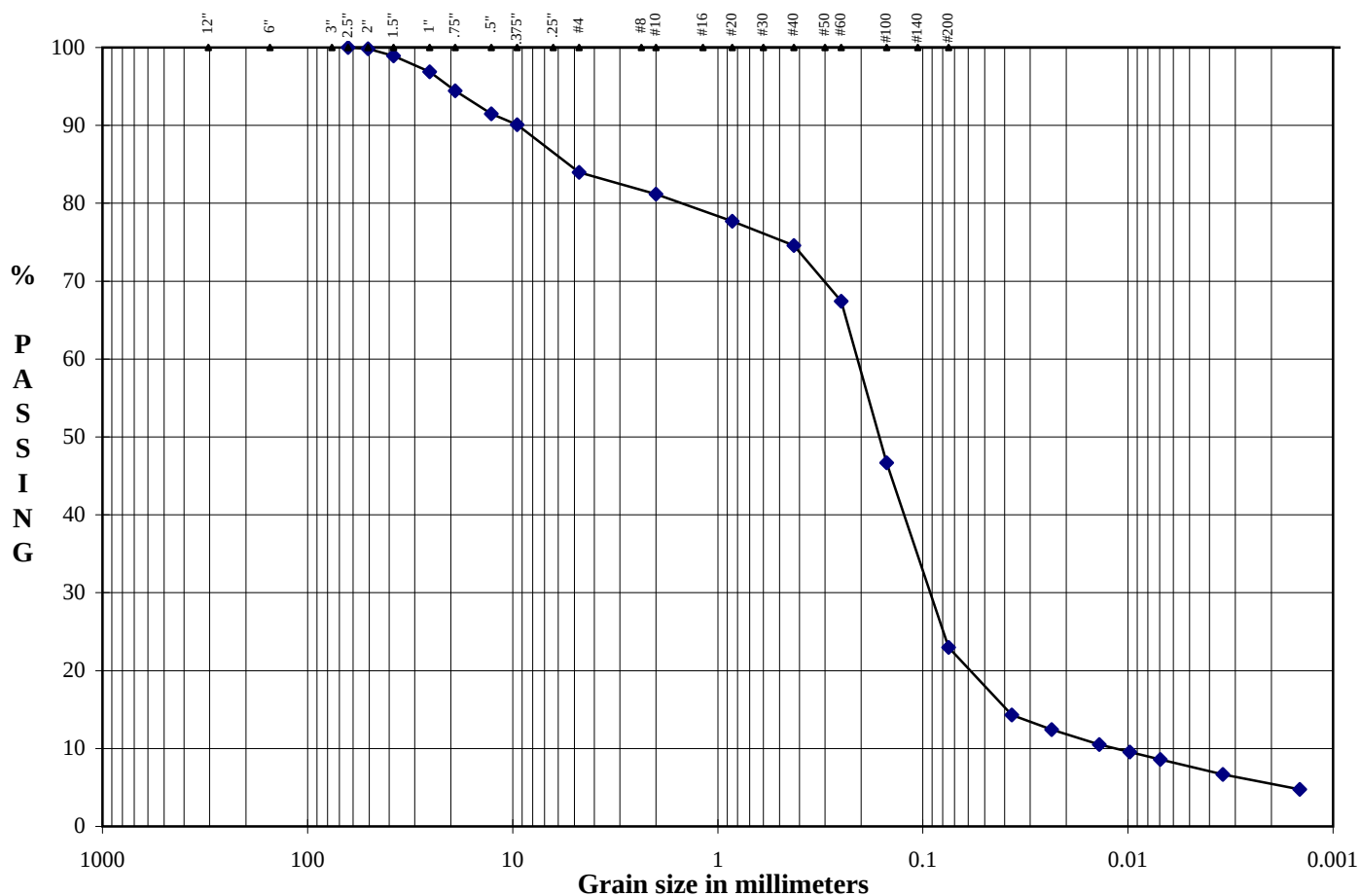
Client Pr. #	34507-023
Pr. Name	Seneca Falls PDI
Sample ID	20967/Composite (TP-15-02/03/04)
Location	-

Lab. PR. #	1511-01-1
S. Type	Bulk
Depth/Elev.	-
Add. Info	-

ASTM D 422/AASHTO T 88

Standard Test Method for Particle-Size Analysis of Soils (with Double Separation per ASTM D6913 and Hydrometer Analysis)

Particle-Size Analysis



Boulders	Cobbles	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
Gravel		Sand			Fines		

DESCRIPTION

NA

D ₁₀	NA	mm
D ₃₀	NA	mm
D ₆₀	NA	mm
Cu	NA	
Cc	NA	

USCS (ASTM D2487; D2488)

NA



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Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Bulk
Sample ID	20967/Composite (TP-15-02/03/04)	Depth/Elev.	-
Location	-	Add. Info	-

ASTM D 2216; MOISTURE CONTENT DETERMINATION

Sample ID	Sample Depth, ft	Mass of Wet Sample & Tare, g	Mass of Dry Sample & Tare, g	Mass of Tare, g	Moisture Content, %	Comments
20967/Composite TP-15	-	1193.10	1075.50	304.00	15.2	<3/8" Sieve

REMARKS

Balance ID Number

556/139/566

Oven ID Number

496/610



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Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Bulk
Sample ID	20967/Composite (TP-15-02/03/04)	Depth/Elev.	-
Location	-	Add. Info	-

**ASTM D 698
Standard Test Method for Laboratory Compaction Characteristics of Soil Using
Standard Effort (12,400 ft-lbf/ft³ (600kN-m/m³))**

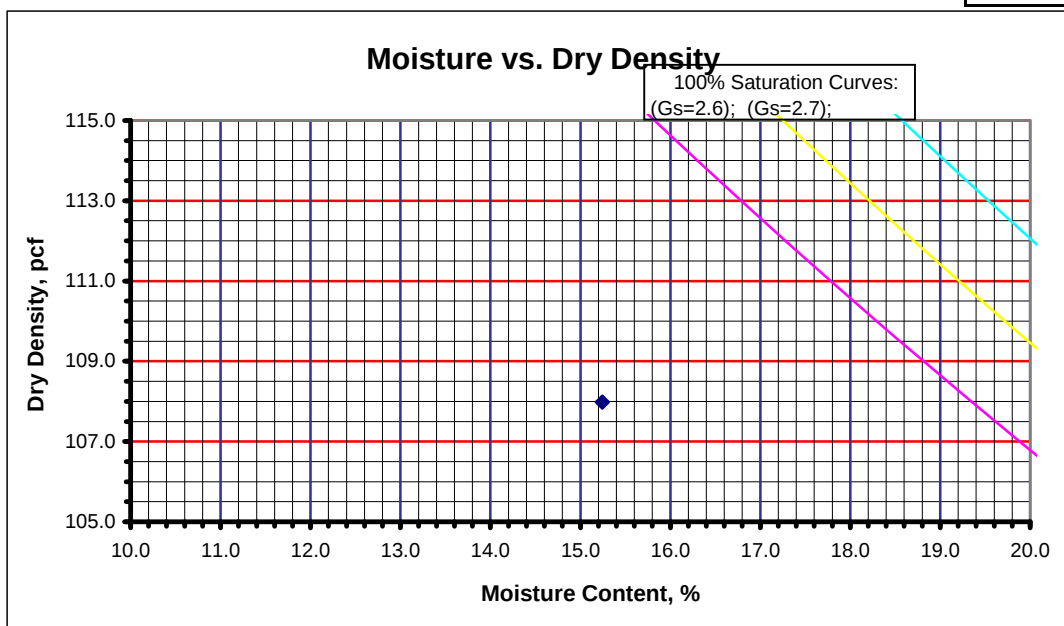
DETERMINATION OF TEST PROCEDURE

	wet	dry		MOISTURE CONTENT	
Mass of Soil before sieving, g	72455.0	63542.5		Coarse + Fine Fraction	Coarse Fraction
Mass of Mat. Retained on No. 4 sieve, g			Mass of Wet Sample & Tare, g	1363.0	6291.4
Mass of Mat. Retained on 3/8" sieve, g	6291.4	6291.4	Mass of Dry Sample & Tare, g	1214.8	6291.4
Mass of Mat. Retained on 3/4" sieve, g			Mass of Tare, g	158.2	0.0
			Moisture Content, %	14.0	0.0
Material Retained on No. 4 Sieve, %					
Material Retained on 3/8" Sieve, %	9.9				
Material Retained on 3/4" Sieve, %			Procedure	B	
Total, % (oversized)	9.9				

TEST DATA

Points	1	2	3	4	5	Mold ID Number	314
Mass of Mold and Soil, g	6091.0					Mass of Mold, g	4211.3
Mass of Wet Sample & Tare, g	1193.1					Volume of Mold, ft ³	0.0333
Mass of Dry Sample & Tare, g	1075.5					Hammer ID Number	318
Mass of Tare, g	304.0					Number of Blows per layer	25
Moisture Content, %	15.2					Number of Layers	3

Wet Density, pcf	124.4					Method A: Material retained on No. 4 Sieve $\leq$ 25%
Dry Density, pcf	108.0					Method B: Material retained on 3/8" Sieve $\leq$ 25%
						Method C: Material retained on 3/4" Sieve $\leq$ 25%



REMARKS

One Point Proctor was performed on material passing 3/8" sieve @ as-received moisture content.

DESCRIPTION

NA

USCS (ASTM D2487; D2488)

NA

AASHTO M145

NA

NA

NA

Maximum Dry Density, pcf
Optimum Moisture Content, %

Corrected Maximum Dry Density, pcf
Corrected Optimum Moisture Content, %



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3.281

[illegible]



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Client Pr. #	34507-023
Pr. Name	Seneca Falls PDI
Sample ID	20967/Composite (TP-15-02/03/04)-1-1
Subsample	4

Lab. PR. #	1511-01-1
S. Type	Mold
Depth/Elev.	-
Add. Info	Curing Age: 28 Days

ASTM D 5084; Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter (Method D, Constant Rate of Flow)

Initial Sample Data (Before Test)				
Height	2.995	in	7.61	cm
Diameter	2.980	in	7.57	cm
Area	6.97	in ²	45.00	cm ²
Volume	342.31	cm ³	0.0121	ft ³
Mass	672.40	g	1.48	lb
Specific Gravity	2.700 (Assumed)			
Dry Density	97.9	pcf		
Moisture Content				
Mass of wet sample & tare	672.40	g		
Mass of dry sample & tare	537.00	g		
Mass of tare	0.00	g		
% Moisture	25.2			

Test Data			
Speed	9		
Board Number	19		
Cell Number	15		
Flow Pump Number	2B		
Flow Pump Rate	4.48E-04	cm ³ /sec	
B - Value	0.95		
Cell Pressure	97.0	psi	
Back Pressure	90.0	psi	
Confining (Effective) Pressure	7.0	psi	
Max Head	92.15	cm	
Min Head	91.44	cm	
Maximum Gradient	12.17		
Minimum Gradient	12.07		

Final Data (After Test)					
Average Height of Sample		2.982	in	7.57	cm
Average Diameter of Sample		2.970	in	7.54	cm
Area	6.93	in ²	44.70	cm ²	
Volume	338.54	cm ³	0.0120	ft ³	
Mass	672.30	g	1.48	lb	
Moisture Content					
Mass of wet sample & tare		753.40	g		
Mass of dry sample & tare		618.30	g		
Mass of tare		81.30	g		
% Moisture		25.2			
Dry Density		99.0	pcf		
Vol. of Voids		139.59	cm ³		
Vol. of Solids		198.95	cm ³		
Void Ratio		0.70			
Saturation		96.8	%		

TIME FUNCTION			Δ t (sec)	READING (psi)	Head (cm)	Gradient	Temp. T _x (°C)	PERMEABILITY (cm/sec)			Note: Deaired Water Used for Permeability Test. DESCRIPTION NA USCS (ASTM D2487,2488) NA REMARKS
DATE	HOUR	MIN						@ T _x	R _T	@ 20 °C	
01/07/16	10	40	-	1.31	92.15	12.17	16.8	-	-	-	
01/07/16	10	50	600	1.30	91.44	12.07	16.8	8.27E-07	1.084	8.97E-07	
01/07/16	11	0	600	1.31	92.15	12.17	16.8	8.27E-07	1.084	8.97E-07	
01/07/16	11	10	600	1.30	91.44	12.07	16.8	8.27E-07	1.084	8.97E-07	
01/07/16	11	20	600	1.31	92.15	12.17	16.8	8.27E-07	1.084	8.97E-07	
01/07/16	11	30	600	1.31	92.15	12.17	16.8	8.24E-07	1.084	8.93E-07	
01/07/16	11	40	600	1.31	92.15	12.17	16.8	8.24E-07	1.084	8.93E-07	

Reported Average Hydraulic Conductivity*		9.0E-07		cm/sec	
Flow pump ID #	244	Balance ID #	1/6/7	Differential Pressure Transducer ID #	263
Thermometer ID #	377	Oven ID #	14/15	Board Pressure Transducer ID #	216
Syringe ID #	246			Pore Pressure Transducer ID #	28



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Date

01/06/16

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AB

Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-1-1	Depth/Elev.	-
Subsample	2	Add. Info	Curing Age: 28 Days

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.709
Initial Diameter, in	2.989
Height-to-Diameter Ratio	1.91
Area, in ²	7.02
Volume, in ³	40.06
Mass of Sample, g	1284.10
Wet Density, pcf	122.1
Dry Density, pcf	97.2
Machine Speed, in/min	0.050
Strain rate, % / min	0.88

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1577.80
Mass of Dry Sample and Tare, g	1316.50
Mass of Tare, g	295.30
Moisture, %	25.6

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	63
Specimen Cross-sectional Area, in ²	7.02
Compressive Strength at Failure, psi	9
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	9

Failure Code **4**

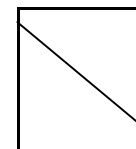
*Note 2: * - A conversion factor based on H/D=1.15 (C.F.=.908 as 100% and add. correction per ASTM C42)*

DESCRIPTION

USCS (ASTM D2487: D2488)

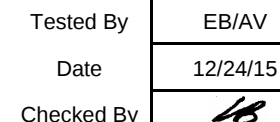
REMARKS

Failure Sketch

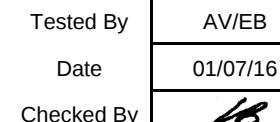


Failure Type:

Shear



		Reported Average Hydraulic Conductivity*		6.4E-07 cm/sec	
Flow pump ID #	244	Balance ID #	1/6/7	Differential Pressure Transducer ID #	262
Thermometer ID #	377	Oven ID #	14/15	Board Pressure Transducer ID #	216
Syringe ID #	245			Pore Pressure Transducer ID #	28



Reported Average Hydraulic Conductivity*		5.2E-07		cm/sec	
Flow pump ID #	244	Balance ID #	1/6/7	Differential Pressure Transducer ID #	263
Thermometer ID #	377	Oven ID #	14/15	Board Pressure Transducer ID #	215
Syringe ID #	246			Pore Pressure Transducer ID #	28



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Date

12/23/15

Checked By

LB

Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-2-1	Depth/Elev.	-
Subsample	1	Add. Info	Curing Age: 14 Days

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.751
Initial Diameter, in	3.009
Height-to-Diameter Ratio	1.91
Area, in ²	7.11
Volume, in ³	40.90
Mass of Sample, g	1309.20
Wet Density, pcf	122.0
Dry Density, pcf	97.1
Machine Speed, in/min	0.050
Strain rate, % / min	0.87

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1516.00
Mass of Dry Sample and Tare, g	1249.50
Mass of Tare, g	208.10
Moisture, %	25.6

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	160
Specimen Cross-sectional Area, in ²	7.11
Compressive Strength at Failure, psi	23
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	23

Failure Code **3**

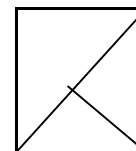
*Note 2: * - A conversion factor based on H/D=1.15 (C.F.=.908 as 100% and add. correction per ASTM C42)*

DESCRIPTION

USCS (ASTM D2487: D2488)

REMARKS

Failure Sketch



Failure Type:

Cone and Shear



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Tested By

AV/RI

Date

01/06/16

Checked By

18

Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-2-1	Depth/Elev.	-
Subsample	2	Add. Info	Curing Age: 28 Days

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.721
Initial Diameter, in	3.007
Height-to-Diameter Ratio	1.90
Area, in ²	7.10
Volume, in ³	40.63
Mass of Sample, g	1297.30
Wet Density, pcf	121.6
Dry Density, pcf	96.6
Machine Speed, in/min	0.050
Strain rate, % / min	0.87

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1592.50
Mass of Dry Sample and Tare, g	1326.60
Mass of Tare, g	297.10
Moisture, %	25.8

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	249
Specimen Cross-sectional Area, in ²	7.10
Compressive Strength at Failure, psi	35
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	35

Failure Code **3**

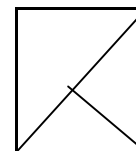
*Note 2: * - A conversion factor based on H/D=1.15 (C.F.=.908 as 100% and add. correction per ASTM C42)*

DESCRIPTION

USCS (ASTM D2487: D2488)

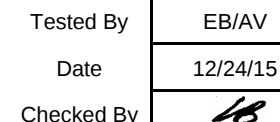
REMARKS

Failure Sketch

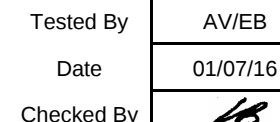


Failure Type:

Cone and Shear



		Reported Average Hydraulic Conductivity*		3.7E-07 cm/sec	
Flow pump ID #	244	Balance ID #	1/6/7	Differential Pressure Transducer ID #	263
Thermometer ID #	377	Oven ID #	14/15	Board Pressure Transducer ID #	216
Syringe ID #	246			Pore Pressure Transducer ID #	28



Reported Average Hydraulic Conductivity*		3.0E-07		cm/sec	
Flow pump ID #	244	Balance ID #	1/6/7	Differential Pressure Transducer ID #	262
Thermometer ID #	377	Oven ID #	14/15	Board Pressure Transducer ID #	215
Syringe ID #	245			Pore Pressure Transducer ID #	28



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Tested By

AV/RI

Date

12/23/15

Checked By

AB

Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-3-1	Depth/Elev.	-
Subsample	1	Add. Info	Curing Age: 14 Days

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.728
Initial Diameter, in	3.006
Height-to-Diameter Ratio	1.91
Area, in ²	7.10
Volume, in ³	40.65
Mass of Sample, g	1293.50
Wet Density, pcf	121.2
Dry Density, pcf	96.7
Machine Speed, in/min	0.050
Strain rate, % / min	0.87

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1498.20
Mass of Dry Sample and Tare, g	1236.90
Mass of Tare, g	205.80
Moisture, %	25.3

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	282
Specimen Cross-sectional Area, in ²	7.10
Compressive Strength at Failure, psi	40
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	40

Failure Code **3**

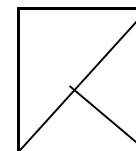
*Note 2: * - A conversion factor based on H/D=1.15 (C.F.=.908 as 100% and add. correction per ASTM C42)*

DESCRIPTION

USCS (ASTM D2487: D2488)

REMARKS

Failure Sketch



Failure Type:

Cone and Shear



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Date

01/06/16

Checked By

16

Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-3-1	Depth/Elev.	-
Subsample	2	Add. Info	Curing Age: 28 Days

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.719
Initial Diameter, in	3.007
Height-to-Diameter Ratio	1.90
Area, in ²	7.10
Volume, in ³	40.61
Mass of Sample, g	1294.30
Wet Density, pcf	121.4
Dry Density, pcf	97.0
Machine Speed, in/min	0.050
Strain rate, % / min	0.87

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1588.50
Mass of Dry Sample and Tare, g	1329.10
Mass of Tare, g	296.40
Moisture, %	25.1

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	472
Specimen Cross-sectional Area, in ²	7.10
Compressive Strength at Failure, psi	66
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	66

Failure Code **3**

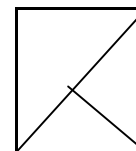
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DESCRIPTION

USCS (ASTM D2487: D2488)

REMARKS

Failure Sketch



Failure Type:

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Date

02/08/16

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Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-2-1	Depth/Elev.	-
Subsample	6	Add. Info	Curing Age: 61 Day

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.729
Initial Diameter, in	3.007
Height-to-Diameter Ratio	1.91
Area, in ²	7.10
Volume, in ³	40.69
Mass of Sample, g	1299.10
Wet Density, pcf	121.6
Dry Density, pcf	97.1
Machine Speed, in/min	0.050
Strain rate, % / min	0.87

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1603.80
Mass of Dry Sample and Tare, g	1343.10
Mass of Tare, g	307.00
Moisture, %	25.2

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	309
Specimen Cross-sectional Area, in ²	7.10
Compressive Strength at Failure, psi	44
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	44

Failure Code **3**

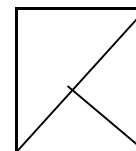
*Note 2: * - A conversion factor based on H/D=1.15 (C.F.=.908 as 100% and add. correction per ASTM C42)*

DESCRIPTION

USCS (ASTM D2487: D2488)

REMARKS

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Failure Type:

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Client Pr. #	34507-023	Lab. PR. #	1511-01-1
Pr. Name	Seneca Falls PDI	S. Type	Mold
Sample ID	20967/Composite (TP-15-02/03/04)-3-1	Depth/Elev.	-
Subsample	6	Add. Info	Curing Age: 61 Day

ASTM D 1633: Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

METHOD **B**

SAMPLE DATA

Initial Height, in	5.775
Initial Diameter, in	3.003
Height-to-Diameter Ratio	1.92
Area, in ²	7.08
Volume, in ³	40.90
Mass of Sample, g	1300.70
Wet Density, pcf	121.1
Dry Density, pcf	97.1
Machine Speed, in/min	0.050
Strain rate, % / min	0.87

WATER CONTENT DETERMINATION

Mass of Wet Sample and Tare, g	1594.30
Mass of Dry Sample and Tare, g	1337.50
Mass of Tare, g	297.20
Moisture, %	24.7

Note 1: Water content was obtained after shear from partial sample.

TEST DATA

Load Cell ID #	11
Compression Device ID #	10
Balance ID #	1/7

Digital Caliper ID #	16
Readout Device ID #	10
Oven ID #	12/13/14

Maximum Load at Failure, lbf	567
Specimen Cross-sectional Area, in ²	7.08
Compressive Strength at Failure, psi	80
Conversion Factor for Height to Diameter Ratio	1.00
Reported Compressive Strength at Failure, psi	80

Failure Code **3**

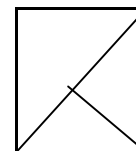
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DESCRIPTION

USCS (ASTM D2487: D2488)

REMARKS

Failure Sketch



Failure Type:

Cone and Shear



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SUMMARY of TESTING

T.E.S.T. Project Number: 1511-01

Project Name: Seneca Falls PDI

Sample Identification					Slump inch	Admix Cement I/II %	Curing Age, days	UCS, psi	Moisture Content*, %	Grain Size Distribution			Additional Tests			Unit Weight*		Hydraul. Conduct. cm/sec
T.E.S.T. Sample No.	Client Base Material ID	Mix Design No.	Batch No.	Spec. No.						% Finer 3/8" Sieve	% Finer #200 Sieve	% Finer 0.005mm	Grout Visc.s	Swell %		Wet Density, pcf	Dry Density, pcf	
1511-01-1																		
* = Parameter for Material Passing 3/8" Sieve																		
** = Parameter for One Point Standard Proctor (Material Passing 3/8" Sieve @ as-received Moisture Content)																		
20967	TP-15	-	-	-	-	-	-	-	15.2*	90	23	8	-	-	-	124.4**	108**	-
20967	TP-15	1	1	1	3.75	6	-	-	-	-	-	-	33	-	-	-	-	-
20967	TP-15	1	1	2	-	6	28	9	25.6	-	-	-	-	-	-	122.1	97.2	-
20967	TP-15	1	1	3	-	6	-	-	-	-	-	-	-	-	-	-	-	-
20967	TP-15	1	1	4	-	6	28	-	25.2	-	-	-	-	-	-	122.6	97.9	9.0E-07
20967	TP-15	1	1	5	-	6	-	-	-	-	-	-	-	-	-	-	-	-
20967	TP-15	1	1	6	-	6	-	-	-	-	-	-	-	15.7	-	-	-	-
20967	TP-15	2	1	1	4	9	14	23	25.6	-	-	-	34	-	-	122.0	97.1	-
20967	TP-15	2	1	2	-	9	28	35	25.8	-	-	-	-	-	-	121.6	96.6	-
20967	TP-15	2	1	3	-	9	14	-	24.7	-	-	-	-	-	-	122.5	98.2	6.4E-07
20967	TP-15	2	1	4	-	9	28	-	24.4	-	-	-	-	-	-	122.5	98.5	5.2E-07
20967	TP-15	2	1	5	-	9	-	-	-	-	-	-	-	18.5	-	-	-	-
20967	TP-15	2	1	6	-	9	61	44	25.2	-	-	-	-	-	-	121.6	97.1	-
20967	TP-15	3	1	1	4.25	12	14	40	25.3	-	-	-	36	-	-	121.2	96.7	-
20967	TP-15	3	1	2	-	12	28	66	25.1	-	-	-	-	-	-	121.4	97.0	-
20967	TP-15	3	1	3	-	12	14	-	24.6	-	-	-	-	-	-	121.4	97.4	3.7E-07
20967	TP-15	3	1	4	-	12	28	-	23.8	-	-	-	-	-	-	120.1	97.0	3.0E-07
20967	TP-15	3	1	5	-	12	28	-	-	-	-	-	-	21.2	-	-	-	-
20967	TP-15	3	1	6	-	12	61	80	24.7	-	-	-	-	-	-	121.1	97.1	-