FINAL

SUPPLEMENTAL INVESTIGATION REPORT ADDENDUM

BUILDING 817/WEAPONS STORAGE AREA AND LANDFILL 6
FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK

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ABBREVIATIONS AND ACRONYMS

µg/kg	Microgram(s) Per Kilogram
µg/L	Microgram(s) Per Liter
AFB	Air Force Base
AFRPA	Air Force Real Property Agency
AMSL	Above Mean Sea Level
AOC	Area of Concern
bgs	Below Ground Surface
B817	Building 817
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis-1,2-DCE	cis-1,2-dichloroethene
CVOC	Chlorinated Volatile Organic Compound
DFAS	Defense Finance and Accounting Service
EADS	Eastern Air Defense Sector
E&E	Ecology and Environment
EEEPC	Ecology and Environment Engineering, P.C.
FFA	Federal Facilities Agreement
FPM	FPM Group, Inc.
ft	Foot or Feet
GAFB	Griffiss Air Force Base
GC/MS	Gas Chromatography/Mass Spectometry
ISCO	*In Situ* Chemical Oxidation
LF	Landfill
LTM	Long Term Monitoring
MH	Manhole
MIP	Membrane Interface Probe
mL	Milliliter(s)
MNA	Monitored Natural Attenuation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NELAP	National Environmental Laboratory Accreditation Program
NYANG	New York Air National Guard
NYCRR	New York Codes, Rules, and Regulations
NYLD	New York Leak Detection, Incorporated
NYSDEC	New York State Department of Environmental Conservation
OPS	Operating Properly and Successfully
PAH	Polycyclic Aromatic Hydrocarbons
PCE	Tetrachloroethene

LIST OF ACRONYMS
(Continued)

PDI	Pre-Design Investigation
RAWP	Remedial Action Work Plan
QCFP	Quality Control Field Plan
RI	Remedial Investigation
ROD	Record of Decision
SAC	Strategic Air Command
SI	Supplemental Investigation
SIM	Selective Ion Monitoring
SOP	Standard Operating Procedure
SP22	Screen Point 22
Stone	Stone Environmental, Incorporated
SVOC	Semi-volatile Organic Compound
TCE	Trichloroethene
USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
WSA	Weapons Storage Area

EXECUTIVE SUMMARY

A Supplemental Investigation (SI) was completed at the Building 817 (B817)/Weapons Storage Area (WSA) site in July and August 2014, with the overall goal of providing a better understanding of the effectiveness of the remedy in place and facilitating a decision on whether pursuit of an Operating Properly and Successfully (OPS) determination is an appropriate next step. A recommendation of the 2014 SI was to conduct an additional site investigation to further delineate the northwest portion of the contaminated area (Parsons, 2015a).

This SI Addendum describes the additional site investigation recommended in the SI, as well as an additional investigation at Landfill (LF) 6. The activities were described in a memorandum from Parsons to the US Army Corps of Engineers (USACE), Kansas City District (Parsons, 2015b).

SI Addendum field work included further direct push sampling of soil and groundwater at both B817/WSA and LF6. All SOPs in the 2014 SI (Parsons, 2015a) were followed for this field effort. Prior to any intrusive ground work, New York Leak Detection (NYLD), Inc., performed a standard (horizontal) utility mark-up of the investigation area. In addition, the utility notification service was called and clearance was obtained.

Thirty-six soil samples and three groundwater samples were collected May 11 and 12, 2015 at B817/WSA. Twenty-nine soil samples and eight groundwater samples were collected May 13 through 15, 2015 at LF6. As with the 2014 SI, a discrete sampler mounted onto a Geoprobe® system was used for soil sample collection, and a Geoprobe® Screen Point 22 (SP22) sampler equipped with a 6-inch-long screen was used for groundwater collection. The SI Addendum results effectively delineated chlorinated volatile organic compounds (CVOCs) in the area to the northwest of Building 817. The highest concentrations from samples in the 2015 borings northwest of Building 817 were adjacent to BH-1-10 and the suspected source area. Spatially, the concentrations decrease up gradient and side gradient away from the building, as expected. Dichloroethene (DCE) and vinyl chloride (VC) were not detected in any samples during the 2015 sampling event, providing further support that this is the upgradient edge of the plume. An additional monitoring well (MW-24) was installed on 9/22/15 adjacent to BH-1-10 to compare geoprobe sample results to monitoring well results. The well was developed, and sampling is scheduled for November 2015.

At LF6, no lenses or other areas of very low permeability were found that would cause rebound of trichloroethene (TCE) concentrations, and site geology was not revised. In general, the highest soil concentrations were near the plume hot spot (near LF6-MW12) and in the 40-50 foot below ground surface (ft bgs) depth, with concentrations decreasing with increasing distance from the plume hot spot. The analyte TCE was found in groundwater above its site cleanup goal in all 8 samples; the highest value was found at LF6SB-6, close to the plume hot spot. DCE was found in levels exceeding its site cleanup goal in five of eight samples which is indicative of an ongoing bioremediation process (reductive dechlorination). PCE was not detected in any samples; VC was detected in one boring, LF6SB-1, but below its site cleanup goal. No additional investigation is recommended for LF6.

SECTION 1

INTRODUCTION

The purpose of this Supplemental Investigation (SI) Report Addendum is to summarize results of field work conducted in May 2015 at the former Griffiss Air Force Base (GAFB). Field work at the Building 817 (B817)/Weapons Storage Area (WSA) site took place to delineate the northwest portion of B817/WSA, as recommended in the final SI Report (Parsons, 2015a) and described in the memorandum, *Additional Field Work Proposed at Building 817 (B817)/Weapons Storage Area (WSA) and Landfill 6 (LF6)* (Parsons, 2015b). At Landfill 6 (LF6), soil profiling was conducted at LF6 in order to better characterize the subsurface materials.

1.1 PROJECT BACKGROUND

The former GAFB is located in Oneida County, New York, in the City of Rome. The base property covers approximately 3,540 acres and is situated in the relatively broad valley of the Mohawk River at an elevation of 504 feet above mean sea level (AMSL) **(Figure 1-1**).

GAFB, originally named Rome Air Depot was activated on February 1, 1942, with the mission of storage, maintenance, and shipment of material for the U.S. Army Air Corps. Upon creation of the Air Force in 1947, the depot was renamed Griffiss Air Force Base. The base became an electronics center in 1950, with the transfer of Watson Laboratory Complex (later Rome Air Development Center [1951], Rome Laboratory, and then the Air Force Research Laboratory Information Directorate, established with the mission of accomplishing applied research, development, and testing of electronic airground systems). The 49th Fighter Interceptor Squadron was also added. The Headquarters of the Ground Electronics Engineering Installations Agency was added in June 1958 to engineer and install ground communications equipment throughout the world. On July 1, 1970, the 416th Bombardment Wing of the Strategic Air Command (SAC) was activated with the mission of maintenance and implementation of both effective air refueling operations and long-range bombardment capability (Air Force Real Property Agency [AFRPA], 2008).

GAFB was designated for realignment under the Base Realignment and Closure (BRAC) Act in 1993 and 1995, resulting in deactivation of the 416th Bombardment Wing in September 1995. The Air Force Research Laboratory Information Directorate and the Eastern Air Defense Sector (EADS) will continue to operate at their current locations; the New York Air National Guard (NYANG) operated the runway for the 10th Mountain Division deployments until October 1998, when they were relocated to Fort Drum; and the Defense Finance and Accounting Services (DFAS) has established an operating location at the former GAFB (AFRPA, 2008).

On July 22, 1987, the base was listed on the USEPA National Priority List, which brought the installation under the federal facilities provisions of Section 120 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In August 1990, the Air Force, the USEPA, and the New York State Department of Environmental Conservation

(NYSDEC) entered a Federal Facilities Agreement (FFA) for environmental remediation at a number of sites at the former GAFB (AFRPA, 2008).

1.2 BUILDING 817/WEAPONS STORAGE AREA

The B817/WSA site is located on the north side of the main runway between B817 and the culverted section of Six Mile Creek south of the former WSA. B817, constructed in the 1950s, was once used for electronics parts maintenance, and the solvents trichloroethene (TCE) and tetrachloroethene (PCE), both chlorinated volatile organic compounds (CVOCs), were used in small quantities at this location.

Site groundwater migrates southwest from the B817 area towards the culverted section of Six Mile Creek within a shallow overburden water-bearing zone consisting primarily of unconsolidated sand and silty sand. The primary contaminants in groundwater samples exceeding NYSDEC Class GA Groundwater Standards are TCE and PCE.

1.3 LANDFILL 6

Landfill 6 is a 15.7-acre area located in the southern portion of the former GAFB between Perimeter Road and Three Mile Creek. The landfill was in operation from 1955 to 1959 and is unlined. Disposal activities were conducted in two areas that are separated by a dirt access road that passes along the southern boundary of the landfill and bisects the northern area of the landfill. The majority of disposal activities occurred on a hillside north and east of the road; between 38,000 and 62,000 cubic yards of hardfill and general refuse were placed on the ground and burned in this area. The layer of waste and burned residue is estimated to be 5 to 10 feet thick. In the 1980s, fuel-contaminated soils were disposed to a depth of 3 feet in the central and southern portions of Landfill 6, and in 1986, a clay cap was constructed over this disposal area.

The direction of groundwater flow at Landfill 6 is generally southwest. The primary contaminants in groundwater at Landfill 6 are TCE, dichloroethene (DCE), and vinyl chloride (VC).

1.4 REPORT ADDENDUM ORGANIZATION

This SI Report Addendum is organized in six sections and three appendices:

- **Section 1 – Introduction**
- **Section 2 – Background Information**
- **Section 3 – Supplemental Investigation Activities**
- **Section 4 – Results of Supplemental Investigation Addendum**
- **Section 5 – Conclusions and Recommendations**
- **Section 6 – References**
- **Appendix A – Boring Logs**
- **Appendix B – Laboratory Data**
- **Appendix C – Daily Field Reports**

SECTION 2

BACKGROUND INFORMATION

2.1 BUILDING 817/WSA

2.1.1 Previous Studies

TCE was initially detected in groundwater from downgradient well LAWMW-9 (7.6 micrograms per liter [µg/L]) during the Remedial Investigation (RI) in 1994 (Law Engineering and Environmental Services, 1996), indicating that there could be a source of contamination in this area.

An SI (Ecology & Environment, Inc. [E&E], 1998) was subsequently performed in 1997 in which three temporary monitoring wells were installed around well LAWMW-9. An additional SI was conducted in 2000 to complete the lateral and vertical delineation of the contaminant plume (E&E, 2001). This investigation included collecting 56 Geoprobe® groundwater grab samples at 36 locations; 13 of the 36 locations were vertically profiled.

A bedrock groundwater study for B817/WSA conducted in 2002 (E&E, 2002) consisted of the installation of three new bedrock wells (WSA-MW12Br, WSA-MW13Br, and WSA-MW14Br), as well as one new overburden monitoring well. The bedrock groundwater study concluded that groundwater contamination observed in the overlying overburden aquifer did not appear to have migrated downward into the underlying bedrock at the site.

Based on the results of groundwater sampling performed in 2000, the area in the vicinity of monitoring well WSA-MW11 was selected to conduct an *in situ* chemical oxidation (ISCO) pilot study (E&E, 2004). This area exhibited elevated groundwater concentrations, and was believed to represent a significant portion of the total contaminant mass in the plume. Four injection wells were installed to target the contaminant zone (approximately 10 to 20 feet below ground surface [bgs]). During the pilot-scale program at B817/WSA, a total of approximately 8,000 gallons of 0.6% potassium permanganate was injected in 2002, and follow-up monitoring was performed into 2004. Overall, the pilot test results suggested that ISCO may be a viable treatment option for the CVOC plume at the site, though there may be possible preferential pathways in the subsurface, as indicated by the rapid migration of oxidant from the injection array to WSA-MW15.

A pre-design investigation (PDI) using a Geoprobe®-mounted Membrane Interface Probe (MIP) was performed in October 2006 to better define the suspected contaminant source area near B817 (E&E, 2007). Twenty-two MIP borings were advanced from just north of Perimeter Road to approximately 150 feet northeast of B817. The MIP borings were located north (hydraulically upgradient) of B817, near the southwest corner of B817 in the vicinity of an unlined sump along the south wall of B817 that was a suspected collection/disposal point for fluids, and southwest (hydraulically downgradient) of B817 along an underground utility corridor that was a suspected preferential contaminant migration pathway. Each boring was advanced to refusal, which occurred at depths of 14 to 27 feet bgs. Permanent monitoring well

MW-001 was installed approximately 10 feet upgradient (northeast) of MIP location M1 where high concentrations of CVOCs were detected in 2006.

Based on historical groundwater quality data, MIP data, and confirmatory soil sample results, it was concluded that a contaminant source area was not present in the area north of B817. Similarly, the MIP investigation near the downgradient utility corridor extending to the southwest from B817 did not detect the presence of CVOCs at levels that would indicate a source soil in the saturated or unsaturated zones. Because of elevated MIP readings near the southwest corner of B817 at a depth of 15 to 16 feet bgs, one soil and one groundwater sample were collected at that location and depth. The soil sample analysis detected 100 micrograms per kilogram (µg/kg) TCE and the water sample contained 200 µg/L PCE, 560 µg/L TCE, 1,800 µg/L cis-1,2-dichloroethene (cis-1,2-DCE), and 88 µg/L vinyl chloride (VC). These concentrations were substantially higher than concentrations measured in groundwater samples from site monitoring wells installed upgradient and downgradient of B817. Observation of the soil sample indicated a six-inch-thick, tight, silty clay layer in this interval. The soil and groundwater sample results and MIP data indicated an area of elevated contaminant concentrations immediately adjacent to the southwest corner of B817 near the unlined sump within the building.

The fact that the MIP response adjacent to the southwest corner of B817 did not show contamination from 0 to 15 feet bgs indicates that the contamination detected at 15 to 16 feet bgs did not originate at that location (i.e. from a surface or near-surface release) but was likely sourced further upgradient, perhaps beneath B817.

2.1.2 Site Geology

Site geology consists of an approximately 10- to 30-foot-thick fine sand and silty sand unit (termed the upper sand in this report) overlying glacial silt and clay with sand lenses (till) and weathered bedrock; the bedrock is encountered at approximately 20 to 25 feet bgs. Groundwater contamination has not been detected in the bedrock.

During the PDI (E&E, 2007), a tight, six-inch-thick, silty clay layer was observed at approximately 15 feet bgs, indicating the potential for more widespread clay lenses within the sandy layer. During the SI, an approximately 2-5 foot-thick layer of fine-grained, heterogeneous soil consisting of silt, clay, and sand was encountered at the base of the silty sand layer (aquifer material), and overlying the shale bedrock. It was observed that the 6-inch silty clay layer noted during the PDI marks the transition between the upper sand and the underlying more heterogeneous material. This heterogeneous material (below the higher permeability, upper sand) was observed in all of the SI soil borings demonstrating that the finer-grained, lower-permeability zone was more ubiquitous than previously represented. **Figure 2-1** presents a cross section of the site.

2.1.3 Selected Remedy

The recommended remedy selected for the B817/WSA site as detailed in the On-Base Groundwater AOC (SD-52) Record of Decision (ROD, AFRPA [2008]) is enhanced bioremediation to remove CVOCs from site groundwater. Enhanced bioremediation increases the rate of natural biodegradation of the groundwater contaminants, in this case by injecting a

vegetable oil emulsion into the saturated zone. The vegetable oil emulsion enhances the natural degradation of CVOCs, reducing their concentration.

The cleanup goals for the site are NYSDEC Class GA Groundwater Quality Standards for CVOCs. In addition to enhanced bioremediation, the remedy includes institutional controls in the form of deed restrictions for affected groundwater, and a contingency plan of an air sparge wall (or other agreed upon action) if the surface water samples from the culverted section of Six Mile Creek contain elevated concentrations of DCE or VC that could be attributed to the site. Remaining CVOCs not fully treated by the enhanced bioremediation remedy are expected to attenuate naturally, and monitored natural attenuation (MNA) is used to monitor these processes (AFRPA, 2008).

To implement the enhanced bioremediation remedy, two separate vegetable oil injections have been performed at the site using seven permanent injection wells. The initial injection occurred in July 2008 (see *Final Interim Remedial Action Report*, Ecology and Environment Engineering, P.C. [EEEPC], 2011). The second injection occurred in July 2010, as described in the *Spring 2010 Annual Report Performance Monitoring* (FPM, 2011, Appendix D). The injection wells are screened between 9 and 20 feet bgs, spanning the interval of the elevated MIP reading obtained near the southwest corner of B817 at a depth of 15 to 16 feet bgs.

2.2 LANDFILL 6

2.2.1 Previous Studies

A Remedial Investigation of Landfill 6 was conducted in 1996 (Law 1996). Six new groundwater monitoring wells were installed (a single monitoring well was already present on site), and then the seven monitoring wells were sampled. Analytical results indicated the presence of four semivolatile organic compounds (SVOCs) which were all phthalates. No poly-nuclear aromatic hydrocarbons (PAHs) were detected. Dioxin and furan show trace levels (low picogram/L) in monitoring well, LF6MW-5. Four other wells sampled for dioxin and furan were non-detect.

A Supplemental Investigation (1997) was performed at LF6 which included sampling for SVOCs. Again, the only SVOCs detected were phthalates. No PAHS were detected.

Treatability studies were performed at Landfill 6 TCE Site consisting of a bench-scale study in June 2002 and a field pilot-scale study in November 2002 through November 2003 to evaluate the effectiveness of in-situ chemical oxidation (ISCO). The bench-scale study utilized potassium permanganate as the oxidant, resulting in successful reduction of TCE and DCE. The positive results prompted the field pilot-scale study where two rounds of injections occurred using six injection points located in the vicinity of LF6MW-12. The baseline results compared to the post treatment analytical results showed that the initial injection had a minimal effect on the reduction of the contaminants and the majority of the oxidant reacted with the natural oxidant demand of the groundwater. The second injection resulted in a 50% total VOC reduction, after the initial sharp drop in VOC concentrations and the rebound in VOC concentrations afterwards. Based on these results, Landfill 6 TCE Site conditions are conducive for contaminants to be treated with ISCO (EEEPC, December 2006).

In 2005, landfill cover improvements specified in the Landfill 6 Record of Decision (ROD) (Air Force Base Conversion Agency [AFBCA], 2001) and the Landfill 6 Closure Plan (USACE, 2004) included installation of an impermeable cover to reduce the amount of water infiltrating into the landfill. The cover consists of a gas venting layer, a geomembrane cover, and a barrier protection layer over the entire landfill. Other remedial activities specified in the ROD that were implemented include: maintenance of the impermeable cover, long-term monitoring of the groundwater and stream environment downgradient of the site, institutional controls in the form of deed restrictions to prohibit use of the area and groundwater, and evaluation of site conditions at least once every five years.

FPM sampled six monitoring wells at the Landfill 6 TCE Site on November 16, 2006 in accordance with the final Baseline Letter Work Plan (WP) (FPM, November 2006). The samples were analyzed for the following parameters: VOC, sulfate, DOC, and methane/ethane/ ethene (MEE). Field parameters collected were oxygen reduction potential (ORP), dissolved oxygen (DO), pH and water levels. EEEPC installed and sampled seven new monitoring wells. The samples collected by EEEPC were analyzed for VOC only. Results confirmed significant cis-1,2-DCE and TCE detections exceeding the NYS Class GA Groundwater Standards in a relatively small area centered around LF6MW-12. Results are discussed in detail in the Final Monitoring Report, Baseline and Pre Design Investigation (PDI) 2 Sampling for OBGW AOC (FPM, August 2007).

A groundwater and surface water sampling event was performed from February through April 2007. This sampling event was performed in accordance with the Final WP for PDIs (EEEPC, July 2006). Five additional direct-push wells at Landfill 6 TCE (LF6TW-33 through LF6TW-38) were installed in February 2007 and sampled in April 2007. The results showed a relatively low concentration TCE plume with a smaller central area (hot spot) with much higher TCE concentrations. This hot spot is an approximately 1,600 sq. ft. area around monitoring well LF6MW-12. Detailed monitoring well results can be found in the Final Monitoring Report (FPM, August 2007).

One additional monitoring well (LF6MW-39) was installed by Parsons at the Landfill 6 TCE Site in July 2008 in accordance with the final RAWP (Parsons, July 2008).

2.2.2 Geology/Hydrogeology

Landfill 6 is comprised of some sand and gravel with some cobbles in the upper several feet, followed by silty sands extending to the shale bedrock. The aquifer has an average saturated thickness extending from 19 ft bgs to 80 ft bgs, where the bedrock is encountered; contamination is not found in the bedrock. Due to a flat gradient, groundwater velocities at Landfill 6 are extremely slow and have been estimated at less than 4 feet per year. In general, the direction of groundwater flow at the site is to the southwest.

Unlike with B817/WSA, clay lenses or other lower-permeability zone have not been observed at Landfill 6. However, soil profiling activities had not previously been conducted to adequately identify any potential widespread heterogeneities within the subsurface.

2.2.3 Selected Remedy

The recommended remedy selected for the LF6 TCE Site as detailed in the On-Base Groundwater AOC (SD-52) ROD (AFRPA, 2008) is enhanced bioremediation to remove CVOCs from site groundwater. The selected remedy for the Landfill 6 TCE Site is enhanced bioremediation. This process is intended to increase anaerobic biodegradation of the groundwater contaminants by injecting a vegetable oil emulsion into the ground. The vegetable oil emulsion promotes anaerobic biodegradation of the chemicals.

The cleanup goals for the site are NYSDEC Class GA Groundwater Quality Standards for CVOCs. In addition to enhanced bioremediation, the remedy includes institutional controls in the form of deed restrictions for affected groundwater, and a contingency plan of an air sparge wall (or other agreed upon action) if elevated levels of DCE and/or VC attributable to the site groundwater are detected in Three Mile Creek. Remaining CVOCs not fully treated by the enhanced bioremediation remedy are expected to attenuate naturally, and MNA is used to monitor these processes (AFRPA, 2008).

To implement the enhanced bioremediation remedy, three separate vegetable oil injections have been performed at the site using six permanent injection wells. The initial injection occurred in July 2008 (see *Final Interim Remedial Action Report*, EEEPC, 2011). The second injection occurred in August 2010, as described in the *Spring 2010 Annual Report Performance Monitoring* (FPM, 2011, Appendix D). The third injection occurred in October 2013, as described in *Spring 2014 Annual Report Performance Monitoring* (FPM, 2015). The injection wells are located in a cluster slightly upgradient of the cluster of monitoring wells in the hot spot (LF6MW-12, LF6MW-16, LF6MW-17, and LF6MW-20).

SECTION 3

SUPPLEMENTAL INVESTIGATION ADDENDUM ACTIVITIES

3.1 INTRODUCTION

This section presents the SI Addendum methodology and scope of work for soil and groundwater activities at the B817/WSA and LF6 sites.

3.2 FIELD WORK

SI Addendum field work at B817WSA and LF6 sites included further direct push sampling of soil and groundwater. All work was conducted in accordance with the April 2014 memorandum entitled *Additional Field Work Proposed at Building 817 (B817)/Weapons Storage Area (WSA) and Landfill 6 (LF6)*(Parsons, 2015b) and the *Remedial Action Work Plan Addendum 3, Building 817 Supplemental Investigation* (Parsons, 2014a). There were no deviations from the plans. In addition, the *Quality Control Field Plan (QCFP), On Base Groundwater RAWP Addendum 3* was followed for field QC, including completion of Daily Field Reports (Appendix C), field forms, and log books, Parsons, 2014b).

Prior to any intrusive ground work, NYLD, Inc., performed a standard (horizontal) utility mark-up of the investigation area. In addition, the utility notification service was called and clearance was obtained.

3.2.1 Building 817/Weapons Storage Area

Soil samples were collected May 11 and 12, 2015, using a discrete sampler mounted onto a Geoprobe® system. Geoprobe® borings were advanced along three transects in the area northwest of the portion of the B817/WSA site shown in **Figure 3-1,** for a total of 12 borings.

Up to three soil samples were collected from each boring, for a total of 36 primary soil samples. In addition, one pair of matrix spike/matrix spike duplicate (MS/MSD) samples and one field duplicate were collected. Continuous core was collected from the ground surface to bedrock. Samples for laboratory analysis were collected from 8 feet to 25 feet bgs.

Three groundwater samples were collected from boring VT-1-2 using a Geoprobe® SP22 sampler on May 11, 2015. The sampler was equipped with a 6-inch-long screen to allow profiling of a sub-foot interval. The Standard Operating Procedure (SOP) for the SP22 sampler is provided in the RAWP Addendum 3 (Parsons, 2014a).

3.2.2 Landfill 6

Soil samples at LF6 were collected May 14 and 15, 2015, using a discrete sampler mounted onto a Geoprobe® system. Five Geoprobe® borings (LF6SB-1, LF6SB-2, LF6SB-3, LF6SB-5, and LF6SB-6) were advanced within the vicinity of the center of the LF6 plume shown in **Figure 3-2**. Up to ten soil samples were collected from each boring, for a total of 29 primary soil samples, plus one field duplicate (denoted LF6SB1-40a). Continuous core was collected from the ground surface to bedrock. Samples for laboratory analysis were collected from 20 feet to 60 feet bgs.

Eight groundwater samples were collected at LF6 from May 13 through 15, 2015, using a Geoprobe® SP22 sampler for the Geoprobe® borings (LF6SB-1, LF6SB4, LF6SB-6, LF6SB-7 and LF6SB-8), and dedicated bladder pumps for low flow sampling of monitoring wells (LF6MW-28 and -29) (**Figure 3-2)**. The sampler was equipped with a 6-inch-long screen to allow profiling of a sub-foot interval. Geoprobe groundwater samples were collected from 25 to 52 feet, with depths determined in the field. Groundwater intervals corresponding to soil intervals with visual or olfactory evidence of contamination were selected when available.

3.2.3 Sample Analysis

Soil and groundwater samples were analyzed on-site using MobiLab™, a field laboratory operated by Stone Environmental, Inc. (Stone). The soil samples were collected and preserved in 10 milliliters (mL) of methanol by Parsons personnel; water samples were collected in unpreserved 40-mL volatile organic analysis (VOA) vials. Samples were hand delivered to the onsite laboratory immediately after collection; therefore, receipt temperatures were not measured. Soil samples were stored in a freezer in the laboratory before and after analysis. Water samples were stored in the refrigerator (<6° Celsius) before and after analysis.

Samples were analyzed by USEPA SW846 Method 8260C (gas chromatography / mass spectrometry [GC/MS]) set in selective ion monitoring (SIM) mode for five target CVOCs in accordance with Stone's Standard Operating Procedure (SOP) SEI-10.15.11 (*The Determination of Volatile Organic Compounds By GC/MS (SW846 USEPA Method 8260C*); this SOP was provided in the RAWP Addendum 3 (Parsons, 2014a). Stone's GC/MS Method 8260C is provided under the National Environmental Laboratory Accreditation Program (NELAP) fields of testing, for which Stone holds NELAP accreditation for soil and water in the State of New York. The analytical results associated with the samples were generated under a quality system that adheres to requirements specified in the NELAP standards.

No field blanks were included in the sample set. All Quality Assurance/Quality Control results associated with the samples were found to be within the tolerances set for in SOP SEI-10.15.11 and NELAP and ISO 17025 standards with the exceptions noted below:

- Continuing Calibration Verification (VSTD) Sample Deficiencies:
  - The percent difference value for vinyl chloride (28%) was outside acceptance at limit of +/-20% for VSTD AL analyzed on May 11, 2015. Affected samples were not reanalyzed. There were no positive detections of this compound in any of the samples analyzed in the affected batch. However, since the recovery indicated a low bias, all vinyl chloride sample results reported from this analytical batch were flagged with the Q qualifier.
- Laboratory Control Sample (LCS) Deficiencies:
  - Percent recovery for vinyl chloride (69%) was marginally low (i.e., <70%) for soil LCS AS analyzed on May 11, 2015. Affected samples were not reanalyzed. There were no positive detections of this compound in any of the samples analyzed in the affected batch. However, since the recovery indicated a low bias, all vinyl chloride sample results reported from this analytical batch were flagged with the Q qualifier.
- MS/MSD Deficiencies:

- Recoveries of TCE in the MS and MSD samples associated with parent sample VT-1-1-17 were marginally low (69% and 68%, respectively). Therefore, the TCE result for the parent sample was flagged with the J qualifier.

SECTION 4

RESULTS OF ADDITIONAL SUPPLEMENTAL INVESTIGATION

4.1 INTRODUCTION

This section presents the results from the 2015 SI activities. In May 2015, 12 borings were advanced and logged at B817/WSA, and 36 soil samples, plus one field duplicate (VT-1-0-FD) and three groundwater samples were collected and analyzed on-site. At LF6, 8 borings were advanced, 29 soil samples plus one field duplicate (LF6SB1-40a) were collected from 5 borings, and 8 groundwater samples were collected from five borings and two monitoring wells. One set of MS/MSD was analyzed for the soil matrix (samples VT-1-1) from site B817/WSA. Boring logs are provided in **Appendix A;** complete analytical results are provided in **Appendix B**.

4.2 BUILDING 817/WEAPONS STORAGE AREA

As seen in the soil profiles provided in **Appendix A**, boring advancement was difficult, with all borings experienced refusal between 19 feet bgs and 28.5 feet bgs. Soil materials observed are consistent with what has previously been seen at the site: sands, silts, clay layers, gravels, and shale.

Table 4-1 provides a tabulated summary of soil detections. As seen, CVOC detections were found in 15 of 36 samples; 11 of the 36 are located along the first transect. The highest concentrations are closest to BH-1-10 and the building. Both the original sample VT-1-0-9 and its field duplicate were non-detect for all analytes.

Figures 4-1 through **4-3** present PCE, TCE, and DCE concentration isopleths for soil, respectively. These figures have been updated from the 2014 SI report to include both the 2014 SI results as well as the May 2015 results. As seen, the SI addendum effectively delineates the area northwest of Building 817. PCE 200 µg/kg contours extend to boring VT-1-4; TCE 200 µg/kg contours are limited to boring VT-1-1 and VT-1-2, located west and southwest of the building. DCE and VC were not detected in any samples during the 2015 sampling event. **Figure 4-4** shows a cross section of the site with CVOC soil concentrations that extends to boring VT-3-4 in the northwest portion of the site. The figure further demonstrates that the area northwest of Building 817 has been delineated.

Groundwater samples were collected from three depths (8-11' bgs, 11-14' bgs and 14-17' bgs) from boring VT-1-2, the boring with the highest CVOC soil concentrations during the supplemental investigation effort, and nearest the building. PCE, DCE and VC were not detected in any samples. TCE was detected in all three samples, with concentrations of 4.4 µg/l (8-11 bgs), 6.5 µg/l (11-14 bgs), and 25.2 (14-17' bgs), see **Table 4-2**. **Figure 4-5** provides a cross section with CVOC concentrations in groundwater that extend to boring VT-3-4. Although groundwater samples were not collected beyond boring VT-1-2, concentrations in soil borings collected from the northwest extend of the site (e.g., borings VT-3-4 (below reporting limit), VT-3-3 (non-detect) and VT-3-5 (non detect)) justify closing the groundwater contours near boring VT-1-2.

4.3 LANDFILL 6

4.3.1 Geology

Soil profiling activities were conducted at LF6 in order to better characterize the subsurface materials. Soil borings advanced at Landfill 6 and provided in **Appendix A** did not lead to any revisions in the conceptual site model. Sand, gravel and, occasionally, cobbles were found in the upper several feet, followed by silty sands. The geoprobe encountered refusal at approximately 34 feet bgs at boring location LF6SB-5 and at approximately 58 feet bgs at boring location LF6SB-2. At boring location LF5SB-4, the core barrel was lost at 40 feet bgs; the core got stuck in the barrel at boring LF6SB-1 at 50 feet bgs. No subsurface heterogeneities (e.g., clay lenses) were discovered that would cause contaminants to sorb to certain areas and diffuse slowly, contributing to plume persistence.

4.3.2 Laboratory Results

A tabulated summary of soil results are provided in **Table 4-3** and **Figure 4-6**. Thirty-six soil samples were collected from five Geoprobe® borings (LF6SB-1, LF6SB-2, LF6SB-3, LF6SB-5, and LF6SB-6), at depths between 20 to 60 feet bgs. For the field duplicate (LF6SB-1-40a) and the original sample (LF6SB-1-40), the greater of the two concentrations for each analyte was chosen. Generally speaking, the majority of the detections were in the 40 to 50 feet bgs depths, and the greatest TCE concentrations were closest to the hot spot of the plume, with decreasing concentrations as distance from the center increases. TCE was detected in 14 of 36 samples, with the highest concentrations at LF6SB-1 at a depth of 46 ft bgs (11.2 mg/kg) and LF6SB-2 at a depth of 45 ft bgs (10.4 mg/kg). The analyte cis-1,2-DCE was detected in 18 of 36 samples, and trans-1,2-DCE was detected in six samples. Vinyl chloride was not detected in any samples.

A tabulated summary of groundwater results is provided in **Table 4-4** and illustrated in **Figure 4-7**. Eight groundwater samples were collected from five Geoprobe® borings (LF6SB-1, LF6SB-4, LF6SB-6, LF6SB-7, and LF6SB-8) and two monitoring wells (LF6MW-28 and LF6MW-29), at depths between 17 to 52 feet bgs. The monitoring wells were chosen due to their proximity to the boring locations. The analyte TCE was found above its site cleanup goal in all 8 samples; the highest value, 50.2 µg/L, was found at LF6SB-6, close to the center of the plume, in the 35-40 ft bgs depth. DCE was found in levels exceeding its site cleanup goal in five of eight samples. PCE was not detected in any samples; VC was detected in one boring, LF6SB-1, but below its site cleanup goal. Wells LF6MW-28 and LF6MW-29 are not included in the Performance Monitoring Reports since they are beyond the well selected to monitor the upgradient extent (e.g., well LF6TW-35, see **Figure 3-2**); therefore, no recent sampling of these wells have occurred. However, concentrations in the two monitoring wells are lower than during the 2006 sampling event.

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SECTION 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

An SI was completed at the B817/WSA site in July and August 2014, with the overall goal of providing a better understanding of the effectiveness of the remedy in place and facilitating a decision on whether pursuit of an OPS determination is an appropriate next step. A recommendation of the 2014 SI was to conduct an additional site investigation to further delineate the northwest portion of the contaminated area. In addition, soil profiling activities were conducted at LF6 in order to better characterize the subsurface materials. SI Addendum field work included further direct push sampling of soil and groundwater at both B817/WSA and LF6. Thirty-six soil samples and three groundwater samples were collected May 11 and 12, 2015 at B817/WSA. Twenty-nine soil samples and eight groundwater samples were collected May 13 through 15, 2015 at LF6. The SI Addendum results effectively delineate chlorinated CVOCs in the area to the northwest of Building 817. PCE and TCE generally had the greatest concentrations closest to Building 817. DCE and VC were not detected in any samples during the 2015 sampling event. Results from the additional SI samples in 2015 completed the source area investigation confirmed the low level plume concentrations are likely result of back diffusion from the fine grained silty clay material. Furthermore no elevated groundwater concentrations exist up gradient, side gradient or downgradient of the building.

At LF6, the investigation did not lead to any revisions in the conceptual site model. No lenses or other areas or very low permeability were found that would cause rebound of TCE concentrations, and site geology was not revised. In general, the highest soil concentrations were near the plume hot spot (near LF6-MW12) and in the 40-50 ft bgs depth, with concentrations decreasing with increasing distance from the plume. The analyte TCE was found above its site cleanup goal in all 8 samples; the highest value, 50.2 µg/L, was found at LF6SB-6, close to the center of the plume, in the 35-40 ft bgs depth. DCE was found in levels exceeding its site cleanup goal in five of eight samples which is indicative of an ongoing bioremediation process (reductive dechlorination). PCE was not detected in any samples; VC was detected in one boring, LF6SB-1, but below its site cleanup goal.

5.2 RECOMMENDATIONS

The Final SI Report (Parsons, 2015a) included in recommendations that a monitoring well be installed near BH-1-10 at Site B817/WSA, in order to compare/confirm direct push sampling results. Accordingly, a well, WSA-MW24, was installed on September 22/23, 2015. The well was screened from 6.5’ bgs to 16.5 feet bgs; **Figure 5-1** shows the location of monitoring well WSA-MW24. No further investigative action is recommended at LF6 beyond continuation of performance monitoring.

SECTION 6

REFERENCES

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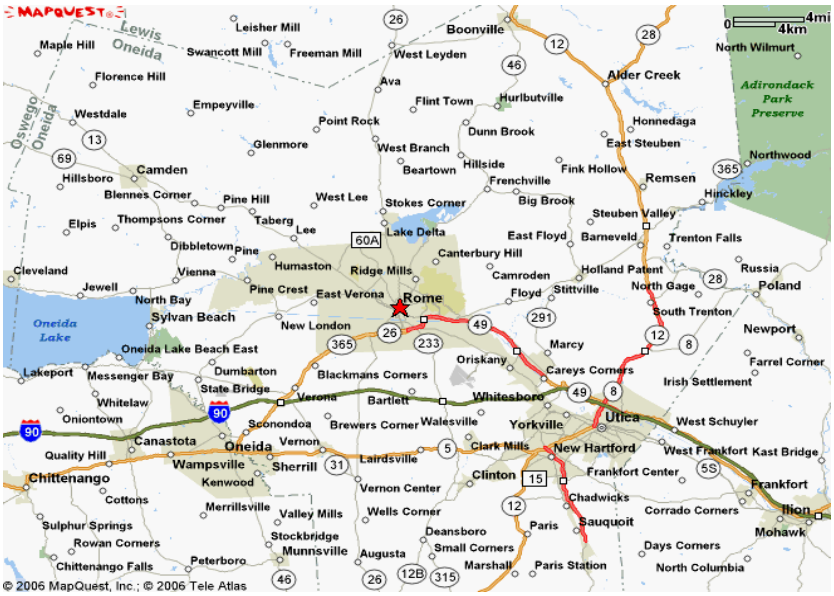
FIGURES

Figure 1-1
Location of Rome, New York



Location of the Former Griffiss Air Force Base (now the Griffiss Business and Technology Park)

Maps Copied From www.mapquest.com

A
Southwest

2014 Supplemental Investigation
See additional cross sections for more detail

A'
Northeast

Approximately 1,250 Feet

Elevation (in Feet AMSL)

530
520
510
500
490
480
470
460

Perimeter Road

Building 817

Vegoil Injection Well

WSA-MW21
WSA-VMW17
WSA-MW19
WSA-MW16
WSA-MW18
MW-003
MW-002
MW-001
WSA-MW8
WSA-MW9

Approximate Location of Six Mile Creek Culvert

40
80
85.3
99.8
99.4
17.0
85.7
40
80
15.9
1.3
ND
12.2
26.6
ND
ND

PCE-38.0
TCE-47.2
DCE-0.11F
VC-ND

PCE-50.9
TCE-48.5
DCE-ND
VC-ND

PCE-3.12J
TCE-7.53J
DCE-6.32J
VC-ND

PCE-1.05
TCE-12.0
DCE-2.49
VC-ND

PCE-ND
TCE-1.26J
DCE-ND
VC-ND

PCE-0.93FJ
TCE-11.0J
DCE-0.23FJ
VC-ND

Utica Shale

PCE-12.8
TCE-13.7
DCE-0.13F
VC-ND

PCE-42.4
TCE-57.2
DCE-0.20F
VC-ND

PCE-ND
TCE-ND
DCE-84.1
VC-1.62F

PCE-ND
TCE-ND
DCE-ND
VC-ND

Fine grained heterogeneous soils characterized during 2014 Supplemental Investigation
Previously not on cross section

Note
Contaminant concentration contours represents total chlorinated ethenes in µg/L (i.e. TCE, DCE, PCE, and VC) with a contour interval of 40.

0
100
200
300
400
500
600
700
800
900
1000
1100
1200

Distance (feet)

KEY:

- Unsaturated Zone
- Saturated Zone
- Shale Bedrock (Top of Bedrock is Inferred Based on Geoprobe Refusal)
- Glaciological silt-clay, with sand lens, and transitional zone to competent rock
- Vegoil Injection Well
- Monitoring Well
- Water Table

AMSL	Above Mean Sea Level
ND	Not Detected
PCE	Tetrachloroethene
TCE	Trichloroethene
DCE	Dichloroethene (total)
VC	Vinyl Chloride
F, J	Estimated Result
WSA	Weapons Storage Area

FIGURE 2-1

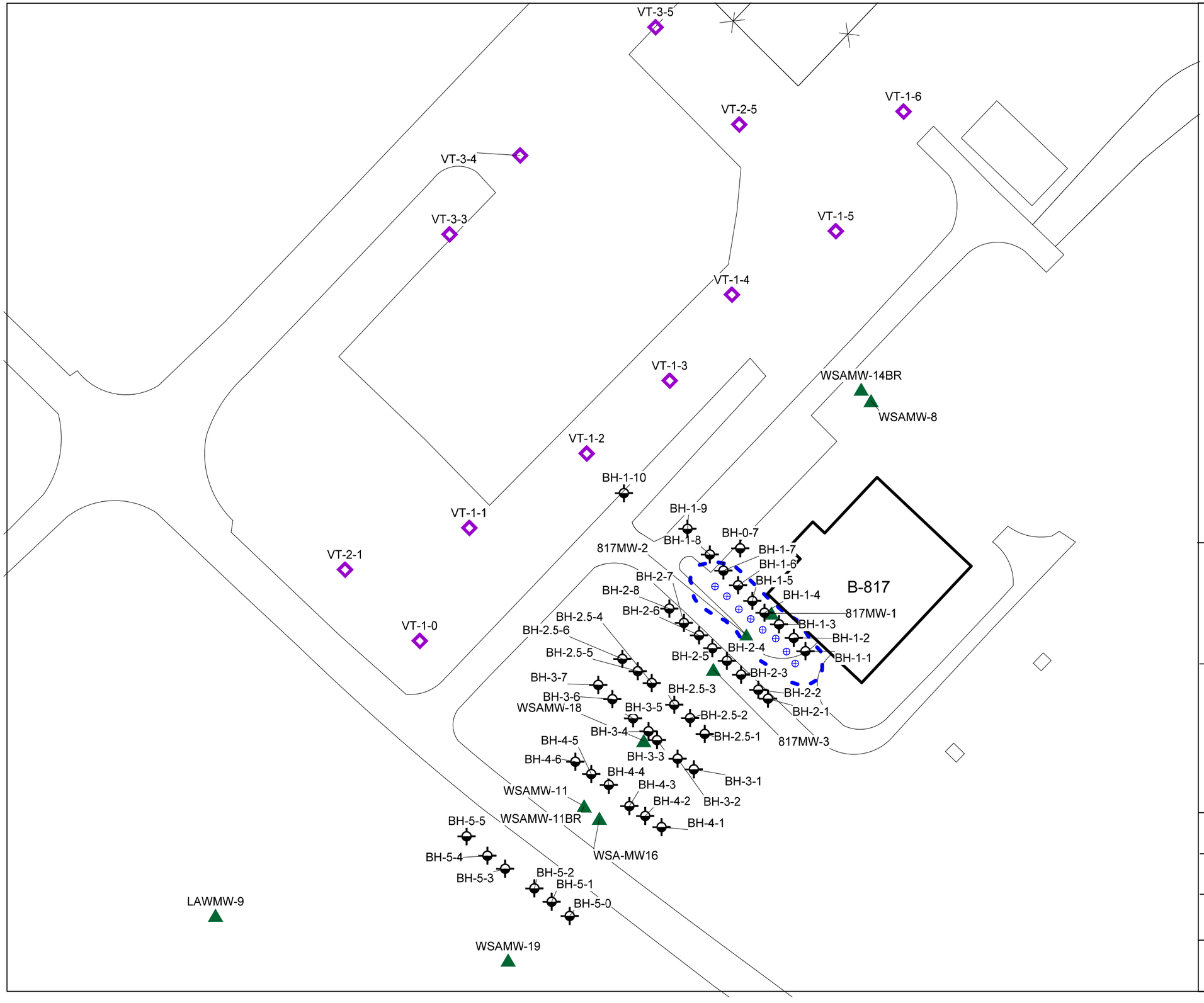
SITEWIDE CROSS SECTION WITH 2013 GROUNDWATER CONCENTRATIONS

SUPPLEMENTAL INVESTIGATION
REPORT ADDENDUM BUILDING 817/
WSA AND LANDFILL 6 FORMER
GRIFFISS AFB ROME, NEW YORK

PARSONS

SOURCE: Ecology and Environment, Inc. 2001

draw\746809 Cross Section.cdr ma 10/22/2014



Notes:

LEGEND

- BT Soil Boring - 2014 (Transect ID - Boring ID)
- VT Transect Soil Boring - 2015 (Transect ID - Boring ID)
- Treatment Injection Point
- Monitoring Well
- Approximate Treatment Area

SCALE

0 25 50 75 100

FEET

Title:

FIGURE 3-1
BUILDING 817/WSA
SOIL BORING LOCATIONS 2014 AND 2015

BUILDING 817/WSA AND LANDFILL6
SUPPLEMENTAL INVESTIGATION REPORT
ADDENDUM
GRIFFISS AIR FORCE BASE ROME, NY

PREPARED BY:

PARSONS

Drawn by:	JWS	Date:	08/06/15, rev1 10/20/15
Checked by:	KS	Date:	08/21/15
Project Manager:	JHL	Date:	-----

File name: Locations2015map2.srf

N

470
465
460
455

LF6 BOUNDARY LINE
LIMIT OF WASTE
LIMIT OF CAP

LF6SB-8
LF6SB-7
LF6-SB5
LF6-SB3
LF6MW-28
LF6-SB6
LF6SB-4
LF6MW-29
LF6-SB2
LF6-SB1
LF6-MW12
(NOT SAMPLED)
LF6TW-35
(NOT SAMPLED)

FORMER
RADIOACTIVE
SITE
LANDFILL
#4

SOURCE:

ORIGINAL DRAWN IS FROM ECOLOGY AND ENVIRONMENT ENGINEERING, P.C. DRAWING #1, REV-0, DATE 5-01-08, ISSUED FOR CONSTRUCTION.

LEGEND:

460 SURFACE CONTOUR
SOIL & GROUNDWATER SAMPLE LOCATION
SOIL SAMPLE LOCATION
GROUNDWATER SAMPLE LOCATION
MONITORING WELL LOCATION
GROUNDWATER FLOW DIRECTION

ABBREVIATIONS:

LF6 LANDFILL 6
MW MONITORING WELL
SB SOIL BORING
SI SITE INVESTIGATION
WSA WEAPONS STORAGE AREA

20' 10' 0 20' 40'
BAR SCALE = 20'

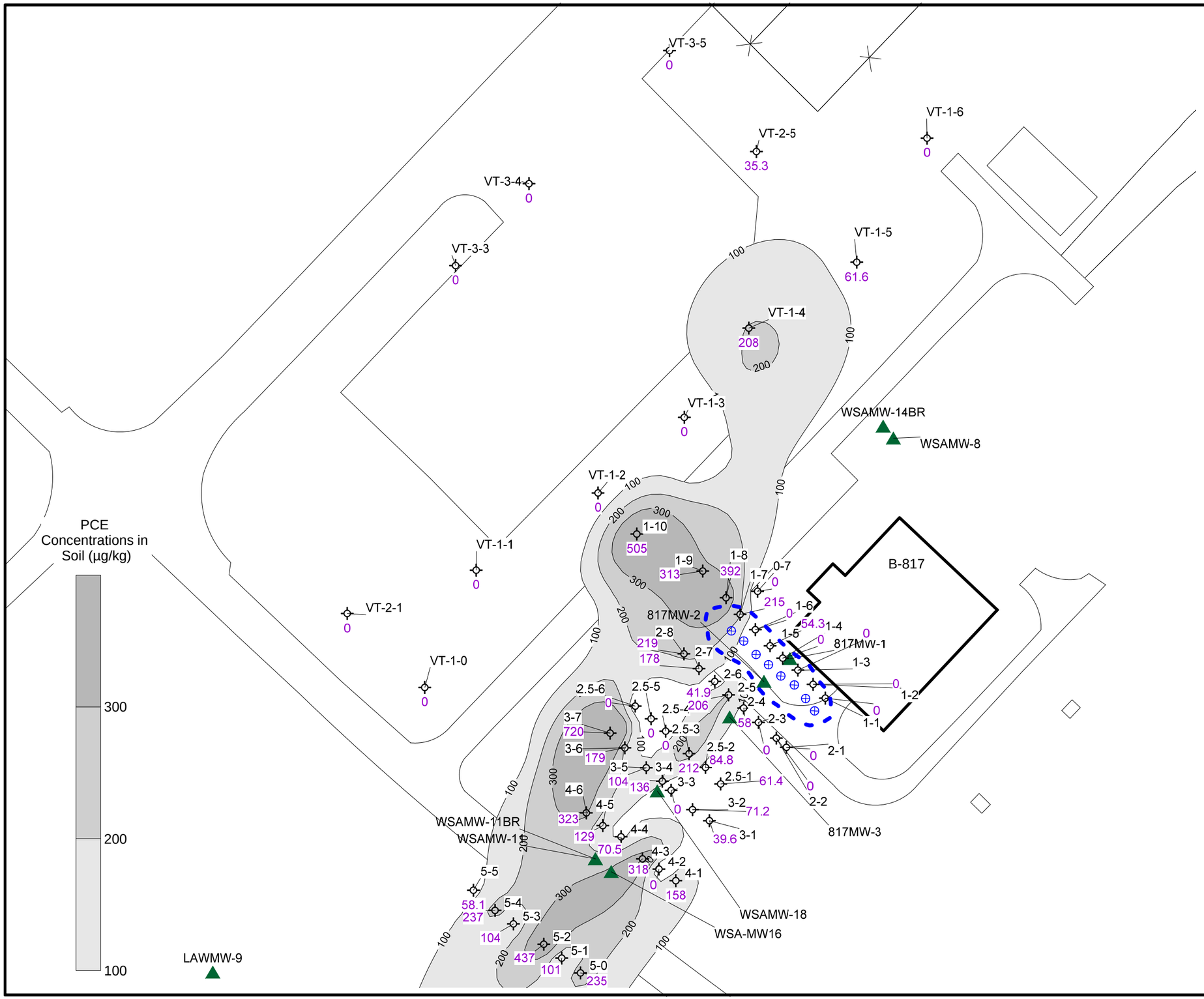
FIGURE 3-2

2015 LANDFILL 6 SAMPLE LOCATIONS

BUILDING 817/WSA AND LANDFILL 6
SUPPLEMENTAL INVESTIGATION REPORT ADDENDUM
FORMER GRIFFISS AIR FORCE BASE,
ROME, NEW YORK

PARSONS

FILE NAME: P:\746809 - OBGW TO 2\BUILDING 817 WSA\LF6 B817 2015 ADDITIONAL FIELDWORK\CAD FOR JC\745115-C-001_DENVER_GW.DWG
PLOT DATE: 10/26/2015 10:39 AM PLOTTED BY: GOLDTHWAIT, JAMES



Notes:

1) Soil PCE concentrations shown adjacent to boring.

2) Non-detect results were assigned a value of zero. Level of detections generally varied from 30-80 µg/kg.

LEGEND

ID
202 — Soil Boring with ID and PCE concentrations ("BH-" prefix removed from label)

Treatment Injection Point

Monitoring Well (for spatial reference only no samples shown on this map)

Approximate Treatment Area

SCALE

0 25 50 75 100

FEET

Title:

FIGURE 4-1
BUILDING 817/WSA
PCE SOIL CONCENTRATION ISOPLETHS
HIGHEST SOIL CONCENTRATION AT
EACH LOCATION

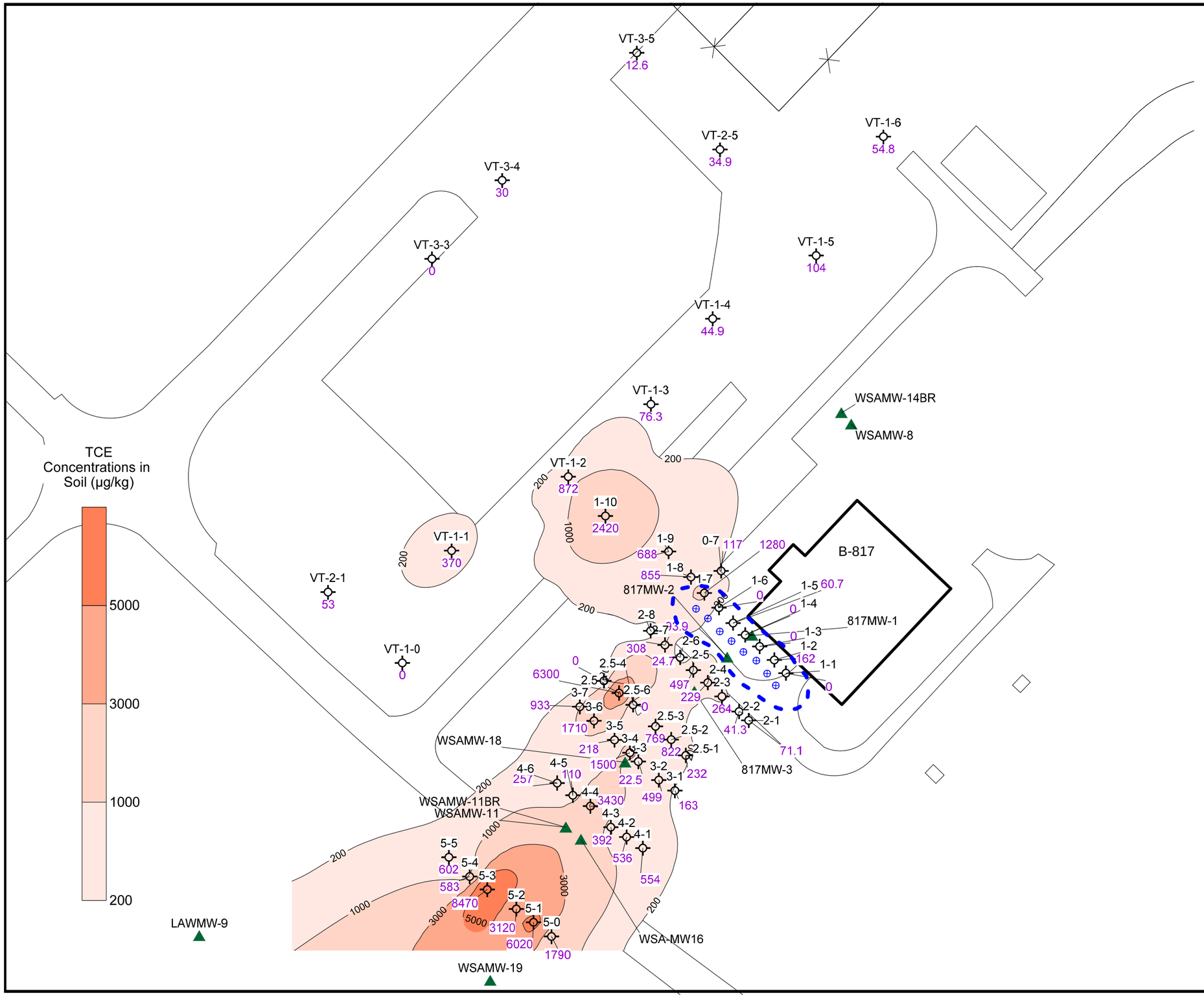
BUILDING 817/WSA AND LANDFILL6
SUPPLEMENTAL INVESTIGATION REPORT
ADDENDUM
GRIFFISS AIR FORCE BASE ROME, NY

PREPARED BY:

PARSONS

Drawn by:	JWS	Date:	07/29/15, rev1 10/20/15
Checked by:	KS	Date:	08/21/15
Project Manager:	JHL	Date:	-----

File name: PCE-soil_w215data_v2.srf



Notes:

1) Soil TCE concentrations shown adjacent to boring.

2) Non-detect results were assigned a value of zero. Level of detections generally varied from 30-80 µg/kg.

LEGEND

ID
202
Soil Boring with ID and TCE concentrations ("BH-" prefix removed from label)

Treatment Injection Point

Monitoring Well (for spatial reference only no samples shown on this map)

Approximate Treatment Area

SCALE

0 25 50 75 100

FEET

Title: FIGURE 4-2
BUILDING 817/WSA
TCE SOIL CONCENTRATION ISOPLETHS
HIGHEST SOIL CONCENTRATION AT
EACH LOCATION

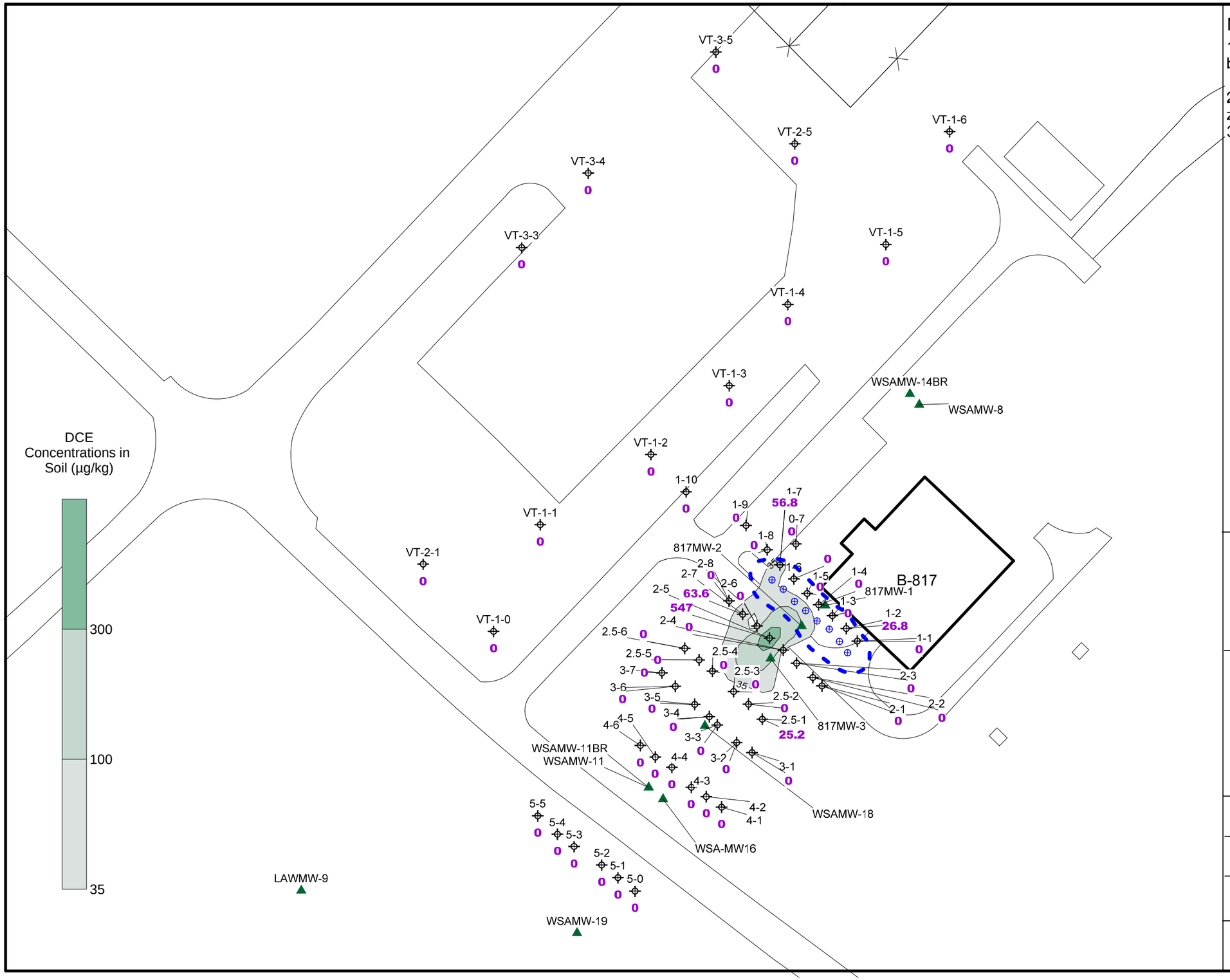
BUILDING 817/WSA AND LANDFILL6
SUPPLEMENTAL INVESTIGATION REPORT
ADDENDUM
GRIFFISS AIR FORCE BASE ROME, NY

PREPARED BY:

PARSONS

Drawn by:	JWS	Date:	07/30/15, rev1 10/20/15
Checked by:	KS	Date:	08/21/15
Project Manager:	JHL	Date:	-----

File name: TCE-soil_w2015data_v2.srf



Notes:

1) Soil DCE concentrations shown adjacent to boring.

2) Non-detect results were assigned a value of zero. Level of detections generally varied from 30-80 µg/kg.

LEGEND

ID
202
Soil Boring with ID and TCE concentrations ("BH-" prefix removed from label)

Treatment Injection Point

Monitoring Well (for spatial reference only)

Approximate Treatment Area

SCALE

0 25 50 75 100
FEET

Title:

FIGURE 4-3
DCE SOIL CONCENTRATION ISOPLETHS
HIGHEST SOIL CONCENTRATION AT EACH LOCATION

BUILDING 817/WSA AND LANDFILL6
SUPPLEMENTAL INVESTIGATION REPORT ADDENDUM
GRIFFISS AIR FORCE BASE ROME, NY

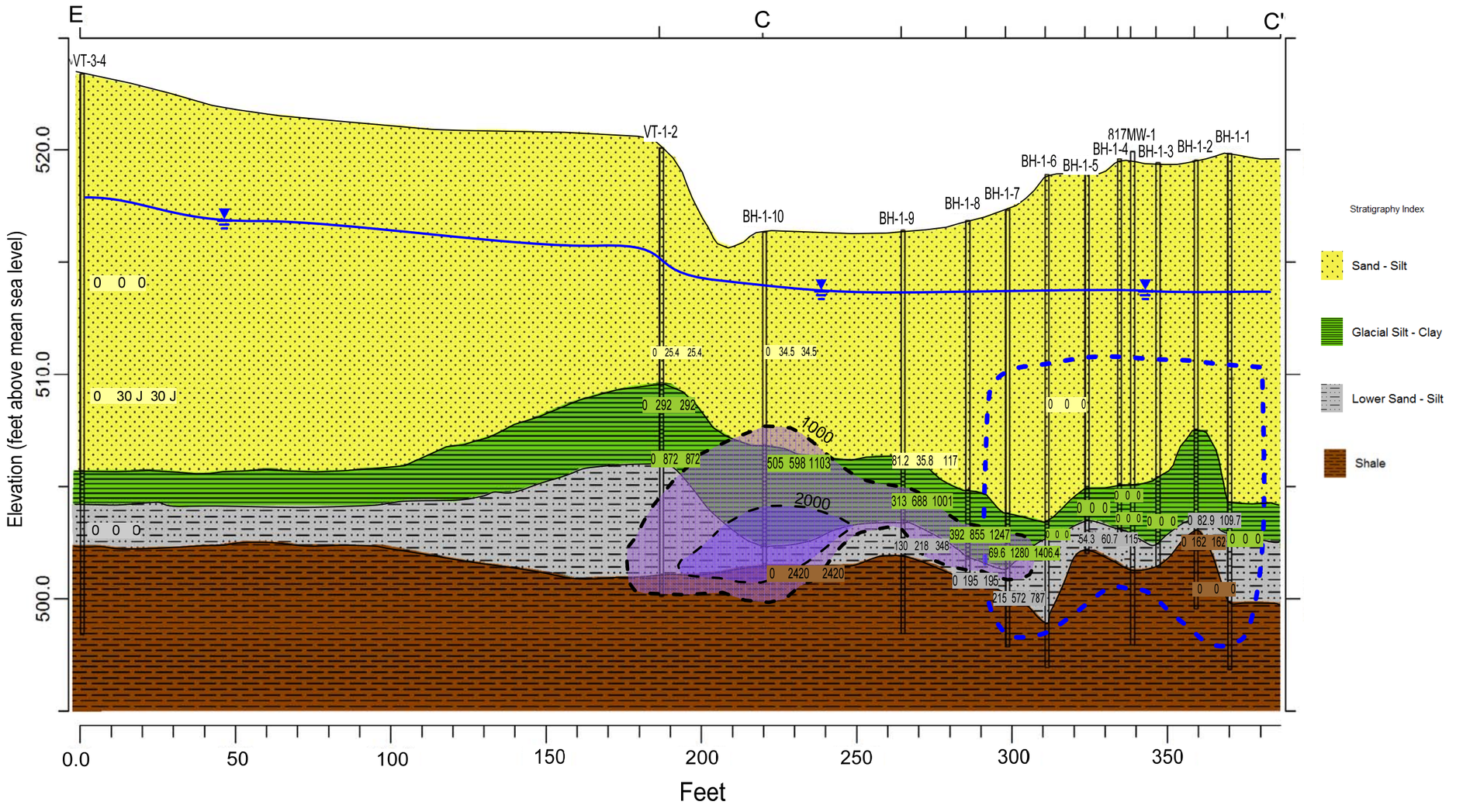
PREPARED BY:

PARSONS

Drawn by:	JWS	Date:	07/30/15, rev1 10/20/15
Checked by:	KS	Date:	08/21/15
Project Manager:	JHL	Date:	------

File name: DCE-soil_w2015data.srf

Cross-Section E-C'



Notes:

Values adjacent to borings are PCE, TCE and total CVOCs (µg/L), respectively.

Contours represent 1000 and 2000 µg/kg total CVOCs.

30 J µg/kg at VT-3-4 is estimated, below the reporting limit.

Concentrations in groundwater at VT-1-2 support the interpolated soil contours (see groundwater cross- section Figure 4-5).

CVOC: Chlorinated Volatile Organic Compound

LEGEND

Approximate Water Table

Approximate Treatment Area

Reference Map:

FIGURE 4-4
CROSS SECTION E-C'
WITH CVOC CONCENTRATIONS IN SOIL

BUILDING 817 SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT FORMER GRIFFISS AIR FORCE BASE ROME, NEW YORK

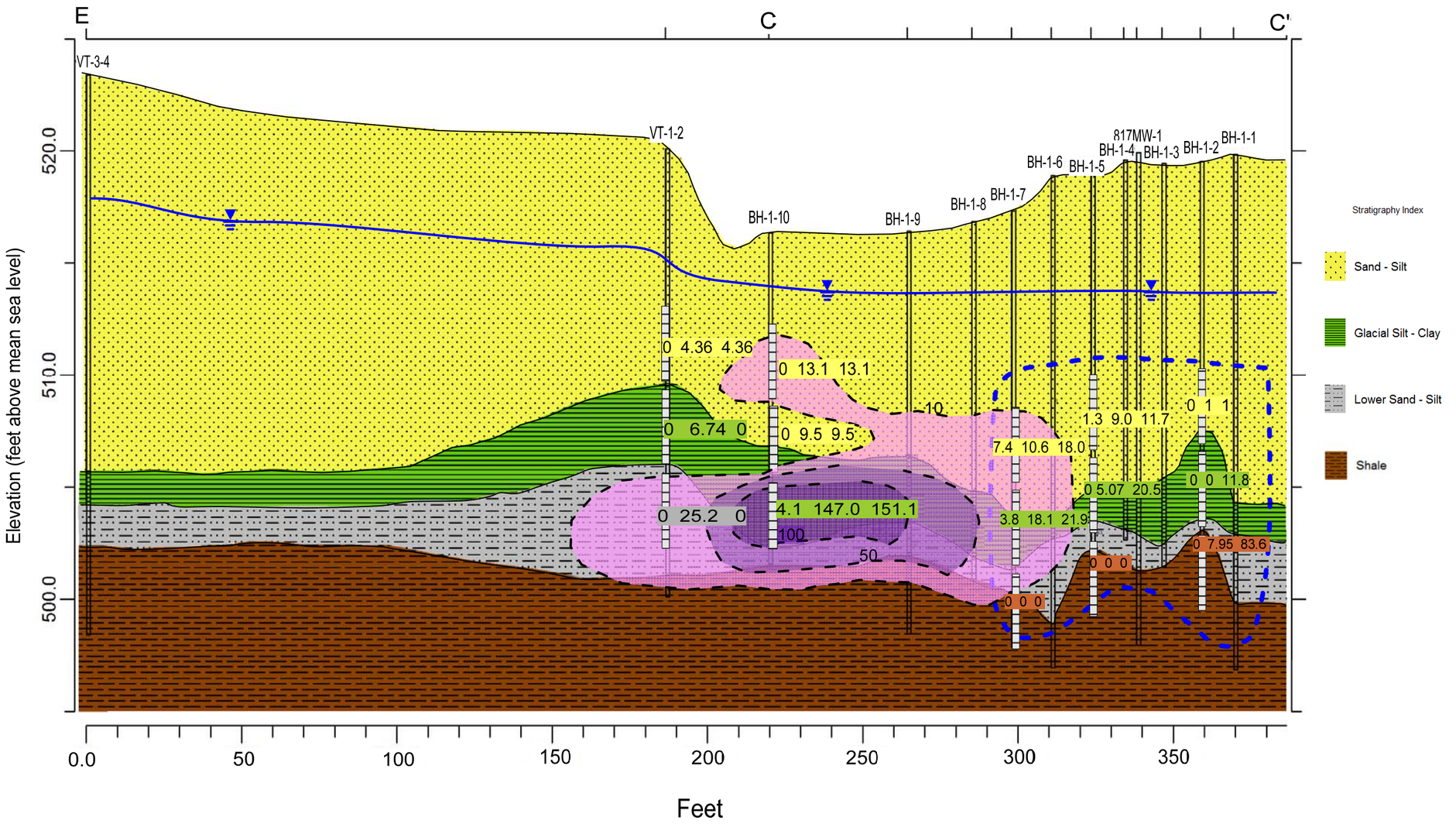
PREPARED BY:

PARSONS

JWS	Date: 10/5/15
	Date:
	Date:

Section E-C-C exteded_2015.srf and Rckwks Model 6 data

Cross-Section E-C'



Notes:
Values adjacent to borings are PCE, TCE and total CVOCs (µg/L), respectively. At BH-1-2 and BH-1-5 DCE was detected therefore total CVOCs is greater than the sum of PCE and TCE. These were amongst the few locations where DCE was detected at appreciable concentrations. Non-detect values are posted as zero.

Concentrations in soil (see soil cross-section, Figure 4-4) at VT-3-4 (below reporting limit), VT-3-3 (non detect) and VT-3-5 (non-detect) justify contours closing near VT-1-2.

Contours are TCE (µg/L)

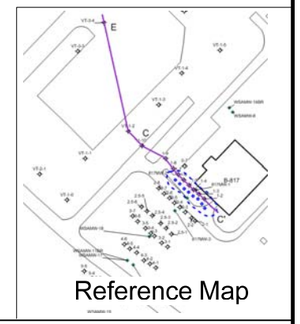
CVOC: Chlorinated Volatile Organic Compound

LEGEND

Approximate Water Table

Approximate Treatment Area

1.3 9.0 11.7
Approximate screened interval of grab sample with concentrations



Reference Map

FIGURE4-5
CROSS SECTION E-C'
WITH CVOC CONCENTRATIONS
IN GROUNDWATER

BUILDING 817 SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT FORMER GRIFFISS AIR FORCE BASE ROME, NEW YORK

PREPARED BY:

PARSONS

JWS	Date: 10/20/15
	Date:
	Date:

Section E-C-C exteded_2015 gw.srf and Rckwks Model 6 data

N

LF6SB-5
34' bgs:
TCE: 234
cis-1,2-DCE : 24.0J

LF6SB-3
All results ND

LF6SB-1
20' bgs:
TCE: 19.9J
cis-1,2-DCE : 12.1J
40' bgs:
TCE: 746
cis-1,2-DCE : 503
45' bgs:
TCE: 5690
cis-1,2-DCE : 116
trans-1,2-DCE : 87.2
46' bgs:
TCE: 11200
cis-1,2-DCE : 438
trans-1,2-DCE : 438
50' bgs
TCE: 8090
cis-1,2-DCE : 504
trans-1,2-DCE : 519
52' bgs:
TCE: 16.3J
cis-1,2-DCE : 1010
55' bgs
cis-1,2-DCE : 1000
56' bgs
cis-1,2-DCE : 525

LF6SB-6
30' bgs:
TCE: 206
35' bgs:
TCE: 2360
cis-1,2-DCE : 1100

LF6SB-2
40' bgs:
TCE: 4790
cis-1,2-DCE : 207
trans-1,2-DCE : 291
41' bgs:
TCE: 8570
cis-1,2-DCE : 376
trans-1,2-DCE : 93.1
45' bgs
TCE: 10400
cis-1,2-DCE : 184
trans-1,2-DCE : 55.2
46' bgs:
cis-1,2-DCE : 709
50'bgs:
cis-1,2-DCE : 91.2
54' bgs:
cis-1,2-DCE : 10.7J
56' bgs:
TCE: 45.3J
cis-1,2-DCE : 17.4J

LF6SB-8
LF6SB-7
LF6-SB5
LF6-SB3
LF6MW-28
LF6-SB6
LF6SB-4
LF6MW-29
LF6-SB2
LF6-SB1
LF6-MW12 (NOT SAMPLED)
LF6TW-35 (NOT SAMPLED)

FORMER RADIOACTIVE SITE LANDFILL #4

LF6 BOUNDARY LINE
LIMIT OF WASTE
LIMIT OF CAP

460 465 470

SOURCE:
ORIGINAL DRAWN IS FROM ECOLOGY AND ENVIRONMENT ENGINEERING, P.C. DRAWING #1, REV-0, DATE 5-01-08, ISSUED FOR CONSTRUCTION.

LEGEND:
- 460 SURFACE CONTOUR
- SOIL & GROUNDWATER SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- GROUNDWATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- GROUNDWATER FLOW DIRECTION

ABBREVIATIONS:

LF6	LANDFILL 6
MW	MONITORING WELL
SB	SOIL BORING
SI	SITE INVESTIGATION
WSA	WEAPONS STORAGE AREA
TCE	(TRICHLOROETHENE)
DCE	(DICHLOROETHENE)
VC	(VINYL CHLORIDE)
UG	(MICROGRAM)
KG	(KILOGRAM)

NOTE:
ALL RESULTS ARE MEASURED IN ug/kg

20' 10' 0 20' 40'
BAR SCALE = 20'

FIGURE 4-6

LANDFILL 6
SOIL CONCENTRATION DETECTIONS

BUILDING 817/WSA AND LANDFILL 6
SUPPLEMENTAL INVESTIGATION REPORT ADDENDUM
FORMER GRIFFISS AIR FORCE BASE,
ROME, NEW YORK

PARSONS

FILE NAME: P:\746809 - OBGW TO 2\BUILDING 817 WSA\LF6 B817 2015 ADDITIONAL FIELDWORK\CAD FOR JG\745115-C-001_DENVER_GW.DWG
PLOT DATE: 10/26/2015 10:42 AM PLOTTED BY: GOLDTHWAIT, JAMES

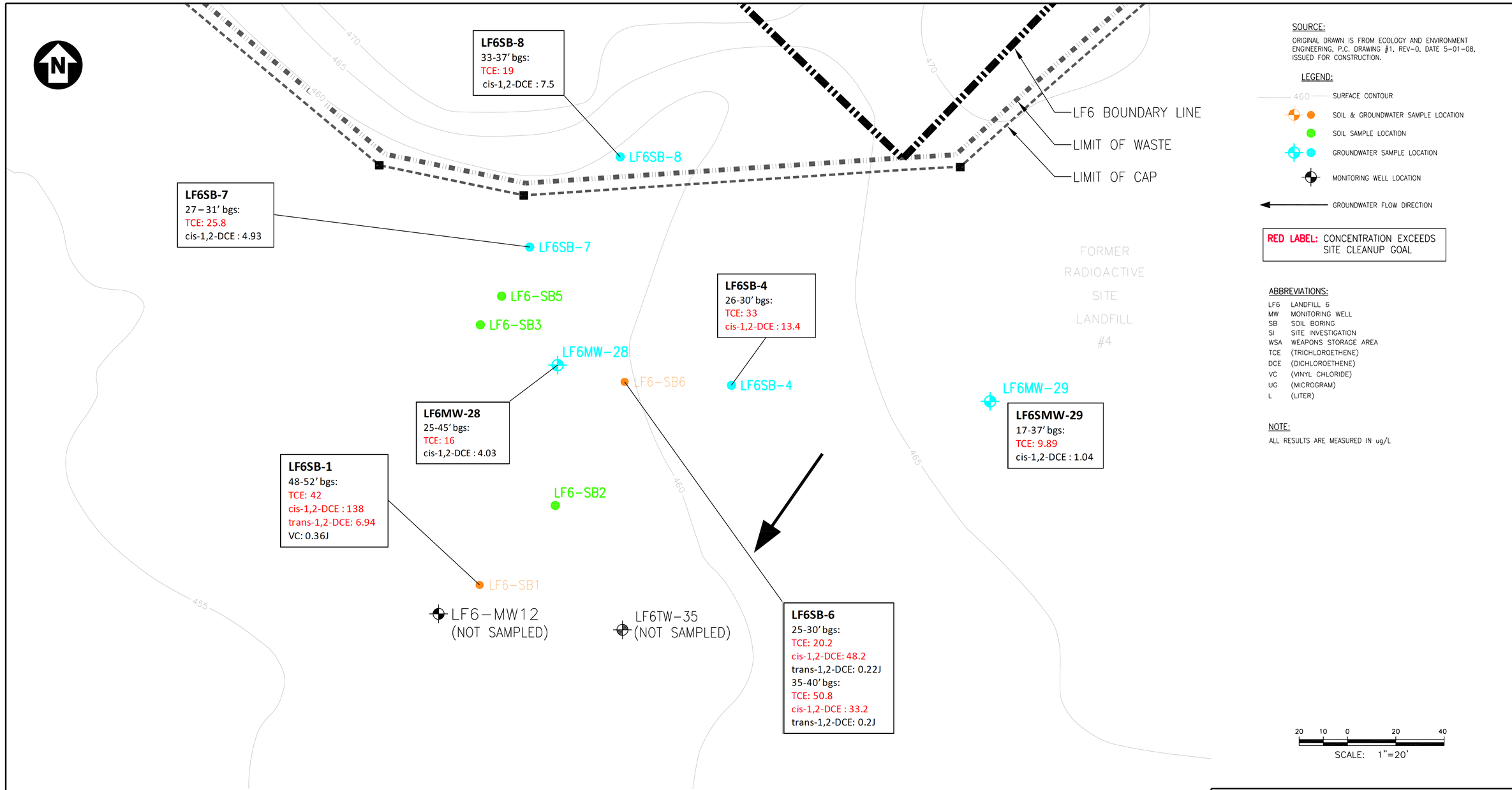


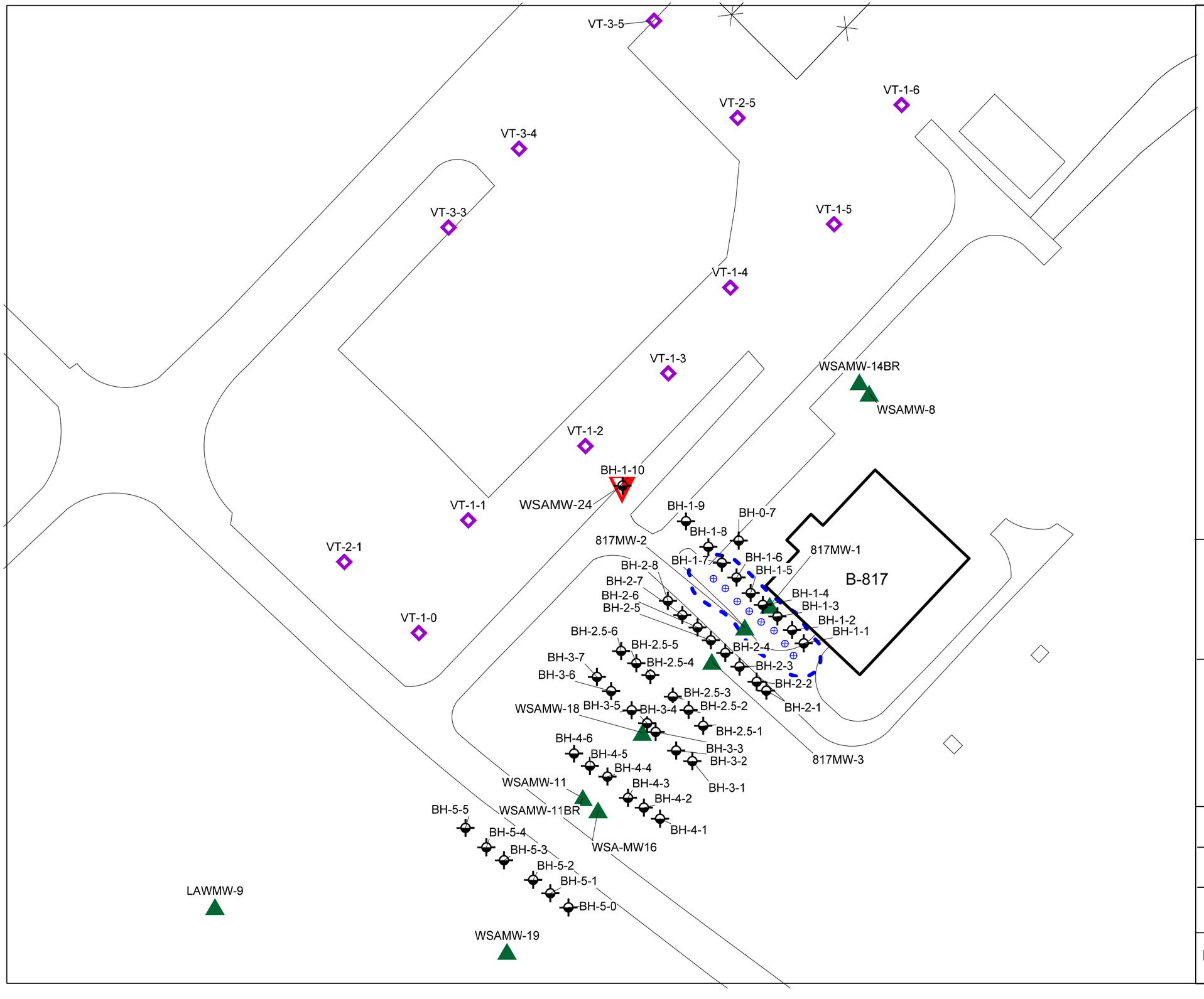
FIGURE 4-7

LANDFILL 6 GROUNDWATER CONCENTRATION DETECTIONS

BUILDING 817/WSA AND LANDFILL 6
SUPPLEMENTAL INVESTIGATION REPORT ADDENDUM
FORMER GRIFFISS AIR FORCE BASE,
ROME, NEW YORK

PARSONS

FILE NAME: P:\746809 - OBGW TO 2\BUILDING 817 WSA\LF6 B817 2015 ADDITIONAL FIELDWORK\CAD FOR JG\745115-C-001_DENVER_GW.DWG
PLOT DATE: 12/1/2015 11:46 AM PLOTTED BY: GOLDTHWAIT, JAMES



Notes:

LEGEND

- Soil Boring - 2014
- Soil Boring - 2015
- Treatment Injection Point
- Monitoring Well
- Well WSAMW-24
- Approximate Treatment Area

SCALE

0 25 50 75 100

FEET

Title:

FIGURE 5-1
BUILDING 817/WSA
LOCATION OF NEW MONITORING
WELL: WSAMW-24

BUILDING 817/WSA AND LANDFILL6
SUPPLEMENTAL INVESTIGATION REPORT
ADDENDUM
GRIFFISS AIR FORCE BASE ROME, NY

PREPARED BY:

PARSONS

Drawn by:	JWS	Date:	09/08/15
Checked by:	KS	Date:	09/08/15
Project Manager:	JHL	Date:	-----

File name: 2015_newwell_loc.srf

TABLES

Table 4-1
Summary of Soil Detections at Building 817
Former Griffiss Air Force Base, Rome, New York

Sample Location	VT-1-1	VT-1-2			VT-1-3		VT-1-4
Sample ID	VT-1-1-17	VT-1-2-11	VT-1-2-13	VT-1-2-9	VT-1-3-14	VT-1-3-16	VT-1-4-12
Date of Collection	5/11/2015	5/11/2015	5/11/2015	5/11/2015	5/11/2015	5/11/2015	5/11/2015
Sample Depth (ft)	17	11	13	9	14	16	12
Dilution Factor (-)	40	40	40	40	40	40	40
VOCs (ug/kg)							
Tetrachloroethene (PCE)	37 U	26.7 U	31.1 U	33.8 U	36.3 U	33.4 U	**208**
Trichloroethene (TCE)	**370J**	**292**	**872**	**25.4 J**	**41.4**	**76.3**	**44.9**
cis-1,2-dichloroethene (cis-1,2-DCE)	37 U	26.7 U	31.1 U	33.8 U	36.3 U	33.4 U	30.6 U
trans-1,2-Dichloroethene (trans-1,2-DCE)	37 U	26.7 U	31.1 U	33.8 U	36.3 U	33.4 U	30.6 U
Vinyl Chloride (VC)	37 UQ	26.7 UQ	31.1 UQ	33.8 UQ	36.3 UQ	33.4 UQ	30.6 UQ

Sample Location	VT-1-5			VT-1-6	VT-2-1	VT-2-5	VT-3-4	VT-3-5
Sample ID	VT-1-5-13	VT-1-5-24	VT-1-5-25	VT-1-6-21	VT-2-1-17	VT-2-5-15	VT-3-4-14	VT-3-5-21
Date of Collection	5/11/2015	5/11/2015	5/11/2015	5/12/2015	5/11/2015	5/12/2015	5/12/2015	5/12/2015
Sample Depth (ft)	13	24	25	21	17	15	14	21
Dilution Factor (-)	40	40	40	40	40	40	40	40
VOCs (ug/kg)								
Tetrachloroethene (PCE)	**61.6**	**23.5 J**	30.9 U	35.6 U	37.3 U	**35.3 J**	42.9 U	39.4 U
Trichloroethene (TCE)	48.9 U	**104**	**78.1**	**54.8**	**53**	**34.9 J**	**30.0 J**	**12.6 J**
cis-1,2-dichloroethene (cis-1,2-DCE)	48.9 U	35.7 U	30.9 U	35.6 U	37.3 U	38.4 U	42.9 U	39.4 U
trans-1,2-Dichloroethene (trans-1,2-DCE)	48.9 U	35.7 U	30.9 U	35.6 U	37.3 U	38.4 U	42.9 U	39.4 U
Vinyl Chloride (VC)	48.9 UQ	35.7 UQ	30.9 UQ	35.6 U	37.3 UQ	38.4 U	42.9 U	39.4 U

Notes:
Bold indicates a detection
U: The analyte was analyzed for, but was not detected above the reported quantitation limit (RL).
J: The analyte was positively identified; the associated numerical value is between the maximum detected limit (MDL) and RL and is, therefore an estimated concentration of the analyte in the sample.
Q: The value is estimated due to one or more quality control failures for that compound.

Table 4-2
Summary of Groundwater Detections at Building 817
Former Griffiss Air Force Base, Rome, New York

Sample Location	Site Cleanup Goal[1]	VT-1-2		
Sample ID		VT-1-2-(8-11)	VT-1-2-(11-14)	VT-1-2-(14-17)
Date of Collection		5/12/2015	5/12/2015	5/12/2015
Sample Depth (ft)		8-11	11-14	14-17
Dilution Factor (-)		1	1	1
VOCs (ug/L)				
Tetrachloroethene (PCE)	5	1 U	1 U	1 U
Trichloroethene (TCE)	5	**4.36**	**6.74**	**25.2**
cis-1,2-dichloroethene (cis-1,2-DCE)	5	1 U	1 U	1 U
trans-1,2-Dichloroethene (trans-1,2-DCE)	5	1 U	1 U	1 U
Vinyl Chloride (VC)	2	1 U	1 U	1 U

Notes:
1 - New York State Department of Environmental Conservation Class GA Groundwater Quality Standards
Bold indicates a detection
Highlighted cell indicates an exceedance of the Site Cleanup Goal
U: The analyte was analyzed for, but was not detected above the reported quantitation limit (RL).

Table 4-3
Summary of Soil Detections at Landfill 6
Former Griffiss Air Force Base, Rome, New York

Sample Location	LF6SB-1							
Sample ID	LF6SB-1-20	LF6SB-1-40a	LF6SB-1-45	LF6SB-1-46	LF6SB-1-50	LF6SB-1-50-55	LF6SB-1-55	LF6SB-1-56
Date of Collection	5/12/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015
Sample Depth (ft)	20	40	45	46	50	52	55	56
Dilution Factor (-)	40	40	40	40	80	40	40	40
VOCs (ug/kg)								
Tetrachloroethene (PCE)	39.1 U	37.2 U	38.2 U	48.2 U	75.7 U	38.8 U	43.9 U	44.2 U
Trichloroethene (TCE)	**19.9 J**	**746**	**5690**	**11200**	**8090**	**16.3 J**	43.9 U	44.2 U
cis-1,2-dichloroethene (cis-1,2-DCE)	**12.1 J**	**503**	**116**	**438**	**504**	**1010**	**1000**	**525**
trans-1,2-Dichloroethene (trans-1,2-DCE)	39.1 U	37.2 U	**87.2**	**438**	**519**	38.8 U	43.9 U	44.2 U
Vinyl Chloride (VC)	39.1 U	37.2 U	38.2 U	48.2 U	75.7 U	38.8 U	43.9 U	44.2 U

Sample Location	LF6SB-2						
Sample ID	LF6SB-2-40	LF6SB-2-41	LF6SB-2-45	LF6SB-2-46	LF6SB-2-50	LF6SB-2-54	LF6SB-2-56
Date of Collection	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/14/2015
Sample Depth (ft)	40	40	40	46	50	54	56
Dilution Factor (-)	40	40 [1]	40 [1]	40	40	40	40
VOCs (ug/kg)							
Tetrachloroethene (PCE)	41.5 U	37.6 U	40.0 U	42.7 U	45.1 U	48.8 U	52.6 U
Trichloroethene (TCE)	**4790**	**8570**	**10400**	42.7 U	45.1 U	48.8 U	**45.3 J**
cis-1,2-dichloroethene (cis-1,2-DCE)	**207**	**376**	**184**	**709**	**91.2**	**10.7 J**	**17.4 J**
trans-1,2-Dichloroethene (trans-1,2-DCE)	**291**	**93.1**	**55.2**	42.7 U	45.1 U	48.8 U	52.6 U
Vinyl Chloride (VC)	41.5 U	37.6 U	40.0 U	42.7 U	45.1 U	48.8 U	52.6 U

Sample Location	LF6SB-5	LF6SB-6	
Sample ID	LF6SB-5-34	LF6SB-6-30	LF6SB-6-35
Date of Collection	5/14/2015	5/15/2015	5/15/2015
Sample Depth (ft)	34	30	35
Dilution Factor (-)	40	40	40
VOCs (ug/kg)			
Tetrachloroethene (PCE)	35.9 U	40.2 U	42.9 U
Trichloroethene (TCE)	**234**	**206**	**2360**
cis-1,2-dichloroethene (cis-1,2-DCE)	**24.0 J**	40.2 U	**1100**
trans-1,2-Dichloroethene (trans-1,2-DCE)	35.9 U	40.2 U	42.9 U
Vinyl Chloride (VC)	35.9 U	40.2 U	42.9 U

Notes:
1) The dilution factor is 40 except for the analyte TCE where the dilution factor is 8(
Bold indicates a detection
U: The analyte was analyzed for, but was not detected above the reported quantitation limit (RL)
J: The analyte was positively identified; the associated numerical value is between the maximum detected limit (MDL) and RL and is, therefore an estimated concentration of the analyte in the sample.
All results at location LF6SB-3 were non-detects.

Table 4-4
Summary of Groundwater Detections at Landfill 6
Former Griffiss Air Force Base, Rome, New York

Sample Location	Site Cleanup Goal[1]	LF6MW-28	LF6MW-29	LF6SB-1	LF6SB-4	LF6SB-6
Sample ID		LF6MW-28	LF6MW-29	LF6SB-1-(48-52)	LF6SB-4-(26-30)	LF6SB-6-(25-30)
Date of Collection		5/14/2015	5/15/2015	5/13/2015	5/14/2015	5/15/2015
Sample Depth (ft)				48-52	26-30	25-30
Dilution Factor (-)		1	1	1	1	1
VOCs (ug/L)						
Tetrachloroethene (PCE)	5	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	5	**16**	**9.89**	**42**	**33**	**20.2**
cis-1,2-dichloroethene (cis-1,2-DCE)	5	**4.03**	**1.04**	**138**	**13.4**	**48.4**
trans-1,2-Dichloroethene (trans-1,2-DCE)	5	1 U	1 U	**6.94**	1 U	**0.22 J**
Vinyl Chloride (VC)	2	1 U	1 U	**0.36 J**	1 U	1 U

Sample Location	Site Cleanup Goal[1]	LF6SB-6	LF6SB-7	LF6SB-8
Sample ID		LF6SB-6-(35-40)	LF6SB-7-(27-31)	LF6SB-8-(33-37)
Date of Collection		5/15/2015	5/15/2015	5/15/2015
Sample Depth (ft)		35-40	27-31	33-27
Dilution Factor (-)		1	1	1
VOCs (ug/L)				
Tetrachloroethene (PCE)	5	1 U	1 U	1 U
Trichloroethene (TCE)	5	**50.8**	**25.8**	**19**
cis-1,2-dichloroethene (cis-1,2-DCE)	5	**33.2**	**4.93**	**7.5**
trans-1,2-Dichloroethene (trans-1,2-DCE)	5	**0.2 J**	1 U	1 U
Vinyl Chloride (VC)	2	1 U	1 U	1 U

Notes:
1 - New York State Department of Environmental Conservation Class GA Groundwater Quality Standards
Bold indicates a detection
Highlighted cell indicates an exceedance of the Site Cleanup Goal
U: The analyte was analyzed for, but was not detected above the reported quantitation limit (RL).

APPENDIX A

BORING LOGS

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-0 Page 1 of 1

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		4	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		19	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1340
Date/Time Finish: May 11, 2015/1410

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	SM	0	0-4"-Moist, brown, topsoil, rocks. 4-42"-Moist/wet, dense, brown, fine SAND, some silt	
					1		
					2		
					3		
					4		
MC		36"	0	SM	5	0-28"-Wet, dense, medium brown, fine to medium SAND. 28-36"-Wet, medium dense, medium brown, fine to medium SAND	
					6		
					7		
					8		
					9		
MC		24"	0	SW-ML	10	0-12"-Wet, loose, medium brown, fine to coarse SAND, some fine to medium gravel. 12-24"-Wet, stiff, light brown, SILT, some fine sand, trace medium to fine gravel	
					11		
					12		
					13		
					14		
MC		28"	0	ML/GW	15	0-18"-Wet, very stiff, brown-gray, SILT, some fine sand, trace medium to fine gravel. 18-24"-Wet, loose, brown, fine to coarse GRAVEL and fine to coarse Sand, trace silt. 24-28"-Wet, hard, gray, weathered shale.	
					16		
					17		
					18		
					19		
					20	End of Boring	

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 19'

Soil Samples taken from 9', 16', and 18'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-1 Page 1 of 1

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		20	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1300
Date/Time Finish: May 11, 2015/1335

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		36"	0	SM	0	0-6"-Moist, brown, topsoil, roots. 6-24"-Moist, medium stiff, brown, SILT and fine Sand. 24-36"-Moist, dense, brown, medium to fine SAND.	
					1		
					2		
					3		
					4		
MC		30"	0	SM	5	0-24"-Wet, dense, medium brown, medium to fine SAND. 24-30"-Wet, dense, medium brown, fine to coarse SAND, some medium to find gravel.	
					6		
					7		
					8		
					9		
MC		50"	0	ML	10	0-50"-Wet, medium stiff, brown, SILT and fine Sand, trace coarse gravel.	
					11		
					12		
					13		
					14		
MC		60"	0	GM	15	0-6"-Wet, dense, brown, medium to find SAND. 6-42"-Wet, loose, brown-medium brown, fine to coarse GRAVEL and Silt, some find to coarse sand, little weathered shale. 42-60"-Wet, loose, gray weathered shale, trace fine to coarse gravel.	
					16		
					17		
					18		
					19		
					20	End of Boring	

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 20'

Soil samples taken from 8', 13', and 17'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-2 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		22	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1130
Date/Time Finish: May 11, 2015/1210

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		36"	0	SM	0	0-5"- Wet, soft, brown, topsoil. 5-30"- Wet, medium dense, brown, fine SAND< some silt. 30-36"- Wet, medium dense, medium brown, fine to medium SAND.	
					1		
					2		
					3		
					4		
MC		60"	0	SM	5	0-60"- Wet, dense, medium brown, medium to fine SAND	
					6		
					7		
					8		
					9		
MC		58"	0	ML	10	0-6"- Wet, dense, medium brown, fine to coarse SAND. 6-46"- Wet, stiff, brown, SILT, some fine to coarse sand, some fine to coarse gravel. 46-58"- Wet, loose, gray, weathered shale, little fine to coarse sand, trace silt.	
					11		
					12		
					13		
					14		
MC		60"	0	GM	15	0-50"- Wet, very dense, brown-gray, weathered shale, some fine to coarse gravel, some fine to coarse sand, trace silt. 50-60"- Wet, hard, gray, weathered shale.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 8', 11', and 13'

GW sampels taken from 8-11', 11-14', and 14-17'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-2 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		22	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1130
Date/Time Finish: May 11, 2015/1210

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		6"	0	GW	20	0-6"- Wet, hard, gray, weathered shale.	
					21		
					22		
					23		
					24		
					25	End of Boring	
					26		
					27		
					28		
					29		
					30		
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 22'

Soil samples taken from 8', 11', and 13'

GW sampels taken from 8-11', 11-14', and 14-17'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-3 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		23	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1030
Date/Time Finish: May 11, 2015/1100

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		36"	0	SM	0	0-12"- Moist, brown, topsoil, roots. 12-24"- Moist, brown, medium stiff, SILT and fine Sand. 24-36"- Moist, brown, medium dense, medium to find SAND, trace silt, trace medium to fine gravel.	
					1		
					2		
					3		
					4		
MC		6"	0	SW	5	0-6"- Wet, light brown, dense, fine to coarse SAND and fine to coarse Gravel, trace silt.	
					6		
					7		
					8		
					9		
MC		36"	0	SM	10	0-24"- Wet, dense, medium brown, fine to coarse SAND, little fine to coarse gravel. 24-36"- Wet, dense, medium brown, fine to coarse SAND.	
					11		
					12		
					13		
					14		
MC		50"	0	GM	15	0-3"- Wet, dense, medium brown, fine to coarse SAND, 3-6"- Wet, gray-brown, still, SILT and Clay, some fine to coarse gravel. 6-50"- Wet, gray, very loose, weathered shale and fine Sand.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 14', 16', and 22'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-3 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		23	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1030
Date/Time Finish: May 11, 2015/1100

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		18"	0	ML/GW	20	0-6"- Wet, loose, brown, fine to coarse GRAVEL. 6-14"- Wet, soft, gray, SILT, little clay, little fine sand. 14-18"- Wet, hard, gray, weathered shale	
					21		
					22		
					23		
					24		
					25	End of Boring	
					26		
					27		
					28		
					29		
					30		
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 23'

Soil samples taken from 14', 16', and 22'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-4 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		24	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/0830
Date/Time Finish: May 11, 2015/0920

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		44"	0	SM	0	0-12"- Moist, brown, topsoil, roots. 12-44"- Moist, brown, dense, fine to medium SAND.	
					1		
					2		
					3		
					4		
MC		30"	0	SM	5	0-12"- Wet, brown, dense, medium to fine SAND, trace fine gravel	
					6		
					7		
					8		
					9		
MC		24"	0	SM	10	0-24"- Wet, medium brown, dense, medium to fine SAND	
					11		
					12		
					13		
					14		
MC		50"	0	ML	15	0-6"- Wet, medium brown, dense, medium to fine SAND, 6-10"- Wet, brown, gray, dense, fine SAND, some silt, some clay. 10-44"- Wet, light gray, stiff, SILT and Clay, little fine sand. 44-50"- Wet, hard, dark gray, coarse GRAVEL, some weathered shale.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 12', 17', and 19,5'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-4 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		24	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/0830
Date/Time Finish: May 11, 2015/-0920

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		48"	0	GW	20	0-48"- Wet, gray, loose, weathered shale	
					21		
					22		
					23		
					24		
					25	End of Boring	
					26		
					27		
					28		
					29		
					30		
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 24'

Soil samples taken from 12', 17', and 19,5'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-5 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		10	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		27	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/0940
Date/Time Finish: May 11, 2015/1015

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	ML	0	0-18"- Moist, brown, topsoil, roots. 18-36"- Moist,medium stiff, brown, SILT and fine Sand. 36-42"- Moist, medium stiff, light brown-light orange, SILT and fine Sand.	
					1		
					2		
					3		
					4		
MC		40"	0	SM	5	0-3"- Moist, medium dense, brown, fine SAND, some silt. 3-40"- Moist, medium dense, medium brown, fine SAND.	
					6		
					7		
					8		
					9		
MC		36"	0	SM	10	0-18"- Wet, medium dense, medium brown, fine SAND. 18-36"- Wet, medium dense, medium brown, fine to medium SAND.	
					11		
					12		
					13		
					14		
MC		50"	0	SM	15	0-50"- Wet, medium dense, medium brown, medium to fine SAND.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 13', 24', and 25'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-5 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		10	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		27	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/0940
Date/Time Finish: May 11, 2015/1015

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		40"	0	SM	20	0-18"- Wet, medium dense, medium brown, medium to fine SAND. 18-30"- Wet, loose, medium brown, fine to coarse GRAVEL and fine to coarse Sand. 30-35"- Wet, stiff, gray-brown, SILT and Clay, trace fine to coarse gravel, trace medium to fine sand.	
					21		
					22		
					23		
					24		
MC		12"	0	GW	25	0-12"- Wet, loose, gray, weathered shale.	
					26		
					27		
					28		
					29		
					30	End of Boring	
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 27'

Soil samples taken from 13', 24', and 25'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-6 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		10	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		27	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/0955
Date/Time Finish: May 12, 2015/1030

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	SM	0	0-12"- Moist, brown, topsoil. 12-36"- Moist, dense, light brown, fine SAND and Silt, trace coarse gravel. 36-42"- Moist, dense, brown, fine SAND.	
					1		
					2		
					3		
					4		
MC		36"	0	SM	5	0-18"- Moist, dense, brown, fine SAND. 18-36"- Moist, medium dense, brown, medium to fine SAND.	
					6		
					7		
					8		
					9		
MC		38"	0	SM	10	0-38"- Wet, medium dense, brown, medium to fine SAND.	
					11		
					12		
					13		
					14		
MC		30"	0	SM	15	0-24"- Wet, medium dense, brown, medium to fine SAND, trace silt. 24-30"- Wet, medium dense, medium brown, fine to coarse SAND.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 12', 21', and 24'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-1-6 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		10	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		27	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/0955
Date/Time Finish: May 12, 2015/1030

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		28"	0	GM	20	0-10"- Wet, medium dense, brown, fine to coarse SAND, little coarse gravel, little silt. 10-14"- Wet, loose, gray, weathered rock. 14-26"- Wet, dense, brown-gray, weathered rock, some silt. 26-28"- Wet, soft, gray, SILT, some clay, some fine to coarse gravel.	
					21		
					22		
					23		
					24		
MC		18"	0	GM	25	0-18"- Wet, loose, gray, weathered shale and Silt, some fine to coarse sand.	
					26		
					27		
					28		
					29		
					30	End of Boring	
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 27'

Soil samples taken from 12', 21', and 24'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-2-1 Page 1 of 1

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS

Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		19.5	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1540
Date/Time Finish: May 11, 2015/1555

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		35"	0	SM	0	0-8"- Moist, soft, brown, topsoil, roots. 8-35"- Very moist, dense, brown, medium to fine SAND, trace silt in bottom 2".	
					1		
					2		
					3		
					4		
MC		36"	0	SM	5	0-36"- Wet, dense, brown, medium to fine SAND, trace silt.	
					6		
					7		
					8		
					9		
MC		36"	0	ML	10	0-24"- Wet, stiff, brown, SILT, some clay, trace fine sand. 24-36"- Wet, stiff, brown, SILT, some fine to coarse gravel, little clay, little fine sand.	
					11		
					12		
					13		
					14		
MC		24"	0	GM	15	0-6"- Wet, loose, brown, fine to coarse GRAVEL, some fine to coarse sand, little silt, trace weathered shale. 6-24"- Wet, loose, gray, weathered shale.	
					16		
					17		
					18		
					19		
					20	End of Boring	

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 19.5'

Soil samples taken from 8', 13', and 17'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-2-5 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		6	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		24.5	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/1345
Date/Time Finish: May 12, 2015/1415

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		48"	0	SM	0	0-10"- Moist,, dark brown, topsoil. 10-48"- Moist, dense, brown, fine SAND, some medium sand.	
					1		
					2		
					3		
					4		
MC		24"	0	SM	5	0-12"- Moist, dense, brown, fine SAND, some medium sand. 12-24"- Wet, medium dense, medium brown, fine to medium SAND.	
					6		
					7		
					8		
					9		
MC		40"	0	SW	10	0-3"- Wet, medium dense, medium brown, fine to medium SAND. 3-5"- Wet, medium dense, medium brown, fine to coarse SAND. 5-10"- Wet, loose, medium brown, fine to coarse GRAVEL, some fine to coarse sand. 10-40"- Wet, medium dense, medium brown, fine to coarse SAND.	
					11		
					12		
					13		
					14		
MC		42"	0	GM	15	0-6"-Wet, medium dense, medium brown, fine to coarse SAND. 6-42"- Wet, loose, medium brown, fine to coarse GRAVEL and fine to coarse Sand.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 15', 20', and 23'

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PARSONS
DRILLING RECORD

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

BORING/ WELL NO. VT-2-5 Page 2 of 2
Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		6	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		24.5	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/1345
Date/Time Finish: May 12, 2015/1415

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	ML	20	0-30"- Wet, stiff, medium gray, SILT and Clay, some fine to coarse gravel, little weathered shale. 30-42"- Wet, loose, gray, weathered shale.	
					21		
					22		
					23		
					24		
					25	End of Boring	
					26		
					27		
					28		
					29		
					30		
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD
MC=Macrocore

COMMENTS:
Refusal at 24.5'
Soil samples taken from 15', 20', and 23'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-3-3 Page 1 of 1

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		22.5	ft bls
Additional Comments:			

Date/Time Start: May 11, 2015/1610
Date/Time Finish: May 11, 2015/1630

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		40"	0	ML	0	0-6"- Moist, dark brown, topsoil, roots. 6-12"- Moist, stiff, brown, SILT, some fine sand, little coarse gravel. 12-40"- Very moist, stiff, brown, SILT and fine Sand.	
					1		
					2		
					3		
					4		
MC		50"	0	SM	5	0-12"- Wet, stiff, brown, SILT, some fine to coarse gravel, trace fine sand, trace clay. 12-16"- Wet, loose, gray, coarse GRAVEL. 16-50"- Wet, dense, medium brown, medium to fine SAND.	
					6		
					7		
					8		
					9		
MC		36"	0	ML	10	0-36"- Wet, dense,medium brown, medium to fine SAND.	
					11		
					12		
					13		
					14		
MC		50"	0	SM	15	0-45"- Wet, dense, medium brown, medium to fine SAND. 45-50"- Wet, loose, gray-brown, weathered rock, some silt, some fine to coarse gravel, trace fine to coarse sand.	
					16		
					17		
					18		
					19		
					20	End of Boring	

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 22.5'. 20-25' core was not observed due to storms approaching.

Soil samples taken from 9', 14', and 19'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-3-4 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		22	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/0815
Date/Time Finish: May 12, 2015/0845

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	SM	0	0-2"- Dry, gray, asphalt. 2-30"- Moist, medium dense, light brown, fine SAND. 30-42"- Moist, medium dense, medium brown, medium to fine SAND.	
					1		
					2		
					3		
					4		
MC		30"	0	SM	5	0-30"- Wet, medium dense, medium brown, fine to coarse SAND.	
					6		
					7		
					8		
					9		
MC		36"	0	SM	10	0-36"- Wet, medium dense, brown, fine to coarse SAND.	
					11		
					12		
					13		
					14		
MC		26"	0	SM	15	0-14"- Wet, medium dense, medium brown, fine to coarse SAND. 14-22"- Wet, stiff, brown, SILT, some fine to medium gravel, little fine sand. 22-26"- Wet, loose, gray-light gray, fine to coarse GRAVEL, some silt, trace clay, trace weathered rock.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 9', 14', and 20'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-3-4 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		5	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		22	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/0815
Date/Time Finish: May 12, 2015/0845

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		18"	0	GW	20	0-18"- Wet, loose, gray, weathered shale, little silt and fine to coarse sand.	
					21		
					22		
					23		
					24		
					25	End of Boring	
					26		
					27		
					28		
					29		
					30		
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 22'

Soil samples taken from 9', 14', and 20'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-3-5 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		7	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		28.5	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/0850
Date/Time Finish: May 12, 2015/0930

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		30"	0	SM	0	0-4"- Dry, gray, asphalt. 4-30"- Moist, dense, brown, fine SAND, trace silt.	
					1		
					2		
					3		
					4		
MC		36"	0	SM	5	0-18"- Moist, dense, brown, fine SAND. 18-36"- Wet, medium brown,, medium dense, medium to fine SAND.	
					6		
					7		
					8		
					9		
MC		48"	0	SM	10	0-48"- Wet, medium dense, medium brown, medium to fine SAND, trace silt.	
					11		
					12		
					13		
					14		
MC		42"	0	GM	15	0-12"- Wet, medium dense, medium brown, fine to coarse SAND, some fine to coarse gravel. 12-40"- Wet, loose, medium brown, fine to coarse GRAVEL, some coarse sand. 40-42"- Wet, dense, medium brown, coarse SAND, some fine gravel.	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 13', 21', and 24'

PARSONS

DRILLING RECORD

BORING/ WELL NO. VT-3-5 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss B817
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		7	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		28.5	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/0850
Date/Time Finish: May 12, 2015/0930

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		48"	0	ML	20	0-3"- Wet, dense, medium brown, coarse SAND. 3-18"- Wet, very stiff, brown, SILT, some clay, some coarse gravel. 18-48"- Wet, soft, light gray, SILT, some coarse gravel, little clay, little fine to coarse sand.	
					21		
					22		
					23		
					24		
MC		30"	0	GM	25	0-20"- Wet, dense, gray, weathered shale, some fine to coarse sand. 20-30"-Dry, dense, light gray, weathered shale.	
					26		
					27		
					28		
					29		
					30		
					31		
					32		
					33		
					34		
					35		
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 28.5'

Soil samples taken from 13', 21', and 24'

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-1 Page 1 of 3

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		60	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/1515
Date/Time Finish: May 13, 2015/1200

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	SM	0	0-4"- Wet, dark brown, topsoil roots. 4-14"- Wet, dense, light gray, fine SAND, some silt. 14-42"- Wet, dense, light brown, fine SAND.	
					1		
					2		
					3		
					4		
MC		60"	0	SM	5	0-48"- Wet, medium dense, light brown, fine SAND and Silt. 48-60"-Wet, medium dense, light brown, fine SAND, some medium sand.	
					6		
					7		
					8		
					9		
MC		60"	0	SM	10	0-12"- Wet, medium dense, light brown, fine SAND and Silt. 12-24"-Wet, loose, medium brown, fine to coarse GRAVEL, some fine sand. 24-32"- Wet, stiff, brown, SILT, some coarse gravel, little clay. 32-60"- Wet, dense, gray, medium to find SAND, little fine gravel.	
					11		
					12		
					13		
					14		
MC		60"	0	SM	15	0-60"- Wet, medium dense, medium-light gray, fine to coarse SAND, trace fine gravel in last 4".	
					16		
					17		
					18		
					19		
					20		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil Samples taken at 20', 40', 45', 50-55', 55', 56', and 60'.

GW Sample taken from 50'.

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PARSONS
DRILLING RECORD

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

BORING/ WELL NO. LF6SB-1 Page 2 of 3
Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		60	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/1515
Date/Time Finish: May 13, 2015/1200

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		42"	0	SW	20	0-12"- Wet, loose, medium brown, fine to coarse GRAVEL. 12-30"- Wet, medium dense, medium brown, fine to coarse SAND and medium to fine Gravel. 30-42"- Wet, medium dense, medium brown, fine to coarse SAND.	
					21		
					22		
					23		
					24		
MC		60"	0.1	SW	25	0-12"- Wet, dense, medium brown, fine to coarse SAND. 12-18"- Wet, loose, medium brown, fione to coarse GRAVEL, some fine to coarse sand. 18-60"- Wet, very dense, medium brown, fine to coarse SAND, some cobbles, some fine to coarse gravel.	
					26		
					27		
					28		
					29		
MC		60"	0.1	SW	30	0-36"- Wet, very dense, brown, medium to coarse SAND, little cobbles, little fine to coarse gravel. 36-60"- Wet, very dense, medium gray, medium to fine SAND, some fine to coarse gravel.	
					31		
					32		
					33		
					34		
MC		60"	1.2	SW	35	0-42"- Wet, dense, gray, fine to coarse SAND and fine to coarse Gravel, injection oil odor. 42-60"- Wet, dense, gray, fine to coarse SAND and fine to coarse Gravel, some silt, injection oil odor.	
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD
MC=Macrocore

COMMENTS:
Soil Samples taken at 20', 40', 45', 50-55', 55', 56', and 60'.
GW Sample taken from 50'.

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-1 Page 3 of 3

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description: East of B817

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		1	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		60	ft bls
Additional Comments:			

Date/Time Start: May 12, 2015/1515
Date/Time Finish: May 13, 2015/1200

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		60"	0.4	SM	40	0-36"- Wet, dense, light gray-brown, coarse SAND, some medium sand. 36-40"- Wet, loose, light brown, fine to coarse GRAVEL, some coarse sand. 40-60"- Wet, dense, light gray-light brown, medium SAND, some coarse sand, little fine sand, trace silt.	
					41		
					42		
					43		
					44		
MC		48"	1.8	SW	45	0-48"- Wet, dense, light gray-light brown, coarse SAND, some medium sand in bottom 4".	
					46		
					47		
					48		
					49		
MC		NA	0.2	SW	50	Wet, dense, light gray-gray, fine to coarse SAND, trace coarse sand, trace cobbles. (core got stuck in core barrel, took composite sample from material that fell out).	
					51		
					52		
					53		
					54		
MC		60"	0	GW	55	0-12"- Wet, dense, gray, coarse SAND. 12-24"- Wet, loose, gray-brown, fine to coarse GRAVEL, some coarse sand. 24-60"- Wet, very dense, gray, fine to coarse GRAVEL and fine to coarse Sand.	
					56		
					57		
					58		
					59		
					60	End of Boring	

SAMPLING METHOD
MC=Macrocore

COMMENTS:
Soil Samples taken at 20', 40', 45', 50-55', 55', 56', and 60'.
GW Sample taken from 50'.

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-2 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		NA	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		58	ft bls
Additional Comments:			

Date/Time Start: May 13, 2015/1330
Date/Time Finish: May 14, 2015/0915

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
					0	No cores taken 0-35'.	
MC		60"	0.2	GW	35	0-60"- Wet, dense, gray, fine to coarse GRAVEL, some coarse sand, some cobbles.	
					36		
					37		
					38		
					39		
MC		42"	0.5		40	0-4"- Wet, dense, gray, fine to coarse GRAVEL and coarse Sand. 4-38"- Wet, medium dense, gray, fine to coarse GRAVEL, little cobbles, little coarse sand. 38-42"- Wet, dense, gray, fine to coarse SAND, trace coarse gravel	
					41		
					42		
					43		
					44		
MC		45"	0.1	SM	45	0-40"- Wet, dense, gray-brown, fine SAND, trace silt. 40-45"- Wet, dense, gray-brown, fine to medium SAND, some cobbles, some coarse sand.	
					46		
					47		
					48		
					49		
					50		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil Samples taken from 40', 41', 45', 46', 50', 54', 56', and 58'.

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-2 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		NA	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		58	ft bls
Additional Comments:			

Date/Time Start: May 13, 2015/1330
Date/Time Finish: May 14, 2015/0915

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		36"	0	SW	50	0-36"- Wet, medium dense,gray, coarse SAND, some coarse gravel, trace medium sand	
					51		
					52		
					53		
					54		
MC		36"	0.2	SW	55	0-10"- Wet, dense, gray, coarse SAND, trace fine to coarse gravel. 10-36"- Wet, dense, gray, coarse SAND and coarse Gravel, trace silt in last 2".	
					56		
					57		
					58		
					59		
					60	End of Boring	
					61		
					62		
					63		
					64		
					65		
					66		
					67		
					68		
					69		
					70		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 58'
Soil Samples taken from 40', 41', 45', 46', 50', 54', 56', and 58'.

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-3 Page 1 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		NA	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		60	ft bls
Additional Comments:			

Date/Time Start: May 14, 2015/0930
Date/Time Finish: May 14, 2015/1220

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
					0	No cores taken 0-35'.	
MC		60"	0	SW	35	0-48"- Wet, dense,brown-gray, medium to coarse SAND. 48-60"- Wet, dense, brown-gray, medium to coarse SAND, little fine gravel.	
					36		
					37		
					38		
					39		
MC		55"	0	GW	40	0-24"- Wet, dense, gray-brown, medium to coarse SAND, trace fine gravel. 24-55"- Wet, loose, brown-gray, fine to coarse GRAVEL	
					41		
					42		
					43		
					44		
MC		48"	0	SW	45	0-18"- Wet, dense, brown,. Fine to coarse SAND. 18-30"- Wet, loose, brown, fine to coarse GRAVEL, little fine to coarse SAND. 30-48"- Wet, dense, brown, fine to medium SAND, trace silt.	
					46		
					47		
					48		
					49		
					50		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 40', 42', 45', 50', 51', 55', 56', and 59'

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-3 Page 2 of 2

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		NA	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		60	ft bls
Additional Comments:			

Date/Time Start: May 14, 2015/0930
Date/Time Finish: May 14, 2015/1220

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
MC		55"	0	SM	50	0-55"- Wet, very dense, brown, fine SAND, little silt.	
					51		
					52		
					53		
					54		
MC		60"	0.2	SM/SW	55	0-12"- Wet, dense, brown, medium to coarse SAND. 12-30"- Wet, dense, brown, coarse SAND and coarse Gravel. 30-48"- Wet, dense, brown, fine SAND and Silt. 48-60"- Wet, dense, brown, fine SAND.	
					56		
					57		
					58		
					59		
					60	End of Boring	
					61		
					62		
					63		
					64		
					65		
					66		
					67		
					68		
					69		
					70		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Soil samples taken from 40', 42', 45', 50', 51', 55', 56', and 59'

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-5 Page 1 of 1

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		NA	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		34	ft bls
Additional Comments:			

Date/Time Start: May 14, 2015/1545
Date/Time Finish: May 14, 2015/1730

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
					0	No cores taken 0-25'.	
MC		48"	0	GW	25	0-48"- Wet, loose, brown, fine to coarse GRAVEL, some cobbles.	
					26		
					27		
					28		
					29		
MC		50"	0	SW	30	0-45"- Wet, loose, brown, fine to coarse GRAVEL, some cobbles, some fine to coarse sand. 45-50"- Wet, very dense, brown, medium to fine SAND, some coarse sand.	
					31		
					32		
					33		
					34		
					35	End of Boring	
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Refusal at 34'

Soil sample taken at 34'

PARSONS

DRILLING RECORD

BORING/ WELL NO. LF6SB-6 Page 1 of 1

Contractor: Stone Environmental
Driller: Dan Byrne
Oversight: Allison Jordan
Rig Type: Geoprobe

PROJECT NAME: Griffiss Landfill 6
PROJECT Location: Rome, NY

Location Description:

Location Plan

GROUNDWATER OBSERVATIONS			
Apparent Borehole DTW:		NA	ft bls
Measured Water Level:		NA	ft bls
Total Depth of Boring:		35	ft bls
Additional Comments:			

Date/Time Start: May 14, 2015/1545
Date/Time Finish: May 14, 2015/1730

Sample Type	SPT	Recovery	PID	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL	COMMENTS
					0	No cores taken 0-25'.	
MC		48"	0	SW	25	0-6"- Wet, dense, brown, fine to coarse SAND, some fine to coarse gravel. 6-42"- Wet, loose, brown, fine to coarse GRAVEL, some cobbles. 42-48"- Wet, dense, brown, fine to coarse SAND, little fine gravel.	
					26		
					27		
					28		
					29		
MC		48"	0.3	GW	30	0-48"- Wet, loose, gray, fine to coarse GRAVEL, some fine to coarse SAND, some cobbles.	
					31		
					32		
					33		
					34		
					35	End of Boring	
					36		
					37		
					38		
					39		
					40		

SAMPLING METHOD

MC=Macrocore

COMMENTS:

Lost core barrel at 40'

Soil samples taken from 30' and 35'

GW samples taken from 25-30' and 30-35'

APPENDIX B

LABORATORY DATA

Final Data Report for Laboratory Services

PREPARED FOR: PARSONS

SITE ID: GRIFFISS AIR FORCE BASE, ROME, NY

Stone Project ID: 14-152

MobiLab™
DEFENSIBLE REAL-TIME ANALYTICS

DATES OF PERFORMANCE: May 11 - 15, 2015 (SDG-2)
REPORT DATE: May 25, 2015

Prepared for:

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MobiLab™

DEFENSIBLE REAL-TIME ANALYTICS

STONE ENVIRONMENTAL, INC. LABORATORY

NARRATIVE

May 25, 2015

This data package presents the analytical results for soil and water samples collected by Parsons and analyzed by Stone Environmental, Inc. Laboratory (Stone Mobilab Unit #2) at the Griffiss Air Force Base Site in Rome, New York between May 11 and 15, 2015. A total of 68 soil samples and 11 water samples are reported in this sample delivery group (SDG-2). These total sample numbers include 1 soil field duplicate and 1 soil matrix spike / matrix spike duplicate (MS/MSD) pair.

For each soil sample, approximately 10 g of soil was collected and preserved in 10 mL of methanol in a prepared 40 mL vial. Samples were hand delivered to the onsite laboratory immediately after collection; therefore, sample receipt temperatures were not measured. Copies of the chains of custody (COCs) as well as a summary of samples logged into Stone's laboratory information management system (LIMS) are included in the Sample Login Summary Section of this report. A summary of soil sample weight data is also included in this section. Soil samples were analyzed at a default 40x dilution (i.e., 0.5 mL of sample methanol added to water for a total volume of 20 mL). Water sample results are reported in units of µg/L. Soil sample results are reported in units of µg/kg on a wet weight basis.

Samples were analyzed by EPA SW846 Method 8260C (gas chromatography / mass spectrometry (GC/MS)) set in selective ion monitoring (SIM) mode for 5 target compounds in accordance with Stone's Standard Operating Procedure (SOP) SEI-10.15.11, "The Determination of Volatile Organic Compounds By GC/MS (SW846 USEPA Method 8260C)". Stone's Method 8260C (GC/MS) is accredited under the National Environmental Laboratory Accreditation Program (NELAP) and ISO/IEC 17025:2005 (ISO 17025). The analytical results associated with the samples presented in this report were generated under a quality system that adheres to requirements specified in the NELAP and ISO 17025 standards. All QA/QC results associated with these data were found to be within the tolerances set forth in SOP SEI-10.15.11 and NELAP and ISO 17025 standards with the exceptions noted below:

- Initial calibration (ICAL) Deficiencies:
    - No deficiencies.

- Continuing Calibration Verification (VSTD) Sample Deficiencies:
    - The percent difference (%D) value for vinyl chloride (28%) was outside acceptance limits of ±20% for VSTD AL analyzed on May 11, 2015. Affected samples were not reanalyzed. There were no positive detections of this compound in any of the samples analyzed in the affected batch. However, since the recovery indicated a low bias, all vinyl chloride sample results reported from this analytical batch were flagged with the Q qualifier.
- Laboratory Control Sample (LCS) Deficiencies:
    - Percent recovery for vinyl chloride (69%) was marginally low (i.e., <70%) for soil LCS AL analyzed on May 11, 2015. Affected samples were not reanalyzed. There were no positive detections of this compound in any of the samples analyzed in the affected batch. However, since the recovery indicated a low bias, all vinyl chloride sample results reported from this analytical batch were flagged with the Q qualifier.
- Volatile Method Blank (VBLK) Deficiencies:
    - No deficiencies.
- Matrix Spike / Matrix Spike Duplicate (MS/MSD) Deficiencies:
    - Recoveries of trichloroethene (TCE) in the MS and MSD samples associated with parent sample VT-1-1-17 were marginally low (69% and 68%, respectively). Therefore, the TCE result for the parent sample was flagged with the J qualifier.
- Internal Standard (IS) and Surrogate Standard (SS) Deficiencies:
    - No deficiencies.

When applicable, the final results were annotated with the following codes:

U - The analyte was analyzed for, but was not detected above the reported quantitation limit.

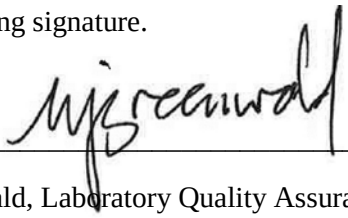
J - The analyte was positively identified; the associated numerical value is between the MDL and RL and is, therefore, an estimated concentration of the analyte in the sample.

Q - The value is estimated due to one or more quality control failures for that compound.

B - Indicates the analyte was found in the associated laboratory blank as well as the sample.

E - Estimated value, marginally above the calibration levels.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: 

Morgan Greenwald, Laboratory Quality Assurance Manager, Stone Environmental, Inc.

SAMPLE LOGIN SUMMARY

Sample Login Summary

Chains of Custody

Sample Weight Summary

14-152 Parsons Griffiss Air Force Base
Sample Login Summary
SDG-2

Lab ID	Location ID	Matrix	Sample Name	Sample Code	Quantity	Collected By	Collected Date	Collected Time	Collection Method	Received By	Received Date	Received Time	Lab ID Parent	Comments
SEI-1	VT-1	Soil	VT-1-4-12	Normal Sample	1	AS	5/11/2015	9:30:00 AM	Grab	HK	5/11/2015	9:45:00 AM		
SEI-2	VT-1	Soil	VT-1-4-17	Normal Sample	1	AS	5/11/2015	9:30:00 AM	Grab	HK	5/11/2015	9:45:00 AM		
SEI-3	VT-1	Soil	VT-1-4-19.5	Normal Sample	1	AS	5/11/2015	9:30:00 AM	Grab	HK	5/11/2015	9:45:00 AM		
SEI-4	VT-1	Soil	VT-1-5-13	Normal Sample	1	AS	5/11/2015	10:20:00 AM	Grab	HK	5/11/2015	10:30:00 AM		
SEI-5	VT-1	Soil	VT-1-5-24	Normal Sample	1	AS	5/11/2015	10:20:00 AM	Grab	HK	5/11/2015	10:30:00 AM		
SEI-6	VT-1	Soil	VT-1-5-25	Normal Sample	1	AS	5/11/2015	10:20:00 AM	Grab	HK	5/11/2015	10:30:00 AM		
SEI-7	VT-1	Soil	VT-1-3-14	Normal Sample	1	AS	5/11/2015	10:45:00 AM	Grab	HK	5/11/2015	11:10:00 AM		
SEI-8	VT-1	Soil	VT-1-3-16	Normal Sample	1	AS	5/11/2015	11:00:00 AM	Grab	HK	5/11/2015	11:10:00 AM		
SEI-9	VT-1	Soil	VT-1-3-22	Normal Sample	1	AS	5/11/2015	11:00:00 AM	Grab	HK	5/11/2015	11:10:00 AM		
SEI-10	VT-1	Soil	VT-1-2-9	Normal Sample	1	AS	5/11/2015	11:35:00 AM	Grab	HK	5/11/2015	12:05:00 PM		
SEI-11	VT-1	Soil	VT-1-2-11	Normal Sample	1	AS	5/11/2015	11:45:00 AM	Grab	HK	5/11/2015	12:10:00 PM		
SEI-12	VT-1	Soil	VT-1-2-13	Normal Sample	1	AS	5/11/2015	11:45:00 AM	Grab	HK	5/11/2015	12:10:00 PM		
SEI-13	VT-1	Soil	VT-1-0-FD	Field Duplicate	1	AS	5/11/2015	1:50:00 PM	Grab	HK	5/11/2015	2:15:00 PM		
SEI-14	VT-1	Soil	VT-1-0-9	Normal Sample	1	AS	5/11/2015	1:50:00 PM	Grab	HK	5/11/2015	2:15:00 PM		
SEI-15	VT-1	Soil	VT-1-0-16	Normal Sample	1	AS	5/11/2015	2:10:00 PM	Grab	HK	5/11/2015	2:15:00 PM		
SEI-16	VT-1	Soil	VT-1-0-18	Normal Sample	1	AS	5/11/2015	2:10:00 PM	Grab	HK	5/11/2015	2:35:00 PM		
SEI-17	VT-1	Soil	VT-1-1-8	Normal Sample	1	AS	5/11/2015	1:10:00 PM	Grab	HK	5/11/2015	2:35:00 PM		
SEI-18	VT-1	Soil	VT-1-1-13	Normal Sample	1	AS	5/11/2015	1:20:00 PM	Grab	HK	5/11/2015	2:35:00 PM		
SEI-19	VT-1	Soil	VT-1-1-17	Normal Sample	1	AS	5/11/2015	1:30:00 PM	Grab	HK	5/11/2015	2:35:00 PM	SEI-19	
SEI-19-MS	VT-1	Soil	VT-1-1-17-MS	Matrix Spike	1	AS	5/11/2015	4:00:00 PM	Grab	HK	5/11/2015	5:10:00 PM	SEI-19	
SEI-19-MSD	VT-1	Soil	VT-1-1-17-MSD	Matrix Spike Duplicate	1	AS	5/11/2015	4:00:00 PM	Grab	HK	5/11/2015	5:10:00 PM	SEI-19	
SEI-22	VT-3	Soil	VT-3-3-9	Normal Sample	1	AS	5/11/2015	4:15:00 PM	Grab	HK	5/11/2015	5:10:00 PM		
SEI-23	VT-3	Soil	VT-3-3-14	Normal Sample	1	AS	5/11/2015	4:20:00 PM	Grab	HK	5/11/2015	5:10:00 PM		
SEI-24	VT-3	Soil	VT-3-3-19	Normal Sample	1	AS	5/11/2015	4:30:00 PM	Grab	HK	5/11/2015	5:10:00 PM		
SEI-25	VT-2	Soil	VT-2-1-13	Normal Sample	1	AS	5/11/2015	3:50:00 PM	Grab	HK	5/11/2015	5:10:00 PM		
SEI-26	VT-2	Soil	VT-2-1-8	Normal Sample	1	AS	5/11/2015	3:45:00 PM	Grab	HK	5/11/2015	5:10:00 PM		
SEI-27	VT-2	Soil	VT-2-1-17	Normal Sample	1	AS	5/11/2015	4:00:00 PM	Grab	HK	5/11/2015	5:10:00 PM		
SEI-28	VT-3	Soil	VT-3-4-9	Normal Sample	1	AS	5/12/2015	8:25:00 AM	Grab	HK	5/12/2015	9:15:00 AM		
SEI-29	VT-3	Soil	VT-3-4-14	Normal Sample	1	AS	5/12/2015	8:30:00 AM	Grab	HK	5/12/2015	9:15:00 AM		
SEI-30	VT-3	Soil	VT-3-4-20	Normal Sample	1	AS	5/12/2015	8:35:00 AM	Grab	HK	5/12/2015	9:15:00 AM		
SEI-31	VT-3	Soil	VT-3-5-13	Normal Sample	1	AS	5/12/2015	9:05:00 AM	Grab	HK	5/12/2015	9:35:00 AM		
SEI-32	VT-3	Soil	VT-3-5-21	Normal Sample	1	AS	5/12/2015	9:25:00 AM	Grab	HK	5/12/2015	9:35:00 AM		
SEI-33	VT-3	Soil	VT-3-5-24	Normal Sample	1	AS	5/12/2015	9:25:00 AM	Grab	HK	5/12/2015	9:35:00 AM		
SEI-34	VT-1	Soil	VT-1-6-12	Normal Sample	1	AS	5/12/2015	10:05:00 AM	Grab	HK	5/12/2015	11:05:00 AM		
SEI-35	VT-1	Soil	VT-1-6-21	Normal Sample	1	AS	5/12/2015	10:25:00 AM	Grab	HK	5/12/2015	11:05:00 AM		
SEI-36	VT-1	Soil	VT-1-6-24	Normal Sample	1	AS	5/12/2015	10:25:00 AM	Grab	HK	5/12/2015	11:05:00 AM		
SEI-37	VT-1-GW	GW	VT-1-2-(8-11)	Normal Sample	2	AS	5/12/2015	11:55:00 AM	Grab	HK	5/12/2015	12:34:00 PM		
SEI-38	VT-1-GW	GW	VT-1-2-(11-14)	Normal Sample	2	AS	5/12/2015	12:10:00 PM	Grab	HK	5/12/2015	12:34:00 PM		
SEI-39	VT-1-GW	GW	VT-1-2-(14-17)	Normal Sample	2	AS	5/12/2015	1:15:00 PM	Grab	HK	5/12/2015	1:33:00 PM		
SEI-40	VT-2	Soil	VT-2-5-15	Normal Sample	1	AS	5/12/2015	1:55:00 PM	Grab	HK	5/12/2015	2:21:00 PM		
SEI-41	VT-2	Soil	VT-2-5-20	Normal Sample	1	AS	5/12/2015	2:10:00 PM	Grab	HK	5/12/2015	2:21:00 PM		
SEI-42	VT-2	Soil	VT-2-5-23	Normal Sample	1	AS	5/12/2015	2:10:00 PM	Grab	HK	5/12/2015	2:21:00 PM		
SEI-43	LF6SB	Soil	LF6SB-1-20	Normal Sample	1	AS	5/12/2015	3:50:00 PM	Grab	HK	5/12/2015	5:40:00 PM		
SEI-44	LF6SB	Soil	LF6SB-1-40	Normal Sample	1	AS	5/12/2015	5:20:00 PM	Grab	HK	5/12/2015	5:40:00 PM		
SEI-45	LF6SB	Soil	LF6SB-1-40a	Normal Sample	1	AS	5/13/2015	9:10:00 AM	Grab	HK	5/13/2015	11:49:00 AM		
SEI-46	LF6SB	Soil	LF6SB-1-45	Normal Sample	1	AS	5/13/2015	10:05:00 AM	Grab	HK	5/13/2015	11:49:00 AM		
SEI-47	LF6SB	Soil	LF6SB-1-46	Normal Sample	1	AS	5/13/2015	10:40:00 AM	Grab	HK	5/13/2015	11:49:00 AM		
SEI-48	LF6SB	Soil	LF6SB-1-50	Normal Sample	1	AS	5/13/2015	10:40:00 AM	Grab	HK	5/13/2015	11:49:00 AM		
SEI-49	LF6SB	Soil	LF6SB-1-55	Normal Sample	1	AS	5/13/2015	11:10:00 AM	Grab	HK	5/13/2015	12:41:00 PM		

14-152 Parsons Griffiss Air Force Base
Sample Login Summary
SDG-2

Lab ID	Location ID	Matrix	Sample Name	Sample Code	Quantity	Collected By	Collected Date	Collected Time	Collection Method	Received By	Received Date	Received Time	Lab ID Parent	Comments
SEI-50	LF6SB	Soil	LF6SB-1-50-55	Normal Sample	1	AS	5/13/2015	11:35:00 AM	Grab	HK	5/13/2015	12:41:00 PM		
SEI-51	LF6SB	Soil	LF6SB-1-56	Normal Sample	1	AS	5/13/2015	12:10:00 PM	Grab	HK	5/13/2015	12:41:00 PM		
SEI-52	LF6SB	Soil	LF6SB-1-60	Normal Sample	1	AS	5/13/2015	12:10:00 PM	Grab	HK	5/13/2015	12:41:00 PM		
SEI-53	LF6SB	Soil	LF6SB-2-40	Normal Sample	1	AS	5/13/2015	2:15:00 PM	Grab	HK	5/13/2015	4:40:00 PM		
SEI-54	LF6SB	Soil	LF6SB-2-41	Normal Sample	1	AS	5/13/2015	4:10:00 PM	Grab	HK	5/13/2015	4:40:00 PM		
SEI-55	LF6SB	Soil	LF6SB-2-45	Normal Sample	1	AS	5/13/2015	4:10:00 PM	Grab	HK	5/13/2015	4:40:00 PM		
SEI-56	LF6SB-GW	GW	LF6SB-1-(48-52)	Normal Sample	2	AS	5/13/2015	3:05:00 PM	Grab	HK	5/13/2015	4:40:00 PM		
SEI-57	LF6SB	Soil	LF6SB-2-46	Normal Sample	1	AS	5/13/2015	4:40:00 PM	Grab	HK	5/13/2015	5:41:00 PM		
SEI-58	LF6SB	Soil	LF6SB-2-50	Normal Sample	1	AS	5/13/2015	4:40:00 PM	Grab	HK	5/13/2015	5:41:00 PM		
SEI-59	LF6SB	Soil	LF6SB-2-54	Normal Sample	1	AS	5/13/2015	5:40:00 PM	Grab	HK	5/13/2015	5:41:00 PM		
SEI-60	LF6SB	Soil	LF6SB-2-56	Normal Sample	1	AS	5/14/2015	9:10:00 AM	Grab	HK	5/14/2015	9:53:00 AM		
SEI-61	LF6SB	Soil	LF6SB-2-58	Normal Sample	1	AS	5/14/2015	9:10:00 AM	Grab	HK	5/14/2015	9:53:00 AM		
SEI-62	LF6SB	Soil	LF6SB-3-40	Normal Sample	1	AS	5/14/2015	10:00:00 AM	Grab	HK	5/14/2015	10:58:00 AM		
SEI-63	LF6SB	Soil	LF6SB-3-42	Normal Sample	1	AS	5/14/2015	10:30:00 AM	Grab	HK	5/14/2015	10:58:00 AM		
SEI-64	LF6MW	GW	LF6MW-28	Normal Sample	2	AS	5/14/2015	10:05:00 AM	Grab	HK	5/14/2015	10:58:00 AM		
SEI-65	LF6SB	Soil	LF6SB-3-45	Normal Sample	1	AS	5/14/2015	11:20:00 AM	Grab	HK	5/14/2015	12:48:00 PM		
SEI-66	LF6SB	Soil	LF6SB-3-50	Normal Sample	1	AS	5/14/2015	11:20:00 AM	Grab	HK	5/14/2015	12:48:00 PM		
SEI-67	LF6SB	Soil	LF6SB-3-51	Normal Sample	1	AS	5/14/2015	11:50:00 AM	Grab	HK	5/14/2015	12:48:00 PM		
SEI-68	LF6SB	Soil	LF6SB-3-55	Normal Sample	1	AS	5/14/2015	11:50:00 AM	Grab	HK	5/14/2015	12:48:00 PM		
SEI-69	LF6SB	Soil	LF6SB-3-56	Normal Sample	1	AS	5/14/2015	12:15:00 PM	Grab	HK	5/14/2015	12:48:00 PM		
SEI-70	LF6SB	Soil	LF6SB-3-59	Normal Sample	1	AS	5/14/2015	12:15:00 PM	Grab	HK	5/14/2015	12:48:00 PM		
SEI-71	LF6SB-GW	GW	LF6SB-4-(26-30)	Normal Sample	2	AS	5/14/2015	3:15:00 PM	Grab	HK	5/14/2015	3:41:00 PM		
SEI-72	LF6SB	Soil	LF6SB-5-34	Normal Sample	1	AS	5/14/2015	5:00:00 PM	Grab	HK	5/14/2015	5:50:00 PM		
SEI-73	LF6SB	Soil	LF6SB-6-30	Normal Sample	1	AS	5/15/2015	8:35:00 AM	Grab	HK	5/15/2015	9:58:00 AM		
SEI-74	LF6SB	Soil	LF6SB-6-35	Normal Sample	1	AS	5/15/2015	9:05:00 AM	Grab	HK	5/15/2015	9:58:00 AM		
SEI-75	LF6MW	GW	LF6MW-29	Normal Sample	2	AS	5/15/2015	8:45:00 AM	Grab	HK	5/15/2015	9:58:00 AM		
SEI-76	LF6SB-GW	GW	LF6SB-6-(25-30)	Normal Sample	2	AS	5/15/2015	11:50:00 AM	Grab	HK	5/15/2015	12:13:00 PM		sample had much sediment, see photo
SEI-77	LF6SB-GW	GW	LF6SB-6-(35-40)	Normal Sample	2	AS	5/15/2015	11:50:00 AM	Grab	HK	5/15/2015	12:13:00 PM		sample had some sediment, see photo
SEI-80	LF6SB-GW	GW	LF6SB-7-(27-31)	Normal Sample	2	AS	5/15/2015	1:10:00 PM	Grab	HK	5/15/2015	1:26:00 PM		
SEI-81	LF6SB-GW	GW	LF6SB-8-(33-37)	Normal Sample	2	AS	5/15/2015	2:10:00 PM	Grab	HK	5/15/2015	2:40:00 PM		

Pick Lab – SAMPLE LOG SHEET

Project ID: 14-152 Parsons

Project Location: Rome, NY

Sampling in accordance with Method / SEI SOP:
☐ SEI 6.43.*n* Groundwater Profiling and KPRO Testing.
☒ Grab

Sample ID	Collected By	Collected Date	Collected Time	Received By	Received Date	Received Time	Type*	Container**	Number of Containers	Preservation***	Analysis: ASTM D6520 & Modified 8021/8015	Analysis: 8260	Analysis: Other ____	Lab ID	Analyst	Comments Or Vial ID / Final Wt(g)
VT-1-4-12	BS	5/11/15	0930	HK	5/11/15	0945	2	2	1	NA		X		Sei-1	HK	061/50.10
-17														2		062/49.09
-19.5														3		063/48.58
VT-1-5-13			1020			1030								4		064/44.87
-24														5		065/48.21
-25														6		066/49.41
VT-1-3-14			1045			1110								7		067/47.70
-16			1100											8		070/48.55
-22			1100											9		069/49.64
VT-1-2-9			1135			1205								10		068/48.51
-11			1145			1210								11		072/51.78
-13			1145			1210								12		071/49.34
VT-1-0-FD			1350			1415								13		055/46.83
-9			11			11								14		049/47.75
-16			1410			1415								15		056/47.44
-18			11			1435								16		054/49.79
VT-1-1-8			1310			11								17		052/47.14
-13			1320			11								18		051/48.17
-17			1330			11								19		053/47.48
-17MS	↓	↓	1600	↓	↓	1710	↓	↓	↓	↓		↓		19MS	↓	047/46.48

* Type of Sample: (1) water (2) soil

** Container: (1) bag (2) bottle (3) other _____

*** Preservation: (1) ice (2) HCl (3) Other _____

STONE ENVIRONMENTAL INC

Pick Lab – SAMPLE LOG SHEET

Project ID: 14-152

Project Location: Rome, NY

Sampling in accordance with Method / SEI SOP:
☐ SEI 6.43.*n* Groundwater Profiling and KPRO Testing.
☒ Grab

Sample ID	Collected By	Collected Date	Collected Time	Received By	Received Date	Received Time	Type*	Container**	Number of Containers	Preservation***	Analysis: ASTM D6520 & Modified 8021/8015	Analysis: 8260	Analysis: Other	Lab ID	Analyst	Comments Or Vial ID / Final Wt(g)
VT-1-1-17MSD	AS	5/11/15	1600	HK	5/11/15	1710	2	2	1			X		SEI-19MSD	HK	060/50.40
VT-3-3-9			1615											-22		054/48.09
-14			1620											-23		058/48.20
-19			1630											-24		057/47.89
VT-2-4-13			1550											-25		039/48.43
-8			1545											-26		050/47.53
-17			1600											-27		048/47.66
VT-3-4-9	AS	5/12/15	0825		5/12/15	0915								-28		045/46.37
-14			0830											-29		044/45.85
-20			0835											-30		043/47.12
VT-3-5-13	AS		0905			0935								-31		042/46.02
-21			0925											-32		037/46.81
-24			11											-33		038/49.16
VT-1-6-12			1005			1105								-34		033/45.40
-21			1025											-35		036/47.50
-24			1025											-36		032/48.23
VT-1-2-(8-11)			1155			1234	1	2	2					-37		water
-(11-14)			1210				1							-38		"
-(14-17)			1315			1333	1							-39		"
VT-2-5-15			1355			1421	2	2	1					-40		035/47.52

* Type of Sample: (1) water (2) soil

** Container: (1) bag (2) bottle (3) other _____

*** Preservation: (1) ice (2) HCl (3) Other _____

STONE ENVIRONMENTAL INC

Pick Lab – SAMPLE LOG SHEET

Project ID: 14-152

Project Location: Rome, NY

Sampling in accordance with Method / SEI SOP:
☐ SEI 6.43.*n* Groundwater Profiling and KPRO Testing.
☒ Grab

Sample ID	Collected By	Collected Date	Collected Time	Received By	Received Date	Received Time	Type*	Container**	Number of Containers	Preservation***	Analysis: ASTM D6520 & Modified 8021/8015	Analysis: 8260	Analysis: Other	Lab ID	Analyst	Comments Or Vial ID / Final Wt(g)
VT-2-5-20	AS	5/12/15	1410	HL	5/12/15	1421	2	2	1			X		SA-41	HL	031/47.89
↓ -23	↓	↓	↓	↓	↓	↓	↓	↓	↓			↓		-42	↓	046/47.23
LF6SB-1-20			1550			1740								-43		040/47.62
↓ 1-40			1720	↓	↓	1740								-44		041/47.79
LF6SB-1-40a	AS	5/13/15	0910	HL	5/13/15	1149								-45		030/47.60
-45			1005			1149								-46		031/47.52
-46			1040			↓								-47		028/45.46
-50			1040			1211								-48		029/47.57
-55	AS		1110			↓								-49		026/45.80
-50-55	↓		1135			↓								-50		027/47.25
-56			1210			↓								-51		025/46.05
↓ -60			1210			1640								-52		013/47.71
LF6SB-2-40	AS		1415			~~1440~~								-53		014/46.94
-41	↓		1610			1640								-54		016/47.70
↓ -45			1610			↓			↓					-55		015/47.00
LF6SB-1(48-52)	AS		1505			1640	X		2					-56		water
LF6SB-2-46			1640			1741			1					-57		017/46.25
-50			↓			↓			↓					-58		018/45.83
-54			1740	↓	↓	↓	↓	↓	↓			↓		-59	↓	019/45.37
↓ -56		5/14/15	0910	HL	5/14/15	0953	2	2	1			X		-60	HL	001/44.40

* Type of Sample: (1) water (2) soil

** Container: (1) bag (2) bottle (3) other _____

*** Preservation: (1) ice (2) HCl (3) Other _____

STONE ENVIRONMENTAL INC

Pick Lab – SAMPLE LOG SHEET

Project ID: 14-152

Project Location: Rome, NY

Sampling in accordance with Method / SEI SOP:
☐ SEI 6.43.*n* Groundwater Profiling and KPRO Testing.
☑ Grab

Sample ID	Collected By	Collected Date	Collected Time	Received By	Received Date	Received Time	Type*	Container**	Number of Containers	Preservation***	Analysis: ASTM D6520 & Modified 8021/8015	Analysis: 8260	Analysis: Other	Lab ID	Analyst	Comments Or Vial ID / Final Wt(g)
LFGSB-2-58	AS	5/14/15	0910	HK	5/14/15	0953	2	2	1			X		SB-61	HK	002/45.68
LFGSB-3-40			1000			1058								-62		012/46.80
↓ -42			1030			"								-63		004/45.37
LFGMW-28			1005			"	1		2					-64		water
LFGAT-3-45			1120			1248	2		1					-65		023/46.23
~~DUP~~ SB -50			1120											-66		003/45.36
-51			1150											-67		005/44.33
-55			"											-68		004/55.70
-56			1215											-69		006/47.00
↓ -54			1215			↓	↓		↓					-70		002/45.84
LFGSB-4(26-30)		↓	1515			1541	1		2			↓		-71		water
LFGSB-5-34			1700		↓	1750	2	↓	1					-72		011/48.41
LFGSB-6-30		5/15/15	0835		5/15/15	0958	2	2	1			X		-73		020/46.93
↓ -35			0905			"	2		1					-74		021/46.33
LFGMW-29			0845			"	1		2					-75		water
LFGSB-6-(25-30)			1150			1213	1							-76		"
-6-(35-40)			1150			"			↓					-77		"
-7-(27-31)			1310			1326			2					-78 80		"
-8-(33-37)	↓	↓	1410	↓	↓	1440	↓	↓	"			↓		-81	↓	"

* Type of Sample: (1) water (2) soil
** Container: (1) bag (2) bottle (3) other _____
*** Preservation: (1) ice (2) HCl (3) Other _____

STONE ENVIRONMENTAL INC

14-152 - Parsons Griffiss Air Force Base
Sample Weights Summary - SDG-2

Lab ID	Sample Name	Container ID	Initial Mass (g)	Final Vial Mass (g)	Final Sample Weight (g)
SEI-1	VT-1-4-12	061-VOC	37.01	50.1	13.09
SEI-2	VT-1-4-17	062-VOC	37.31	49.09	11.78
SEI-3	VT-1-4-19.5	063-VOC	36.78	48.58	11.8
SEI-4	VT-1-5-13	064-VOC	36.69	44.87	8.18
SEI-5	VT-1-5-24	065-VOC	36.99	48.21	11.22
SEI-6	VT-1-5-25	066-VOC	36.45	49.41	12.96
SEI-7	VT-1-3-14	067-VOC	36.69	47.7	11.01
SEI-8	VT-1-3-16	070-VOC	36.59	48.55	11.96
SEI-9	VT-1-3-22	069-VOC	36.99	49.64	12.65
SEI-10	VT-1-2-9	068-VOC	36.68	48.51	11.83
SEI-11	VT-1-2-11	072-VOC	36.79	51.78	14.99
SEI-12	VT-1-2-13	071-VOC	36.49	49.34	12.85
SEI-13	VT-1-0-FD	055-VOC	36.75	46.93	10.18
SEI-14	VT-1-0-9	049-VOC	37.13	47.75	10.62
SEI-15	VT-1-0-16	056-VOC	36.92	47.44	10.52
SEI-16	VT-1-0-18	054-VOC	36.95	49.79	12.84
SEI-17	VT-1-1-8	052-VOC	36.69	47.14	10.45
SEI-18	VT-1-1-13	051-VOC	37.16	48.17	11.01
SEI-19	VT-1-1-17	053-VOC	36.67	47.48	10.81
SEI-19-MS	VT-1-1-17-MS	047-VOC	37.17	46.48	9.31
SEI-19-MSD	VT-1-1-17-MSD	060-VOC	37.09	50.4	13.31
SEI-22	VT-3-3-9	059-VOC	37.07	48.09	11.02
SEI-23	VT-3-3-14	058-VOC	37.26	48.2	10.94
SEI-24	VT-3-3-19	057-VOC	37.06	49.89	12.83
SEI-25	VT-2-1-13	039-VOC	37.03	48.43	11.4
SEI-26	VT-2-1-8	050-VOC	37.19	47.53	10.34
SEI-27	VT-2-1-17	048-VOC	36.95	47.66	10.71
SEI-28	VT-3-4-9	045-VOC	36.86	46.37	9.51
SEI-29	VT-3-4-14	044-VOC	36.53	45.85	9.32
SEI-30	VT-3-4-20	043-VOC	36.59	47.12	10.53
SEI-31	VT-3-5-13	042-VOC	36.99	46.02	9.03
SEI-32	VT-3-5-21	037-VOC	36.67	46.81	10.14
SEI-33	VT-3-5-24	038-VOC	36.87	49.16	12.29
SEI-34	VT-1-6-12	033-VOC	36.21	45.4	9.19
SEI-35	VT-1-6-21	036-VOC	36.26	47.5	11.24
SEI-36	VT-1-6-24	032-VOC	37.2	48.23	11.03
SEI-40	VT-2-5-15	035-VOC	37.1	47.52	10.42
SEI-41	VT-2-5-20	034-VOC	36.52	47.89	11.37
SEI-42	VT-2-5-23	046-VOC	36.72	47.23	10.51
SEI-43	LF6SB-1-20	040-VOC	37.38	47.62	10.24
SEI-44	LF6SB-1-40	041-VOC	36.85	47.79	10.94
SEI-45	LF6SB-1-40a	030-VOC	36.85	47.6	10.75
SEI-46	LF6SB-1-45	031-VOC	37.06	47.52	10.46
SEI-47	LF6SB-1-46	028-VOC	37.16	45.46	8.3
SEI-48	LF6SB-1-50	029-VOC	37	47.57	10.57

14-152 - Parsons Griffiss Air Force Base
Sample Weights Summary - SDG-2

Lab ID	Sample Name	Container ID	Initial Mass (g)	Final Vial Mass (g)	Final Sample Weight (g)
SEI-49	LF6SB-1-55	026-VOC	36.69	45.8	9.11
SEI-50	LF6SB-1-50-55	027-VOC	36.94	47.25	10.31
SEI-51	LF6SB-1-56	025-VOC	37.01	46.05	9.04
SEI-52	LF6SB-1-60	013-VOC	36.99	47.71	10.72
SEI-53	LF6SB-2-40	014-VOC	37.29	46.94	9.65
SEI-54	LF6SB-2-41	016-VOC	37.05	47.7	10.65
SEI-55	LF6SB-2-45	015-VOC	37	47	10
SEI-57	LF6SB-2-46	017-VOC	36.89	46.25	9.36
SEI-58	LF6SB-2-50	018-VOC	36.97	45.83	8.86
SEI-59	LF6SB-2-54	019-VOC	37.17	45.37	8.2
SEI-60	LF6SB-2-56	001-VOC	36.8	44.4	7.6
SEI-61	LF6SB-2-58	002-VOC	36.98	45.68	8.7
SEI-62	LF6SB-3-40	012-VOC	36.91	46.8	9.89
SEI-63	LF6SB-3-42	024-VOC	37.13	45.37	8.24
SEI-65	LF6SB-3-45	023-VOC	36.54	46.23	9.69
SEI-66	LF6SB-3-50	003-VOC	37.01	45.36	8.35
SEI-67	LF6SB-3-51	005-VOC	36.82	44.33	7.51
SEI-68	LF6SB-3-55	004-VOC	37.18	55.7	18.52
SEI-69	LF6SB-3-56	006-VOC	36.75	47	10.25
SEI-70	LF6SB-3-59	022-VOC	37.08	45.84	8.76
SEI-72	LF6SB-5-34	011-VOC	37.26	48.41	11.15
SEI-73	LF6SB-6-30	020-VOC	36.98	46.93	9.95
SEI-74	LF6SB-6-35	021-VOC	37.01	46.33	9.32

LABORATORY ANALYTICAL RESULTS

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/12/2015 - 05/15/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/13/2015 - 05/15/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	Soil	**Results Given as:**	ug/kg (reported on wet weight basis)
Location ID:	LF6SB	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name	CAS #	LF6SB-1-20		LF6SB-1-40		LF6SB-1-40a		LF6SB-1-45		LF6SB-1-46		LF6SB-1-50		LF6SB-1-50-55		LF6SB-1-55	
Analysis Date		05/13/15 10:24	N	05/13/15 10:39	N	05/13/15 12:09	N	05/13/15 12:24	N	05/13/15 12:39	N	05/13/15 14:40	N	05/13/15 13:32	N	05/13/15 13:17	N
Vinyl Chloride	75-01-4	39.1	U	36.6	U	37.2	U	38.2	U	48.2	U	75.7	U	38.8	U	43.9	U
trans-1,2-Dichloroethene	156-60-5	39.1	U	36.6	U	37.2	U	87.2		438		519		38.8	U	43.9	U
cis-1,2-Dichloroethene	156-59-2	12.1	J	333		503		116		438		504		1010		1000	
Trichloroethene	79-01-6	19.9	J	638		746		5690		11200		8090		16.3	J	43.9	U
Tetrachloroethene	127-18-4	39.1	U	36.6	U	37.2	U	38.2	U	48.2	U	75.7	U	38.8	U	43.9	U
Bromofluorobenzene (SS)	460-00-4	96	%	93	%	96	%	96	%	99	%	200	D	99	%	98	%
Sample Name	CAS #	LF6SB-1-56		LF6SB-1-60		LF6SB-2-40		LF6SB-2-41		LF6SB-2-45		LF6SB-2-46		LF6SB-2-50		LF6SB-2-54	
Analysis Date		05/13/15 13:47	N	05/13/15 14:02	N	05/13/15 18:21	N	05/13/15 18:36	N	05/13/15 18:52	N	05/14/15 10:29	N	05/14/15 10:44	N	05/14/15 10:59	N
Vinyl Chloride	75-01-4	44.2	U	37.3	U	41.5	U	37.6	U	40.0	U	42.7	U	45.1	U	48.8	U
trans-1,2-Dichloroethene	156-60-5	44.2	U	37.3	U	291		93.1		55.2		42.7	U	45.1	U	48.8	U
cis-1,2-Dichloroethene	156-59-2	525		37.3	U	207		376		184		709		91.2		10.7	J
Trichloroethene	79-01-6	44.2	U	37.3	U	4790		8570		10400		42.7	U	45.1	U	48.8	U
Tetrachloroethene	127-18-4	44.2	U	37.3	U	41.5	U	37.6	U	40.0	U	42.7	U	45.1	U	48.8	U
Bromofluorobenzene (SS)	460-00-4	98	%	97	%	98	%	97	%	99	%	98	%	99	%	99	%
Sample Name	CAS #	LF6SB-2-56		LF6SB-2-58		LF6SB-3-40		LF6SB-3-42		LF6SB-3-45		LF6SB-3-50		LF6SB-3-51		LF6SB-3-55	
Analysis Date		05/14/15 11:14	N	05/14/15 11:30	N	05/14/15 12:29	N	05/14/15 12:44	N	05/14/15 14:12	N	05/14/15 14:27	N	05/14/15 14:42	N	05/14/15 14:57	N
Vinyl Chloride	75-01-4	52.6	U	46.0	U	40.4	U	48.5	U	41.3	U	47.9	U	53.3	U	21.6	U
trans-1,2-Dichloroethene	156-60-5	52.6	U	46.0	U	40.4	U	48.5	U	41.3	U	47.9	U	53.3	U	21.6	U
cis-1,2-Dichloroethene	156-59-2	17.4	J	46.0	U	40.4	U	48.5	U	41.3	U	47.9	U	53.3	U	21.6	U
Trichloroethene	79-01-6	45.3	J	46.0	U	40.4	U	48.5	U	41.3	U	47.9	U	53.3	U	21.6	U
Tetrachloroethene	127-18-4	52.6	U	46.0	U	40.4	U	48.5	U	41.3	U	47.9	U	53.3	U	21.6	U
Bromofluorobenzene (SS)	460-00-4	100	%	98	%	96	%	96	%	99	%	99	%	97	%	97	%
Sample Name	CAS #	LF6SB-3-56		LF6SB-3-59		LF6SB-5-34		LF6SB-6-30		LF6SB-6-35							
Analysis Date		05/14/15 15:12	N	05/14/15 15:27	N	05/15/15 10:15	N	05/15/15 10:45	N	05/15/15 11:00	N						
Vinyl Chloride	75-01-4	39.0	U	45.7	U	35.9	U	40.2	U	42.9	U						
trans-1,2-Dichloroethene	156-60-5	39.0	U	45.7	U	35.9	U	40.2	U	42.9	U						
cis-1,2-Dichloroethene	156-59-2	39.0	U	45.7	U	24.0	J	40.2	U	1100							
Trichloroethene	79-01-6	39.0	U	45.7	U	234		206		2360							
Tetrachloroethene	127-18-4	39.0	U	45.7	U	35.9	U	40.2	U	42.9	U						
Bromofluorobenzene (SS)	460-00-4	96	%	97	%	100	%	96	%	97	%						

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/11/2015 - 05/12/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/11/2015 - 05/12/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	Soil	**Results Given as:**	ug/kg (reported on wet weight basis)
Location ID:	VT-1	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name	CAS #	VT-1-0-FD		VT-1-0-9		VT-1-0-16		VT-1-0-18		VT-1-1-8		VT-1-1-13		VT-1-1-17		VT-1-2-9	
Analysis Date		05/11/15 15:22	FD	05/11/15 15:38	N	05/11/15 15:53	N	05/11/15 16:09	N	05/11/15 16:24	N	05/11/15 16:40	N	05/11/15 16:55	N	05/11/15 13:46	N
Vinyl Chloride	75-01-4	39.3	UQ	37.7	UQ	38.0	UQ	31.2	UQ	38.3	UQ	36.3	UQ	37.0	UQ	33.8	UQ
trans-1,2-Dichloroethene	156-60-5	39.3	U	37.7	U	38.0	U	31.2	U	38.3	U	36.3	U	37.0	U	33.8	U
cis-1,2-Dichloroethene	156-59-2	39.3	U	37.7	U	38.0	U	31.2	U	38.3	U	36.3	U	37.0	U	33.8	U
Trichloroethene	79-01-6	39.3	U	37.7	U	38.0	U	31.2	U	38.3	U	36.3	U	370	J	25.4	J
Tetrachloroethene	127-18-4	39.3	U	37.7	U	38.0	U	31.2	U	38.3	U	36.3	U	37.0	U	33.8	U
Bromofluorobenzene (SS)	460-00-4	100	%	99	%	99	%	100	%	98	%	96	%	95	%	100	%
Sample Name	CAS #	VT-1-2-11		VT-1-2-13		VT-1-3-14		VT-1-3-16		VT-1-3-22		VT-1-4-12		VT-1-4-17		VT-1-4-19.5	
Analysis Date		05/11/15 14:02	N	05/11/15 14:19	N	05/11/15 12:58	N	05/11/15 13:14	N	05/11/15 13:30	N	05/11/15 11:13	N	05/11/15 11:29	N	05/11/15 11:46	N
Vinyl Chloride	75-01-4	26.7	UQ	31.1	UQ	36.3	UQ	33.4	UQ	31.6	UQ	30.6	UQ	34.0	UQ	33.9	UQ
trans-1,2-Dichloroethene	156-60-5	26.7	U	31.1	U	36.3	U	33.4	U	31.6	U	30.6	U	34.0	U	33.9	U
cis-1,2-Dichloroethene	156-59-2	26.7	U	31.1	U	36.3	U	33.4	U	31.6	U	30.6	U	34.0	U	33.9	U
Trichloroethene	79-01-6	292		872		41.4		76.3		31.6	U	44.9		34.0	U	33.9	U
Tetrachloroethene	127-18-4	26.7	U	31.1	U	36.3	U	33.4	U	31.6	U	208		34.0	U	33.9	U
Bromofluorobenzene (SS)	460-00-4	98	%	97	%	100	%	102	%	99	%	99	%	100	%	61	%
Sample Name	CAS #	VT-1-5-13		VT-1-5-24		VT-1-5-25		VT-1-6-12		VT-1-6-21		VT-1-6-24					
Analysis Date		05/11/15 12:02	N	05/11/15 12:18	N	05/11/15 12:35	N	05/12/15 11:52	N	05/12/15 12:07	N	05/12/15 12:23	N				
Vinyl Chloride	75-01-4	48.9	UQ	35.7	UQ	30.9	UQ	43.5	U	35.6	U	36.3	U				
trans-1,2-Dichloroethene	156-60-5	48.9	U	35.7	U	30.9	U	43.5	U	35.6	U	36.3	U				
cis-1,2-Dichloroethene	156-59-2	48.9	U	35.7	U	30.9	U	43.5	U	35.6	U	36.3	U				
Trichloroethene	79-01-6	48.9	U	104		78.1		43.5	U	54.8		36.3	U				
Tetrachloroethene	127-18-4	61.6		23.5	J	30.9	U	43.5	U	35.6	U	36.3	U				
Bromofluorobenzene (SS)	460-00-4	98	%	98	%	82	%	97	%	97	%	98	%				

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/11/2015 - 05/12/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/11/2015 - 05/12/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	Soil	**Results Given as:**	ug/kg (reported on wet weight basis)
Location ID:	VT-2	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name	CAS #	VT-2-1-8		VT-2-1-13		VT-2-1-17		VT-2-5-15		VT-2-5-20		VT-2-5-23	
Analysis Date		05/11/15 18:51	N	05/11/15 18:36	N	05/11/15 19:05	N	05/12/15 15:04	N	05/12/15 15:20	N	05/12/15 15:36	N
Vinyl Chloride	75-01-4	38.7	UQ	35.1	UQ	37.3	UQ	38.4	U	35.2	U	38.1	U
trans-1,2-Dichloroethene	156-60-5	38.7	U	35.1	U	37.3	U	38.4	U	35.2	U	38.1	U
cis-1,2-Dichloroethene	156-59-2	38.7	U	35.1	U	37.3	U	38.4	U	35.2	U	38.1	U
Trichloroethene	79-01-6	38.7	U	35.1	U	53.0		34.9	J	35.2	U	38.1	U
Tetrachloroethene	127-18-4	38.7	U	35.1	U	37.3	U	35.3	J	35.2	U	38.1	U
Bromofluorobenzene (SS)	460-00-4	98	%	98	%	97	%	99	%	99	%	99	%

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/11/2015 - 05/12/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/11/2015 - 05/12/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	Soil	**Results Given as:**	ug/kg (reported on wet weight basis)
Location ID:	VT-3	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name	CAS #	VT-3-3-9		VT-3-3-14		VT-3-3-19		VT-3-4-9		VT-3-4-14		VT-3-4-20		VT-3-5-13		VT-3-5-21	
Analysis Date		05/11/15 17:52	N	05/11/15 18:06	N	05/11/15 18:21	N	05/12/15 10:19	N	05/12/15 10:34	N	05/12/15 10:50	N	05/12/15 11:06	N	05/12/15 11:22	N
Vinyl Chloride	75-01-4	36.3	UQ	36.6	UQ	31.2	UQ	42.1	U	42.9	U	38.0	U	44.3	U	39.4	U
trans-1,2-Dichloroethene	156-60-5	36.3	U	36.6	U	31.2	U	42.1	U	42.9	U	38.0	U	44.3	U	39.4	U
cis-1,2-Dichloroethene	156-59-2	36.3	U	36.6	U	31.2	U	42.1	U	42.9	U	38.0	U	44.3	U	39.4	U
Trichloroethene	79-01-6	36.3	U	36.6	U	31.2	U	42.1	U	30.0	J	38.0	U	44.3	U	12.6	J
Tetrachloroethene	127-18-4	36.3	U	36.6	U	31.2	U	42.1	U	42.9	U	38.0	U	44.3	U	39.4	U
Bromofluorobenzene (SS)	460-00-4	102	%	100	%	100	%	99	%	98	%	100	%	98	%	96	%

Sample Name	CAS #	VT-3-5-24	
Analysis Date		05/12/15 11:37	N
Vinyl Chloride	75-01-4	32.5	U
trans-1,2-Dichloroethene	156-60-5	32.5	U
cis-1,2-Dichloroethene	156-59-2	32.5	U
Trichloroethene	79-01-6	32.5	U
Tetrachloroethene	127-18-4	32.5	U
Bromofluorobenzene (SS)	460-00-4	98	%

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/14/2015 - 05/15/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/14/2015 - 05/15/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	GW	**Results Given as:**	ug/L
Location ID:	LF6MW	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name / Analysis Date	CAS #	LF6MW-28 05/14/15 12:14		LF6MW-29 05/15/15 10:30	
Vinyl Chloride	75-01-4	1.00	U	1.00	U
trans-1,2-Dichloroethene	156-60-5	1.00	U	1.00	U
cis-1,2-Dichloroethene	156-59-2	4.03		1.04	
Trichloroethene	79-01-6	16.0		9.89	
Tetrachloroethene	127-18-4	1.00	U	1.00	U
Bromofluorobenzene (SS)	460-00-4	98	%	99	%

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/13/2015 - 05/15/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/13/2015 - 05/15/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	GW	**Results Given as:**	ug/L
Location ID:	LF6SB-GW	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name	CAS #	LF6SB-1-(48-52)		LF6SB-4-(26-30)		LF6SB-6-(25-30)		LF6SB-6-(35-40)		LF6SB-7-(27-31)		LF6SB-8-(33-37)	
Analysis Date		05/13/15 19:07	N	05/14/15 15:55	N	05/15/15 12:33	N	05/15/15 12:49	N	05/15/15 13:42	N	05/15/15 14:59	N
Vinyl Chloride	75-01-4	0.360	J	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
trans-1,2-Dichloroethene	156-60-5	6.94		1.00	U	0.220	J	0.200	J	1.00	U	1.00	U
cis-1,2-Dichloroethene	156-59-2	138		13.4		48.4		33.2		4.93		7.50	
Trichloroethene	79-01-6	42.0		33.0		20.2		50.8		25.8		19.0	
Tetrachloroethene	127-18-4	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Bromofluorobenzene (SS)	460-00-4	100	%	102	%	99	%	101	%	101	%	101	%

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

Stone Environmental Laboratory Results

Laboratory Unit:	ML2		
Client:	Parsons	**Report Date:**	5/25/2015
Location:	Rome, NY	**Date(s) Sampled:**	05/12/2015 - 05/12/2015
Project ID:	Parsons GAFB	**Date(s) Analyzed:**	05/12/2015 - 05/12/2015
SEI Project No.:	14-152	**Test Method:**	8260C
Matrix:	GW	**Results Given as:**	ug/L
Location ID:	VT-1-GW	**Prep Method:**	Soils (SW), EPA 5035A0H/ASTM D6520-00 Ground Waters (NPW), ASTM D6520-00

ISO/IEC 17025:2005 Accredited

Accreditation # 74140

Sample Name	CAS #	VT-1-2-(8-11)		VT-1-2-(11-14)		VT-1-2-(14-17)	
Analysis Date		05/12/15 12:49	N	05/12/15 13:04	N	05/12/15 13:51	N
Vinyl Chloride	75-01-4	1.00	U	1.00	U	1.00	U
trans-1,2-Dichloroethene	156-60-5	1.00	U	1.00	U	1.00	U
cis-1,2-Dichloroethene	156-59-2	1.00	U	1.00	U	1.00	U
Trichloroethene	79-01-6	4.36		6.74		25.2	
Tetrachloroethene	127-18-4	1.00	U	1.00	U	1.00	U
Bromofluorobenzene (SS)	460-00-4	100	%	100	%	101	%

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

APPENDIX C

DAILY FIELD REPORTS

DAILY FIELD REPORT

JOB NAME	B817/Landfill 6	DATE	Monday May 11, 2015
CONTRACT	W912DQ-09-D-3013	REPORT NO.	05112015
PROJECT	Former Griffiss Air Force Base	WEATHER	P/cloudy, mild
JOB #	746809	TEMPERATURE	AM 65 / PM 84
CLIENT	AFRPA/USACE	TIME/HRS	0730 – 1730

PERSONNEL ONSITE

John Lanier	Parsons - Project Manager
Dale Dolph	Parsons – Site Safety Officer
Allison Jordan	Parsons – Geologist
Jim Schuetz	Parsons – Principal Geologist
Dan Byrne	Stone Environmental- Driller
Luther Larson	Stone Environmental- Driller
Helmer Kab	Stone Environmental-Chemist

EQUIPMENT ON SITE

Geoprobe	Stone Environmental
2- Support Trucks	Stone Environmental
Flatbed Trailer	Stone Environmental
Mobile Laboratory	Stone Environmental

MATERIALS DELIVERED TO/OR REMOVED FROM THE SITE

None

WORK COMPLETED:

Parsons and Stone Environmental team was on site for soil borings at Building 817. The following task completed:

1) Soil borings using a Geoprobe rig were installed in the parking area east of B817 including:

   VT-1-0 through VT-1-5, VT-2-1, and VT-3-3.

2) Groundwater samples were taken from soil boring VT-2-1.

VERBAL DISCUSSIONS/INSTRUCTIONS:

1) The Parson and Stone Environmental team held a pre-activity safety orientation meeting.

H&S ISSUES:

1) DRD conducted Site Specific HAS training for Stone Environmental
2) Biological Hazards was the main topic of discussion.

ACCIDENTS REPORTED TODAY: **0**
NEAR MISSES REPORTED TODAY: **0**

DEFICIENCIES/CORRECTIVE ACTIONS

None

PARSONS REPRESENTATIVE

PARSONS

Activity Hazards Analysis Training Record

JOB NUMBER: 746809

AHA NUMBER: Mobe/Demobe/Drilling and Boring/Mobile Lab Operation

JOB LOCATION: GAFB OBGW Rome NY.

DATE: 5/11/15

NAME OF TRAINER: Dale R. Dolph

SUBJECTS COVERED:

TRAINING AIDS USED:

ATTENDEES (PLEASE SIGN NAME LEGIBLY):

Luther Larsen

[illegible signature]

[illegible signature]

DAN BYRNE

[illegible signature]

[illegible signature]

(Use additional sheets if necessary)

PARSONS

Employee/Subcontractor Training Acknowledgement

Name of Trainer: Dak R. Dolph

Training Subject: GAFB OBGW 746809 Site Specific and AHA Training

Training materials used: GAFB OBGW PSHEP and Addendum AHAs

Name of employee: James Schuetz

Date of hire/assignment: 5/11/15

I, James Schuetz, hereby certify that I have received training as described above in the following areas:

- Names of personnel responsible for site safety and health.
- Safety, health or other hazards at the site.
- The proper use of personal protective equipment.
- The potential occupational hazards in general in the work area and associated with my job assignment.
- Work practices by which a worker can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Acute effects of compounds on the site.
- Decontamination procedures.
- General safety requirements indicate the safe work conditions, safe work practices and personal protective equipment required for my work.
- The hazards of any chemicals to which I may be exposed and my right to information contained on material safety data sheets for those chemicals, and how to understand this information.
- My right to ask questions, or provide any information to the employer on safety either directly or anonymously without any fear of reprisal.
- Disciplinary procedures the employer will use to enforce compliance with general safety requirements.

I understand this training and agree to comply with general safety requirements for my work area.

Employee Signature

5/11/15
Date

PARSONS

Employee/Subcontractor Training Acknowledgement

Name of Trainer: Dak R. Dolph

Training Subject: GAFB OBGW 746809 Site Specific and AHA Training

Training materials used: GAFB OBGW PSHEP and Addendum AHAs

Name of employee: Luther Larsen

Date of hire/assignment: 5-11-15

I, Luther Larsen, hereby certify that I have received training as described above in the following areas:

- Names of personnel responsible for site safety and health.
- Safety, health or other hazards at the site.
- The proper use of personal protective equipment.
- The potential occupational hazards in general in the work area and associated with my job assignment.
- Work practices by which a worker can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Acute effects of compounds on the site.
- Decontamination procedures.
- General safety requirements indicate the safe work conditions, safe work practices and personal protective equipment required for my work.
- The hazards of any chemicals to which I may be exposed and my right to information contained on material safety data sheets for those chemicals, and how to understand this information.
- My right to ask questions, or provide any information to the employer on safety either directly or anonymously without any fear of reprisal.
- Disciplinary procedures the employer will use to enforce compliance with general safety requirements.

I understand this training and agree to comply with general safety requirements for my work area.

Luther Larsen

Employee Signature

5-11-15

Date

PARSONS

Employee/Subcontractor Training Acknowledgement

Name of Trainer: Dale R. Dolph

Training Subject: GAFB OBGW 746809 Site Specific and AHA Training

Training materials used: GAFB OBGW PSHEP and Addendum AHAs

Name of employee: DAN BYRNE

Date of hire/assignment: 5/11/15

I, DAN BYRNE, hereby certify that I have received training as described above in the following areas:

- Names of personnel responsible for site safety and health.
- Safety, health or other hazards at the site.
- The proper use of personal protective equipment.
- The potential occupational hazards in general in the work area and associated with my job assignment.
- Work practices by which a worker can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Acute effects of compounds on the site.
- Decontamination procedures.
- General safety requirements indicate the safe work conditions, safe work practices and personal protective equipment required for my work.
- The hazards of any chemicals to which I may be exposed and my right to information contained on material safety data sheets for those chemicals, and how to understand this information.
- My right to ask questions, or provide any information to the employer on safety either directly or anonymously without any fear of reprisal.
- Disciplinary procedures the employer will use to enforce compliance with general safety requirements.

I understand this training and agree to comply with general safety requirements for my work area.

Dan Byrne — 5/11/15

Employee Signature — Date

PARSONS

Employee/Subcontractor Training Acknowledgement

Name of Trainer: Dak R. Dolph

Training Subject: GAFB OBGW 746809 Site Specific and AHA Training

Training materials used: GAFB OBGW PSHEP and Addendum AHAs

Name of employee: Allison Jordan

Date of hire/assignment: 5/11/15

I, Allison Jordan, hereby certify that I have received training as described above in the following areas:

- Names of personnel responsible for site safety and health.
- Safety, health or other hazards at the site.
- The proper use of personal protective equipment.
- The potential occupational hazards in general in the work area and associated with my job assignment.
- Work practices by which a worker can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Acute effects of compounds on the site.
- Decontamination procedures.
- General safety requirements indicate the safe work conditions, safe work practices and personal protective equipment required for my work.
- The hazards of any chemicals to which I may be exposed and my right to information contained on material safety data sheets for those chemicals, and how to understand this information.
- My right to ask questions, or provide any information to the employer on safety either directly or anonymously without any fear of reprisal.
- Disciplinary procedures the employer will use to enforce compliance with general safety requirements.

I understand this training and agree to comply with general safety requirements for my work area.

Allison Jordan
Employee Signature

5/11/15
Date

PARSONS
Drilling Equipment Inspection

This form is to be completed by a competent mechanic for all drilling equipment

Date: 5/11/15	Vehicle Odometer ~~52066~~	Machine hours 903.7
Vehicle Age Rental		Inspector DAN BYRNE

Air System N/A

- ☐ Whip check devices
- ☐ Gauges functional
- ☐ Cyclone condition OK
- ☐ Dust supp water tank
- ☐ Pressure release valve
- ☐ Pressure hoses
- ☐ Emergency air shut off valve
- ☐ Dust collector
- ☐ Pressure release valve test
- ☐ Pressure fittings (black steel no gal
- ☐ Compressor up load (psi rig air psi booster
- ☐ Dust supp water circuit operation

Pressure Vessel Capacity m^3 Test pressure kPA Operating Pressure kPA

Vehicle and drill engine hydraulic systems –tic for checked and Ok Note any addition of fluid

- ☑ Engine oil
- ☑ Radiator coolant
- ☑ brake fluid
- ☐ Clutch fluid
- ☑ Fluid leaks
- ☐ Electrical system
- ☐ Hot pipe guards
- ☑ Fan belt tension
- ☐ Rotating hazard guards
- ☐ Battery isolation
- ☐ Radiator hose condition
- ☐ Fan belt condition
- ☐ air filter checked/changed
- ☑ fuel filters checked/changed
- ☑ hydraulic hose condition
- ☐ all controls labeled & functional
- ☐ all gauges labeled & functional
- ☐ hydraulic hoses secured
- ☐ hydraulic hoses ratings OK

Track Rigs

Track condition (goc.)

- ☐ grouser plate
- ☐ drive sprocket condition
- ☐ idlers sprocket condition

Drilling System Mast, Winch and Rigging System – tic for clean and functional

- ☑ wireline inspection
- ☐ hoist brakes
- ☐ carousel operation
- ☐ A frame checked
- ☐ Power tongs OK
- ☐ Wire line drum inspection
- ☐ Cable end & fittings
- ☐ Carousel visual inspection
- ☐ Anchors checked
- ☐ Break- out stilsons
- ☐ Main hoist drum inspection
- ☐ Rotating guards in place
- ☐ Rams –pins condition
- ☐ Pivots & locks checked
- ☐ Stabilizer jacks OK
- ☑ main winch cable inspection
- ☐ block and sheave inspection
- ☐ mast structure visual check
- ☐ pull down chains/cables
- ☑ fuel tank and line secure

Accessories and other – tic for clean and functional

- ☐ on board welder leads
- ☐ oxy/acet tank storage
- ☐ winch package
- ☐ on board welder condition
- ☐ oxy/acet regulator check
- ☐ tie downs
- ☐ oxy/acet torch check valve OK
- ☐ generator condition mounting
- ☐ rig platform
- ☐ generator grounding breaks
- ☐ rig platform walkway condition
- ☐ oxy/acet hose/torch condition

Drill Rig Carrier

- ☐ rims wheels lugs secure
- ☑ parking brakes OK
- ☐ exhaust leaks
- ☐ header boards
- ☑ tire inflation & condition
- ☑ vehicle breaks OK
- ☑ trailer pintal
- ☑ suspension check
- ☑ steering OK on road
- ☐ air brake adjustment
- ☐ trailer safety chains
- ☐ frame member and clearance
- ☐ steering linkage/adjustment
- ☐ brake drum rotor check
- ☐ trailer light connections

Lights

- ☑ Headlamps
- ☑ Reverse lights
- ☑ Tail lamps
- ☑ Brake lamps
- ☐ Mast/ site spot lights
- ☐ Parking lights
- ☑ Turn signal hazard flashers
- ☑ Back up alarm

Vehicle cab and Safety Systems- tic for clean and functional

- ☑ Seat belts
- ☐ Two-way communication
- ☑ Fuel gauge
- ☑ Horn
- ☐ MSDS current
- ☑ Tire jacks present
- ☑ Seat adjustment
- ☑ Mirrors
- ☑ Speedometer
- ☐ Wide turn reflectors
- ☐ Safety signs and labels
- ☐ Tire brace present
- ☐ First aid kits
- ☐ Air conditioner operational
- ☑ Fire extinguisher annual inspection
- ☐ Emergency stop buttons
- ☐ Climbing protection inspected

DAILY DRILL RIG INSPECTION CHECKLIST

DATE: 5/11/15

SITE/PROJECT: Parsons Griffiss AFB

RIG: 7822

DRILL CREW: D. Byrne, L. Larsen

FIRE EXTINGUISHER: (Y) N FIRST AID KIT Y (N)

DRILL RIG STABILITY: _____

HOIST CABLE(S) CONDITION:
(look for fraying, kinks, bends, corrosion, excessive wear)
good

SAFETY LATCH CONDITION(S):
(look for spring, proper closure)

CATHEAD/GIN LINE CONDITION (if using):
(clean, oil-free, groove < 1/8 inch)

KILL SWITCH TEST (test all): good

RIG INSPECTION:
(structural damage, loose bolts, safety guards, fluid leaks)
good

FLUID LEVELS: good

HAND TOOL CONDITION(S):
(no chips or cracks, excessive wear)
good

WORK AREA CONDITION:
(footing, overhead obstructions, other interference)

PPE AVAILABLE: good

DAILY FIELD REPORT

JOB NAME	B817/Landfill 6	DATE	Tuesday May 12, 2015
CONTRACT	W912DQ-09-D-3013	REPORT NO.	05122015
PROJECT	Former Griffiss Air Force Base	WEATHER	P/cloudy, mild
JOB #	746809	TEMPERATURE	AM 75 / PM 65
CLIENT	AFRPA/USACE	TIME/HRS	0730 – 1730

PERSONNEL ONSITE

John Lanier	Parsons - Project Manager
Allison Jordan	Parsons – Geologist
Jim Schuetz	Parsons – Principal Geologist
Ian Bowen	USACE – Project Manager
Dan Byrne	Stone Environmental- Driller
Luther Larson	Stone Environmental- Driller
Helmer Kab	Stone Environmental-Chemist

EQUIPMENT ON SITE

Geoprobe	Stone Environmental
2- Support Trucks	Stone Environmental
Flatbed Trailer	Stone Environmental
Mobile Laboratory	Stone Environmental

MATERIALS DELIVERED TO/OR REMOVED FROM THE SITE

None

WORK COMPLETED:

Parsons and Stone Environmental team was on site for soil borings at B817. The following task completed:

1) Soil borings using a Geoprobe rig were installed B817 including:

   VT-1-6, VT-2-5, VT-3-4, and VT-3-5.

VERBAL DISCUSSIONS/INSTRUCTIONS:

1) The Parson and Stone Environmental team held a pre-activity daily safety meeting.

H&S ISSUES:

None.

ACCIDENTS REPORTED TODAY: **0**
NEAR MISSES REPORTED TODAY: **0**

DEFICIENCIES/CORRECTIVE ACTIONS

None

PARSONS REPRESENTATIVE

Allison Jordan

DAILY DRILL RIG INSPECTION CHECKLIST

DATE: 5/12/15

SITE/PROJECT: Griffiss AFB

RIG: Rotal 7922

DRILL CREW: DB, LL

FIRE EXTINGUISHER: (Y) N FIRST AID KIT Y N

DRILL RIG STABILITY: Back blade

HOIST CABLE(S) CONDITION:
(look for fraying, kinks, bends, corrosion, excessive wear)
good

SAFETY LATCH CONDITION(S):
(look for spring, proper closure)

CATHEAD/GIN LINE CONDITION (if using):
(clean, oil-free, groove < 1/8 inch)

KILL SWITCH TEST (test all): good

RIG INSPECTION:
(structural damage, loose bolts, safety guards, fluid leaks)
good

FLUID LEVELS: good

HAND TOOL CONDITION(S):
(no chips or cracks, excessive wear)
good

WORK AREA CONDITION:
(footing, overhead obstructions, other interference)
good

PPE AVAILABLE: ear plugs, gloves, glasses

DAILY FIELD REPORT

JOB NAME	B817/Landfill 6	DATE	Wednesday May 13, 2015
CONTRACT	W912DQ-09-D-3013	REPORT NO.	05132015
PROJECT	Former Griffiss Air Force Base	WEATHER	Cloudy, cool
JOB #	746809	TEMPERATURE	AM 45 / PM 58
CLIENT	AFRPA/USACE	TIME/HRS	0730 – 1730

PERSONNEL ONSITE

John Lanier	Parsons - Project Manager
Allison Jordan	Parsons – Geologist
Ian Bowen	USACE – Project Manager
Dan Byrne	Stone Environmental- Driller
Luther Larson	Stone Environmental- Driller
Helmer Kab	Stone Environmental-Chemist

EQUIPMENT ON SITE

Geoprobe	Stone Environmental
2- Support Trucks	Stone Environmental
Flatbed Trailer	Stone Environmental
Mobile Laboratory	Stone Environmental

MATERIALS DELIVERED TO/OR REMOVED FROM THE SITE

None

WORK COMPLETED:

Parsons and Stone Environmental team was on site for soil borings at Landfill 6. The following task completed:

1) Soil borings using a Geoprobe rig were installed at Landfill 6 including:

   LF6SB-1 and LF6SB-2

VERBAL DISCUSSIONS/INSTRUCTIONS:

1) The Parson and Stone Environmental team held a pre-activity daily safety meeting.

H&S ISSUES:

None.

ACCIDENTS REPORTED TODAY: **0**
NEAR MISSES REPORTED TODAY: **0**

DEFICIENCIES/CORRECTIVE ACTIONS

None

PARSONS REPRESENTATIVE

Allison Jordan

DAILY DRILL RIG INSPECTION CHECKLIST

DATE: 5/13/15

SITE/PROJECT: Griffiss AFB / Landfill

RIG: Retal 7822

DRILL CREW: DB, LL

FIRE EXTINGUISHER: (Y) N FIRST AID KIT Y N

DRILL RIG STABILITY: Back blade

HOIST CABLE(S) CONDITION:
(look for fraying, kinks, bends, corrosion, excessive wear)
good

SAFETY LATCH CONDITION(S):
(look for spring, proper closure)

CATHEAD/GIN LINE CONDITION (if using):
(clean, oil-free, groove < 1/8 inch)

KILL SWITCH TEST (test all): good

RIG INSPECTION:
(structural damage, loose bolts, safety guards, fluid leaks)
good

FLUID LEVELS: Good

HAND TOOL CONDITION(S):
(no chips or cracks, excessive wear)
good

WORK AREA CONDITION:
(footing, overhead obstructions, other interference)
Swampy, uneven, woods

PPE AVAILABLE: earplugs, gloves, glasses

SAFETY MEETING SIGN-IN SHEET

Safety Meeting Presenter: Allison Jordan Date: 5/13/15

Current Weather Conditions:

Temperature (°F) = 47 Wind Direction = WNW Wind Speed = 13mph

Clear - Sunny - (Cloudy) - Rain - Snow Forecast = High near 58°F, cloudy. Chance of a shower. Winds NW 10-20mph

Current Site Conditions (circle as appropriate):

Dry - (Wet) - (Muddy) - Frozen - Snow Covered - Other (describe) _____

1. Incidents or Injuries to report from Previous Day Activities: No ☒ Yes ☐ - explain below:

2. Safe and/or At-Risk Observations from Previous Day Activities: None

3. Activities Taking Place Today: Resume geoprobing in Landfill 6

3. Anticipated Hazards: Slips, trips, falls, overhead hazards, slippery surfaces, tight spaces

4. Engineering Controls-Work Practices-PPE to Protect Against Hazards: Hard hat, safety glasses, high vis vest/shirt, steel toe boots, long pants, bug spray

5. Additional Safety Topic or Comments: Route to hospital from Landfill 6.

SAFETY MEETING SIGN-IN SHEET

PRINTED NAME	SIGNATURE	COMPANY	Time Onsite	Time Offsite	PPE Level	Daily Mileage
Allison Jordan		Parsons	0730	1730	D	
Ian Bowen		USACE	0740	1730	D	
John Langlois		Parsons	0730	1730	D	
Heimer Kalb		Stone	0745	1730	D	
Luther Larsen		Stone	0745	1730	D	
DAN BYRNE		Stone	0745	1730	D	

DAILY FIELD REPORT

JOB NAME	B817/Landfill 6	DATE	Thursday May 14, 2015
CONTRACT	W912DQ-09-D-3013	REPORT NO.	05142015
PROJECT	Former Griffiss Air Force Base	WEATHER	Sunny, mild
JOB #	746809	TEMPERATURE	AM 35 / PM 66
CLIENT	AFRPA/USACE	TIME/HRS	0730 – 1730

PERSONNEL ONSITE

John Lanier	Parsons - Project Manager
Allison Jordan	Parsons – Geologist
Ian Bowen	USACE – Project Manager
Dan Byrne	Stone Environmental- Driller
Luther Larson	Stone Environmental- Driller
Patrick Martin	Stone Environmental -Driller
Helmer Kab	Stone Environmental-Chemist

EQUIPMENT ON SITE

Geoprobe	Stone Environmental
2- Support Trucks	Stone Environmental
Flatbed Trailer	Stone Environmental
Mobile Laboratory	Stone Environmental

MATERIALS DELIVERED TO/OR REMOVED FROM THE SITE

None

WORK COMPLETED:

Parsons and Stone Environmental team was on site for soil borings at Landfill 6. The following task completed:

1) Soil borings using a Geoprobe rig were installed at Landfill 6 including:

   LF6SB-3, LF6SB-4, LF6SB-5

2) Groundwater samples were collected from the following locations:

   LF6MW-28 and LF6SB-4

VERBAL DISCUSSIONS/INSTRUCTIONS:

1) The Parson and Stone Environmental team held a pre-activity daily safety meeting.

H&S ISSUES:

None.

ACCIDENTS REPORTED TODAY: **0**
NEAR MISSES REPORTED TODAY: **0**

DEFICIENCIES/CORRECTIVE ACTIONS

None

PARSONS REPRESENTATIVE

DAILY DRILL RIG INSPECTION CHECKLIST

DATE: 5/14/15

SITE/PROJECT: Griffiss AFB /Landfill

RIG: 7822 Geoprobe

DRILL CREW: LL. PM

FIRE EXTINGUISHER: (Y) N FIRST AID KIT Y N

DRILL RIG STABILITY: Back blade

HOIST CABLE(S) CONDITION:
(look for fraying, kinks, bends, corrosion, excessive wear)
good

SAFETY LATCH CONDITION(S):
(look for spring, proper closure)
N/A

CATHEAD/GIN LINE CONDITION (if using):
(clean, oil-free, groove < 1/8 inch)

KILL SWITCH TEST (test all): good

RIG INSPECTION:
(structural damage, loose bolts, safety guards, fluid leaks)
good

FLUID LEVELS: good

HAND TOOL CONDITION(S):
(no chips or cracks, excessive wear)
good

WORK AREA CONDITION:
(footing, overhead obstructions, other interference)
working in the woods

PPE AVAILABLE: Saf, gloves, boots, pants, eye, head, Level D

SAFETY MEETING SIGN-IN SHEET

Safety Meeting Presenter: Allison Jordan Date: 5/14/15

Current Weather Conditions:

Temperature (°F) = 36 Wind Direction = — Wind Speed = calm

(Clear) - (Sunny) - Cloudy – Rain - Snow Forecast = Highwar 66°F, sunny Winds W 10-15mph

Current Site Conditions (circle as appropriate):

Dry - Wet - (Muddy) - Frozen - Snow Covered - Other (describe) _____

1. Incidents or Injuries to report from Previous Day Activities: No ☒ Yes ☐ - explain below:

2. Safe and/or At-Risk Observations from Previous Day Activities: None

3. Activities Taking Place Today: Resume drilling at Landfill 6

3. Anticipated Hazards: Slips, trips, falls, slippery surfaces, overhead hazards, biological hazards

4. Engineering Controls-Work Practices-PPE to Protect Against Hazards: Hard hat, steel toe boots, safety glasses, long pants, insect spray

5. Additional Safety Topic or Comments: Trip hazards - Watch footing and walk slowly.

SAFETY MEETING SIGN-IN SHEET

PRINTED NAME	SIGNATURE	COMPANY	Time Onsite	Time Offsite	PPE Level	Daily Mileage
Allison Jordan	Allison Jordan	Parsons	0730	1800	D	
John Lanier	John Lanier	Parsons	0730	1800	D	
Luther Larsen	Luther Larsen	Stone	0730	1800		
Patrick Martin	Patrick Martin	Stone	0730	1800		
DAN BYRNE	Dan Byrne	Stone	0730	1800	D	
Jan Bowen	Jan Bowen	USACE	0730	1800	D	
Helmer Kalb	Helmer Kalb	Stone	0730	1800	D	

DAILY FIELD REPORT

JOB NAME	B817/Landfill 6	DATE	Friday May 15, 2015
CONTRACT	W912DQ-09-D-3013	REPORT NO.	05152015
PROJECT	Former Griffiss Air Force Base	WEATHER	Sunny, mild
JOB #	746809	TEMPERATURE	AM 40 / PM 72
CLIENT	AFRPA/USACE	TIME/HRS	0730 – 1730

PERSONNEL ONSITE

John Lanier	Parsons - Project Manager
Allison Jordan	Parsons – Geologist
Ian Bowen	USACE – Project Manager
Luther Larson	Stone Environmental- Driller
Patrick Martin	Stone Environmental -Driller
Helmer Kab	Stone Environmental-Chemist

EQUIPMENT ON SITE

Geoprobe	Stone Environmental
2- Support Trucks	Stone Environmental
Flatbed Trailer	Stone Environmental
Mobile Laboratory	Stone Environmental

MATERIALS DELIVERED TO/OR REMOVED FROM THE SITE

None

WORK COMPLETED:

Parsons and Stone Environmental team was on site for soil borings at Landfill 6. The following task completed:

1) Soil borings using a Geoprobe rig were installed at Landfill 6 including:

   LF6SB-6

2) Groundwater samples were collected from the following locations:

   LF6MW-29, LF6SB-6, LF6SB-7, and LF6SB-8

VERBAL DISCUSSIONS/INSTRUCTIONS:

1) The Parson and Stone Environmental team held a pre-activity daily safety meeting.

H&S ISSUES:

None.

ACCIDENTS REPORTED TODAY: **0**
NEAR MISSES REPORTED TODAY: **0**

DEFICIENCIES/CORRECTIVE ACTIONS

None

PARSONS REPRESENTATIVE

DAILY DRILL RIG INSPECTION CHECKLIST

DATE: 5-15-15

SITE/PROJECT: Griffiz AFB

RIG: 7822 Geoprobe

DRILL CREW: LL PM

FIRE EXTINGUISHER: (Y) N FIRST AID KIT Y N

DRILL RIG STABILITY: Blade

HOIST CABLE(S) CONDITION:
(look for fraying, kinks, bends, corrosion, excessive wear)
Good

SAFETY LATCH CONDITION(S):
(look for spring, proper closure)
Good

CATHEAD/GIN LINE CONDITION (if using):
(clean, oil-free, groove < 1/8 inch)

KILL SWITCH TEST (test all): Good

RIG INSPECTION:
(structural damage, loose bolts, safety guards, fluid leaks)
Good

FLUID LEVELS: Good

HAND TOOL CONDITION(S):
(no chips or cracks, excessive wear)
Good

WORK AREA CONDITION:
(footing, overhead obstructions, other interference)
Good

PPE AVAILABLE: Glasses boots pants hardhat Gloves Glasses

SAFETY MEETING SIGN-IN SHEET

Safety Meeting Presenter: Allison Jordan Date: 5/15/15

Current Weather Conditions:

Temperature (°F) = 41 Wind Direction = ESE Wind Speed = 5mph

(Clear) - Sunny - (Cloudy) - Rain - Snow Forecast = High near 72°F, overcast, winds SE 5-10mph

Current Site Conditions (circle as appropriate):

(Dry) - Wet - Muddy - Frozen - Snow Covered - Other (describe) _____

1. Incidents or Injuries to report from Previous Day Activities: No ☒ Yes ☐ - explain below:

2. Safe and/or At-Risk Observations from Previous Day Activities: None

3. Activities Taking Place Today: Resume / finish drilling at Landfill 6

3. Anticipated Hazards: Slips, trips, falls, slippery surfaces, overhead hazards, biological hazards

4. Engineering Controls-Work Practices-PPE to Protect Against Hazards: Hard hat, safety glasses, high vis vest/shirt, long pants, steel toe boots, bug spray

5. Additional Safety Topic or Comments: Last day - Don't rush, take your time even though you want to get home for the weekend

SAFETY MEETING SIGN-IN SHEET

PRINTED NAME	SIGNATURE	COMPANY	Time Onsite	Time Offsite	PPE Level	Daily Mileage
Allison Jordan	Allison Jordan	Parsons	0715		D	
John Lamies		Parsons	0730			
Luther Larsen		Stone	0730		D	
Helmer Kalb		Stone	0730		D	
Patrick Martin		Stone	0730		D	
Ian Bower		USACE	0730	0930	D	