

# DNAPL RECOVERY LETTER REPORT

# WORK ASSIGNMENT D007622-30.1

FORMER SPIC AND SPAN CLEANERS & DYERS, INC. SITE GREENPOINT/EAST WILLIAMSBURG INDUSTRIAL AREA SITE NO. 224129

KINGS (C), NY

Prepared for:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway, Albany, New York

Basil Seggos, Commissioner

DIVISION OF ENVIRONMENTAL REMEDIATION

URS Corporation 257 West Genesee Street Suite 400 Buffalo, New York 14202

February 2017

# DNAPL RECOVERY LETTER REPORT FORMER SPIC AND SPAN CLEANERS & DYERS, INC. SITE INTERIM REMEDIAL MEASURE

**SITE ID NO. 224129** 

### **BROOKLYN, KINGS COUNTY, NEW YORK**

### PREPARED FOR:

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF ENVIRONMENTAL REMEDIATION REMEDIAL BUREAU B WORK ASSIGNMENT NUMBER D007622-30.1

### PREPARED BY:

URS CORPORATION – NEW YORK
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NEW YORK 14202

**FEBRUARY 2017** 

February 6, 2017

Mr. David K. Harrington, P.E. Senior Environmental Engineer Remedial Bureau B Division of Environmental Remediation NYS Department of Environmental Conservation 625 Broadway, 12th Floor Albany, New York 12233-7016

Re: NYSDEC Standby Contract, Work Assignment No. D007622-30.1 Former Spic and Span Cleaners & Dyers, Inc., Site ID No. 224129 DNAPL Recovery Letter Report

Dear Mr. Harrington:

URS Corporation - New York (URS) has prepared this dense non-aqueous phase liquid (DNAPL) Recovery Letter Report to update the status of DNAPL removal activities completed between February 2016 and January 2017. This report also summarizes the November 2016 field activities and soil analytical results associated with installation of four additional DNAPL extraction wells (EW-03 through EW-06) at the 315 Kingsland Avenue property (i.e., Former Spic and Span Cleaners & Dyers, Inc. Site [New York State Department of Environmental Conservation {NYSDEC} Site Number 224129]) in the Greenpoint/East Williamsburg Industrial Area section of Brooklyn, New York (Figure 1). DNAPL removal was performed at wells DEC-024, DEC-024D, DEC-024DR, DEC-092D, DEC-136, DEC-136D, EW-01, EW-02, EW-03, EW-04, EW-05 and EW-06 (Figure 2). Table 1 summarizes DNAPL removal periods and quantities of DNAPL removed from each well. The work was completed under NYSDEC Work Assignment No. D007622-30.1.

#### 1.0 ADDITIONAL EXTRACTION WELL INSTALLATION

Activities associated with the 315 Kingsland Avenue November 2016 extraction well installation consisted of:

- Utility clearance by a geophysical contractor (i.e., Radar Solutions International RSI) along the sidewalk area between 315-307 Kingsland Avenue;
- Advancement of 4 soil borings by Glacier Drilling Co. using rotosonic drilling methods up to approximately 27 feet below ground surface (bgs). All boring locations were cleared to 5 feet bgs by hand clearing/Vac-Tron® prior to direct push probing. Table 2 summarizes the rationale for each extraction well location;
- Collection of up to 3 soil samples for analytical testing via Method 8260B from each soil boring location and Quality Assurance/Quality Control (QA/QC) samples;
- Converting each of the 4 soil borings into permanent extraction wells;
- DNAPL and groundwater removal from DEC-024, DEC-024D, DEC-024DR, DEC-092D, DEC-136, DEC-136D, EW-01, EW-02, EW-03, EW-04, EW-05 and EW-06;
- Removal of all investigation derived waste (IDW) by Island Pump & Tank Corp.
   (e.g., soil cuttings, decontamination water, and DNAPL) from the site on a daily basis; and

• Survey of the four new extraction well locations by MJ Engineering. The survey was tied into the existing site survey.

#### 1.1 Extraction Well Installation Field Activities

Field activities associated with extraction well installations were conducted between November 7 and 11, 2016. Site photographs are provided in Appendix A and copies of the daily field notes are provided in Appendix B.

### 1.1.1 <u>Utility Clearance</u>

Prior to site work, the drilling subcontractor arranged for all appropriate utility clearance mark-outs and New York City Department of Transportation (NYC DOT) Permits. This included (but was not limited to) contacting the New York City (NYC) Departments of Environmental Protection and Transportation (NYCDEP and NYCDOT), the Transit Authority, Consolidated Edison Company of New York (Con Edison), National Grid, and Verizon, in addition to using the Dig Safe number for New York City (New York 811) 811 or (800) 272-4480.

### 1.1.2 Geophysical Survey for Utility Markouts

On November 7, 2016, Radar Solutions International of Waltham, MA (RSI) mobilized a one person crew with ground penetrating radar (GPR) and electromagnetic (EM) induction equipment to the Site. The purpose of the geophysical survey was to screen for, and identify the presence/location of, underground utilities in areas where the soil borings and extraction wells were proposed.

A geophysical survey reference grid was established on the sidewalk adjacent to the Site building located between 307-315 Kingsland Avenue. A GSSI SIR-3000 digital radar system was used to perform the GPR survey. GPR data were acquired along lines spaced 2.5 feet apart across a reference grid of approximately 200 feet x 15 feet. The EM induction equipment used to determine the location of buried utilities and trace utilities was a Radiodetection RD8000 locating system and a McLaughlin's Verifier GX digital locator. RSI marked utilities and anomalies by spray-painting the outline on the pavement as soon as they were located. A URS geologist supervised and assisted RSI. A copy of RSI's report is provided in Appendix C.

### 1.1.3 Soil Borings and Extraction Well Installation

Between November 7 and 11, 2016, URS provided oversight for the advancement of four soil borings and the installation of extraction wells in each of the four soil borings (Figure 2). The extraction wells were installed along the sidewalk area adjacent to 307-315 Kingsland Avenue.

#### 1.1.4 Pre-Boring Clearing

Prior to any intrusive activities, the subcontractor obtained all necessary permits (i.e., NYC DOT street opening permits) for conducting intrusive activities. On November 7, 2016, Glacier Drilling, LLC of Durham, CT (Glacier) mobilized one Vac-Tron<sup>®</sup> unit each to perform location-specific utility clearance at each of the proposed extraction well locations. At each

location, a 1.5-foot by 1.5-foot square area of the concrete was cut. An approximately 1.5-foot diameter by five-foot deep hole was excavated using post-hole diggers, pry bars, and an air knife along with the Vac-Tron® unit. A total of four boring locations were cleared on November 7, 2016. A URS geologist screened the soils being removed with a PID and classified the soils. After the location was cleared for drilling, the hole was backfilled flush with the concrete surface using the excavated spoils (rocks and debris removed) and, temporarily patched with blacktop patch or concrete.

#### 1.1.5 Soil Borings

Between November 9 and 11, 2016, Glacier utilized a track-mounted Geoprobe<sup>®</sup> 8140 LS Roto Sonic drilling rig to advance the soil borings that were completed as extraction wells.

The well borings were advanced using a 4-inch inside diameter (ID) inner sampler and a 6-inch ID outer casing. Soil samples were collected continuously from the ground surface to the terminus of each boring. The procedure for the advancement of the borehole was to advance the inner sampler to the appropriate interval (5 or 10 feet) and then advance the outer casing over the inner sampler to the desired depth. After the outer casing was advanced, the inner sampler was retrieved and the sample core collected was placed in a polyethylene sample tube. The process was repeated until the desired depth was reached. The extraction well borings were advanced to depths 27 feet bgs.

Soil samples were screened with a PID. Up to three soil samples were collected from each boring; the soil samples were generally collected from the intervals exhibiting odors, staining, or elevated PID reading(s). If no odors, staining, or elevated PID readings were encountered, then only one sample from the interval just above the water table was collected. Soil boring logs are provided in Appendix D.

For the soil samples collected from extraction well/soil borings, a COC form was maintained and accompanied the soil sample containers to Pace Analytical Service of Melville, NY (Pace), a NYSDOH ELAP accredited laboratory. The soil samples were analyzed for target compound list (TCL) VOCs plus tentatively identified compounds (TICs), following USEPA SW846 Method 8260B.

All IDW generated from the monitoring well installation was containerized in Department of Transportation (DOT) approved 55-gallon drums and picked up by Island Pump & Tank Corp. of East Northport, NY (IP&T), on a daily basis for off-site disposal at a permitted facility.

### 1.1.6 Extraction Well Construction

Extraction wells EW-03, EW-04, EW-05, and EW-06 were constructed using continuous wrap stainless steel screens in the event DNAPL was present in the monitoring wells. PVC integrity degrades when in direct contact with concentrated chlorinated solvents. Each extraction well was constructed with 15 feet of 2-inch ID, Type 304 stainless steel 0.010-inch continuous wire wrap screen and a 2-foot long stainless steel sump. The screen was nominally set between 10 feet and 25 feet below ground surface and the 2-foot stainless-steel sump extended from the bottom of the well screen to 27 feet bgs. Bentonite was placed around the sump and a #1 size

sand pack was installed from the bottom of the well up to 2 feet above the top of the well screen. Schedule 40 PVC riser was attached to the well screen up to the ground surface. Bentonite chips were then installed around the riser to an elevation of approximately 3-feet bgs.

Each extraction well was finished with a locking well cap, a concrete apron, and a flush-mounted curb box. Security bolts were installed in the well covers to minimize the potential for unauthorized well access. The concrete apron for each well pad was approximately 6 inches thick. Extraction well construction logs are provided in Appendix F.

### 1.1.7 <u>Extraction Well Development</u>

At least 24 hours after the monitoring wells were installed, URS personnel developed the wells with the pump and surge development method using a Waterra Inertial Hydrolift pump with dedicated/disposable high density polyethylene (HDPE) tubing and dedicated/disposable HDPE check valves. Prior to well development, a 100-foot long Solinst oil/water interface probe was used to check for the presence/thickness of any free product. Each extraction well was purged to dryness multiple times during the development and water clarity and detailed observations on its appearance, including presence/absence of DNAPL was recorded. Well development logs may be found in Appendix G. Well development water was collected in DOT approved 55-gallon drums and picked up daily by IPT for off-site disposal at a permitted facility.

### 1.1.8 <u>Investigation Derived Waste Disposal</u>

IP&T was contracted for the daily pick-up and disposal of all drummed IDW at a permitted disposal facility. Copies of the hazardous waste manifests are provided in Appendix H.

### 1.1.9 Site Survey

MJ Engineering, a URS subcontractor, surveyed additional extraction well locations in December 2016. The survey was tied into the existing site survey for the greater Meeker Plume Trackdown area. All surveying was performed under the supervision of a New York State licensed land surveyor. All vertical control points were referenced to the North American Vertical Datum 1988 (NAVD 1988). Horizontal datum was referenced to the North American Datum of 1983 (NAD 83), New York State Plane Coordinate System, Long Island Zone.

#### 2.0 DISCUSSION OF SUBSURFACE RESULTS

The overburden stratigraphy was sampled and characterized as extraction well borings were advanced. Soil samples were collected for off-site laboratory analysis. The subsections summarize the findings.

## 2.1 Site Geology

As shown in the boring logs (Appendix D), a fill unit is present at all borings, varying in thickness from approximately 1 to 1.5 feet, and consists of concrete over a heterogeneous mixture of soil and asphalt. Beneath the fill, the shallow overburden consists primarily of a silt and sand, mixed with some gravel and cobbles. The layers of gravel and cobbles are thickest in the northern most borings (EW-03 and EW-05). The water table surface in these borings is approximately 18.5 feet bgs.

The inclusive sand layer was identified at depths between 17 and 21 feet bgs and exhibited high PID readings and high PCE concentrations. This inclusive sand layer was identified within the glacial till unit at borings EW-03 through EW-06, in the vicinity of SSB-11 and SSB-28 through SSB-32, which are located adjacent to the Spic and Span Site. This is generally consistent with data from previous investigations.

### 2.2 <u>Soil Analytical Results</u>

Seven soil samples were collected from 4 locations and analyzed for VOCs during the period November 10 and 11, 2016. At several locations, more than one sample was obtained from multiple depths. The samples were analyzed for TCL VOCs. The soil sample results were compared to appropriate Part 375 criteria.

Full deliverable data packages [i.e., equivalent to NYSDEC Analytical Service Protocol (ASP) Category B] were provided by the laboratory and included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

A Data Usability Summary Report (DUSR) was prepared following the guidelines provided NYSDEC Division of Environmental Remediation DER-10 *Technical Guidance for Site Investigation and Remediation*, *Appendix 2B - Guidance for Data Deliverables and the Development of Data Usability Summary Reports*, May 2010. The data packages were reviewed for compliance with analytical method requirements and the applicable USEPA Region II QA Standard Operating Procedures The type and quality of analytical results that are needed to answer specific environmental questions and support proper environmental decisions met the project quality objectives (PQOs) for this sampling event.

The complete validated analytical results from the soil, groundwater, and soil vapor samples are presented in the DUSR in Appendix E, on a compact disk (CD). Data summary tables, Form I and Form Ie (TICs) are provided in the DUSR and include the reporting limit for each non-detected compound.

A summary of the detected TCL VOC analytical results for soil samples as compared to unrestricted use, protection of groundwater, and site background SCGs is presented in Table 3. Table 4 lists the detected TCL VOC analytical results for soil samples as compared to residential and restricted residential SCGs. Soil data exceeding criteria is presented on Figure 3 for Unrestricted Use, Protection of Groundwater, Residential Use, Restricted Residential Use and Site Background.

PCE concentrations ranged from 5.5 mg/kg at EW-05 (20-21 feet bgs) to 39,000 mg/kg at EW-04 (18-18.5 feet bgs). PCE exceeded unrestricted use and protection of groundwater criteria in EW-03, EW-04, EW-05, and EW-06 at every sample depth interval collected. PCE concentrations also exceeded Residential Use and Restricted Residential Use criteria at all locations and depths, except for EW-05 (20-21 feet bgs).

TCE also exceeded its respective unrestricted use and protection of groundwater criteria in EW-05 at 7.9 mg/kg (20-21 feet bgs).

Other petroleum-related and VOC compounds were detected, with isopropylbenzene being the only other compound detected at a concentration exceeding its unrestricted use and protection of groundwater criteria at EW-05 (4.5 mg/kg [20-21 feet bgs]).

#### 3.0 DNAPL RECOVERY FIELD ACTIVITIES

DNAPL was removed from the extraction wells (EW-01 through EW-06), and monitoring wells DEC-136, DEC-136D, DEC-092D, DEC-024, DEC-024D, and DEC-024DR using a Waterra Inertial Hydrolift pump with dedicated/disposable HDPE tubing and check valves and dedicated/disposable, 36 inch long 1-liter HDPE bailers. In total, 279 gallons (3,491 lbs.) of DNAPL was removed at the site through January 19, 2017 (Table 5). As summarized in Table 5, the quantity of DNAPL removed from wells, was in some instances estimated, based upon a combination of the visual appearance (e.g., appearance of an emulsion) and PID readings. The majority of DNAPL was removed from one well, DEC-136. Table 5 and Appendix I provide DNAPL product recovery summaries for each well.

## 3.1 Well Surging

Well surging, and subsequent DNAPL recovery, took place at wells DEC-024, DEC-024D, DEC-024DR, DEC-092D, DEC-136, DEC-136D, EW-01 and EW-02. Surging was performed using a Waterra Inertial Hydrolift pump with dedicated/ disposable HDPE tubing and check valves to induce a hydraulic gradient to the wells and promote DNAPL accumulation. The purge water removed from all wells had visible sheens, with occasional blebs of product and/or emulsions, and also exhibited concentrated levels of dissolved phase chlorinated volatile organic compounds (CVOCs) as evidenced by high photoionization detector (PID) readings. Total groundwater purge volumes were: 51 gallons was removed from DEC-024 over a single day; 50 gallons was removed from DEC-024DR on a single day; 55 gallons was removed from DEC-092D over a single day; 40 gallons was removed from DEC-136D over a single day; 55 gallons was removed from DEC-136D over a single day; 55 gallons was removed from EW-01 over a single day and 55 gallons was removed from EW-02 on a single day. Details on the well redevelopment can be found in Appendix G.

## 3.2 <u>Air Monitoring</u>

Throughout DNAPL removal activities, air monitoring was performed using a combination of PID readings, and substance-specific monitoring using a Dräger Chip Measurement System (CMS). CMS chips employed included Vinyl Chloride, Tetrachloroethene, Trichloroethene, and Benzene. At no point during DNAPL removal did concentrations of these four substances exceed Occupational Health Safety Administration (OSHA) permissible exposure limits (PELs) or short-term exposure limits (STELs). Additionally, breathing zone and downwind PID measurements were within community air monitoring requirements at all times per the Health and Safety Plan.

#### 4.0 **RECOMMENDATIONS**

DNAPL monitoring and removal activities (if DNAPL is present) should continue at monthly intervals beginning in February 2017. Monthly DNAPL recovery status reports should be prepared and submitted to the Department within 2 weeks of each monthly DNAPL recovery event.

### **Closing**

We appreciate working with the Department on this challenging project. Please contact me at 716-856-5636 if you have any questions or comments.

Sincerely,

## **URS** Corporation

Michael Gutmann Project Manager

File: 60429463 (R-1) cc: George Kisluk URS

Enc. Figure 1 – Site Location

> Figure 2 – Monitoring Well and Soil Boring Locations Figure 3 – Soil Analytical Results Exceeding Criteria

Table 1 – Daily Summary of DNAPL Recovery at Well Location

Table 2 – On-Site Extraction Well Location Rationale

Summary of Detected VOCs in Soil Samples (Unrestricted Use, Protection of Table 3 –

Groundwater and Background Criteria)

Summary of Detected VOCs in Soil Samples (Residential and Restricted Table 4 -

Residential Criteria)

Table 5 – Combined Summary of DNAPL Observations/DNAPL Recovery

Appendix A -Photographic Log

Field Notes Appendix B -

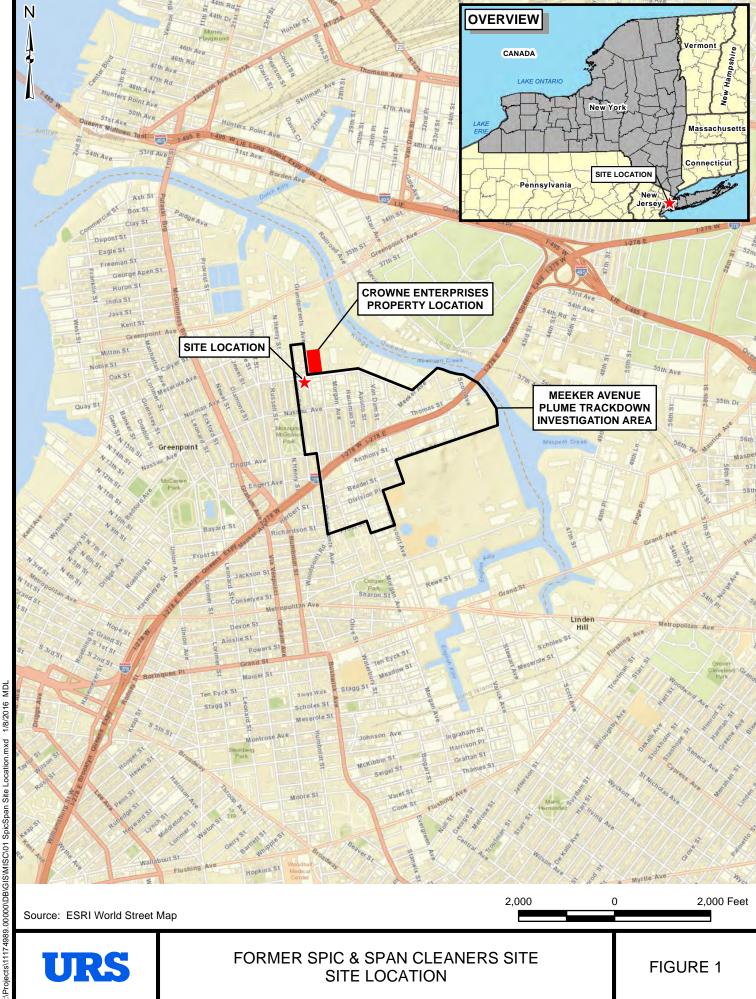
Appendix C -Geophysical Report Appendix D -Soil Boring Logs

Appendix E -Data Usability Summary Report Appendix F -**Extraction Well Construction Logs** 

Well Development Logs Appendix G – Appendix H -Waste Disposal Documents

Appendix I -DNAPL Recovery Summaries Per Well

# **FIGURES**





# **TABLES**

TABLE 1

DAILY QUANTITIES (Liters) OF DNAPL RECOVERY BY WELL LOCATION
FORMER SPIC AND SPAN CLEANERS AND DYERS SITE

Date	DEC-024	DEC-024D	DEC-024DR	DEC-092D	<b>DEC-136</b>	DEC-136D	EW-01	EW-02	EW-03	EW-04	EW-05	EW-06
6/4/2014	n/r	0.42	0.61	0.24	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
6/9/2014	n/r	0.85	1.00	0.29	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
6/11/2014	n/r	0.42	1.35	0.40	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
2/4/2015	n/r	n/r	n/r	n/r	0.35	n/r	n/r	n/r	n/r	n/r	n/r	n/r
2/5/2015	n/r	0.03	0.50	0.03	45.42	n/r	4.03	n/r	n/r	n/r	n/r	n/r
2/6/2015	n/r	n/r	n/r	n/r	34.07	n/r	n/r	18.93	n/r	n/r	n/r	n/r
3/23/2015	n/r	n/r	n/r	n/r	102.21	n/r	n/r	n/r	n/r	n/r	n/r	n/r
3/24/2015	n/r	n/r	n/r	n/r	90.85	n/r	n/r	n/r	n/r	n/r	n/r	n/r
3/25/2015	n/r	n/r	n/r	n/r	94.64	n/r	n/r	n/r	n/r	n/r	n/r	n/r
3/26/2015	n/r	n/r	n/r	n/r	140.06	n/r	n/r	n/r	n/r	n/r	n/r	n/r
3/27/2015	n/r	n/r	n/r	n/r	85.17	n/r	n/r	n/r	n/r	n/r	n/r	n/r
9/14/2015	n/r	n/r	0.14	n/r	trace	0.33	trace	trace	n/r	n/r	n/r	n/r
9/15/2015	n/r	0.08	0.33	0.33	39.75	trace	trace	n/r	n/r	n/r	n/r	n/r
9/16/2015	n/r	trace	1.00	0.89	82.33	0.83	trace	n/r	n/r	n/r	n/r	n/r
9/17/2015	n/r	trace	0.11	0.29	51.10	0.17	0.17	trace	n/r	n/r	n/r	n/r
9/18/2015	n/r	trace	0.11	trace	14.20	0.14	0.19	trace	n/r	n/r	n/r	n/r
9/22/2015	n/r	n/r	n/r	trace	54.89	trace	0.69	trace	n/r	n/r	n/r	n/r
9/23/2015	n/r	0.50	1.22	0.11	34.07	trace	trace	trace	n/r	n/r	n/r	n/r
9/24/2015	trace	trace	trace	0.50	34.07	0.11	trace	0.17	n/r	n/r	n/r	n/r
9/25/2015	trace	trace	trace	trace	11.36	trace	0.28	trace	n/r	n/r	n/r	n/r
9/28/2015	trace	trace	n/r	trace	n/r	trace	trace	trace	n/r	n/r	n/r	n/r
9/29/2015	0.17	trace	trace	trace	12.30	trace	trace	trace	n/r	n/r	n/r	n/r
9/30/2015	0.61	0.17	0.25	trace	15.14	trace	trace	trace	n/r	n/r	n/r	n/r
10/1/2015	trace	0.22	trace	trace	1.32	trace	trace	trace	n/r	n/r	n/r	n/r
10/2/2015	trace	trace	trace	trace	trace	trace	trace	trace	n/r	n/r	n/r	n/r
10/5/2015	trace	trace	trace	trace	n/r	trace	trace	trace	n/r	n/r	n/r	n/r
10/6/2015	trace	trace	trace	trace	11.36	trace	trace	trace	n/r	n/r	n/r	n/r
10/7/2015	0.22	trace	trace	0.17	1.89	trace	trace	trace	n/r	n/r	n/r	n/r
10/8/2015	trace	trace	trace	0.11	0.00	trace	trace	trace	n/r	n/r	n/r	n/r
10/9/2015	trace	trace	trace	trace	0.00	trace	trace	trace	n/r	n/r	n/r	n/r
10/12/2015	trace	trace	trace	trace	0.00	trace	trace	trace	n/r	n/r	n/r	n/r
10/13/2015	trace	trace	trace	trace	7.57	trace	trace	trace	n/r	n/r	n/r	n/r
10/14/2015	trace	trace	trace	trace	6.62	trace	trace	trace	n/r	n/r	n/r	n/r
10/15/2015	trace	trace	trace	trace	2.08	trace	trace	trace	n/r	n/r	n/r	n/r
10/16/2015	trace	trace	trace	trace	trace	trace	trace	trace	n/r	n/r	n/r	n/r
10/27/2015	trace	trace	trace	trace	trace	trace	trace	trace	n/r	n/r	n/r	n/r
10/28/2015	trace	0.03	trace	trace	trace	0.03	trace	trace	n/r	n/r	n/r	n/r
10/29/2015	trace	trace	trace	trace	trace	trace	trace	trace	n/r	n/r	n/r	n/r
10/30/2015	trace	trace	trace	trace	trace	trace	trace	trace	n/r	n/r	n/r	n/r
2/22/2016	trace	trace	trace	trace	2.90	0.06	trace	0.64	n/r	n/r	n/r	n/r
2/23/2016	trace	trace	0.03	trace	3.40	trace	trace	1.24	n/r	n/r	n/r	n/r
2/24/2016	trace	trace	trace	trace	0.03	trace	trace	0.03	n/r	n/r	n/r	n/r
4/26/2016	0.48	0.00	trace	trace	0.00	0.00	0.06	0.03	n/r	n/r	n/r	n/r
4/27/2016	trace	0.00	trace	trace	1.10	0.00	1.00	1.09	n/r	n/r	n/r	n/r
4/28/2016	trace	0.00	trace	trace	0.26	0.00	trace	1.00	n/r	n/r	n/r	n/r
11/15/2016	n/r	n/r	n/r	n/r	n/r	n/r	0.41	n/r	n/r	n/r	n/r	n/r
11/15/2016	n/r	n/r	n/r	n/r	0.10	trace	n/r	0.06	n/r	n/r	n/r	n/r
11/16/2016	0.17	trace	trace	0.11	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
11/17/2016	n/r	n/r	n/r	n/r	0.75	n/r	n/r	n/r	n/r	n/r	n/r	n/r
11/18/2016			n/r	n/r	0.75 n/r		n/r	n/r	n/r	5.50	n/r	n/r
	n/r	n/r				n/r						
11/30/2016	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	4.00	n/r	4.90	0.50

# TABLE 1 DAILY QUANTITIES (Liters) OF DNAPL RECOVERY BY WELL LOCATION FORMER SPIC AND SPAN CLEANERS AND DYERS SITE

Date	DEC-024	DEC-024D	DEC-024DR	DEC-092D	<b>DEC-136</b>	DEC-136D	EW-01	EW-02	EW-03	EW-04	EW-05	EW-06
12/1/2016	n/r	n/r	n/r	n/r	trace	n/r	n/r	n/r	n/r	n/r	n/r	n/r
12/2/2016	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	3.20	n/r	n/r
1/13/2017	0.00	0.00	0.00	0.00	trace	0.00	trace	1.24	0.00	0.00	0.00	0.00
1/17/2017	0.00	0.20	0.62	trace	trace	trace	0.12	1.57	trace	trace	0.00	trace
1/18/2017	trace	trace	trace	n/r	trace	0.00	0.03	1.73	trace	0.75	0.20	trace
1/19/2017	trace	trace	trace	n/r	trace	0.00	0.03	1.51	0.07	0.15	0.07	trace
Total DNAPL Recovery (L)	1.65	2.92	7.28	3.47	981.36	1.67	7.01	29.61	4.07	9.60	5.17	0.50

# TABLE 2 ON-SITE EXTRACTION WELL LOCATION RATIONALE FORMER SPIC AND SPAN CLEANERS AND DYERS, INC. SITE

<b>Location ID</b>	Туре	Well Construction	Approximate Screened Interval	Rationale	
EW-03	Extraction Well	15' 2-inch ID stainless steel 0.010-inch continuous wrap screen with 2' stainless steel sump riser below and Schedule 40 PVC riser above.	10-25 feet bgs	Located in the close proximity of SSB-029 and EW-02 where DNAPL was noted throughout the stratigraphic column. Target upper sand layer 15-16.5' with PID at 4,719 ppm at SSB-029 and 15-17.8' with PID at 15,000 ppm at EW-02.	
EW-04	Extraction Well	15' 2-inch ID stainless steel 0.010-inch continuous wrap screen with 2' stainless steel sump riser below and Schedule 40 PVC riser above.	10-25 feet bgs	Located in the close proximity of SSB-011 where DNAPL was noted within sand layer at 15-16.7'. Target upper sand layer 15-16.7' with PID at 650 ppm at SSB-011.	
EW-05	Extraction Well	15' 2-inch ID stainless steel 0.010-inch continuous wrap screen with 2' stainless steel sump riser below and Schedule 40 PVC riser above.	10-25 feet bgs	Located in the close proximity of EW-01 and SSB-032.  Target upper sand layer at 19-21' with PID 2,440 ppm at EW-01 and 17-19' with PID between 1,863 and > 9,999 ppm and solvent odor.	
EW-06	Extraction Well	15' 2-inch ID stainless steel 0.010-inch continuous wrap screen with 2' stainless steel sump riser below and Schedule 40 PVC riser above.	10-25 feet bgs	Located in the close proximity of DEC-092D and SSB-30. Target upper sand layer at 15-17' with PID at 3,912 ppm and solvent odor at DEC-092D and 13-16' with PID at 4,923 ppm at SSB-30 and strong solvent odor.	

#### TABLE 3

# **SUMMARY OF DETECTED VOCS IN SOIL SAMPLES** UNRESTRICTED USE, PROTECTION OF GROUNDWATER, AND BACKGROUND CRITERIA MEEKER AVENUE PLUME TRACKDOWN SITE

	Location ID					EW-03	EW-04	EW-04	EW-04	
	Location	טו ו			EW-03	EVV-U3	EVV-04	EVV-04	EVV-04	
	Sample	ID			EW-03 (16-16.5)	EW-03 (18.5-19)	EW-04 (16-16.5)	EW-04 (18-18.5)	EW-04 (24.5-25)	
	Matrix	(			Soil	Soil	Soil	Soil	Soil	
De	Depth Interval (ft)				16.0-16.5	18.5-19.0	16.0-16.5	18.0-18.5	24.5-25.0	
Date Sampled			11/11/16	11/11/16	11/11/16	11/11/16	11/11/16			
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)						
Volatile Organic Com	pounds									
Isopropylbenzene (Cumene)	MG/KG	2.3 CP-51	2.3 CP-51	î	1.5 U	120 U	520 U	260 U	130 U	
Methylcyclohexane	MG/KG	-	-	-	1.5 U	120 U	520 U	260 U	130 U	
Tetrachloroethene	MG/KG	1.3	1.3	-	100	6,900	22,000	39,000 D	5,900	
Trichloroethene	MG/KG	0.47	0.47	-	1.5 U	120 U	520 U	260 U	130 U	

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, plus CP-51 Table 1 10/21/10. Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, plus CP-51 Table 1 10/21/10.

Criteria (3)- Background soil concentrations from Msgr. McGolrick Park collected August 3, 2011 exceeding 6 NYCRR Part 375.6 Unrestricted Use and CP-51 Table 1 limits.

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	Concentration Exceeds Criteria 1
	Concentration Exceeds Criteria (2
Doudou	Concentration Evacada Critoria (3

U - Not detected above the reported quantitation limit.

J - The reported concentration is an estimated value.

#### TABLE 3

# SUMMARY OF DETECTED VOCS IN SOIL SAMPLES UNRESTRICTED USE, PROTECTION OF GROUNDWATER, AND BACKGROUND CRITERIA MEEKER AVENUE PLUME TRACKDOWN SITE

	Location	ID			EW-05	EW-06
	Sample	ID			EW-05 (20-21)	EW-06 (16.5-17)
	Matrix				Soil	Soil
De	pth Interv	val (ft)			20.0-21.0	16.5-17.0
1	Date Sam	11/10/16	11/10/16			
Parameter	Units	Criteria (1)	Criteria (2)	Criteria (3)		
Volatile Organic Com	pounds					
Isopropylbenzene (Cumene)	MG/KG	2.3 CP-51	2.3 CP-51	-	4.5 J	2.3 U
Methylcyclohexane	MG/KG	-	-	-	39	2.3 U
Tetrachloroethene	MG/KG	1.3	1.3	-	5.5 J	130
Trichloroethene	MG/KG	0.47	0.47	-	7.9	2.3 U

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Unrestricted Use, plus CP-51 Table 1 10/21/10. Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Restricted Use. Protection of Groundwater, plus CP-51 Table 1 10/21/10. Criteria (3)- Background soil concentrations from Msgr. McGolrick Park collected August 3, 2011 exceeding 6 NYCRR Part 375.6 Unrestricted Use and CP-51 Table 1 limits.

Flags assigned during chemistry validation are shown.



U - Not detected above the reported quantitation limit.

J - The reported concentration is an estimated value.

### **TABLE 4**

# **SUMMARY OF DETECTED VOCS IN SOIL SAMPLES** RESIDENTIAL AND RESTRICTED RESIDENTIAL CRITERIA MEEKER AVENUE PLUME TRACKDOWN SITE

Loca	tion ID			EW-03	EW-03	EW-04	EW-04	EW-04	
Sam	ple ID			EW-03 (16-16.5)	EW-03 (18.5-19)	EW-04 (16-16.5)	EW-04 (18-18.5)	EW-04 (24.5-25)	
Ma	atrix			Soil	Soil	Soil	Soil	Soil	
Depth Ir	Depth Interval (ft)  Date Sampled			16.0-16.5	18.5-19.0	16.0-16.5	18.0-18.5	24.5-25.0	
Date S				11/11/16	11/11/16	11/11/16	11/11/16	11/11/16	
Parameter	Units	Criteria (1)	Criteria (2)						
Volatile Organic Compou	ınds								
Isopropylbenzene (Cumene)	MG/KG	100 CP-51	-	1.5 U	120 U	520 U	260 U	130 U	
Methylcyclohexane	MG/KG	-	-	1.5 U	120 U	520 U	260 U	130 U	
Tetrachloroethene	MG/KG	5.5	19	100	6,900	22,000	39,000 D	5,900	
Trichloroethene	MG/KG	10	21	1.5 U	120 U	520 U	260 U	130 U	

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Residential, plus CP-51 Table 1 10/21/10. Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential, plus CP-51 Table 1 10/21/10.

Flags assigned during chemistry validation are shown.



U - Not detected above the reported quantitation limit.

# **TABLE 4 SUMMARY OF DETECTED VOCS IN SOIL SAMPLES** RESIDENTIAL AND RESTRICTED RESIDENTIAL CRITERIA MEEKER AVENUE PLUME TRACKDOWN SITE

Locat	ion ID			EW-05	EW-06
Samı	ole ID	-		EW-05 (20-21)	EW-06 (16.5-17)
Ma	trix			Soil	Soil
Depth In	terval (ft	t)		20.0-21.0	16.5-17.0
Date S	ampled			11/10/16	11/10/16
Parameter	Units	Criteria (1)	Criteria (2)		
Volatile Organic Compou	nds				
Isopropylbenzene (Cumene)	MG/KG	100 CP-51	-	4.5 J	2.3 U
Methylcyclohexane	MG/KG	-	-	39	2.3 U
Tetrachloroethene	MG/KG	5.5	19	5.5 J	130
Trichloroethene	MG/KG	10	21	7.9	2.3 U

Criteria (1)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Residential, plus CP-51 Table 1 10/21/10. Criteria (2)- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential, plus CP-51 Table 1 10/21/10.

Flags assigned during chemistry validation are shown.



U - Not detected above the reported quantitation limit.

J - The reported concentration is an estimated value.

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		9/24/2015	trace	trace	trace	10
		9/25/2015	trace	trace	0.00	20
		9/28/2015	trace	trace	0.00	0
		9/29/2015	6	0.17	0.17	0
		9/30/2015	22	0.61	0.78	
		10/1/2015	trace	trace	0.78	
		10/2/2015	trace	trace	0.78	
		10/5/2015	trace	trace	0.78	
		10/6/2015	trace	trace	0.78	
		10/7/2015	8	0.22	1.00	
		10/8/2015	trace	trace	1.00	
		10/9/2015	trace	trace	1.00	
		10/12/2015	trace	trace	1.00	
		10/13/2015	trace	trace	1.00	
		10/14/2015	trace	trace	1.00	
DEC 034	17+- 22	10/15/2015	trace	trace	1.00	
DEC-024	17 to 32	10/16/2015	trace	trace	1.00	
		10/27/2015	trace	trace	1.00	
		10/28/2015	trace	trace	1.00	
		10/29/2015	trace	trace	1.00	
		10/30/2015	trace	trace	1.00	
		2/22/2016	trace	trace	1.00	1.25
		2/23/2016	trace	trace	1.00	1.25
		2/24/2016	trace	trace	1.00	
		4/26/2016	trace	0.48	1.48	
		4/27/2016	trace	trace	1.48	25
		4/28/2016	trace	trace	1.48	2.5
		11/17/2016	6	0.17	1.65	51
		1/13/2017	trace	0.00	1.65	
		1/17/2017	trace	0.00	1.65	
		1/18/2017	trace	trace	1.65	
		1/19/2017	sheen	trace	1.65	

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water		
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed		
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)		
		6/4/2014	15	0.42	0.42			
		6/9/2014	30.5	0.85	1.27			
		6/11/2014	15.25	0.42	1.69			
		2/5/2015	Trace	0.03	1.72			
		9/15/2015	3	0.08	1.80			
		9/16/2015	trace	trace	1.80			
		9/17/2015	trace	trace	1.80			
		9/18/2015	trace	trace	1.80			
		9/23/2015	18	0.50	2.30			
		9/24/2015	trace	trace	2.30			
		9/25/2015	trace	trace	2.30			
		9/28/2015	trace	trace	2.30			
		9/29/2015	trace	trace	2.30			
		9/30/2015	6	0.17	2.47			
		10/1/2015	8	0.22	2.69			
		10/2/2015	trace	trace	2.69			
		10/5/2015	trace	trace	2.69			
	44 to 54	10/6/2015	trace	trace	2.69			
		44 to 54	10/7/2015	trace	trace	2.69		
			44 to 54	10/8/2015	trace	trace	2.69	
DEC-024D				10/9/2015	trace	trace	2.69	
		10/12/2015	trace	trace	2.69			
		10/13/2015	trace	trace	2.69			
		10/14/2015	trace	trace	2.69			
		10/15/2015	trace	trace	2.69			
		10/16/2015	trace	trace	2.69			
		10/27/2015	trace	trace	2.69			
		10/28/2015	1	0.03	2.72			
		10/29/2015	trace	trace	2.72			
		10/30/2015	trace	trace	2.72			
		2/22/2016	trace	trace	2.72	1.25		
		2/23/2016	trace	trace	2.72	1.25		
		2/24/2016	trace	trace	2.72			
		4/26/2016	0.00	0.00	2.72			
		4/27/2016	0.00	0.00	2.72			
		4/28/2016	0.00	0.00	2.72			
		11/17/2016	trace	trace	2.72	50		
		1/13/2017	0.00	0.00	2.72			
		1/17/2017	0.84	0.20	2.92			
		1/18/2017	trace	trace	2.92			
		1/19/2017	sheen	trace	2.92			

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		6/4/2014	22	0.61	0.61	
		6/9/2014	36	1.00	1.61	
		6/11/2014	48.25	1.35	2.96	
		2/5/2015	18	0.50	3.46	
		9/14/2015	5	0.14	3.60	
		9/15/2015	12	0.33	3.93	
		9/16/2015	36	1.00	4.93	
		9/17/2015	4	0.11	5.04	
		9/18/2015	4	0.11	5.15	
		9/23/2015	44	1.22	6.38	
		9/24/2015	trace	trace	6.38	
		9/25/2015	trace	trace	6.38	
		9/29/2015	trace	trace	6.38	
		9/30/2015	9	0.25	6.63	
		10/1/2015	trace	trace	6.63	
		10/2/2015	trace	trace	6.63	
		10/5/2015	trace	trace	6.63	
		10/6/2015	trace	trace	6.63	
		10/7/2015	trace	trace	6.63	
		10/8/2015	trace	trace	6.63	
DEC-024DR	43 to 53	10/9/2015	trace	trace	6.63	
		10/12/2015	trace	trace	6.63	
		10/13/2015	trace	trace	6.63	
		10/14/2015	trace	trace	6.63	
		10/15/2015	trace	trace	6.63	
		10/16/2015	trace	trace	6.63	
		10/27/2015	trace	trace	6.63	
		10/28/2015	trace	trace	6.63	
		10/29/2015	trace	trace	6.63	
		10/30/2015	trace	trace	6.63	
		2/22/2016	trace	trace	6.63	4.5
		2/23/2016	1	0.03	6.66	1.25
		2/24/2016	trace	trace	6.66	
		4/26/2016	trace	trace	6.66	
		4/27/2016	trace	trace	6.66	
		4/28/2016	trace	trace	6.66	
		11/17/2016	trace	trace	6.66	50
		1/13/2017	trace	0.00	6.66	
		1/17/2017	3.6	0.62	7.28	
		1/18/2017	trace	trace	7.28	
		1/19/2017	sheen	trace	7.28	50

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		6/4/2014	8.5	0.24	0.24	
		6/9/2014	10.5	0.29	0.53	
		6/11/2014	14.5	0.40	0.93	
		2/5/2015	Trace	0.03	0.96	
		9/15/2015	12	0.33	1.29	
		9/16/2015	32	0.89	2.18	
		9/17/2015	10.5	0.29	2.47	
		9/18/2015	trace	trace	2.47	
		9/22/2015	trace	trace	2.47	
		9/23/2015	4	0.11	2.58	
		9/24/2015	18	0.50	3.08	
		9/25/2015	trace	trace	3.08	
		9/28/2015	trace	trace	3.08	
		9/29/2015	trace	trace	3.08	
		9/30/2015	trace	trace	3.08	
		10/1/2015	trace	trace	3.08	
		10/2/2015	trace	trace	3.08	
		10/5/2015	trace	trace	3.08	
		10/6/2015	trace	trace	3.08	
DEC-092D	48 to 58	10/7/2015	6	0.17	3.25	
DEC-092D		10/8/2015	4	0.11	3.36	
		10/9/2015	trace	trace	3.36	
		10/12/2015	trace	trace	3.36	
		10/13/2015	trace	trace	3.36	
		10/14/2015	trace	trace	3.36	
		10/15/2015	trace	trace	3.36	
		10/16/2015	trace	trace	3.36	
		10/27/2015	trace	trace	3.36	
		10/28/2015	trace	trace	3.36	
		10/29/2015	trace	trace	3.36	
		10/30/2015	trace	trace	3.36	
		2/22/2016	0.00	0.00	3.36	1.25
		2/23/2016	trace	trace	3.36	0.5
		2/24/2016	0.00	0.00	3.36	
		4/26/2016	0.00	0.00	3.36	
		4/27/2016	0.00	0.00	3.36	
		4/28/2016	0.00	0.00	3.36	
		11/17/2016	4	0.11	3.47	
		1/13/2017	0.00	0.00	3.47	
		1/17/2017	0.00	trace	3.47	

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		2/4/2015		0.35	0.35	
		2/5/2015		45.42	45.77	
		2/6/2015		34.07	79.84	
		3/23/2015		102.21	182.05	
		3/24/2015		90.85	272.90	
		3/25/2015		94.64	367.54	
		3/26/2015		140.06	507.60	
		3/27/2015		85.17	592.77	
		9/14/2015		trace	592.77	
		9/15/2015		39.75	632.52	
		9/16/2015		82.33	714.85	
		9/17/2015		51.10	765.95	
		9/18/2015	-	14.20	780.15	
		9/22/2015		54.89	835.04	
		9/23/2015		34.07	869.11	
		9/24/2015		34.07	903.18	
		9/25/2015		11.36	914.54	
		9/29/2015		12.30	926.84	
		9/30/2015		15.14	941.98	
		10/1/2015		1.32	943.30	
		10/2/2015		trace	943.30	
		10/6/2015		11.36	954.66	
		10/7/2015		1.89	956.55	
DEC-136	12.5 to 27.5	10/8/2015		0.00	956.55	
		10/9/2015		0.00	956.55	
		10/12/2015		0.00	956.55	
		10/13/2015		7.57	964.12	
		10/14/2015		6.62	970.74	
		10/15/2015		2.08	972.82	
		10/16/2015		trace	972.82	
		10/27/2015		trace	972.82	
		10/28/2015		trace	972.82	
		10/29/2015		trace	972.82	
		10/30/2015		trace	972.82	
		2/22/2016		2.90	975.72	15.5
		2/23/2016		3.40	979.12	19
		2/24/2016		0.03	979.15	20
		4/26/2016		0.00	979.15	
		4/27/2016		1.10	980.25	11
		4/28/2016		0.26	980.51	7
		11/16/2016	3	0.10	980.61	10
		11/18/2016	trace	0.75	981.36	10
		12/1/2016	trace	trace	981.36	20.5
		1/13/2017	trace	trace	981.36	
		1/17/2017	trace	trace	981.36	
		1/18/2017	trace	trace	981.36	
		1/19/2017	trace	trace	981.36	

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
	<u>.                                    </u>	9/14/2015		0.33	0.33	
		9/15/2015		trace	0.33	
		9/16/2015		0.83	1.17	
		9/17/2015		0.17	1.33	
		9/18/2015		0.14	1.47	
		9/22/2015		trace	1.47	
		9/23/2015		trace	1.47	
		9/24/2015		0.11	1.58	
		9/25/2015	-	trace	1.58	
		9/28/2015		trace	1.58	
		9/29/2015		trace	1.58	
		9/30/2015		trace	1.58	
		10/1/2015		trace	1.58	
		10/2/2015		trace	1.58	
		10/5/2015		trace	1.58	
		10/6/2015		trace	1.58	
		10/7/2015		trace	1.58	
		10/8/2015		trace	1.58	
		10/9/2015		trace	1.58	
DEC-136D	43 to 53	10/12/2015		trace	1.58	
		10/13/2015		trace	1.58	
		10/14/2015		trace	1.58	
		10/15/2015		trace	1.58	
		10/16/2015		trace	1.58	
		10/27/2015		trace	1.58	
		10/28/2015		0.03	1.61	
		10/29/2015		trace	1.61	
		10/30/2015		trace	1.61	
		2/22/2016		0.06	1.67	6.25
		2/23/2016	1	trace	1.67	0.5
		2/24/2016	trace	trace	1.67	5
		4/26/2016	trace	0.00	1.67	
		4/27/2016	0	0.00	1.67	
		4/28/2016	0	0.00	1.67	
		11/16/2016		trace	1.67	20
		1/13/2017	trace	0.00	1.67	
		1/17/2017	0	trace	1.67	
		1/18/2017	0	0.00	1.67	
		1/19/2017	0	0.00	1.67	

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		2/5/2015		4.03	4.03	
		9/14/2015	trace	trace	4.03	
		9/15/2015	trace	trace	4.03	
		9/16/2015	trace	trace	4.03	
		9/17/2015	6	0.17	4.20	
		9/18/2015	7	0.19	4.39	
		9/22/2015	25	0.69	5.09	
		9/23/2015	trace	trace	5.09	
		9/24/2015	trace	trace	5.09	
		9/25/2015	10	0.28	5.36	
		9/28/2015	trace	trace	5.36	
		9/29/2015	trace	trace	5.36	
		9/30/2015	trace	trace	5.36	
		10/1/2015	trace	trace	5.36	
		10/2/2015	trace	trace	5.36	
	40 to 55	10/5/2015	trace	trace	5.36	
		10/6/2015	trace	trace	5.36	
		10/7/2015	trace	trace	5.36	
		10/8/2015	trace	trace	5.36	
EW-01		10/9/2015	trace	trace	5.36	
EAA-01		10/12/2015	trace	trace	5.36	
		10/13/2015	trace	trace	5.36	
		10/14/2015	trace	trace	5.36	
		10/15/2015	trace	trace	5.36	
		10/16/2015	trace	trace	5.36	
		10/27/2015	trace	trace	5.36	
		10/28/2015	trace	trace	5.36	
		10/29/2015	trace	trace	5.36	
		10/30/2015	trace	trace	5.36	
		2/22/2016	trace	trace	5.36	1.25
		2/23/2016	trace	trace	5.36	0.5
		2/24/2016	trace	trace	5.36	
		4/26/2016	trace	0.06	5.42	
		4/27/2016	trace	1.00	6.42	25
		4/28/2016	trace	trace	6.42	
		11/15/2016	6	0.41	6.83	55
		1/13/2017	trace	trace	6.83	
		1/17/2017	3	0.12	6.95	
		1/18/2017	1	0.03	6.98	
		1/19/2017	1	0.03	7.01	

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	<b>Date Checked</b>	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		2/6/2015		18.93	18.93	
		9/14/2015	trace	trace	18.93	
		9/17/2015	trace	trace	18.93	
		9/18/2015	trace	trace	18.93	
		9/22/2015	trace	trace	18.93	
		9/23/2015	trace	trace	18.93	
		9/24/2015	6	0.17	19.10	
		9/25/2015	trace	trace	19.10	
		9/28/2015	trace	trace	19.10	
		9/29/2015	trace	trace	19.10	
		9/30/2015	trace	trace	19.10	
		10/1/2015	trace	trace	19.10	
		10/2/2015	trace	trace	19.10	
		10/5/2015	trace	trace	19.10	
		10/6/2015	trace	trace	19.10	
	43.5 to 58.5	10/7/2015	trace	trace	19.10	
		10/8/2015	trace	trace	19.10	
		10/9/2015	trace	trace	19.10	
EW-02		10/12/2015	trace	trace	19.10	
E VV-02		10/13/2015	trace	trace	19.10	
		10/14/2015	trace	trace	19.10	
		10/15/2015	trace	trace	19.10	
		10/16/2015	trace	trace	19.10	
		10/27/2015	trace	trace	19.10	
		10/28/2015	trace	trace	19.10	
		10/29/2015	trace	trace	19.10	
		10/30/2015	trace	trace	19.10	
		2/22/2016	21	0.64	19.74	1.25
		2/23/2016	1	1.24	20.98	31
		2/24/2016	1	0.03	21.00	10
		4/26/2016	trace	0.41	21.41	25
		4/27/2016	3	1.09	22.50	25
		4/28/2016	trace	1.00	23.50	25
		11/16/2016	2	0.06	23.56	
		1/13/2017	trace	1.24	24.80	
		1/17/2017	9.12	1.57	26.37	
		1/18/2017	5	1.73	28.10	40
		1/19/2017	1	1.51	29.61	40

	Screen		Total DNAPL	DNAPL	Total DNAPL	Water
Well ID	Interval (ft.	Date Checked	Observed in Bailer	Observation/	Recovered to	Removed
	bgs)		(in.)*	Recovery (L)	Date (L)	(Gal.)
		11/30/2016	7	4.00	4.00	5
		1/13/2017	trace	0.00	4.00	
EW-03	10.0 to 25.0	1/17/2017	trace	trace	4.00	
		1/18/2017	trace	trace	4.00	1
		1/19/2017	trace	0.07	4.07	2
		11/29/2016	9	5.50	5.50	28
		12/2/2016	trace	3.20	8.70	8.5
EW-04	10.0 to 25.0	1/13/2017	0	0.00	8.70	
E VV-U4	10.0 to 25.0	1/17/2017	0	trace	8.70	
		1/18/2017	trace	0.75	9.45	4
		1/19/2017	trace	0.15	9.60	4
		11/30/2016	7	4.90	4.90	6.5
		1/13/2017	trace	0.00	4.90	
EW-05	10.0 to 25.0	1/17/2017	0	0.00	4.90	
		1/18/2017	trace	0.20	5.10	0.5
		1/19/2017	trace	0.07	5.17	2
	10.0 to 25.0	11/30/2016	trace	0.50	0.50	2.5
		1/13/2017	trace	0.00	0.50	
EW-06		1/17/2017	0	trace	0.50	
		1/18/2017	trace	trace	0.50	1
		1/19/2017	0	trace	0.50	1
			Total DNAPL Recovered to Date (L)	1054.32		
			Total DNAPL Recovered to Date (Gals)	278.92	DNAPL Mass Recovered to Date (Lbs.)	3491.14

<sup>\* -</sup> DNAPL in DEC-024D, DEC-024DR, and DEC-092D was collected using a dedicated HDPE bailer. DNAPL in DEC-136, EW-01, EW-02, EW-03, EW-04, EW-05 and EW-06 was collected using a hydrolift pump.

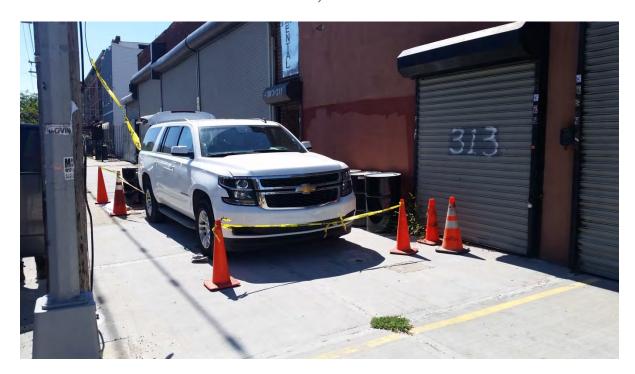
ft. bgs - feet below ground surface

L - liters

in. - inches

<sup>=</sup> Estimated quantity based upon visual appearance of emulsion

# APPENDIX A PHOTOGRAPHIC LOG



**Photo 1:** Site Setup for DNAPL removal at 315 Kingsland Ave. (Typical)



**Photo 2:** Site Setup for DNAPL removal at 315 Kingsland Ave. (Typical)



**Photo 3:** Site Setup for DNAPL removal at 315 Kingsland Ave. (Typical)



**Photo 4:** Site Setup for DNAPL removal at 315 Kingsland Ave. (Typical).



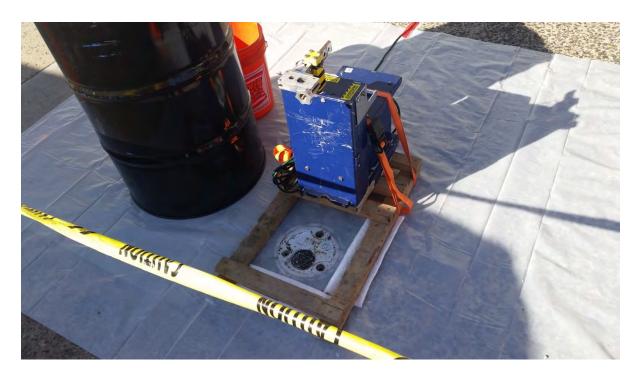
**Photo 5:** Site Setup for DNAPL removal at 315 Kingsland Ave. (Typical).



**Photo 6:** Waterra pump and drum set up for DNAPL removal at DEC-136 (Typical).



**Photo 7:** Waterra pump set up for DNAPL removal at DEC-136 (Typical).



**Photo 8:** Waterra pump set up for DNAPL removal at DEC-136 (Typical).

## DNAPL REMOVAL, FORMER SPIC AND SPAN CLEANERS AND DYERS SITE PHOTOGRAPHIC LOG **BROOKLYN, NEW YORK**



**Photo 9:** Waterra pump and drum set up for DNAPL removal at DEC-136 (Typical).



**Photo 10:** Site Setup for DNAPL removal at 315 Kingsland Ave. (Typical).

## DNAPL REMOVAL, FORMER SPIC AND SPAN CLEANERS AND DYERS SITE PHOTOGRAPHIC LOG **BROOKLYN, NEW YORK**



**Photo 11:** Bailer showing DNAPL at DEC-136D

## APPENDIX B FIELD NOTES

78 PROJECT_02-22-11	6 315	Notebook No. Continued From Page	e recovery
Grant Trett settinging	oged to sur	Free 26 40 DTB	n and order
Clear got dontes turned to Voler Seper	ont out purper ated possible	10 1.00	Startey Dut Color-Change tuck onexine
	odor, 1 vo	lune (12) 100 Too	10,00 Zero Co 1.
DEC-24 - decc, no of	re the oil	on bally sheem	, 1 Volume
11:25 W. 16.9'- DEC-1: 11:35 5 gallons pulled max 400m as	mostly clean	-max No VISIble	segenation
OFC - 136P sheen,	1-5% (1 oder, 0%)	volume)	10-1590 In
DEC-024 frei o	l on baller , no ode	sheen 5% (1)	slime)
1230 - 1240 2 gallers	alled , s. 11, pm - 12021	mix, trace, ofor	not much separation
Rending in Due to strong Brenting settle	) oder High	Sit through ont	but do not
1:30 PTW: 21. 5	3 99/10/75 P4/16 -120x 60+16	of, SILT my, thee	of Palm Jojer
Mellar 1-3		and Understood By	Ny all with

SIS KINDSKIND Naple recovery 79 PROJECT 02-22-16 Continued From Page - Sheen 1-5% (1 Clear 0010 adar - Product more visible about 15 or product clear no opor 0% (I varine , sheen 50/0 (1 volum el al on baller clear, no oder 0910 ( I volume diegr no oder 00/0 (100 ND 2,925 +1207 bottle DEC+136 90100 1-590 sporal of trace odor, no 1-500 ( 1 voin DEC-092D - Over BE(e) 02 - trace 1 no oter, 090 (1 vaine 1-5961 1000 avalue trace product ELO+UN Clear ino oder 0 DEC-Oall 500 (1)106 21 011 she en 0010 (1 DEC - 0240 odor Clear, no 0% - clary DEC-OSUDA cider 3:30 1201. bottle strong odor PD 1395 pom 52/129 Galler 1-5% trace no separatus decrease 2 day Lone rale of recharge -15 DEC-136D - sheen 1-5% (1 voince DEC- 0927 - Clear no 00/0 (1 volume occi 1 302 oder - Product EW-02 Ew-01 - clear, no odor 090 Cl volu DE (-024 - Reloil) sheen DEC-0210 - clear no oder or o (1 volu DEC -024 DR - creat No pour Olo CI AARCO OFFIRE OF 4:00 NICOLE and Grand learings/te at 4:30 Continued on Page Complete Read and Understood By Signed Signed

PROJECT 02-23-16 313 Kingsign of Notebook No. Pecavery Continued From Page Piod on site setting up pumpon # EW-02 WL: 19.34'

Que to high consentation of product compared OTB: 61.70'

to PEC-136, EW-02 has Strong oter, mixed Sheen and

Blebs when pulling bailet

OID Mini Ray 3000 Callinated 100pm too 0.0 zero cal. 8:45 - Pilled S gallers from FW-03 Heavy sheen, PID bring 4 440m DEC-136D She's DEC-92D Clear EW- OI clear DEC-24 Fre I oil, sheen, I volume Strong od o DE( - 24D Clear DEC-24DR - DEL-36 DTW 15.55 Hand Checked 5 gallans 5% product, strang odor felled 5 gallers from EW 00, heavy sheen 945 PiD bund & spom 10:20-10:25 - Filled 4 gellers from DEC 136 . Heavy sheen. DEC -1360 - sheen, 1-5% (1 varine) - clear 1) yours ( Vourie EWOV - Clear 1202 in baler Shew color fuel ( Vely ne DEC- 240 - Clear (1/01/1/2 DEC- 24 DA 000 Continued on Page Read and Understood By

82 PROJECT 02/24/15 315 KM	195/2Notebook No
Weather 40° Rain / 60/2, Grant	0 +000
Set up pump on DEC-016 ber Paguet in well on 02/23/11 could be pulled	rgastnere was a trace of
pEc-920 - Clear, in oder,	gallons frace of product settles and Sheen not present seen not present
PEC-024DR - Cleur Ston a EW + 02 + 102 at bottom	Clear in oth Oder Stephon top, of Baller, Steen and oden
morang was very stity who product from 2 the day before	out of DEC - 016 through out en I storted the 11th 61tot was not expent after
Phinppy (Soulling out wo gresent of sheen 4 round FW-2 and PEC-136 Sheen 4 round having 2 to 1 oz every other	onthotograph EW-2
wells are not Snowing which stowistions  Ew-62 was the only well to show production of the contraction of th	trace of fine of out no product  2 product and recovery was injuling act pure, when pumpled did not show
Grand Packed up 315 chose, key	Returned to owner 11:15 herded with all after storgege unit my to
Waterag pump, PIDMINI Cay Bodo	water level meters
On a salaulia	Continued on Page  Read and Understood By
Signed Date	Signed

Date

Signed

δu	-27-10	35 M	50	ave Valle Notebook No.	Recovery  om Page  To on sile  on sile  on sile  to prop	
ROJECT	700000 6-	Changelman		Continued Fr	om Page	
egony not	MA TOO	STA GO WINT	40		0 17 - 01/2	7-21
wegther n	141 50 0	ler Cast III	MT PA	eeze, 6 m	At To on size	0.50
an to Store	age mult p	nor to site	VISIT,	pine env.	wiste to proj	DOFF
Viager ava	replace	water leve	meter	8:45, Ca	1/6ration on f	11/
MINI Ray 3	DOD UNIT #	021520,	100.0	opm 750 and	0.0 zero Cal.	6000
working con	Whom . Drage	r 4147#542	8. Inter	face yout # 0	32561, water	a Uni
#12032	0. /)	. 913	,, ,,		77	
vater lough	: OF0 - 13	60 = W= :	70.09	- No produce	A	
110 Tovers	12		00,6	14		
	Der . 12	7 - 1.1 .	1070	- 1/2 - 2/1		
	NEC- 136	- MT.	12:12	- No product		
	200	0	2 - // 9	20		
	1/EC-042	D = WL.	10.48-	No product		
	EW-02	= W.17	- 10.00	Slight frag	ue, Mild ofer no	ome
	Swamos	18 Estapolo	water 1	enel	7	
	EW-01	- 11000 0	20 -	10 0012	r no pure produ	V CADE
	Eve water	- W 0	1.20	3/19ng ope	1 110 4110 1.022	
	200 - 6211	19491	1100	0000	n top of water	-
	VIEC - UCY	- Mr.	1.05	- Marie	11 101 of mater	
				20.524	721.23 = Stone	oder
	DEC- OZY	D = WL:	- Up. 05	Clear ma	maney (=11)	
				0 7 0		
	DEC- 024	DR = 111 = 1	0.03 -	oder wo pr	000 - 20-1	
	10000	W.	14.12	000 110 11	0 2000 0 000 1000	
	000 64		00 011	- 20011100		
	JEC - 05	1 - Mr.	10.04-	- no product	1 wo ogen	
	DFC-03	70 =WE: 19	195 -	Slight 5	heen on top le	85 tha
				. 10 stan inc	n very faint a	den
				un Brotunt		1 7
110689 8	-W-07 = W	1200 + 7-211A	001910	odgot at go	thom of 12 bar	
8	201-200	Soil a char	IN ENG	02 to 000	25 00 1000	Duc
	1060	Stimont	1) 0010	Dam moras	-> Janlans Y Janl	10
Whe	in sevented	111 to out	10 01 10	ט פווין וואן עם	will mater h	104
SC DE	10189 mild	Sould Cheek	35 30	mons pulled	WITH 9 M92 PI	1) 04
26	6 when sep	rated from b	WKIN C	up, mixed th	25 gallons, Par.	an
5	peration, es	timated to be	5%	WAPLE		
E-136 0	or ded by Ma	nd until the	, Appr	X V togals	pulled pid many buckery steen	2
127 1	0 3 1 1 1 10	CUDAR COR	100	THE PO	biackgoden at n.Pa	100
100	WITO WI	Silan Sel	COLON A	DOLLAN OF	DAMAGE &	M 196
EX 4mm 3	19 2 10 Algare	T, SITY WO	W Head and	Understood By		
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Signed		Date		Signed		

Date

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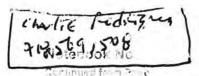
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## PROJECT SPIC & SOW JAM



HIL /2016
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11/12016 & Detart Countyped Tarryrown 0630 MASS
* 0800 ALLUS & FAIRFIELD JUNE & CRECK IN  * 0515 ALLUS @ 315 KNOSHING & S.M Christophen on site  * D.JCUSS S.FE & JAM HISTORY  * CANOCON PUSE POI MAINES @ UGIP  -> SET UP GRED IS X 80' 15 E- U 80' 10-5
SENSOFFS & SOFTWARE WENDERED 250 Mg HIZ ANTENNA  FOX FACTORISE DE BLOOP  ** 0970 CON EL 2 now new y Much ARRIVE TO CONSIDE WHIT  JACKETING OF EVOLUTIONED WINES -> CONED OFFS. FE 1100  IF 10, 5hed 13 GRED 15' X 80' @ ~ 1100  IS' X 80' TO NOLMAN AVE CONNETED W 11 THE SET 2 90' TO NOLMAN AVE CONNETED W 11 THE
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124 CAMERAN (14-5.76 Continued in Face)  White Signed 11/4/2016

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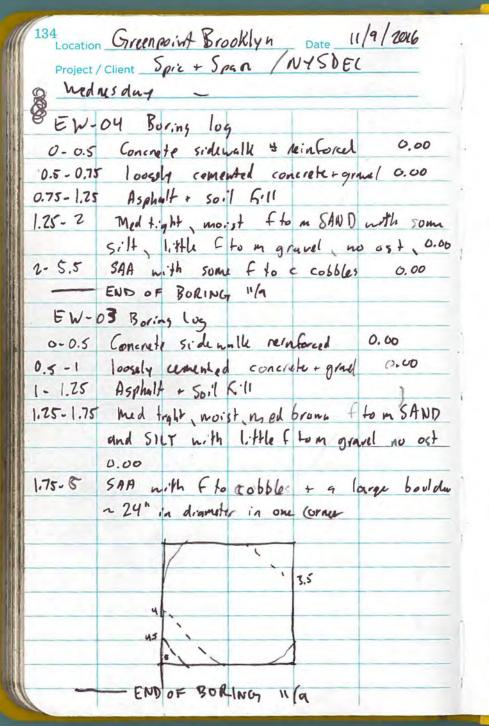
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Location Gille point Brooklyn Date 11/9/2016 Project / Client Spic + Spm / NYSDEC Wednesday 89°F mostly douby breezy Rersonnel. J. Christopler Task: Preclear 3 youholes to 5 ft, I hole sound to 6 ft. 715 Sconsize Cal' dequipment! Q Rac 3 # 036527 ohv Sound Pro # 22251 OK-Ultra Rac 3000 \$ 27411 sk 800 H+S meeting! - Hosp. Route, emergency procedures WP, Noise PPE, weather cleanliness + Permits not yet in hand, work to hold until received. Per My. Permit acceptance for nork login saw 930 cutting @ EW-04 - Brief spike of CO, Q. Rue immediately 940 downwind of demo saw. 950 Air vacing water from sawcut, laugin hammuning out concrete. 1000 Hand clearing remaining concrete edge. with o consional vacing.

Location Grunpoint Brooklyn Date 11/9/16 133 Project / Client Spic + Spin NYSDEC wednesday & 1005 49°F We bush dals 1030 EW-04 complete to 5.5' No hits on PID no utilities encounters
1045 Begin Saw cut @ EW-03 - coeloppen 1052 Complete sawcut 1058 Hammer concrete on and off Complete hammer 1110 1111 Vaciny + gir- Knife on rofe - Perc driger 15.00 pm 1140 Boulder is blocking the hole to 25 ft Aven will be widered to attempt to pass it this is consistent with adjacent EV-02 12 35 comple preclear to 5 ft @ EV-03 Buck filling 1250 Begin preclear @ EW-06 1400 Complete EN-06 to 5.25 FZ 14/0 Begin Preclear & EL-08 1505 EW-05 completed to 5.592 SUMM ARY 1 SOIL NOW HAZ DRUM 1-2 MAN CREW PRECLEAR 4 HOLES TO 5 fby 8.75 his ON SITE 1600 Sc off site



Location Green point Brooklyn Date 11/9/2016 135 Project / Client Spic + Spin / NYS DEC wedges day @ 1515 49°F cloudy brong EW-06 Boring log: 0-1 Concrete sidenalk, veinforce 0.00 1-1.25 Asphalt + Soil Foll 0.00 1.25-3 Med tight moist used Grown From SAND with some solt, with some Flore gisvel 0.00 3-5.26 SAA with some F to c cobbles 0.00 - END OF BORING "/A EV-05 Boring log 0.0.75 Concrete Sidenally, reinforced 0.00 0.75 - 1.25 Asphalt + 50.1 6.11 0.00 no ust 1.25 - 5.5 Med tight most and brown for SAND and silt with some flows graves with little fto c gobiles our po GEL - END OF BORING 4/9 DAY CLOSED ON PAGE 133

Notebook No. Continued from Page

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136 Locatio	on Greenpoint Brooklyn Date 11/10/2016
Projec	t/Client Spire + Spun / NYSDEC
	edta Thursday 55°F, clear + breezy
Personnel	: J. Christonn
Task:	Dr.11 + install EW's @ Spiz + Span
700	
730	Glacier Drilling (GD) on site mobing
	Glacier Drilling (GD) on site, mobing ogvipment, via, supplies
	- (al'A equipment:
	a Rac 3 # 036527 oh/
*	Sound Pro # 22751 on
	Ultra Rae 3000 # 27411 04 V
	-H+S meeting:
	- Ped traffic, emerg. procedures, stretches,
	hosp. rate, lifting, we neuther
940	90 begins drilling @ EW-05 to 27Fbg
	5tarting water: 100%. Ending water 100%
1100	Complete drilling @ EW-05 to 27'
	Begin install of extraction well =
	Actorils on Field Forms No change
	from planned.
1110	Dringer tests:
	PCE LS.00 ppm TCE < 5.00 ppm
	Benzene CO. Sooppin VC < 0.300 ppm

Project / Client Spic + Span / NYSDEC

Thursday

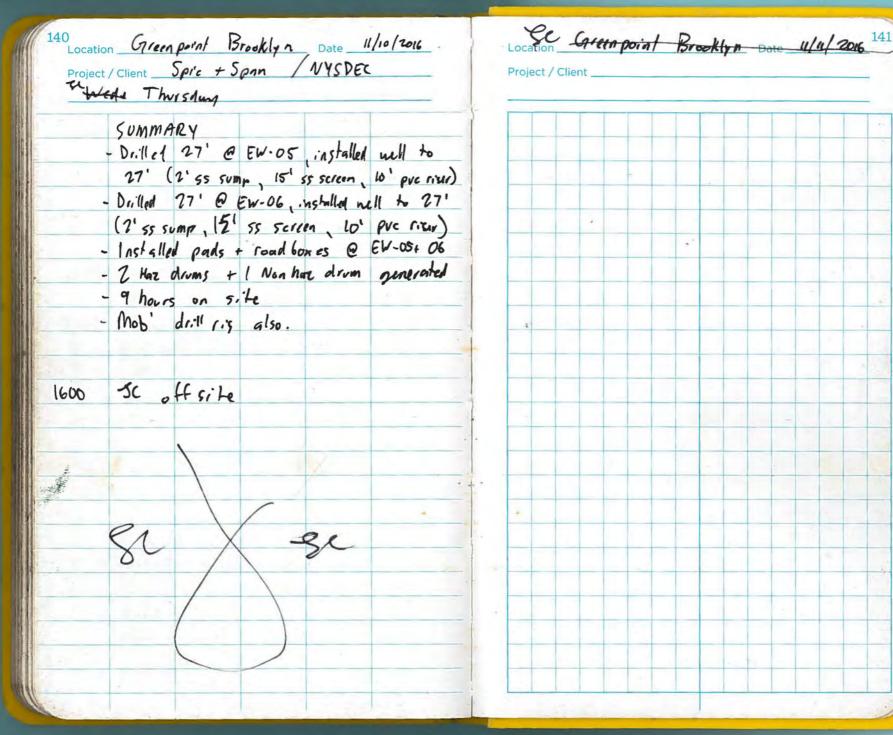
EW-05 Boring log! 0-5 SEE PAGE 135 60" 5-8.5 Mod tight moist med orange Groves.

F SAND and SILT with little Fto C gravel with trace f cobbles slight 8.5.9.0 SAA w/ strining 1240 9-10 Med fight moist red brown FSAM nith some silt with little c grave 5 light oder un stein 18-55 60' 10-11 med tight, morst, dk brown ftown SAND with some silf, will some fto ( gravel no ost 0.25 11-13.5 loose day (desirated) fto con. and coolles with little E soul no ost 0.45, 1.65, 18.25 13.5-15 med fight moist all brown & SAMO and SILT with some I to a gravel with trace f cobbles no ost 6.35 60 15 17 SAA 7.95, 9.00 17-17.5 Mtight muist orange brann from SAND with som silt with little Flo m gravel 133.55 odar most

Location Greenpoint Brooklyn Date 11/10/16 Project / Client Spic + Span / NYS DEC Thursday @ 1100 SI F clow breezy 17.5-19.5 SAA W/ strining 1434, 1863 18.5-20 loose , met dle grey in SAND Strong odor staining 3024 84" 20-22 SAA 3208 378.3 22-23.5 m tight moist strong red brown F SAND and SILT with some Flow gravel nith little in sand slight odor (nose blind?) 377.8, 26.35 10 St 23.5-27 in tight moist to day Grown gray f SAND and SICT with some F to an year with trace & cobbles slight odon no st 18.75 7.65 9.56 END OF BOLING Install complete break for lunch 1200 Mobi to EW-06, to be dr. Med to 27 fbg 1230 Begin drilling @ EV-06 1245 Complete drilling @ EW-06 , no 1330 nater used, - Begin Setting EW-06 to 27 fbg details on Field Forms - no change to Plan. Completel road boxon @ 60th.

Location Green paint Brooklyn Date 11/10/16 139 Project / Client Spic + Span / NYS DEC Thursday @ 1330 51 - F partly cloudy breauy EW-06 Boring log: 0-5 SEE PAGE 135 80" 5-8 in tight moist orange brown & SAND no ost 0.00, 0.00, 0.00 gets, and 9-9.8 SAH gray brown 0.10 9.5-10 loose dry (desicated) & to CGRAVEL and COBBLES no ost 0.00 10-14 m tight, moist, gry brown FSAND e 12.0 and SILT, n. th some fho c gravel

ship now singht odor no st 0.00 0.10, 0.35, 228 14-15 loose, morst, orange brown f to m SAND strong nov , no st 48.45, 70.25 15-17 SAA 32.55, 43C1 17-20 14 tight moist brown gray (- SAN) with some silt with some for m grand slight PLE a der no 54 6755 (10K) 198.4 81,45 20-27 SAA 845.1 392.7 84.1 0.75 3.58 END OF BURING



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Location Gre	en point	Brookly	1 Date 11/11/2016
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Location Greenpoint Brooklyy Date ulul16 Location Green point Brooklyn Date 4/11/16 Project / Client Spin - Span / NYSDEC Project / Client Spic + Spin / NYSDEC Friday @ 903 SUF clear NV & 5mgh Friday @ 1100 StoF clear Wellands 1100 Softing up on EW-04 EW-03 Buring Log 1115 Begin dulling @ ELJ-08 to Proviously logged 27 fly. Complete drilling @ EW04. Borlder, no recovery / dust 49-10 mitight moist brown gray (SAND + SILT Begin installation of well CELY Details on field form. with some flo c gravel, with frace 1245 Break for lunch f cobbbs no ost, 0.00, 4.20 Demob + clean up of site 48" 10- 13.5 Pulverized cobble + boulder some + Sand 1420 Site mostly cleaned - JC to + 5,1/t. 21.75 , 6.20 drop samples @ lub (need to be then 17.5.15 m tight moist, brown grey from SANO by 1500) GI to stay with GD with some silt, will some fto m while pads are poured. gravel, with trace m cobbles 4,20, 0.35 JC OFF SILC no ost COMMENT! DE EM-03 FOR 60" 15- 16 SAA 250.5 slight when PHES ON SITE 16-19 love, net, in boun fto in SAND with strong PCE oder no starning lok, 4326, 925.7 19.20 SA 13.5-15 84.70 Ti 20-27 in light, wel, gray Flow SAND with some sitt with little f to m gravel Slight oder, no st 139.1, 83.25, 81.40 114.2 , 127.9 END OF BORING

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CT SPICS SPAN DNAPL Recovery Notebook No. - Springed From Page - 411 17111. 00 60 9:29463, TASK - 3ntinued From Page 1530 - PINE ENVIRONMENTAL arrived on site delivered (2) rolls of 1/2 ID x 5/8 OD HDPE picked up (3) 55 gallow drums of DNAPL recovery product. They also dropped off (2) overpack 55 gallow confamers. 1625- Departed site for storage dropped off equipment overpack containers. drums for tomorrow DNAPL Pecover 1730-ARRIVED back or site - reliad up equipment 1845- Arrived at hotel and unloaded equipment 1945 - END OF work day LOGS: MINIRAE 3000 PID 0700- Calibration Zero cal. = 0.00ppm cal. Continued on Page Read and Understood By Columbel 11-16-16

Signed

96 Former PROJECT SPIC & SPAN 60429463. - DNAPL R COV VY Continued From Page Notebook No. TASK-3 Weather: Clear Sundy Temp: 520 11-17-16 0645 - Departed hotel for site Kingland & Horgan 0785 - ARRIVED ON site at Kingslande Morgan OFF AFFiliation BY Ste Personnel AECOH/URS DAVID COFIELD TH 1800 0725 NYSDEC DAVO Harrington 0830 PINE ENVIRONMENTALO800 OSWIN GRIMES 0820 Island Pump & Tank 1530 -TOESOPH 1645 0725 - Began setting up DNAPL Recovery at DEC-092D 0755 Began DNAPL Recovery at DEC 4920 0800 - PINE ENVROIMENTAL ETTIVED ON SITE 0820 - Completed DNAPL Recovery at DEC-092D \* Calibration Logs for the MINIRAE 300 0720-ZERG Cal 0.00 ppm 99. 46 ppm Span Cal. = 0930 - Began setting up at DEC-024 DNAPL Recovery 1000 - Began DNAPE RECOVERY at DEC-024 1840 - Departed off site to pick up (2) 53 gallow drums 1113 - ARRIVED back BY SITE OF DEC-624 1200 - continue DNAPL recovery et DEC-024 1300 1330 - Completed DNAPL Recovery at DIC-095 1355 - Began setting up at DEC-024D 1355 - Began DNAPK Recovery at DEC-024D 1510-Completed DNADL Recovery at DEC- ODIADON Page Sfuld & 11-17-16 Signed Date

Location Green point Brookly n Date 1/18/2016 Project / Client Spiz + Spn / NYSDEC Friday Personnel: J. Christopher Task: Repair nells, survey 645 Bc on site - wells to retap: KDEC-024 - Redrilled Ex K DEC-024D - Redulled Ex L.N DEC-023 - JB tapped \* L-N DEC - OS6 - JB tapped K.D DEC-083 - 1 secure bolt RNDEC-034 - JB tapped - Drilling through tabs is very difficult Battery life threatened = the DEC 024 + DEC-6240 - 5B tagging remainder for time being. - DEC-056, tabs are smallerno available room for redrilling. DEC-083 - I tob prissing shifting lid + redrilling will give 2 of 3 secon bolts.

130 - Loaded up equipment at Hotel 1730 - Departed noted for site 1800 - Allined an site at A delphia Container 130 - Allined an site at DEC-136  230 - Allined an site at DEC-136  230 - Allined on site at DEC-136  2500 1900  2500 1							
630 - Loaded up equipment at Hotel  130 - Departed hotel for site  800 - Apriced on site at it delphic Container  130 - Apriced on site at it delphic Container  130 - Apriced on site at Dicc-136  Dawd Consider Ascorpins 0800 1900  Jun Christopher Accorpins 0800 -  2) people 14 Engineery 0800 -  Toesoph Island Pump Hank 1130 1200  830 - Began Setting up at DEC-136 DNAM Recover  1319 - Stop pumping AT DEC-136 west dry  130 - Began Techarging at DEC-136  1450 - Kesome DNAM Recovery at DEC-136  1450 - Stop pumping at Dicc 136 (west dry)  1450 - Stop pumping at Dicc 136 (west dry)  1450 - Stop pumping at Dicc 136 (west dry)  1450 - Began demonstrate arrived of site  1450 - Began demonstrate for the clay  1450 - Began demonstrates  1450 - Departed off site for Buffalo  1600 - Arrived in Buffalo  1800 - Arrived of site for Buffalo			7				
630 - Loaded up equipment at Hotel 1730 - Departed notel for site 880 - Aldried on site at Adelphia Container 1730 - Allried on site at Dicc-136  Wiste personnel Attiliation 000 000  DAND CHILLED ASCONJUNS 0800 1900  THE CHILLED ASCONJUNS 0800 - TOESOPL ISland Pump Flank 1130 1200  830 - Began setting up at DEC-136 DINAMI Recover 1919 - The pumping of DEC-136 West dry 1720 - Regan recharging at DEC-136 (west dry) 1730 - Reson DNAMI Recovery at DEC-136 (west dry) 1830 - Stop pumping of DEC-136 (west dry) 1830 - Stop pumping at DEC-136 (west dry)		d eggipo	nent				
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230 - Loaded up equipment at Hotel  230 - Departed hotel for site  800 - Approach on site at A delphia Container  830 - Approach on site at DEC-136  No site personnel Affiliation on off  DAND Coffice Afford Afford 0800 1900  Jun Ctaustopher Afford UNS 0800 -	834- Began se	ting up a	+ DEC	-136	DNA	DL Re	COVE
230 - Loaded up equipment at Hotel  230 - Departed hotel for site  800 - Approach on site at A delphia Container  830 - Approach on site at DEC-136  No site personnel Affiliation on off  DAND Coffice Afford Afford 0800 1900  Jun Ctaustopher Afford UNS 0800 -	Toesoph	Island	Pump 54	Jank 113	30	120	0
230 - Loaded up equipment at Hotel  230 - Departed hotel for site  800 - Approved on site at A delphia Container  830 - Approved on site at DEC-136  No site personnel Affiliation on off  DAND CAFIELD AFCOINTUMS 0800 1900	2) people	MIE	ngineen.	m 080	00	I	
130 - Loaded up equipment at Hotel 130 - Departed hotel for site 800 - Aprived on site at A delphia Container 130 - Aprivad on site at DEC-136	DAVO COTICA	ABCOL	7/015			190	0
30 - Loaded up equipment at Hotel 730 - Departed notel for site 800 - Apaved on site at A delphia Container	on site personnel	Actili	ation		بندد	of	K
30 - Loaded up equipment at Hotel 730 - Departed notel for site 800 - Apaved on site at A delphia Container							
30 - Loaded up equipment at Hotel	800 - ARRIVED	on site at	Dec-	136	conta	wer	
	3730 - Dented	hotel Ca	- site		0/		
1-18-16 Temp. 50°	630 - Londed	Upequipm	ent at	thate 1			
	1-18-16		Ten	y. 50	3		7

OJ CT Former Spic & Span DNAPL Recover Sentinued From Page 0800 - Isacled equipment introck etc.
0955 - Airrived at Exterprise car rental
1810 - Dropped off Vehical
1100 = Dropped off equipment at office
1135-completed paper work Continued on Page Read and Understood By Cafwed 11-19-16

Signed

Date

PROJECT BUARL DECOVERY Notebook No. Continued From Page weather light Rain & Heavy 11-29-16 (TUES.) Temp- 3 0800-Loaded up equipment 850-Picked Sol2555 gallow drop Adelphia Containers Affileation DAVID COFIELD 0800 ARCOM Tsland Purps = Tank 1330 0958 - Began setting up at EW-04 1020 - Colibration NOTES: MINIBAE 3000 PID Zero Cal. = 0.00 ppm 5pan Cal. = 99.46 1015 - Performed the unylchlorid: Test whilizing the drager CHIP (0,3 - 10 ppm) 1019 300-10.0 ppm 1019 300-10.0 ppm (VC) Performed the benzene test? 1026-3)10.500 ppm 1031- Performed the Trichlorethylen (C/2C = CHCI) 3 5,00 ppm Continued on Page 1 Cafuld & 11-29-14

Notebook No. Continued From Page

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				Read and Un	iderstood By		
/		1	2				
4	16 0	allh 1	11-30-16				
	Signed	0	Date		Signed		Date

PROJECT DINAPL Recovery Dev Notebook No. p meal Continued From Page weather: Cloudy Sunny 12-1-16 (THUV.) Temp: 540 0800 - loaded up equipment at hotel 0700 Departed hotel for storage 0880 Freked up (2) 55 galler drum Duapu Recovery and well development Attellation OFF on site personnel DAVE CATELO URSTARCOM 0800 1700 DAVID Harrington NYSDEC 0830 1030 MIKE GUTHANN URS/AECOM 0930 1000 0930 beorge Kistock URS AFCOM 1000 Tsland Pump & Tank 1535 1630 0910 - Colibration Notes: NUNIRAE 3000 PID Zero = 0.00 ppm 5pan = 100,2 ppm 0915 - Began setting up DEC - 136 0930 - Began DNAPE recovery/ development at DEC-136 8940 - DEC-136 west dry 0973 - changed the check value 1030 = Confinue to recover DNAPL at DEC-136 and develope DEC-136 1130-11 1230-1315-1400 Began Benzene Test - 0,500 ppm HER chlorethylene Test-5.00 ppm Trychlorethylene Test-5.00 ppm 1415 - Continued to recover DNAPL/development afDIEC-136 1.515-1615-1630-IPET Picked up (1) 55 gallow drum of Continued on Page HAZ. Development 4, Read and Understood By Cofult 12-1-16 Signed Date

Former Spic & span PROJECT DNAPL Recovery Development Continued From Page weather: Closely Survey 12-2-16 (FRI.) Tempi 440 0615 = Loud equipment at Hotel 06452 Departed hotel for storage unit 0725 - AKRIVED a Storage unit loaded up egypment 0805 - Arrived on site. DNAPL Recovery/well development OFF Affiliation on site personnel DAVID COFIELD IV URS 0805 1400 Mine Coman URS 0800 1000 DAND Harington URS 0800 1000 0915 MXSDEC 0930 1400 Island Pump & Tahk 1330 Calebration notes: MINIRAE 3000 PID Zero = 0.00 ppm Span = 99,2 ppm 0820 - Began setting up at EW-04 1845 - Began DNAPL Recovery at EW-04 1855 - Completed DNAPL Recovery at EW-04 - Began stutting down for the day 1830 - Called Island Pump & Tank and I spoke to 1250 - Matt Secretary will get tack to me. 1300-departed site for Storage unit 1350 - Picked of overpack (2) Island Pump & Tank 1438 - Departed off site for suffalo 1425 - IPET PICKED UP (1) 53 galfon drum of HAZ development water and (2) unused over deck. 1010 - ARRIVED back on BUFFELD Continued on Page Sul Cifuld 12-2-16

# APPENDIX C GEOPHYSICAL SURVEY REPORT



January 20th, 2017

Mr. Michael Gutman Mr. George Kisluk AECOM 257 W.Genesee Street Buffalo, NY, 14202

Via E-Mail: <u>mike.qutmann@aecom.com</u>, <u>george.kisluk@aecom.com</u>

RE: 16-035B Meeker Avenue

Borehole Clearance Survey 315 Kingsland Avenue Brooklyn, New York

Dear Gentlemen,

In accordance with your authorization, Radar Solutions International (RSI) conducted ground penetrating radar (GPR), and EM Induction (EMI) surveys at the above-referenced site in Brooklyn, New York on November 7<sup>th</sup>, 2016. The purpose of the geophysical surveys was to determine the location and depth of any possible utilities, and other obstructions, that might impact the upcoming boring work. RSI's finalized survey results and interpretations are summarized below.

Attached is Figures 1 showing interpreted GPR results around the proposed boring locations. The area of investigation was extended from the initial scope of work, to aid in future drilling projects.

We appreciate the opportunity to conduct this work for AECOM. Please do not hesitate to call should you have further questions and comments regarding this report, and we look forward to working again with AECOM in the future.

Sincerely,

RADAR SOLUTIONS INTERNATIONAL, Inc.

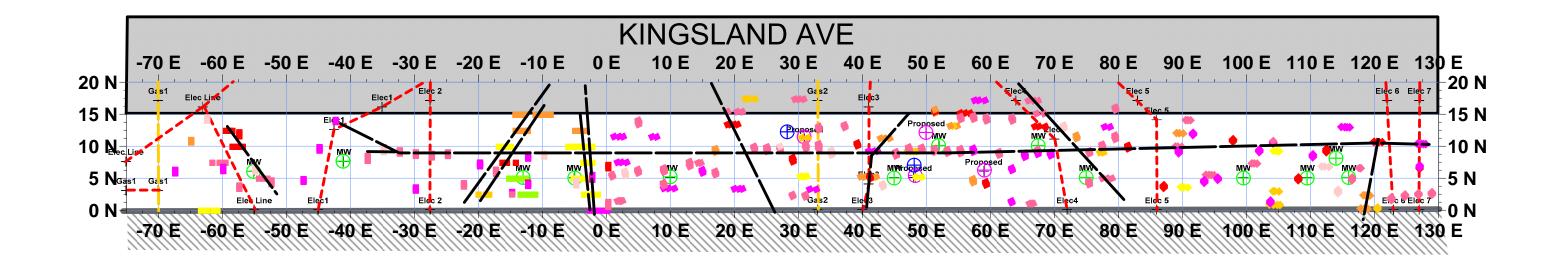
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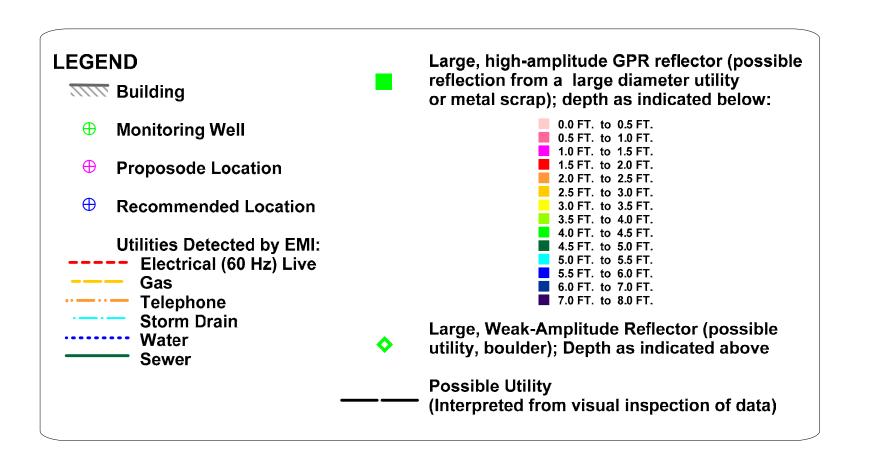
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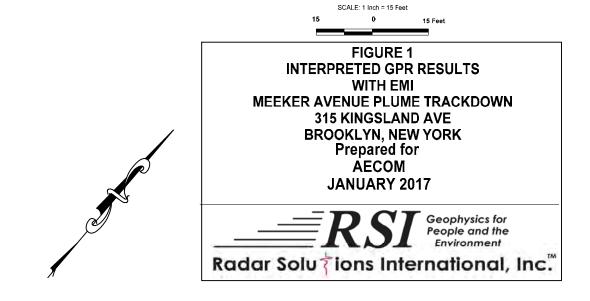
President and Sr. Geophysicist



BORING/MW LOCATION	PROPOSED LOCATION	PROPOSED RE-LOCATION	COMMENTS
SB 3	48E, 5N	48E, 7N	Large anomaly at proposed location
SB 4	59E, 6N	N/A	Looks Ok
SB 5	31E, 11N	28E,12N	Proposed location adjacent to gas line, with a large anomaly 3 feet at depth.
SB 6	50E, 12N	N/A	Looks OK







# APPENDIX D SOIL BORING LOGS

			T	TD	<b>S</b> co		4-			TEST	BORIN	IG LO	G
										BORING NO.: EW-03			
PROJE	CT/PROJE	CT LOC	ATIOI	N: Meek	er Avenue	- Spic 8	Span			SHEET: 1 OF 1			
CLIENT	: New York	State D	Depar	tment of	Environm	ental Co	nservation			JOB NO.: 60429463			
BORING	G CONTRA	CTOR:	Casc	ade Drill	ling					NORTHING: 204260.082	EAS	<b>TING:</b> 10	00317.6875
GROUN	IDWATER:	18.5' bg	ıs			CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION:	20.74		
DATE	TIME	LEVE	EL	TYPE	TYPE					DATE STARTED:	11/9/20	16	
					DIA.					DATE FINISHED:	11/11/20	016	
					WT.					DRILLER:	M. Scho	ck	
					FALL					GEOLOGIST:	J. Chris	topher	
					* F	OCKET F	PENETROMETE	R READIN	G	REVIEWED BY:	K. McGo	overn	
		→ SA	AMPLE	T	REC%		SOIL						
DEPTH FEET	STRATA	NO.		.ow		COLOR	CONSISTENCY			MATERIAL SCRIPTION	uscs	PID	REMARKS
FEET		NO.	СО	UNT	RQD%		ROCK HARDNESS			SCRIPTION			
					<u> </u>	'					<u> </u>		•
0—								Canara	to oldowe	- II.			Dry, No Odor,
4						Brown		Concre	te sidewa	alk	SM/ ML	0.00	No Staining Moist
4	l : :					DIOWII		FILL: A	sphalt an	nd soil	SIVI/ IVIL	0.00	IVIOISI
4		1			100					ne to medium SAND and			
4								SILT, li	ttle fine to	o medium Gravel			
-5											NI/A		
								Boulde	r, no recc	overy (dust)	N/A		
		2			100								
7						Brown Grey				e SAND and SILT, some	SM/ ML		
1	-::::::::::::::::::::::::::::::::::::::					0.0)		fine to	coarse G	ravel, trace small cobbles		0.00	
-10 —								Desicc	ated, pulv	verized, BOULDER and	N/A	4.20	
1										e fine Sand and Silt		21.75	-
+		_										6.20	-
+	0-0	3			80							4.20	_
+										e to medium SAND,	SW	0.35	_
-15								some S	Silt				Slight Odor
4						Brown						250.50	Wet, Strong
-												10000+	Odor
4		4			100							4326	
_						Draw							Maist
-20 —						Brown Grey					ON4/ N **	925.7	Moist
						Grey		SILT a	nd SAND	with Gravel	SM/ ML	84.70	Wet, Slight Odor
												139.1	
												83.3	
7		5			87							81.40	
1												114.20	
-25 —	·:											122.90	
1													
-								End of	Boring at	: 27' bgs.			
٦								<u> </u>		<del>-</del>			I
													1
COM	MENTS: Pr	ecleared	d by h	and to 5.	5' bgs								

Collected samples at 16-16.5' and 18.5-19' bgs for TCL VOCs

			T	TD	S co		4.			TEST	BORIN	IG LO	G
			•	JI	Co	rpora	ation			BORING NO.: EW-04			
PROJE	CT/PROJE	CT LOC	ATIO	N: Meek	er Avenue	- Spic 8	& Span			SHEET: 1 OF 1			
CLIENT	: New York	State D	Depai	rtment of	Environm	ental Co	onservation			JOB NO.: 60429463			
BORING	G CONTRA	CTOR:	Cas	cade Drill	ling					NORTHING: 204249.9472	2 EAS	<b>TING:</b> 10	00321.2558
GROUN	IDWATER:	18.5' bg	s			CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION:	20.76		
DATE	TIME	LEVE	EL	TYPE	TYPE					DATE STARTED:	11/9/20	16	
					DIA.					DATE FINISHED:	11/11/2	016	
					WT.					DRILLER:	M. Scho	ock	
					FALL					GEOLOGIST:	J. Chris	topher	
					* F	OCKET	PENETROMETE	R READIN	G	REVIEWED BY:	K. McG	overn	
		SA	AMPL	E	REC%		SOIL						
DEPTH FEET	STRATA	NO.		Low		COLOR	CONSISTENCY			MATERIAL SCRIPTION	uscs	PID	REMARKS
FEET		NO.	CC	DUNT	RQD%		ROCK HARDNESS		DE	SCRIPTION			
										'			ı
0-	XXXX							Conoro	te sidewa				Dry, No Odor,
-								<u> </u>		/	SW	0.00	No Staining Moist
-								FILL: A	sphalt an	d Soil	SW	0.00	IVIOIS
-		1			100					e to medium SAND,			
4								some S	Silt, little fi	ne to medium Gravel		0.00	
-5								Som	e small to	medium Cobbles		0.00	
								Mediun	n tight fin	e SAND and SILT, some	SM/ ML		Dry
	7)							fine to	coarse G	ravel, little small Cobbles	GW	0.50	
	:	2			100			Pulveri	zed GRA	VEL and COBBLES	SM/ ML	1.50	
								Mediun	n tiaht fin	e SAND and SILT, some		4.25	
-10 —	-::-::							fine to	coarse G	ravel, little small Cobbles		0.05	
-10													
1												10.45	
1		3			100	Brown		Loose	fine to me	edium SAND	SW	8.65	
1					.00							35.65	
1												18.00	
-15 —												21.40	
1												394.7	
+					100							4614	
+		4			100							10000+	
+								Loose, small C	desiccate OBBLES	ed, coarse GRAVEL and	GP	287.4	1
-20 —								Loopo	fina to ma	edium SAND	SW		Wet
+								Loose	iiiie io iiie	FUIUIII SAND		5214	
-												10000+	
-												3816	
4		5			100							1017	
-25 —						Grey					SP	1017	
-						Jiey			n tight, fir coarse G	ne SAND, some Silt and	- 51	382.4	
												107.9	
								End of	Boring at	27' bgs		107.9	
СОМ	MENTS: Pr	ecleared	d by h	nand to 5.	5' bgs								

Collected samples at 16-16.5', 18-18.5' and 24.5-25' bgs for TCL VOCs

			ITD	S co		4.			TEST	BORIN	IG LO	G
			OI	CO	rpora	ition			BORING NO.: EW-05			
PROJE	CT/PROJE	CT LOCA	ATION: Me	eker Avenu	e - Spic 8	Span			SHEET: 1 OF 1			
CLIENT	: New York	State D	epartment	of Environn	nental Co	nservation			JOB NO.: 60429463			
BORING	G CONTRA	CTOR: 0	Cascade Di	rilling					NORTHING: 204278.37	EAS	TING: 10	00321.3616
GROUN	IDWATER:	18.5' bgs	5		CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION:	20.45		
DATE	TIME	LEVE	L TYPI	E TYPE					DATE STARTED:	11/9/20	16	
				DIA.					DATE FINISHED:	11/10/2	016	
				WT.					DRILLER:	M. Scho	ock	
				FALL					GEOLOGIST:	J. Chris	topher	
				*	POCKET F	PENETROMETE	R READIN	IG	REVIEWED BY:	K. McG	overn	
		SA	—- MPLE	REC%		SOIL						
DEPTH	STRATA		BLOW	KEC%	COLOR	CONSISTENCY			MATERIAL	uscs	PID	REMARKS
FEET		NO.	COUNT	RQD%		ROCK HARDNESS		DE	SCRIPTION			
		<u> </u>										
0-				1	1		T			I		Dry, No Odor,
4							Reinfo	rced cond	crete sidewalk		0.00	No Staining
4	-::-:::				Brown		FILL: A	sphalt ar	nd Soil	SM/ ML	0.00	Moist
		1		100			Mediur	n tight fin	e to medium SAND and		0.00	
							SILT, s	ome fine	to coarse Gravel, little		0.00	
-5	-::::						Small to	o large C	obbles			
-3-					Red						0.00	Slight Odor
7	<u> </u>				Brown		Cobble		oarse Gravel, trace small		0.10	
1		2		100							5.25	
1		2		100			NA a alice		- CAND Cit little		4.75	Strong Odor
1	<u> </u>							n tignt fin Gravel	e SAND, some Silt, little		1240	Strong Odor
-10 —					Red to Dark		Modiur	n tight fin	e to medium SAND,	SP SW	18.95	Slight Odor No Odor
+	-\(\frac{1}{2}\) -\(\frac{1}{2}\)				Brown				ne to coarse Gravel	GW	0.25	Dry
+							Loose	fine to co	arse GRAVEL and		0.45	
4		3		100					fine Sand		1.65	
4							Mediur	n tight fin	e SAND and SILT, some	SM/ ML	16.25	Moist
-15 —	-:: <u>-</u> :::				-			coarse G	ravel, trace small		6.35	
4							Copple	.5			7.95	
4	<u> </u>				Red		NA - II-		- to madical OANID	SW	9.00	Odor
4		4		100	Brown				e to medium SAND, ine to medium Gravel	Svv		Odoi
	•••••				Dark		Loose	medium (	SAND	SP	133.55	Wet, Strong
-20 —					Grey		20036	oaiuiii v	J. 111D		1863	Odor
											3024	
							Mediur	n tight fin	e SAND and SILT, some		3208	
7	-::::::::::::::::::::::::::::::::::::::				Red Brown		fine to Sand	medium (	Gravel, little medium	SM/ ML	378.3	Moist, Slight Odor
1		5		100	Brown						377.8	]
1					Grey		Trac	e small C	Cobbles, no Gravel		26.35	1
-25 —											18.75	
+											7.65	
+							End of	Boring at	27' bgs		9.55	
٦				1				9 31	- 3 -	I .		
1	MENTS: Pr											
Colle	cted sample	e at 20-21	I' bgs for TC	CL VOCs								

			UR	C .		4=			TEST	BORIN	NG LO	G
			UIL	Co	rpora	tion			BORING NO.: EW-06			
PROJE	CT/PROJE	CT LOCA	TION: Mee	ker Avenue	e - Spic &	Span			SHEET: 1 OF 1			
CLIENT	: New York	State De	partment o	f Environm	nental Co	nservation			JOB NO.: 60429463			
BORING	G CONTRA	CTOR: C	ascade Dri	lling					NORTHING: 204256.3676	6 EAS	TING: 10	00324.9092
GROUN	NDWATER:	18.5' bgs			CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION:	20.54		
DATE	TIME	LEVEL	TYPE	TYPE					DATE STARTED:	11/9/20	16	
				DIA.					DATE FINISHED:	11/10/2	016	
				WT.					DRILLER:	M. Scho	ock	
				FALL					GEOLOGIST:	J.Christ	opher	
				*1	POCKET F	ENETROMETE	R READIN	G	REVIEWED BY:	K. McG	overn	
		SAN	1PLE	REC%		SOIL						
DEPTH FEET	STRATA	NO.	BLOW		COLOR	CONSISTENCY			MATERIAL SCRIPTION	uscs	PID	REMARKS
FEET		NO.	COUNT	RQD%		ROCK HARDNESS			SORIF HON			
-10		1 2 3 4		100	Orange Brown  Grey Brown  Orange Brown  Grey		FILL: A Medium some S Som Medium fine to c Cobble  Loose f Loose f Loose f	e small to n tight fin coarse G s fine to co_ES n tight fin coarse G	e to medium SAND, ne to coarse Gravel o large Cobbles e SAND and SILT, some ravel, trace small  arse GRAVEL and e SAND and SILT, some ravel edium SAND	SW/ML  GW SM/ML  SW	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.10 0.00 0.10 0.35 2.25 70.25 32.55 436.1 10000+ 198.4 81.45 845.1 392.7 84.10 0.75 3.55	Dry, No Staining, No Odor Moist  Dry Slight Odor Moist  Orange Lense Strong Odor
							End of	Boring at	27' bgs			
			by hand to 5									
			7' bgs for T									

### **APPENDIX E**

### DATA USABILITY SUMMARY REPORT (ON COMPACT DISK)

#### DATA USABILITY SUMMARY REPORT

# INTERIM REMEDIAL MEASURES (IRM) FORMER SPIC AND SPAN CLEANERS AND DYERS, INC. SITE GREENPOINT/EAST WILLIAMSBURG INDUSTRIAL AREA BROOKLYN, NEW YORK WORK ASSIGNMENT D007622-30 SITE #224129

Analyses Performed by:

TESTAMERICA LABORATORIES, INC. AMHERST, NY

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF ENVIRONMENTAL REMEDIATION

Prepared by:

URS CORPORATION
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NY 14202-2657

**JANUARY 2017** 

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### TABLES (Following Text)

Table 1 Summary of Data Qualifications
Table 2 Validated Soil Sample Results

### ATTACHMENTS

Attachment A Validated Form I's

Attachment B Support Documentation

### 1.0 INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports, May 2010. Discussed in this DUSR are analytical data for 7 soil samples collected by URS personnel on November 10-11, 2016 at the Former Spic and Span Cleaners and Dyers, Inc. site (Site # 224129), located in the Greenpoint/East Williamsburg Industrial Area of Brooklyn, New York.

#### 2.0 ANALYTICAL METHODOLOGIES/DATA VALIDATION PROCEDURES

All samples were sent to TestAmerica Laboratories, Inc. (Amherst, NY) and analyzed for target compound list (TCL) volatile organic compounds (VOCs) following United States Environmental Protection Agency (USEPA) Method 8260C.

A limited data validation was performed following the intent of the guidelines in the following USEPA Region II document:

Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846
 Method 8260B and 8260C, SOP HW-24, Rev. 4, October 2014.

The limited validation included: a review of completeness of all required deliverables; holding times; a review of quality control (QC) results [blanks, instrument tunes, calibration standards, MS/MSD recoveries, and laboratory control sample (LCS) recoveries] to determine if the data are within the protocol-required limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

Qualifications applied to the data during the limited data validation include 'UJ' (estimated quantitation limit). Definitions of USEPA data qualifiers are presented at the end of this text. A summary of data qualifications is presented on Table 1. The analytical results are presented on Table 2 (soil). Validated Form I's are presented in Attachment A. Documentation supporting the qualification of data is presented in Attachment B. Only analytical deviations affecting data usability are discussed in this report.

#### 3.0 DATA DELIVERABLE COMPLETENESS

A full deliverable data package (i.e., NYSDEC ASP Category B or equivalent) was provided by the laboratory, which included all reporting forms and raw data necessary to fully evaluate and verify the

reported analytical results.

4.0 SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-

custody (COC). All samples were analyzed within the required holding times.

5.0 NON-CONFORMANCES

**Initial and Continuing Calibrations** 

The percent differences (%D) between the initial calibration (ICAL) average relative response

factors (RRFs) and the RRFs in the continuing calibration standards (CCALs) exceeded 20% for

vinyl chloride. The results for vinyl chloride in the associated samples listed on Table 1 were

qualified 'UJ'.

Laboratory Control Sample (LCS)

The percent recovery (%R) of 4-methyl-2-pentanone was below QC limits in the LCS. The

results for this compound in the associated samples listed on Table 1 were qualified 'UJ'.

6.0 SAMPLE RESULTS AND REPORTING

All quantitation/detection limits were reported in accordance with method requirements and were

adjusted for sample volume, percent solids, and dilution factors. Those compounds reported from a

secondary dilution have been qualified 'D'.

Some samples were initially analyzed at a dilution due to elevated levels of target compounds. The

quantitation limits reported for the non-detect compounds represent the lowest achievable at the dilution

utilized.

7.0 SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously

noted. Those results qualified 'UJ' are considered conditionally usable. All other sample results are usable as

reported. URS does not recommend the recollection of any samples at this time.

Prepared By: Ann Marie Kropovitch, Chemist

Reviewed By: Peter R. Fairbanks, Senior Chemist

### DEFINITIONS OF USEPA DATA QUALIFIERS

U-The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit. The result is an estimated quantity. The associated numerical value is the Japproximate concentration of the analyte in the sample. UJ-The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. R-The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample. D-The sample result was reported from a secondary dilution analysis. NJ-The analysis indicates the presence of an analyte that has been "tentatively identified' and the associated numerical value represents its approximate concentration.

# TABLE 1 FORMER SPIC AND SPAN CLEANERS AND DYERS, INC. SITE INTERIM REMEDIAL MEASURES (IRM) SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	FRACTION	ANALYTICAL DEVIATION	QUALIFICATION
EW-03 (16-16.5), EW-03 (18.5-19), EW-04 (16-16.5), EW-04 (18-18.5), EW-04 (24.5-25), EW-05 (20-21), and EW-06 (16.5-17)	VOCs	CCAL %D > 20% for vinyl chloride.	Qualify non-detect results 'UJ'.
EW-03 (16-16.5), EW-03 (18.5-19), EW-04 (16-16.5), EW-04 (18-18.5), EW-04 (24.5-25), EW-05 (20-21), and EW-06 (16.5-17)	VOCs	LCS %R < QC limit for 4-methyl-2- pentanone.	Qualify non-detect results 'UJ'.

Location ID		EW-03	EW-03	EW-04	EW-04	EW-04
Sample ID		EW-03 (16-16.5)	EW-03 (18.5-19)	EW-04 (18-16.5)	EW-04 (18-18.5)	EW-04 (24.5-25)
Matrix		Soil	Soil	Soll	Soil	Soil
Depth Interval (ft)		16.0-16.5	18.5-19.0	16.0-16.5	18.0-18.5	24.5-25.0
Date Sampled		11/11/16	11/11/16	11/11/16	11/11/16	11/11/16
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,1,2,2-Tetrachloroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,1,2-Trichloro-1,2,2-trifluoroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,1,2-Trichloroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,1-Dichloroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,1-Dichloroethene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2,4-Trichlorobenzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dibromo-3-chloropropane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dibromoethane (Ethylene dibromide)	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dichlorobenzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dichloroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dichloroethene (cis)	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dichloroethene (trans)	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,2-Dichloropropane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,3-Dichlorobenzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,3-Dichloropropene (cis)	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,3-Dichloropropene (trans)	MG/KG	1.5 U	120 U	520 U	260 U	130 U
1,4-Dichlorobenzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
2-Hexanone	MG/KG	7.3 U	620 U	2,600 U	1,300 U	630 U
-Methyl-2-pentanone	MG/KG	7.3 UJ	620 UJ	2,600 UJ	1,300 UJ	630 UJ
Acetone	MG/KG	7.3 U	620 U	2,600 U	1,300 U	630 U
Benzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Bromodichloromethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U

Flags assigned during chemistry validation are shown.

Location ID		EW-03	EW-03	EW-04	EW-04	EW-04
Sample ID		EW-03 (16-16.5)	EW-03 (18.5-19)	EW-04 (16-16.5)	EW-04 (18-18.5)	EW-04 (24.5-25)
Matrix		Soil	Soll	Soil	Soll	Soil
Depth Interval (ft)		16.0-16.5	18.5-19.0	16.0-16.5	18.0-18.5	24.5-25.0
Date Sampled		11/11/16	11/11/16	11/11/16	11/11/16	11/11/16
Parameter	Units					
Volatile Organic Compounds						
Bromoform	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Bromomethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Carbon disulfide	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Carbon tetrachloride	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Chlorobenzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Chloroethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Chloroform	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Chloromethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Cyclohexane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Dibromochloromethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Dichlorodifluoromethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Ethylbenzene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
sopropylbenzene (Cumene)	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Methyl acetate	MG/KG	7.3 U	620 U	2,600 U	1,300 U	630 U
Methyl ethyl ketone (2-Butanone)	MG/KG	7.3 U	620 U	2,600 ป	1,300 U	630 U
Methyl tert-butyl ether	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Methylcyclohexane	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Methylene chloride	MG/KG	1.5 U	120 U	520 U	260 U	130 U
Styrene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
etrachloroethene	MG/KG	100	6,900	22,000	39,000 D	5,900
Toluene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
richloroethene	MG/KG	1.5 U	120 U	520 U	260 U	130 U
richlorofluoromethane	MG/KG	1.5 U	120 U	520 U	260 U	130 U

Flags assigned during chemistry validation are shown.

Location ID		EW-03	EW-03	EW-04	EW-04	EW-04
Sample ID		EW-03 (16-16.5)	EW-03 (18.5-19)	EW-04 (16-16.5)	EW-04 (18-18.5)	EW-04 (24.5-25)
Matrix		Soil	Soll	Soli	Soil	Sali
Depth Interval (ft)		16.0-16.5	18.5-19.0	16.0-16.5	18.0-18.5	24.5-25.0
Date Sampled	-	11/11/16	11/11/16	11/11/16	11/11/16	11/11/16
Parameter	Units					
Volatile Organic Compounds						
Vinyl chloride	MG/KG	1.5 UJ	120 UJ	520 UJ	260 UJ	130 UJ
Xylene (total)	MG/KG	2.9 U	250 U	1,000 U	530 U	250 U

Flags assigned during chemistry validation are shown.

Location ID	EW-05	EW-06		
Sample ID	EW-05 (20-21)	EW-06 (16.5-17)		
Matrix	Soil	Soll 16.5-17.0 11/10/16		
Depth Interval (ft) Date Sampled				20.0-21.0
				11/10/16
Parameter	Units			
Volatile Organic Compounds	3 7 = 1			
1,1,1-Trichloroethane	MG/KG	6.0 U	2.3 U	
1,1,2,2-Tetrachioroethane	MG/KG	6.0 U	2.3 U	
1,1,2-Trichloro-1,2,2-trifluoroethane	MG/KG	6.0 U	2.3 U	
1,1,2-Trichloroethane	MG/KG	6.0 U	2.3 U	
1,1-Dichloroethane	MG/KG	6.0 U	2.3 U	
1,1-Dichloroethene	MG/KG	6.0 U	2.3 U	
1,2,4-Trichlorobenzene	MG/KG	6.0 U	2.3 U	
1,2-Dibromo-3-chloropropane	MG/KG	6.0 U	2.3 U	
1,2-Dibromoethane (Ethylene dibromide)	MG/KG	6.0 U	2.3 U	
1,2-Dichlorobenzene	MG/KG	6.0 U	2.3 U	
1,2-Dichloroethane	MG/KG	6.0 U	2.3 U	
1,2-Dichloroethene (cis)	MG/KG	6.0 U	2.3 U	
,2-Dichloroethene (trans)	мд/кд	6.0 U	2.3 U	
1,2-Dichloropropane	MG/KG	6.0 U	2.3 U	
1,3-Dichlorobenzene	MG/KG	6.0 U	2.3 U	
1,3-Dichloropropene (cis)	MG/KG	6.0 U	2.3 U	
,3-Dichloropropene (trans)	MG/KG	6.0 U	2.3 U	
,4-Dichlorobenzene	MG/KG	6.0 U	2.3 U	
2-Hexanone	MG/KG	30 U	12 U	
-Methyl-2-pentanone	MG/KG	30 UJ	12 UJ	
Acetone	MG/KG	30 U	12 U	
Benzene	MG/KG	6.0 U	2,3 U	
Bromodichloromethane	MG/KG	6.0 U	2.3 U	

Flags assigned during chemistry validation are shown.

Location ID	EW-05	EW-06	
Sample ID	EW-05 (20-21)	EW-06 (16.5-17)	
Matrix	Soil	Soil 16.5-17.0	
Depth Interval (ft) Date Sampled			
		11/10/16	11/10/16
Parameter	Units		
Volatile Organic Compounds			
Bromoform	MG/KG	6.0 U	2,3 U
Bromomethane	MG/KG	6.0 U	2.3 U
Carbon disulfide	MG/KG	6.0 U	2.3 U
Carbon tetrachloride	MG/KG	6.0 U	2.3 U
Chlorobenzene	MG/KG	6.0 U	2.3 U
Chloroethane	MG/KG	6.0 U	2.3 U
Chloroform	MG/KG	6.0 U	2.3 U
Chloromethane	MG/KG	6.0 U	2.3 U
Cyclohexane	MG/KG	6.0 U	2.3 U
Dibromochloromethane	MG/KG	6.0 U	2.3 U
Dichlorodifluoromethane	MG/KG	6.0 U	2.3 U
Ethylbenzene	MG/KG	6.0 U	2.3 U
sopropylbenzene (Cumene)	MG/KG	4.5 J	2.3 U
Methyl acetate	мажа	30 U	12 U
Methyl ethyl ketone (2-Butanone)	MG/KG	30 U	12 U
Methyl tert-butyl ether	MG/KG	6.0 U	2.3 U
Methylcyclohexane	MG/KG	39	2.3 U
Methylene chloride	мд/кд	6.0 U	2.3 U
Styrene	MG/KG	6.0 U	2.3 U
etrachloroethene	MG/KG	5.5 J	130
Toluene	MG/KG	6.0 U	2.3 U
richloroethene	MG/KG	7.9	2.3 U
richlorofluoromethane	MG/KG	6.0 U	2.3 U

Flags assigned during chemistry validation are shown.

Location ID Sample ID Matrix Depth Interval (ft) Date Sampled		EW-05	EW-06
		EW-05 (20-21)	EW-06 (16.5-17)
		Soil	Soll
		20.0-21.0	16.5-17.0
		11/10/16	11/10/16
Parameter	Units		16 2
Volatile Organic Compounds	70-		
Vinyl chloride	MG/KG	6.0 UJ	2.3 UJ
Xylene (total)	MG/KG	12 U	4.7 U

Flags assigned during chemistry validation are shown.

# ATTACHMENT A FORM I'S

### FORM I GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-03 (16-16.5) Lab Sample ID: 480-109620-3

Matrix: Solid Lab File ID: S9764.D

Analysis Method: 8260C Date Collected: 11/11/2016 09:50

Sample wt/vol: 5(g) Date Analyzed: 11/22/2016 23:31

Soil Aliquot Vol: 100 (uL) Dilution Factor: 10

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 23.8 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND	İ	1500	410
79-34-5	1,1,2,2-Tetrachloroethane	ND		1500	240
79-00-5	1,1,2-Trichloroethane	ND		1500	310
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		1500	730
75-34-3	1,1-Dichloroethane	ND		1500	450
75-35-4	1,1-Dichloroethene	ND		1500	510
120-82-1	1,2,4-Trichlorobenzene	ND		1500	560
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1500	730
95-50-1	1,2-Dichlorobenzene	ND		1500	370
107-06-2	1,2-Dichloroethane	ND		1500	600
78-87-5	1,2-Dichloropropane	ND		1500	240
541-73-1	1,3-Dichlorobenzene	ND		1500	390
106-46-7	1,4-Dichlorobenzene	ND		1500	210
78-93-3	2-Butanone (MEK)	ND		7300	4400
591-78-6	2-Hexanone	ND		7300	3000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	105	7300	470
67-64-1	Acetone	ND		7300	6000
71-43-2	Benzene	ND		1500	280
75-27-4	Bromodichloromethane	ND		1500	290
75-25-2	Bromoform	ND		1500	730
74-83-9	Bromomethane	ND		1500	320
75-15-0	Carbon disulfide	ND		1500	670
56-23-5	Carbon tetrachloride	ND		1500	370
108-90-7	Chlorobenzene	ND		1500	190
124-48-1	Dibromochloromethane	ND		1500	710
75-00-3	Chloroethane	ND		1500	310
67-66-3	Chloroform	ND		1500	1000
74-87-3	Chloromethane	ND		1500	350
156-59-2	cis-1,2-Dichloroethene	ND		1500	410
10061-01-5	cis-1,3-Dichloropropene	ND		1500	350
110-82-7	Cyclohexane	ND		1500	330
75-71-8	Dichlorodifluoromethane	ND		1500	640
100-41-4	Ethylbenzene	ND		1500	430
106-93-4	1,2-Dibromoethane	ND		1500	260
98-82-8	Isopropylbenzene	ND	-	1500	220

FORM I 8260C

del Ballo

#### FORM I GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No .:

Client Sample ID: EW-03 (16-16.5) Lab Sample ID: 480-109620-3

Matrix: Solid Lab File ID: S9764.D

Analysis Method: 8260C Date Collected: 11/11/2016 09:50

Sample wt/vol: 5(g) Date Analyzed: 11/22/2016 23:31

Soil Aliquot Vol: 100 (uL) Dilution Factor: 10

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 23.8 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND	1	7300	700
1634-04-4	Methyl tert-butyl ether	ND		1500	550
108-87-2	Methylcyclohexane	ND		1500	690
75-09-2	Methylene Chloride	ND		1500	290
100-42-5	Styrene	ND		1500	350
127-18-4	Tetrachloroethene	100000		1500	200
108-88-3	Toluene	ND		1500	390
156-60-5	trans-1,2-Dichloroethene	ND		1500	350
10061-02-6	trans-1,3-Dichloropropene	ND		1500	140
79-01-6	Trichloroethene	ND		1500	410
75-69-4	Trichlorofluoromethane	ND		1500	690
75-01-4	Vinyl chloride	ND	15	1500	490
1330-20-7	Xylenes, Total	ND		2900	810

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		53-146
460-00-4	4-Bromofluorobenzene (Surr)	97		49-148
1868-53-7	Dibromofluoromethane (Surr)	96		60-140



### FORM I GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-03 (18.5-19) Lab Sample ID: 480-109620-5

Matrix: Solid Lab File ID: S9766.D

Analysis Method: 8260C Date Collected: 11/11/2016 09:55

Sample wt/vol: 5.02(g) Date Analyzed: 11/23/2016 00:17

Soil Aliquot Vol: 100 (uL) Dilution Factor: 1000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 14.0 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		120000	34000
79-34-5	1,1,2,2-Tetrachloroethane	ND		120000	20000
79-00-5	1,1,2-Trichloroethane	ND		120000	26000
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		120000	62000
75-34-3	1,1-Dichloroethane	ND		120000	38000
75-35-4	1,1-Dichloroethene	ND		120000	43000
120-82-1	1,2,4-Trichlorobenzene	ND	/	120000	47000
96-12-8	1,2-Dibromo-3-Chloropropane	ND		120000	62000
95-50-1	1,2-Dichlorobenzene	ND		120000	32000
107-06-2	1,2-Dichloroethane	ND		120000	51000
78-87-5	1,2-Dichloropropane	ND		120000	20000
541-73-1	1,3-Dichlorobenzene	ND		120000	33000
106-46-7	1,4-Dichlorobenzene	ND		120000	17000
78-93-3	2-Butanone (MEK)	ND		620000	370000
591-78-6	2-Hexanone	ND		620000	250000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	105	620000	40000
67-64-1	Acetone	ND		620000	510000
71-43-2	Benzene	ND		120000	24000
75-27-4	Bromodichloromethane	ND		120000	25000
75-25-2	Bromoform	ND		120000	62000
74-83-9	Bromomethane	ND		120000	27000
75-15-0	Carbon disulfide	ND		120000	56000
56-23-5	Carbon tetrachloride	ND		120000	32000
108-90-7	Chlorobenzene	ND		120000	16000
124-48-1	Dibromochloromethane	ND		120000	60000
75-00-3	Chloroethane	ND		120000	26000
67-66-3	Chloroform	ND		120000	85000
74-87-3	Chloromethane	ND		120000	29000
156-59-2	cis-1,2-Dichloroethene	ND		120000	34000
10061-01-5	cis-1,3-Dichloropropene	ND		120000	30000
110-82-7	Cyclohexane	ND		120000	28000
75-71-8	Dichlorodifluoromethane	ND		120000	54000
100-41-4	Ethylbenzene	ND		120000	36000
106-93-4	1,2-Dibromoethane	ND		120000	22000
98-82-8	Isopropylbenzene	ND		120000	19000

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-03 (18.5-19) Lab Sample ID: 480-109620-5

Matrix: Solid Lab File ID: S9766.D

Analysis Method: 8260C Date Collected: 11/11/2016 09:55

Sample wt/vol: 5.02(g) Date Analyzed: 11/23/2016 00:17

Soil Aliquot Vol: 100 (uL) Dilution Factor: 1000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 14.0 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND	Ī	620000	59000
1634-04-4	Methyl tert-butyl ether	ND		120000	47000
108-87-2	Methylcyclohexane	ND		120000	58000
75-09-2	Methylene Chloride	ND		120000	25000
100-42-5	Styrene	ND		120000	30000
127-18-4	Tetrachloroethene	6900000		120000	17000
108-88-3	Toluene	ND		120000	33000
156-60-5	trans-1,2-Dichloroethene	ND		120000	29000
10061-02-6	trans-1,3-Dichloropropene	ND		120000	12000
79-01-6	Trichloroethene	ND		120000	34000
75-69-4	Trichlorofluoromethane	ND		120000	58000
75-01-4	Vinyl chloride	ND	15	120000	42000
1330-20-7	Xylenes, Total	ND		250000	69000

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	100		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		53-146
460-00-4	4-Bromofluorobenzene (Surr)	96		49-148
1868-53-7	Dibromofluoromethane (Surr)	100		60-140



Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (16-16.5) Lab Sample ID: 480-109620-4

Matrix: Solid Lab File ID: S9765.D

Analysis Method: 8260C Date Collected: 11/11/2016 12:00

Sample wt/vol: 4.95(g) Date Analyzed: 11/22/2016 23:54

Soil Aliquot Vol: 100 (uL) Dilution Factor: 4000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 16.3 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		520000	140000
79-34-5	1,1,2,2-Tetrachloroethane	ND		520000	85000
79-00-5	1,1,2-Trichloroethane	ND		520000	110000
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		520000	260000
75-34-3	1,1-Dichloroethane	ND		520000	160000
75-35-4	1,1-Dichloroethene	ND		520000	180000
120-82-1	1,2,4-Trichlorobenzene	ND		520000	200000
96-12-8	1,2-Dibromo-3-Chloropropane	ND		520000	260000
95-50-1	1,2-Dichlorobenzene	ND		520000	130000
107-06-2	1,2-Dichloroethane	ND		520000	210000
78-87-5	1,2-Dichloropropane	ND		520000	85000
541-73-1	1,3-Dichlorobenzene	ND		520000	140000
106-46-7	1,4-Dichlorobenzene	ND		520000	73000
78-93-3	2-Butanone (MEK)	ND		2600000	1600000
591-78-6	2-Hexanone	ND	V-10 20 10	2600000	1100000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	105	2600000	170000
67-64-1	Acetone	ND		2600000	2100000
71-43-2	Benzene	ND		520000	99000
75-27-4	Bromodichloromethane	ND		520000	100000
75-25-2	Bromoform	ND		520000	260000
74-83-9	Bromomethane	ND		520000	110000
75-15-0	Carbon disulfide	ND		520000	240000
56-23-5	Carbon tetrachloride	ND		520000	130000
108-90-7	Chlorobenzene	ND		520000	69000
124-48-1	Dibromochloromethane	ND		520000	250000
75-00-3	Chloroethane	ND	-	520000	110000
67-66-3	Chloroform	ND		520000	360000
74-87-3	Chloromethane	ND		520000	120000
156-59-2	cis-1,2-Dichloroethene	ND		520000	140000
10061-01-5	cis-1,3-Dichloropropene	ND		520000	120000
110-82-7	Cyclohexane	ND		520000	120000
75-71-8	Dichlorodifluoromethane	ND		520000	230000
100-41-4	Ethylbenzene	ND		520000	150000
106-93-4	1,2-Dibromoethane	ND		520000	91000
98-82-8	Isopropylbenzene	ND		520000	78000

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Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (16-16.5) Lab Sample ID: 480-109620-4

Matrix: Solid Lab File ID: S9765,D

Analysis Method: 8260C Date Collected: 11/11/2016 12:00

Sample wt/vol: 4.95(g) Date Analyzed: 11/22/2016 23:54

Soil Aliquot Vol: 100 (uL) Dilution Factor: 4000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 16.3 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		2600000	250000
1634-04-4	Methyl tert-butyl ether	ND		520000	200000
108-87-2	Methylcyclohexane	ND		520000	240000
75-09-2	Methylene Chloride	ND		520000	100000
100-42-5	Styrene	ND		520000	130000
127-18-4	Tetrachloroethene	22000000		520000	70000
108-88-3	Toluene	ND		520000	140000
156-60-5	trans-1,2-Dichloroethene	ND		520000	120000
10061-02-6	trans-1,3-Dichloropropene	ND		520000	51000
79-01-6	Trichloroethene	ND		520000	150000
75-69-4	Trichlorofluoromethane	ND		520000	240000
75-01-4	Vinyl chloride	ND	125	520000	170000
1330-20-7	Xylenes, Total	ND	-	1000000	290000
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CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		53-146
460-00-4	4-Bromofluorobenzene (Surr)	97		49-148
1868-53-7	Dibromofluoromethane (Surr)	99		60-140



Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No .:

Client Sample ID: EW-04 (18-18.5) Lab Sample ID: 480-109620-6

Matrix: Solid Lab File ID: S9767.D

Analysis Method: 8260C Date Collected: 11/11/2016 12:05

Sample wt/vol: 5.04(g) Date Analyzed: 11/23/2016 00:40

Soil Aliquot Vol: 100 (uL) Dilution Factor: 2000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 18.0 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		260000	73000
79-34-5	1,1,2,2-Tetrachloroethane	ND		260000	43000
79-00-5	1,1,2-Trichloroethane	ND		260000	55000
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		260000	130000
75-34-3	1,1-Dichloroethane	ND		260000	82000
75-35-4	1,1-Dichloroethene	ND	1	260000	91000
120-82-1	1,2,4-Trichlorobenzene	ND		260000	100000
96-12-8	1,2-Dibromo-3-Chloropropane	ND		260000	130000
95-50-1	1,2-Dichlorobenzene	ND		260000	67000
107-06-2	1,2-Dichloroethane	ND		260000	110000
78-87-5	1,2-Dichloropropane	ND		260000	43000
541-73-1	1,3-Dichlorobenzene	ND		260000	70000
106-46-7	1,4-Dichlorobenzene	ND		260000	37000
78-93-3	2-Butanone (MEK)	ND		1300000	780000
591-78-6	2-Hexanone	ND		1300000	540000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	105	1300000	84000
67-64-1	Acetone	ND	-	1300000	1100000
71-43-2	Benzene	ND		260000	50000
75-27-4	Bromodichloromethane	ND		260000	53000
75-25-2	Bromoform	ND		260000	130000
74-83-9	Bromomethane	ND		260000	58000
75-15-0	Carbon disulfide	ND		260000	120000
56-23-5	Carbon tetrachloride	ND		260000	67000
108-90-7	Chlorobenzene	ND		260000	35000
124-48-1	Dibromochloromethane	ND		260000	130000
75-00-3	Chloroethane	ND		260000	55000
67-66-3	Chloroform	ND	-	260000	180000
74-87-3	Chloromethane	ND		260000	63000
156-59-2	cis-1,2-Dichloroethene	ND		260000	73000
10061-01-5	cis-1,3-Dichloropropene	ND		260000	63000
110-82-7	Cyclohexane	ND		260000	59000
75-71-8	Dichlorodifluoromethane	ND		260000	120000
100-41-4	Ethylbenzene	ND		260000	77000
106-93-4	1,2-Dibromoethane	ND		260000	46000
98-82-8	Isopropylbenzene	ND	-	260000	40000

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Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (18-18.5) Lab Sample ID: 480-109620-6

Matrix: Solid Lab File ID: S9767.D

Analysis Method: 8260C Date Collected: 11/11/2016 12:05

Sample wt/vol: 5.04(g) Date Analyzed: 11/23/2016 00:40

Soil Aliquot Vol: 100 (uL) Dilution Factor: 2000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 18.0 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		1300000	130000
1634-04-4	Methyl tert-butyl ether	ND		260000	100000
108-87-2	Methylcyclohexane	ND		260000	120000
75-09-2	Methylene Chloride	ND		260000	52000
100-42-5	Styrene	ND		260000	64000
127-18-4	Tetrachloroethene 3900000	27000000	E	260000	35000
108-88-3	Toluene	ND		260000	71000
156-60-5	trans-1,2-Dichloroethene	ND		260000	62000
10061-02-6	trans-1,3-Dichloropropene	ND		260000	26000
79-01-6	Trichloroethene	ND		260000	73000
75-69-4	Trichlorofluoromethane	ND		260000	120000
75-01-4	Vinyl chloride	ND	155	260000	88000
1330-20-7	Xylenes, Total	ND	-	530000	150000

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	98		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		53-146
460-00-4	4-Bromofluorobenzene (Surr)	94		49-148
1868-53-7	Dibromofluoromethane (Surr)	97		60-140



Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (18-18.5) DL Lab Sample ID: 480-109620-6 DL

Matrix: Solid Lab File ID: S9805.D

Analysis Method: 8260C Date Collected: 11/11/2016 /12:05

Sample wt/vol: 5.04(g) Date Analyzed: 11/23/2016/11:20

Soil Aliquot Vol: 100 (uL) Dilution Factor: 4000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 18.0 Level: (low/med) Medium

Analysis Batch No.: 333215 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT /	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		530000	150000
79-34-5	1,1,2,2-Tetrachloroethane	ND ND		530000	86000
79-00-5	1,1,2-Trichloroethane	ND ND		530000	110000
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		530000	260000
75-34-3	1,1-Dichloroethane	/ ND		530000	160000
75-35-4	1,1-Dichloroethene	ND		530000	180000
120-82-1	1,2,4-Trichlorobenzene	ND		530000	200000
96-12-8	1,2-Dibromo-3-Chloropropane	ND		530000	260000
95-50-1	1,2-Dichlorobenzene	ND		530000	130000
107-06-2	1,2-Dichloroethane	ND		530000	220000
78-87-5	1,2-Dichloropropane	ND		530000	85000
541-73-1	1,3-Dichlorobenzene	ND		530000	140000
106-46-7	1,4-Dichlorobenzene	ND		530000	74000
78-93-3	2-Butanone (MEK)	ND		2600000	1600000
591-78-6	2-Hexanone	ND		2600000	1100000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	1.55	2600000	170000
67-64-1	Acetone	ND		2600000	2200000
71-43-2	Велгеле	ND		530000	100000
75-27-4	Bromodichloromethane	ND		530000	110000
75-25-2	Bromoform	ND		530000	260000
74-83-9	Bromomethane	ND		530000	120000
75-15-0	Carbon disulfide	ND		530000	240000
56-23-5	Carbon tetrachloride	ND		530000	130000
108-90-7	Chlorobenzene	ND		530000	70000
124-48-1	Dibromochioromethane	ND		530000	260000
75-00-3	Chloroethane	ND		530000	110000
67-66-3	Chloroform	ND		530000	360000
74-87-3	Chloromethane	ND		530000	130000
156-59-2	cis-1,2-Dichloroethene	ND		530000	150000
10061-01-5	cis-1,3-Dichloropropene	ND		530000	130000
110-82-7	Gyclohexane	ND		530000	120000
75-71-8	Dichlorodifluoromethane	ND		530000	230000
100-41-4	Ethylbenzene	ND		530000	150000
106-93-4	1,2-Dibromoethane	ND		530000	92000
98-82-8	Isopropylbenzene	ND		530000	79000

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FORM I GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo

Analysis Method: 8260C

Soil Aliquot Vol: 100 (uL)

Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (18-18.5) DL

Lab Sample ID: 480-109620-6 DL

Matrix: Solid Lab File ID: S9805.D

Date Collected: 11/11/2016 12:05

Sample wt/vol: 5.04(g) Date Analyzed: 11/23/2016 11:20

Dilution Factor: 4000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 18.0 Level: (low/med) Medium

Analysis Batch No.: 333215 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND ND	1	2600000	250000
1634-04-4	Methyl tert-butyl ether	ND	1	530000	200000
108-87-2	Methylcyclohexane	ND /		530000	250000
75-09-2	Methylene Chloride	Nø		530000	100000
100-42-5	Styrene	ND		530000	130000
127-18-4	Tetrachloroethene	39000000		530000	71000
108-88-3	Toluene	ND ND		530000	140000
156-60-5	trans-1,2-Dichloroethene	ND ND		530000	120000
10061-02-6	trans-1,3-Dichloropropene	ND ND		530000	52000
79-01-6	Trichloroethene	ND		530000	150000
75-69-4	Trichlorofluoromethane	ND ND		530000	250000
75-01-4	Vinyl chloride	ND ND		530000	180000
1330-20-7	Xylenes, Total	ND		1100000	290000

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	102		50-149
17060-07-0	1,2-Dichloroethane-d4 (Syrr)	103		53-146
460-00-4	4-Bromofluorobenzene (Surr)	98		49-148
1868-53-7	Dibromofluoromethane (Surr)	103		60-140

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Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (24.5-25) Lab Sample ID: 480-109620-7

Matrix: Solid Lab File ID: S9768.D

Analysis Method: 8260C Date Collected: 11/11/2016 12:15

Sample wt/vol: 5(g) Date Analyzed: 11/23/2016 01:03

Soil Aliquot Vol: 100 (uL) Dilution Factor: 1000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 15.1 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		130000	35000
79-34-5	1,1,2,2-Tetrachloroethane	ND		130000	21000
79-00-5	1,1,2-Trichloroethane	ND		130000	27000
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		130000	63000
75-34-3	1,1-Dichloroethane	ND		130000	39000
75-35-4	1,1-Dichloroethene	ND		130000	44000
120-82-1	1,2,4-Trichlorobenzene	ND		130000	48000
96-12-8	1,2-Dibromo-3-Chloropropane	ND		130000	63000
95-50-1	1,2-Dichlorobenzene	ND		130000	32000
107-06-2	1,2-Dichloroethane	ND		130000	52000
78-87-5	1,2-Dichloropropane	ND		130000	21000
541-73-1	1,3-Dichlorobenzene	ND		130000	34000
106-46-7	1,4-Dichlorobenzene	ND		130000	18000
78-93-3	2-Butanone (MEK)	ND		630000	380000
591-78-6	2-Hexanone	ND	1	630000	260000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	205	630000	41000
67-64-1	Acetone	ND		630000	520000
71-43-2	Benzene	ND	-	130000	24000
75-27-4	Bromodichloromethane	ND		130000	25000
75-25-2	Bromoform	ND		130000	63000
74-83-9	Bromomethane	ND		130000	28000
75-15-0	Carbon disulfide	ND		130000	58000
56-23-5	Carbon tetrachloride	ND	7	130000	32000
108-90-7	Chlorobenzene	ND		130000	17000
124-48-1	Dibromochloromethane	ND		130000	61000
75-00-3	Chloroethane	ND		130000	26000
67-66-3	Chloroform	ND		130000	87000
74-87-3	Chloromethane	ND		130000	30000
156-59-2	cis-1,2-Dichloroethene	ND		130000	35000
10061-01-5	cis-1,3-Dichloropropene	ND		130000	30000
110-82-7	Cyclohexane	ND		130000	28000
75-71-8	Dichlorodifluoromethane	ND		130000	55000
100-41-4	Ethylbenzene	ND	1	130000	37000
106-93-4	1,2-Dibromoethane	ND		130000	22000
98-82-8	Isopropylbenzene	ND		130000	19000

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Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-04 (24.5-25) Lab Sample ID: 480-109620-7

Matrix: Solid Lab File ID: S9768.D

Analysis Method: 8260C Date Collected: 11/11/2016 12:15

Sample wt/vol: 5(g) Date Analyzed: 11/23/2016 01:03

Soil Aliquot Vol: 100 (uL) Dilution Factor: 1000

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 15.1 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		630000	60000
1634-04-4	Methyl tert-butyl ether	ND		130000	48000
108-87-2	Methylcyclohexane	ND		130000	59000
75-09-2	Methylene Chloride	ND		130000	25000
100-42-5	Styrene	ND		130000	31000
127-18-4	Tetrachloroethene	5900000		130000	17000
108-88-3	Toluene	ND		130000	34000
156-60-5	trans-1,2-Dichloroethene	ND		130000	30000
10061-02-6	trans-1,3-Dichloropropene	ND		130000	12000
79-01-6	Trichloroethene	ND		130000	35000
75-69-4	Trichlorofluoromethane	ND		130000	59000
75-01-4	Vinyl chloride	ND	155	130000	42000
1330-20-7	Xylenes, Total	ND		250000	70000

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	98		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		53-146
460-00-4	4-Bromofluorobenzene (Surr)	95		49-148
1868-53-7	Dibromofluoromethane (Surr)	98		60-140



Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-05 (20-21) Lab Sample ID: 480-109620-1

Matrix: Solid Lab File ID: S9762.D

Analysis Method: 8260C Date Collected: 11/10/2016 11:05

Sample wt/vol: 5.05(g) Date Analyzed: 11/22/2016 22:45

Soil Aliquot Vol: 100 (uL) Dilution Factor: 50

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 12.4 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		6000	1700
79-34-5	1,1,2,2-Tetrachloroethane	ND	1	6000	980
79-00-5	1,1,2-Trichloroethane	ND		6000	1300
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		6000	3000
75-34-3	1,1-Dichloroethane	ND		6000	1900
75-35-4	1,1-Dichloroethene	ND		6000	2100
120-82-1	1,2,4-Trichlorobenzene	ND		6000	2300
96-12-8	1,2-Dibromo-3-Chloropropane	ND		6000	3000
95-50-1	1,2-Dichlorobenzene	ND		6000	1500
107-06-2	1,2-Dichloroethane	ND		6000	2500
78-87-5	1,2-Dichloropropane	ND		6000	970
541-73-1	1,3-Dichlorobenzene	ND		6000	1600
106-46-7	1,4-Dichlorobenzene	ND		6000	840
78-93-3	2-Butanone (MEK)	ND		30000	18000
591-78-6	2-Hexanone	ND		30000	12000
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	1.5	30000	1900
67-64-1	Acetone	ND		30000	25000
71-43-2	Benzene	ND		6000	1100
75-27-4	Bromodichloromethane	ND		6000	1200
75-25-2	Bromoform	ND		6000	3000
74-83-9	Bromomethane	ND		6000	1300
75-15-0	Carbon disulfide	ND		6000	2700
56-23-5	Carbon tetrachloride	ND		6000	1500
108-90-7	Chlorobenzene	ND		6000	790
124-48-1	Dibromochloromethane	ND		6000	2900
75-00-3	Chloroethane	ND		6000	1200
67-66-3	Chloroform	ND		6000	4100
74-87-3	Chloromethane	ND		6000	1400
156-59-2	cis-1,2-Dichloroethene	ND		6000	1700
10061-01-5	cis-1,3-Dichloropropene	ND		6000	1400
110-82-7	Cyclohexane	ND		6000	1300
75-71-8	Dichlorodifluoromethane	ND		6000	2600
100-41-4	Ethylbenzene	ND		6000	1700
106-93-4	1,2-Dibromoethane	ND		6000	1100
98-82-8	Isopropylbenzene	4500	J	6000	900

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-05 (20-21) Lab Sample ID: 480-109620-1

Matrix: Solid Lab File ID: S9762.D

Analysis Method: 8260C Date Collected: 11/10/2016 11:05

Sample wt/vol: 5.05(g) Date Analyzed: 11/22/2016 22:45

Soil Aliquot Vol: 100 (uL) Dilution Factor: 50

Soil Extract Vol.; 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 12.4 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		30000	2900
1634-04-4	Methyl tert-butyl ether	ND		6000	2300
108-87-2	Methylcyclohexane	39000		6000	2800
75-09-2	Methylene Chloride	ND		6000	1200
100-42-5	Styrene	ND		6000	1400
127-18-4	Tetrachloroethene	5500	J	6000	810
108-88-3	Toluene	ND		6000	1600
156-60-5	trans-1,2-Dichloroethene	ND		6000	1400
10061-02-6	trans-1,3-Dichloropropene	ND		6000	590
79-01-6	Trichloroethene	7900		6000	1700
75-69-4	Trichlorofluoromethane	ND		6000	2800
75-01-4	Vinyl chloride	ND	5	6000	2000
1330-20-7	Xylenes, Total	ND		12000	3300

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	89		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		53-146
460-00-4	4-Bromofluorobenzene (Surr)	85		49-148
1868-53-7	Dibromofluoromethane (Surr)	98		60-140



Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-06 (16.5-17) Lab Sample ID: 480-109620-2

Matrix: Solid Lab File ID: S9763.D

Analysis Method: 8260C Date Collected: 11/10/2016 13:35

Sample wt/vol: 4.95(g) Date Analyzed: 11/22/2016 23:08

Soil Aliquot Vol: 100 (uL) Dilution Factor: 20

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 9.4 Level: (low/med) Medium

Analysis Batch No.: 333153 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		2300	650
79-34-5	1,1,2,2-Tetrachloroethane	ND		2300	380
79-00-5	1,1,2-Trichloroethane	ND		2300	490
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan	ND		2300	1200
75-34-3	1,1-Dichloroethane	ND		2300	720
75-35-4	1,1-Dichloroethene	ND		2300	810
120-82-1	1,2,4-Trichlorobenzene	ND		2300	890
96-12-8	1,2-Dibromo-3-Chloropropane	ND		2300	1200
95-50-1	1,2-Dichlorobenzene	ND		2300	600
107-06-2	1,2-Dichloroethane	ND		2300	960
78-87-5	1,2-Dichloropropane	ND		2300	380
541-73-1	1,3-Dichlorobenzene	ND		2300	620
106-46-7	1,4-Dichlorobenzene	ND		2300	330
78-93-3	2-Butanone (MEK)	ND		12000	6900
591-78-6	2-Hexanone	ND		12000	4800
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	105	12000	750
67-64-1	Acetone	ND		12000	9600
71-43-2	Benzene	ND		2300	440
75-27-4	Bromodichloromethane	ND		2300	470
75-25-2	Bromoform	ND	1 - 1 -	2300	1200
74-83-9	Bromomethane	ND		2300	510
75-15-0	Carbon disulfide	ND		2300	1100
56-23-5	Carbon tetrachloride	ND		2300	600
108-90-7	Chlorobenzene	ND	-	2300	310
124-48-1	Dibromochloromethane	ND		2300	1100
75-00-3	Chloroethane	ND		2300	490
67-66-3	Chloroform	ND		2300	1600
74-87-3	Chloromethane	ND		2300	560
156-59-2	cis-1,2-Dichloroethene	ND		2300	640
10061-01-5	cis-1,3-Dichloropropene	ND		2300	560
110-82-7	Cyclohexane	ND		2300	520
75-71-8	Dichlorodifluoromethane	ND		2300	1000
100-41-4	Ethylbenzene	ND		2300	680
106-93-4	1,2-Dibromoethane	ND		2300	410
98-82-8	Isopropylbenzene	ND	-	2300	350

FORM I 8260C

11/25/2016

Lab Name: TestAmerica Buffalo

Job No.: 480-109620-1

SDG No.:

Client Sample ID: EW-06 (16.5-17)

Lab Sample ID: 480-109620-2

Matrix: Solid Lab File ID: S9763.D

Analysis Method: 8260C Date Collected: 11/10/2016 13:35

Sample wt/vol: 4.95(g) Date Analyzed: 11/22/2016 23:08

Soil Aliquot Vol: 100 (uL) Dilution Factor: 20

Soil Extract Vol.: 10(mL) GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: 9.4 Level: (low/med) Medium

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND	1	12000	1100
1634-04-4	Methyl tert-butyl ether	ND		2300	880
108-87-2	Methylcyclohexane	ND		2300	1100
75-09-2	Methylene Chloride	ND		2300	460
100-42-5	Styrene	ND		2300	560
127-18-4	Tetrachloroethene	130000		2300	310
108-88-3	Toluene	ND		2300	630
156-60-5	trans-1,2-Dichloroethene	ND		2300	550
10061-02-6	trans-1,3-Dichloropropene	ND		2300	230
79-01-6	Trichloroethene	ND		2300	650
75-69-4	Trichlorofluoromethane	ND		2300	1100
75-01-4	Vinyl chloride	ND	175	2300	780
1330-20-7	Xylenes, Total	ND		4700	1300

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		50-149
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		53-146
460-00-4	4-Bromofluorobenzene (Surr)	94		49-148
1868-53-7	Dibromofluoromethane (Surr)	96		60-140



# ATTACHMENT B SUPPORT DOCUMENTATION

## TestAmerica

777 New Durham Road 5 Edison, New Jersey 08817 Phone: (732) 549-3900 Fax: (732) 5



Page 1 of 1 480-109620 COC CHAIN OF CUSTODY / ANALYSIS REQUEST THE LEADER IN ENVIRONMENTAL TESTING Name (for report and invoice) Samplers Name ( Printed ) Site/Project Identification Mike Gutmann Sprc +Span J. Christopher NY: State (Location of site): NJ: Other: AECOM - URS 60429463 Tack 5 Regulatory Program: NYSDEC ANALYSIS REQUESTED (ENTER "X: BELOW TO INDICATE REQUEST) LAB USE ONLY Analysis Tumaround Time Ste 400 257 W. Genessee St. Standard X Project No: Rush Charges Authorized For. Buffalo New York 2 Week Job No: VOCS Phone 1 Week 716 856 5636 Other No. of. Sample Cont Numbers Sample Identification Date Time Matrix Milelia 5 2 EW-05(20-ZI) 1105 2 EW-06 (16.5-17) 1/10/16 1333 S 2 2 2 EW-03 (16-16.5) 11/16 950 2 2 EW-04 (16-16.5) 11/11/16 1200 5 2 2 11/11/11 5 EW-03 (18.5-19 958 2 2 1/11/16 1705 EW-04 (18-18.5) 2 2 EW-04 (24.5-28) 11/16/12/5 2 2 Preservation Used: 1 = ICE, 2 = HCI, 3 = H2SO4, 4 = HNO3, 5 = NaOH Soil: , 7 = Other 6 = Other Special Instructions FOR QUESTIONS, CONTACT GEORGE KISLUK @ 716-923-1321 Water Metals Filtered (Yes/No)? Relinquished by Company 11/11/16 1440 119 . Brown. Test America. HECOM J. Christs Relinguished by Company Received b Company

Received by Relinquished by Company Company 11/4/6/ 1800 KAL Relinquished by Company Date / Time Received by Company TAL - 0016 (0814)

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

2.1/2.1 1 R#7 NOC.

26th

#### Job Narrative 480-109620-1

#### Receipt

The samples were received on 11/15/2016 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

#### GC/MS VOA

Method(s) 8260C: The following samples were analyzed using medium level soil analysis and diluted to bring the concentration of target analytes within the calibration range: EW-06 (16.5-17) (480-109620-2), EW-03 (16-16.5) (480-109620-3), EW-04 (16-16.5) (480-109620-4), EW-03 (18.5-19) (480-109620-5), EW-04 (18-18.5) (480-109620-6) and EW-04 24.5-25) (480-109620-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-333153 recovered above the upper control limit for Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: EW-05 (20-21) (480-109620-1), EW-06 (16.5-17) (480-109620-2), EW-03 (16-16.5) (480-109620-3), EW-04 (16-16.5) (480-109620-4), EW-03 (18.5-19) (480-109620-5), EW-04 (18-18.5) (480-109620-6) and EW-04 24.5-25) (480-109620-7).

Method(s) 8260C: The following sample was analyzed using medium level soil analysis and diluted due to the nature of the sample matrix: EW-05 (20-21) (480-109620-1). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The laboratory control sample (LCS) for preparation batch 480-332010 and analytical batch 480-333153 recovered outside control limits for the following analyte: 4-Methyl-2-pentanone. 4-Methyl-2-pentanone has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. The following samples are impacted EW-05 (20-21) (480-109620-1), EW-06 (16.5-17) (480-109620-2), EW-03 (16-16.5) (480-109620-3), EW-04 (16-16.5) (480-109620-4), EW-03 (18.5-19) (480-109620-5), EW-04 (18-18.5) (480-109620-6) and EW-04 24.5-25) (480-109620-7).

Method(s) 8260C: The laboratory control sample (LCS) for preparation batch 480-332010 and analytical batch 480-333215 recovered outside control limits for the following analyte: 4-Methyl-2-pentanone (MIBK). 4-Methyl-2-pentanone (MIBK) has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. The following sample is impacted:EW-04 (18-18.5) (480-109620-6).

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: EW-04 (18-18.5) (480-109620-6). Elevated reporting limits (RLs) are provided.

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

# FORM V GC/MS VOA INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Lab File ID: S9753.D BFB Injection Date: 11/22/2016

Instrument ID: HP5973S BFB Injection Time: 19:00

Analysis Batch No.: 333153

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.4	
75	30.0 - 60.0 % of mass 95	49.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.3	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	80.3	
175	5.0 - 9.0 % of mass 174	6.4	(8.0) 1
176	95.0 - 101.0 % of mass 174	79.8	(99.4) 1
177	5.0 - 9.0 % of mass 176	5.5	(6.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 480-333153/2	S9754.D	11/22/2016	19:24
EW-05 (20-21)	480-109620-1	S9762.D	11/22/2016	22:45
EW-06 (16.5-17)	480-109620-2	S9763.D	11/22/2016	23:08
EW-03 (16-16.5)	480-109620-3	S9764.D	11/22/2016	23:31
EW-04 (16-16.5)	480-109620-4	S9765.D	11/22/2016	23:54
EW-03 (18.5-19)	480-109620-5	S9766.D	11/23/2016	00:17
EW-04 (18-18.5)	480-109620-6	S9767.D	11/23/2016	00:40
EW-04 (24.5-25)	480-109620-7	S9768.D	11/23/2016	01:03
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## FORM VII GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Lab Sample ID: CCVIS 480-333153/2 Calibration Date: 11/22/2016 19:24

Instrument ID: HP5973S Calib Start Date: 11/09/2016 16:51

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 11/09/2016 19:33

Lab File ID: S9754.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.9657	1.135	0.1000	29.4	25.0	17.5	50.0
Chloromethane	Ave	1.071	1.136	0.1000	26.5	25.0	6.1	20.0
Vinyl chloride	Ave	0.999	1.208	0.1000	30.2	25.0	(21.0*)	20.0
Butadiene	Lin1		1,210		30.0	25.0	20.2*	20.0
Bromomethane	Ave	0.6112	0.6781	0.1000	27.7	25.0	10.9	50.0
Chloroethane	Ave	0.6169	0.7350	0.1000	29.8	25.0	19.1	50.0
Dichlorofluoromethane	Ave	1.770	1.826		25.8	25.0	3.2	20.0
Trichlorofluoromethane	Linl		1.557	0.1000	27.5	25.0	10.0	20.0
Ethyl ether	Ave	0.9672	1.002		25.9	25.0	3.6	20.0
Acrolein	Ave	0.1982	0.1759		111	125	-11.3	50.0
1,1,2-Trichloro-1,2,2-triflu oroethane	Linl		0.9933	0.1000	25.4	25.0	1.6	20.0
1,1-Dichloroethene	Ave	0.9649	1.048	0.1000	27.2	25.0	8.7	20.0
Acetone	Ave	0.4198	0.4296	0.1000	128	125	2.3	50.0
Iodomethane	Linl		1.591		26.1	25.0	4.5	20.0
Carbon disulfide	Ave	3.213	3.068	0.1000	23.9	25.0	-4.5	20.0
Allyl chloride	Ave	1.493	1,511	F-10 (1) (1)	25.3	25.0	1.3	20,0
Methyl acetate	Ave	0.9405	0.8145	0.1000	108	125	-13.4	50.0
Methylene Chloride	Linl	2 2 3	1.104	0.1000	23.5	25.0	-5.8	20.0
2-Methyl-2-propanol	Ave	0.1604	0.1459		227	250	-9.1	50.0
Methyl tert-butyl ether	Ave	3.444	3.374	0.1000	24.5	25.0	-2.0	20.0
trans-1,2-Dichloroethene	Ave	1.062	1.127	0.1000	26.5	25.0	6.1	20.0
Acrylonitrile	Ave	0.4789	0.4424		231	250	-7.6	20.0
Hexane	Ave	1.711	1.772		25.9	25.0	3.6	20.0
1,1-Dichloroethane	Ave	1.931	1.964	0.2000	25.4	25.0	1.7	20.0
Vinyl acetate	Ave	2.317	2.209		47.7	50.0	-4.6	20.0
2,2-Dichloropropane	Ave	0.8606	0.9642	-	28.0	25.0	12.0	20.0
cis-1,2-Dichloroethene	Ave	1.187	1.254	0.1000	26.4	25.0	5.6	20.0
2-Butanone (MEK)	Ave	0.5972	0.5689	0.1000	119	125	-4.7	20.0
Chlorobromomethane	Ave	0.6050	0.6230		25.7	25.0	3.0	20.0
Tetrahydrofuran	Ave	0.4115	0.3587		43.6	50.0	-12.8	20.0
Chloroform	Ave	1.866	1.883	0.2000	25.2	25.0	0.9	20.0
1,1,1-Trichloroethane	Ave	1.294	1.419	0.1000	27.4	25.0	9.7	20.0
Cyclohexane	Ave	1.825	1.928	0.1000	26.4	25.0	5.6	20.0
Carbon tetrachloride	Ave	1,250	1.363	0.1000	27.3	25.0	9.0	20.0
1,1-Dichloropropene	Ave	1.436	1.516		26.4	25.0	5.6	20.0
Isobutyl alcohol	Ave	0.0609	0.0588		603	625	-3.5	50.0
Benzene	Ave	4.430	4.542	0.5000	25.6	25.0	2.5	20.0
1,2-Dichloroethane	Ave	1.649	1.580	0.1000	24.0	25.0	-4.2	20.0
n-Heptane	Ave	1.769	1.550		21.9	25.0	-12.4	20.0
Trichloroethene	Ave	1.120	1.173	0.2000	26.2	25.0	4.7	20.0

## FORM III GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-109620-1

SDG No.:

Matrix: Solid Level; Medium Lab File ID: S9810.D

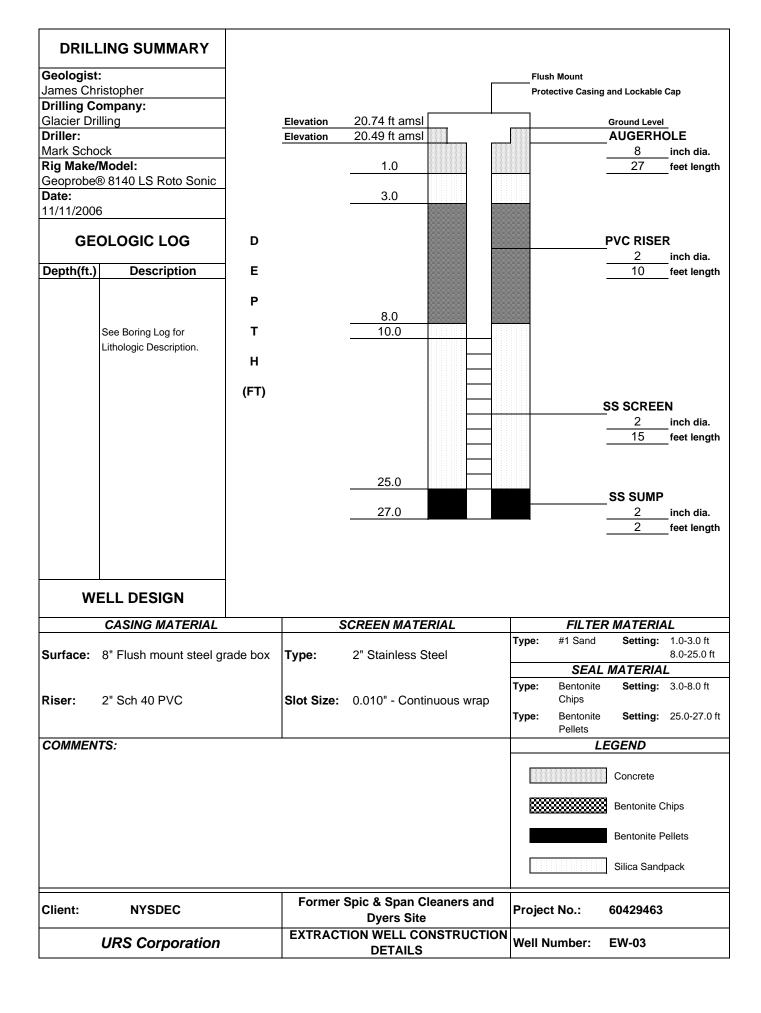
Lab ID: LCS 480-332010/15-A Client ID:

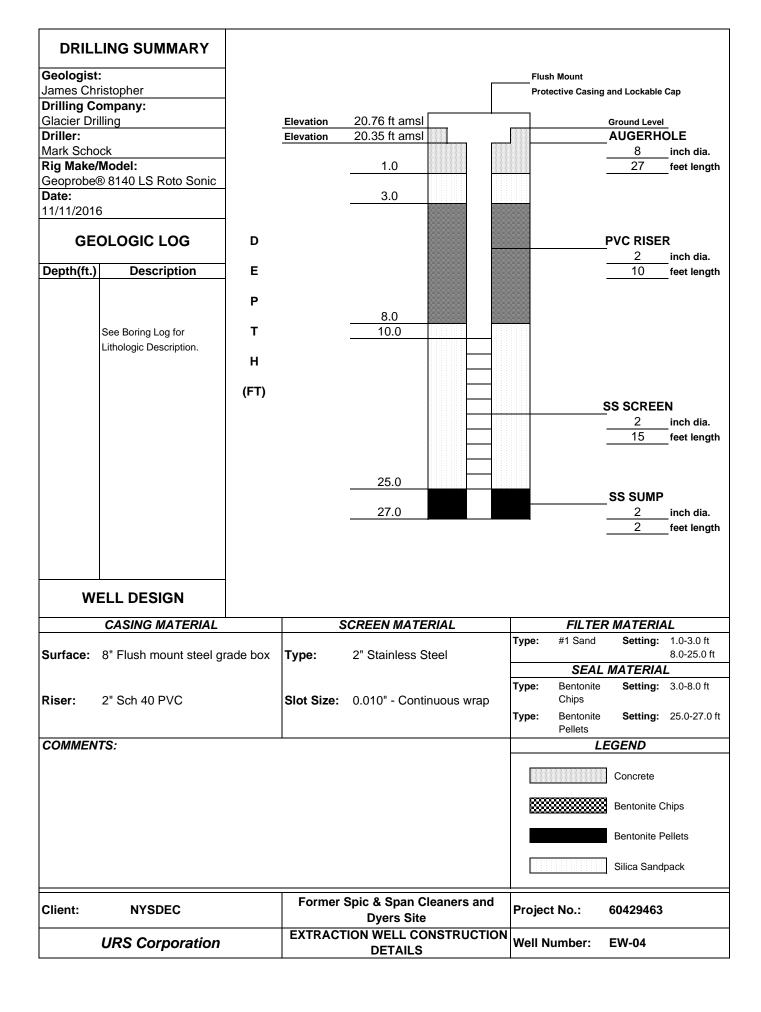
COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	2490	2580	104	68-130	
1,1,2,2-Tetrachloroethane	2490	2170	87	73-119	
1,1,2-Trichloroethane	2490	2310	93	81-115	
1,1,2-Trichloro-1,2,2-trifluor oethane	2490	2390	96	10-179	
1,1-Dichloroethane	2490	2400	96	78-121	
1,1-Dichloroethene	2490	2530	102	48-133	
1,2,4-Trichlorobenzene	2490	2320	93	70-140	
1,2-Dibromo-3-Chloropropane	2490	1990	80	56-122	
1,2-Dichlorobenzene	2490	2360	95	78-125	
1,2-Dichloroethane	2490	2240	90	74-127	
1,2-Dichloropropane	2490	2390	96	81-115	
1,3-Dichlorobenzene	2490	2440	98	82-114	
1,4-Dichlorobenzene	2490	2350	94	81-113	
2-Butanone (MEK)	12500	9330	75	54-149	
2-Hexanone	12500	8640	69	59-127	
4-Methyl-2-pentanone (MIBK)	12500	9100	73	74-120	*
Acetone	12500	7750	62	47-141	
Benzene	2490	2490	100	77-125	
Bromodichloromethane	2490	2350	94	71-121	
Bromoform	2490	2040	82	48-125	
Bromomethane	2490	1600	64	39-149	
Carbon disulfide	2490	1960	79	40-136	
Carbon tetrachloride	2490	2660	107	54-135	
Chlorobenzene	2490	2380	96	76-126	-
Dibromochloromethane	2490	2250	90	64-118	
Chloroethane	2490	2210	89	23-164	
Chloroform	2490	2370	95	78-118	
Chloromethane	2490	1760	71	61-124	
cis-1,2-Dichloroethene	2490	2430	97	79-124	
cis-1,3-Dichloropropene	2490	2330	93	75-121	
Cyclohexane	2490	2590	104	49-129	
Dichlorodifluoromethane	2490	1020	41	10-150	
Ethylbenzene	2490	2400	96	78-124	
1,2-Dibromoethane	2490	2260	91	81-119	
Isopropylbenzene	2490	2480	100	76-119	
Methyl acetate	12500	9370	75	71-123	
Methyl tert-butyl ether	2490	2210	89	67-137	
Methylcyclohexane	2490	2690	108	50-130	
Methylene Chloride	2490	2210	89	75-118	
Styrene	2490	2380	96	84-119	
Tetrachloroethene	2490	2640	106	73-133	

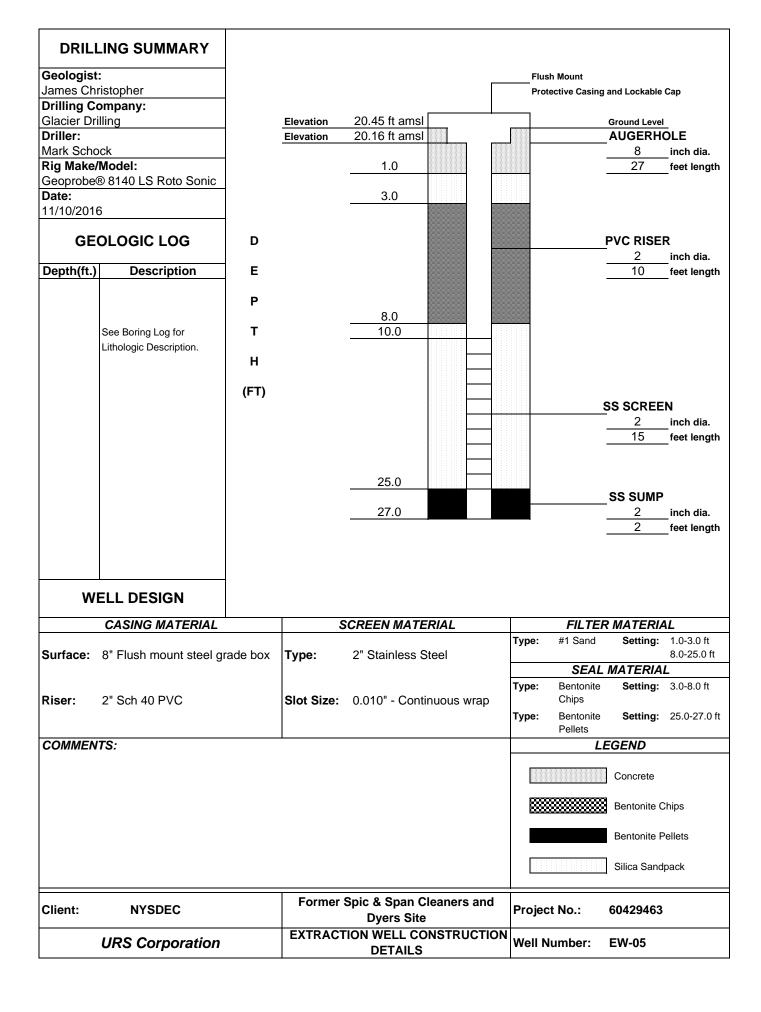
<sup>#</sup> Column to be used to flag recovery and RPD values

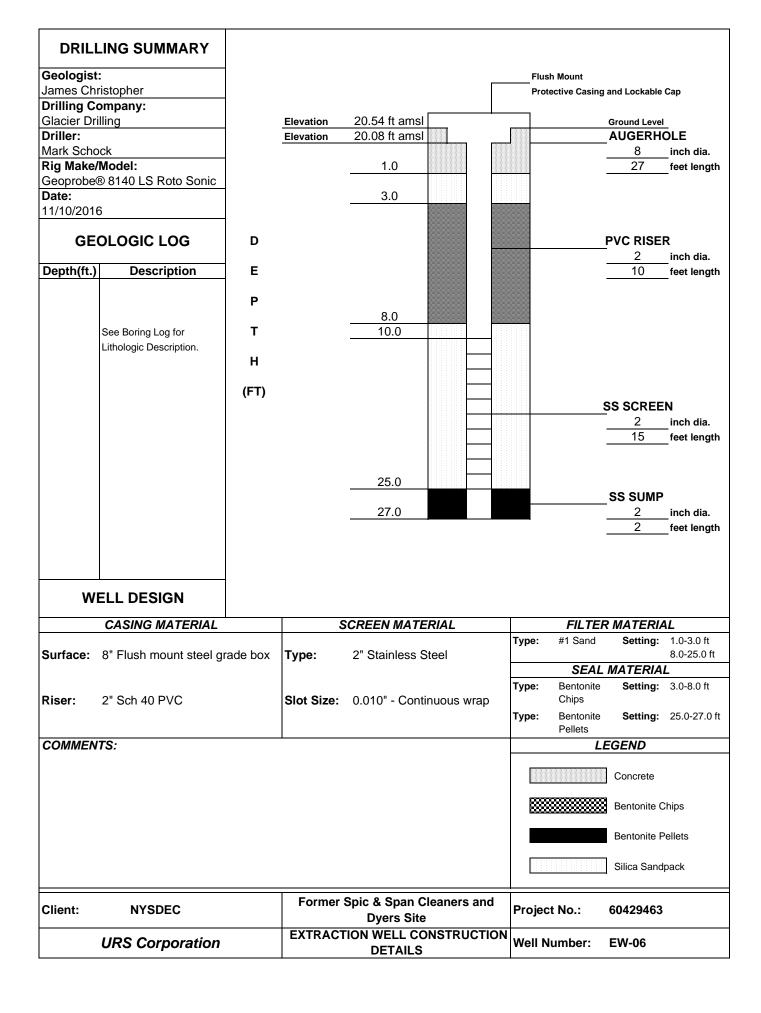
FORM III 8260C

# APPENDIX F EXTRACTION WELL CONSTRUCTION LOGS









# APPENDIX G WELL DEVELOPMENT LOGS

PROJECT TITLE: Meeke	r Ave. Spic &	Span DNAPI	L Recovery	/			WELL NO	.: <u>DEC-02</u>	<u>2</u> 4		
PROJECT NO.: 60429	9463						Page: 1	of 2			
STAFF: David Cofield											
DATE(S): 11/17/2016											
1. TOTAL CASING AND S	CREEN I ENG	 :TH /FT )			=	29	.50		LL ID. 1"		GAL/FT) 0.04
		` ,			•						
2. WATER LEVEL BELOW		` '			= .		22		2"		0.17
3. NUMBER OF FEET STA	ANDING WATE	∃R (#1 - #2)			=	7.	28		3"	(	0.38
4. VOLUME OF WATER/FO	OOT OF CASI	NG (GAL.)			=	0.	17		4"	(	0.66
5. VOLUME OF WATER IN	I CASING (GA	L.)(#3 x #4)			= .	1.	24		5"	,	1.04
6. VOLUME OF WATER TO	O REMOVE (C	3AL.)(#5 x 5	)		=	6	.2		6"	,	1.50
7. VOLUME OF WATER R	EMOVED (GA	.L.)			=	5	51		8"		2.60
				ACCUMI	JLATED V	OLUME PI	URGED (G			or Ng Diame <sup>-</sup>	TER)²
								·			
PARAMETERS	0	1	3.5	6	8.5	11	13.5	16	18.5	21	23.5
рН			<u> </u>								
COND. (uS)											
PID (ppm)	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000
TEMPERATURE (°C)											
(NTU)											
TIME	1000	1004	1014	1024	1034	1044	1054	1104	1114	1124	1134
COMMENTS: Notes	: 21.72 DT	'P/oil									
Notes		W = 6" of p	roduct, ve	ery strong	odor, son	ne sheen	observed	turbid to	clear		
	All (3) bol	Its are stripp	ped								

PROJECT TITLE:	Meeker Ave.	Spic & S	Span DNAPL	. Recovery				WELL NO	.: <u>DEC-02</u>	24		
PROJECT NO.:	60429463							Page: 1	of 2			
STAFF: David Cof	ield											
DATE(S):11/17	/2016											
1. TOTAL CASING A	AND SCREEN	N I ENG	TH (FT )			=	29	50	WE	LL ID. 1"	VOL. (0	GAL/FT) 0.04
2. WATER LEVEL B			, ,			=		.22		2"		0.17
3. NUMBER OF FEE	ET STANDING	G WATE	R (#1 - #2)			=	7.:	28		3"	(	0.38
4. VOLUME OF WA	TER/FOOT O	F CASIN	NG (GAL.)			=	0.	17		4"	(	0.66
5. VOLUME OF WA	TER IN CASI	NG (GAI	)(#3 x #4)			=	1.:	24		5"		1.04
6. VOLUME OF WA	TER TO REM	MOVE (G	AL.)(#5 x 5 )		.2		6"		1.50			
7. VOLUME OF WA	<u></u>										2.60	
					4 0 0 1 11 41		01 LINE DI	IDOED (0		08 x (CASI		ΓER)²
					ACCUMI	JLATED V	OLUME PO	JRGED (G	ALLONS)			
PARAMETERS		26	28.5	31	33.5	36	38.5	41	43.5	46	48.5	51
рН												
COND. (uS)												
		40000	40000	40000	40000	40000	40000	40000	40000	40000	40000	40000
PID (ppm)	>	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000
TEMPERATURE (°C	)											
(NTU)												
TIME		1144	1154	1204	1214	1224	1234	1244	1254	1304	1314	1324
COMMENTS:												
	Notes:											

PROJECT TITLE:	Meeker Ave	e. Spic & S	Span DNAPL	Recovery				WELL NO	.: <u>DEC-02</u>	24D		
PROJECT NO.:	60429463	<u> </u>						Page: 1	of 1			
STAFF: David Co	ofield											
DATE(S): 11/1	7/2016											
			( <del></del> )						WE	LL ID.	VOL. (0	
1. TOTAL CASING			, ,			=		.70	•	1"		0.04
2. WATER LEVEL I	BELOW TOP	OF CAS	ING (FT.)			=		.65		2"	(	0.17
3. NUMBER OF FE	ET STANDIN	NG WATE	R (#1 - #2)			=	0.17 4"				(	0.38
4. VOLUME OF WA	ATER/FOOT	OF CASI	NG (GAL.)			=				4"	0.66	
5. VOLUME OF WA	ATER IN CAS	SING (GA	L.)(#3 x #4)			=	5.45 5"			5"		1.04
6. VOLUME OF WA	ATER TO RE	MOVE (G	AL.)(#5 x 5 )	١		=	27.2 6"					1.50
7. VOLUME OF WA	ATER REMO	VED (GAI	L.)			=	50 8"					2.60
									V=0.040	08 x (CASI	OR NG DIAMET	ΓER)²
					ACCUMI	ULATED V	OLUME PL	JRGED (G	ALLONS)			
PARAMETERS		0	5	10	15	20	25	30	35	40	45	50
pН												
COND. (uS)												
PID (ppm)		8355	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000
TEMPERATURE (°C	C)											
	,											
(NTU)												
TIME		1355	1400	1405	1410	1415	1420	1430	1440	1450	1500	1510
COMMENTS:	Notes:	Trace pro	oduct obser	ved. verv	strona od	lor. some	sheen. tu	rbid to cle	ar			
		(1) stripp		, - <b>,</b>	J 11	,	,					

PROJECT TITLE:	Meeker Ave. Sp	c & :	Span DNAPL	Recovery				WELL NO	.: <u>DEC-02</u>	4DR		
PROJECT NO.:	60429463							Page: 1	of 1			
STAFF: David Cof	ield											
DATE(S): 11/17	/2016											
1. TOTAL CASING A	AND SCREEN I	-NG	TH (FT )			=	53	.70		LL ID. 1"		GAL/FT) 0.04
2. WATER LEVEL B			,			=		.18	•	2"		0.17
3. NUMBER OF FEE	ET STANDING V	/ATE	R (#1 - #2)			=	32	.52		3"	(	0.38
4. VOLUME OF WAT	TER/FOOT OF (	ASII	NG (GAL.)			=	0.	17		4"	(	0.66
5. VOLUME OF WAT	TER IN CASING	(GA	L.)(#3 x #4)			=	5.	53		5"		1.04
6. VOLUME OF WAT	TER TO REMO\	E (G	AL.)(#5 x 5 )	)		=	27	7.6		1.50		
7. VOLUME OF WAT	= 50 8" 2.60 OR											2.60
					A C C L II A I	U ATED V	OLUME D	IDOED (O		08 x (CASI	NG DIAME	ΓER)²
					ACCUM	JLATED V	OLUME PI	JRGED (G	ALLONS)			
PARAMETERS	С		5	10	15	20	25	30	35	40	45	50
рН												
COND (us)												
COND. (uS)												
PID (ppm)	>10	000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000
TEMPERATURE (°C)	)											
(NTU)												
TIME	15	80	1535	1540	1545	1550	1555	1600	1605	1610	1615	1620
COMMENTS:				_	_							
	Notes: Trac	e pro	oduct obser	ved, stror	ng odor							

PROJECT TITLE:	Meeker Ave.	Spic & S	Span DNAPL	Recovery				WELL NO	.: <u>DEC-09</u>	)2D			
PROJECT NO.:	60429463							Page: 1	of 2				
STAFF: David Co													
DATE(S):11/1	7/2016												
										LL ID.	VOL. (G		
1. TOTAL CASING	AND SCREEN	I LENG1	ΓH (FT.)			=		.13		1"	(	0.04	
2. WATER LEVEL	BELOW TOP C	)F CASI	NG (FT.)			=	21.	.63		2"	(	0.17	
3. NUMBER OF FE	ET STANDING	3 WATE	R (#1 - #2)			= <u>38.50</u> 3" = 0.17 4"					0.38		
4. VOLUME OF WA	ATER/FOOT OF	F CASIN	NG (GAL.)								0.66		
5. VOLUME OF WA	ATER IN CASIN	NG (GAI	L.)(#3 x #4)			=	6.9	5"	1	1.04			
6. VOLUME OF WA	ATER TO REM	OVE (G	AL.)(#5 x 5 )	١		=	32	6"	1.50				
7. VOLUME OF W	ATER REMOVE	ED (GAL	)			=	5	5		8"		2.60	
									V=0.040	08 x (CASII	OR NG DIAMET	ΓER)²	
	<u> </u>				ACCUMU	JLATED V	OLUME PL	JRGED (G	ALLONS)				
PARAMETERS		0	5	10	15	20	25	30	25	40	45	50	
			ì										
pH													
COND. (uS)													
PID (ppm)	3	381.9	398.5	2695	6691	8642	>10000	>10000	>10000	>10000	>10000	>10000	
TEMPERATURE (°C	C)		<u> </u>										
(NTU)			İ										
(NTO)													
TIME	(	0755	0800	0805	0810	0815	0820	0825	0830	0835	0840	0845	
COMMENTS:													
	Note: 4" of p	oroduct	observed,	no sheen	, strong o	dor, turbio	d to clear						

PROJECT TITLE:	Meeker Ave. Spic &	Span DNAPL Re	ecovery		WELL	NO.: DEC-092D	
PROJECT NO.:	60429463				Page: 2	2 of 2	
STAFF: David Co	ofield						
DATE(S):11/1	7/2016						
1. TOTAL CASING	AND SCREEN LENG	TH (FT.)		=	60.13	WELL ID. 1"	VOL. (GAL/FT) 0.04
	BELOW TOP OF CAS			=	21.63	2"	0.17
3. NUMBER OF FE	ET STANDING WATE	ER (#1 - #2)		=	38.50		0.38
4. VOLUME OF WA	ATER/FOOT OF CASI	NG (GAL.)		=	0.17	4"	0.66
5. VOLUME OF WA	ATER IN CASING (GA	L.)(#3 x #4)		=	6.55		1.04
6. VOLUME OF WA	ATER TO REMOVE (C	GAL.)(#5 x 5 )		=	32.7	6"	1.50
7. VOLUME OF WA	ATER REMOVED (GA	L.)		=	55	8"	2.60 OR
			4.00LIM	U ATED V	OLUME DUDGED		ING DIAMETER)2
			ACCUM	JLATED V	OLUME PURGED	(GALLONS)	
PARAMETERS	55						
рН							
COND. (uS)							
PID (ppm)	>10000						
TEMPERATURE (°C	C)						
(NTU)							
TIME	0855						
COMMENTS:							

PROJECT TITLE:	Meeker Av	ve. Spic & S	Span DNAPL	Recovery				WELL NO	.: <u>DEC-13</u>	86		
PROJECT NO.:	60429463	3						Page: 1	of 2			
STAFF: David Co	ofield											
DATE(S): 11/16/20	16, 11/18/20	016 & 12/1	/2016									
									WE	LL ID.	VOL. (	
1. TOTAL CASING			, ,			=		.65		1"		0.04
2. WATER LEVEL I	BELOW TO	P OF CASI	ING (FT.)			=	15	.75		2"	(	0.17
3. NUMBER OF FE	ET STANDI	ING WATE	R (#1 - #2)			=	10	.90		3"	(	0.38
4. VOLUME OF WA	ATER/FOOT	OF CASIN	NG (GAL.)			=	0.	17		4"	(	0.66
5. VOLUME OF WA	ATER IN CA	SING (GAI	L.)(#3 x #4)			=	1.	85		5"	•	1.04
6. VOLUME OF WA	ATER TO RE	EMOVE (G	AL.)(#5 x 3 )	1		=	5	.6		6"		1.50
7. VOLUME OF WA	ATER REMO	OVED (GAL	)			=	2	0		8"		2.60
									V=0.040	08 x (CASI	OR NG DIAMET	ΓER)²
					ACCUM	JLATED V	OLUME PL	JRGED (G	ALLONS)			
PARAMETERS		0	5	10		10	13	16	16.5		19.5	20
Date		11/16/16	11/16/16	11/16/16		11/18/16	11/18/16	11/18/16	11/18/16	11/18/16	11/18/16	11/18/16
COND. (uS)												
PID (ppm)		2636	2462	2146		>10000	>10000	>10000	>10000	>10000	>10000	>10000
TEMPERATURE (°C	C)											
(NTU)												
TIME		1215	1230	1245		0855	0904	0913	0919	0950	1000	1020
COMMENTS:		-	/ slow rech	-	-			-				
	Turl	bid: tint of	gray to cle	ar. Appro	ximately	20% DNA	PL was c	bserved c	luring reco	overy/ Bai	ler 3" total.	

PROJECT TITLE:	Meeker Ave. Sp	oic & S	Span DNAPL	Recovery				WELL NO	.: <u>DEC-13</u>	86		
PROJECT NO.:	60429463 Page: 2 of 2											
STAFF: David Co	ofield											
DATE(S): 11/16/20	16, 11/18/2016 &	12/1	/2016									
1. TOTAL CASING	AND SCREEN I	ENG:	TU (ET )			=	26	65	WE	LL ID. 1"		GAL/FT) 0.04
2. WATER LEVEL			, ,			=		.75		2"		0.04
3. NUMBER OF FE						= <u>10.90</u> 3" = <u>0.17</u> 4"					(	0.38
4. VOLUME OF WA	ATER/FOOT OF	CASII	NG (GAL.)			= <u>0.17</u> 4" = <u>1.85</u> 5"					(	0.66
5. VOLUME OF WA	ATER IN CASING	G(GA	L.)(#3 x #4)			=	1.8	5"	1.04			
6. VOLUME OF WA	ATER TO REMO	/E (G	GAL.)(#5 x 3 )	)		=	5	.6	6"		1.50	
7. VOLUME OF WA	ATER REMOVED	(GAI	L.)			2	0	8" 2.60				
		ER REMOVED (GAL.) = 20 8" 2.60  OR  V=0.0408 x (CASING DIAMETER) <sup>2</sup> ACCUMULATED VOLUME PURGED (GALLONS)										ΓER)²
					ACCUM	JLATED V	OLUME PL	JRGED (G	ALLONS)			
PARAMETERS	(	)	5	10		10	13	16	16.5		19.5	20
Date	12/1	I/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16	12/1/16
COND. (uS)												
COND. (do)												
PID (ppm)	93	30	384	428	481	469	520	461	396	669	454	396
TEMPERATURE (°C	C)											
(NTU)												
TIME	09	30	0940	0951	1001	1020	1100	1215	1315	1415	1515	1615
COMMENTS:	Continuation:											

PROJECT TITLE:	Meeker Ave. Spic &	Span DNAP	_ Recovery			WELL	NO.: DEC-	136D		
PROJECT NO.:	60429463					Page:	1 of 1			
STAFF: David Co	field									
DATE(S):11/1	6/2016									
1. TOTAL CASING	AND SCREEN LENG	TH (FT.)			=	53.90	٧	/ELL ID. 1"		GAL/FT) 0.04
	BELOW TOP OF CAS				=	21.85	<u> </u>	2"	(	0.17
3. NUMBER OF FE	ET STANDING WATE	ER (#1 - #2)			=	32.05		3"	(	0.38
4. VOLUME OF WA	ATER/FOOT OF CASI	NG (GAL.)			=	0.17		4"		0.66
5. VOLUME OF WA	ATER IN CASING (GA	L.)(#3 x #4)			=	5.45		5"		1.04
6. VOLUME OF WA	ATER TO REMOVE (C	GAL.)(#5 x 3	)		=	16.3		6"		1.50
7. VOLUME OF WA	ATER REMOVED (GA	L.)			=	20		8"	OR :	2.60
						(O. L. M.E. D. L. D. G.E.D.			SING DIAME	TER)²
				ACCUM	JLATED V	OLUME PURGED	GALLONS			
PARAMETERS	0	5	10	15	20					
рН										
COND. (uS)										
00ND. (00)										
PID (ppm)	2.57	794	1214	964	1629					
TEMPERATURE (°C	C)									
(NTU)										
TIME	1255	1300	1305	1310	1315					
COMMENTS:		I.				l l	L		L	
	A slight trace of pr	oduct was	observed	in the bail	er.					

PROJECT TITLE:	Meeker Ave	e. Spic & S	Span DNAPL	Recovery				WELL NO.:	EW-01				
PROJECT NO.:	60429463							Page: 1 o	f 1				
STAFF: David Co	ofield												
DATE(S):11/1	5/2016												
1. TOTAL CASING	AND SCREE	-N I FNG	TH (FT.)			=	56	.78		LL ID. 1"	VOL. (0	GAL/FT) 0.04	
2. WATER LEVEL						=		.55		2"		0.17	
3. NUMBER OF FE	ET STANDIN	NG WATE	R (#1 - #2)			=	35	.23	;	3"	(	0.38	
4. VOLUME OF WA	ATER/FOOT	OF CASI	NG (GAL.)			=	0.	66		4"	(	0.66	
5. VOLUME OF WA	ATER IN CAS	SING (GAI	L.)(#3 x #4)			=	23	.25	:	5"		1.04	
6. VOLUME OF WA	ATER TO REI	MOVE (G	AL.)(#5 x 5 )	)		=	11	6.3	(	6"		1.50	
7. VOLUME OF WA	ATER REMO	VED (GAI	L.)			=	5	5		8"	2.60 OR		
					4 001 1841	U ATED \	OLUME D	IDOED (OA)		8 x (CASI	NG DIAMET	ΓER)²	
					ACCUMI	JLATED V	OLUME PO	JRGED (GAI	LLONS)				
PARAMETERS		0	-	-	-	-	55						
рН													
COND. (uS)													
COND. (d3)													
PID (ppm)		1862	4168	6019	6349	6671	6842						
TEMPERATURE (°C	C)												
(NTU)													
TIME		1645	1700	1715	1730	1745	1800						
COMMENTS:	PID: 1862	ppm											
	Note: 6" of	fproduct	was obser	ved in the	bailer; ve	ery strong	odor, turk	oid, black					

PROJECT TITLE:	Meeker Ave	e. Spic & S	Span DNAPL	Recovery				WELL NO.	: <u>EW-02</u>					
PROJECT NO.:	60429463							Page: 1	of 1					
STAFF: David Co	field													
DATE(S):11/16	6/2016													
1. TOTAL CASING	AND SCREE	-N I FNG	TH (FT.)			=	60	.19	WE	LL ID. 1"	VOL. (G	GAL/FT) 0.04		
2. WATER LEVEL E			, ,			=		.10		2"		).17		
3. NUMBER OF FEI	ET STANDIN	NG WATE	R (#1 - #2)			=	39	.09		3"	(	).38		
4. VOLUME OF WA	TER/FOOT	OF CASI	NG (GAL.)			=	0.	66		4"	(	0.66		
5. VOLUME OF WA	TER IN CAS	SING (GAI	L.)(#3 x #4)			=5"					1	1.04		
6. VOLUME OF WA	TER TO RE	MOVE (G	AL.)(#5 x 5 )	)		= 129.0 6"						1.50		
7. VOLUME OF WA	TER REMO	VED (GAI	L.)			=	5	5		8" 2.60 OR				
										08 x (CASI	NG DIAMET	ΓER)²		
					ACCUM	JLATED V	OLUME PL	JRGED (GA	ALLONS)					
PARAMETERS		0	-	-	-	-	-	55						
рН														
COND (C)														
COND. (uS)														
PID (ppm)		3203	>10000	>10000	>10000	>10000	>10000	>10000						
TEMPERATURE (°C	<b>(</b> )													
(NTU)														
TIME		1000	1015	1030	1045	1100	1155	1130						
COMMENTS:	PID: 3203	ppm						<u> </u>			]			
	Note: Thin	laver of	product wa	as observe	ed in the b	pailer: ver	v strona o	dor. turbid	I. liaht bro	wn				
		, 5.	p. 0 d d o t 110			, , , , , , , , , , , , , , , , , , ,	, ssg s	ac., .a	.,g					

PROJECT TITLE:	Meeker Av	e. Spic & S	Span DNAPL	Recovery				WELL NO	.: <u>EW-03</u>			
PROJECT NO.:	60429463	3						Page: 1	of 1			
STAFF: David Co	field											
DATE(S):11/30	0/2016											
1. TOTAL CASING	AND SCRE	EN LENG	TH (FT )			=	25	.85		LL ID. 1"		GAL/FT) 0.04
2. WATER LEVEL B			, ,			=		.65		2"		).17
3. NUMBER OF FEE	ET STANDI	NG WATE	R (#1 - #2)			=	9.	20		3"	(	0.38
4. VOLUME OF WA	TER/FOOT	OF CASIN	NG (GAL.)			=	0.	17		4"	(	0.66
5. VOLUME OF WA	TER IN CA	SING (GAI	)(#3 x #4)			=	1.	56		5"		1.04
6. VOLUME OF WA	TER TO RE	EMOVE (G	AL.)(#5 x 5 )	)		=	7	.8		6"		1.50
7. VOLUME OF WA	TER REMO	OVED (GAL	)			=		5		8"	OR 2	2.60
					A C C L IMI	III ATED V	OLUME D	IDOED (C		08 x (CASII	NG DIAME	ΓER)²
					ACCOM	JLATED V	OLUME PO	JRGED (G	ALLONS)			
PARAMETERS		0	0.5	2.5	3.5	3.5	4	4	4.5	4.5	5	
рН												
COND. (uS)												
COND. (uS)												
PID (ppm)		>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	>10000	604	
TEMPERATURE (°C	C)											
(NTU)												
TIME		0945	0947	0950	1005	1028	1030	1220	1228	1450	1459	
COMMENTS:			odor, turbid						tely 20% D	NAPL wa	s observe	d
	in tr	ie baller.	12:28 wen	t ary. 14:	50 resum	ea ana we	ent dry at	14:59.				

PROJECT TITLE:	Meeker Ave. Sp	oic & S	Span DNAPL	Recovery				WELL NO	.: <u>EW-04</u>			
PROJECT NO.:	60429463							Page: 1	of 3			
STAFF: David Co	ofield											
DATE(S):11/2	9/2016											
1. TOTAL CASING	AND SODEEN I	ENC	TU /ET \				27	.02	WE	LL ID. 1"	VOL. (G	GAL/FT) 0.04
			` ,			=						
2. WATER LEVEL						=		.60		2"		).17
3. NUMBER OF FE	ET STANDING \	NATE	R (#1 - #2)			=	11.	.42		3"	(	).38
4. VOLUME OF WA	ATER/FOOT OF	CASI	NG (GAL.)			=	0.	17		4"	(	).66
5. VOLUME OF WA	ATER IN CASING	G(GAI	L.)(#3 x #4)			=	1.5	94		5"	1	1.04
6. VOLUME OF WA	ATER TO REMO	VE (G	AL.)(#5 x 5 )			=	9	.7		6"	1	1.50
7. VOLUME OF WA	ATER REMOVED	) (GAI	)			=	2	8		8"		2.60
									V=0.040	08 x (CASI	OR NG DIAMET	ER)²
					ACCUM	ULATED V	OLUME PL	JRGED (G	ALLONS)			
PARAMETERS		0	2	5	8	12		12	15	18	19	
рН												
COND. (uS)												
PID (ppm)	>10	0000	>10000	>10000	>10000	>10000		>10000	>10000	>10000	>10000	
TEMPERATURE (°C	C)											
(NTU)												
TIME	11	00	1104	1010	1025	1142		1330	1350	1410	1415	
COMMENTS:	12:45 - Slow r		-	-	-	-			-	-	loping to	
	recnar	ge we	ell. Approxi	mately 25	% DNAP	L was obs	servea au	ring recov	ery (9° in	baller).		

PROJECT TITLE:	Meeker Ave. Spic 8	Span DNAPI	Recovery			WELI	L NO.: <u>EW-04</u>			
PROJECT NO.:	60429463					Page	: 2 of 3			
STAFF: David Cof	ield									
DATE(S): 11/29	/2016									
1. TOTAL CASING A	AND SCREEN LENG	GTH (FT.)			=	27.02	Wi	ELL ID. 1"		GAL/FT) 0.04
2. WATER LEVEL B	ELOW TOP OF CA	SING (FT.)			=	15.60		2"	(	0.17
3. NUMBER OF FEE	ET STANDING WAT	ER (#1 - #2)			=	11.42		3"	(	0.38
4. VOLUME OF WA	TER/FOOT OF CAS	ING (GAL.)			=	0.17		4"	(	0.66
5. VOLUME OF WA	TER IN CASING (G	AL.)(#3 x #4)			=	1.94		5"		1.04
6. VOLUME OF WA	TER TO REMOVE (	GAL.)(#5 x 5	)		=	9.7		6"		1.50
7. VOLUME OF WA	TER REMOVED (G	AL.)			=	28		8"	OR 2	2.60
				A C C L IN AI	U ATED V	OLUME DUDOE		08 x (CASI	NG DIAME	ΓER)²
				ACCOINI	JLATED V	OLUME PURGE	(GALLONS)			
PARAMETERS	19	23	25	28						
рН										
COND. (uS)										
PID (ppm)	>10000	569	470	492						
т іо (ррііі)	>10000	309	470	432						
TEMPERATURE (°C)	)									
(NTU)										
TIME	1445	1505	1525	1545						
COMMENTS:										

PROJECT TITLE:	Meeker Ave. Spic &	Span DNAP	L Recovery			WELL NC	).: <u>EW-04</u>	
PROJECT NO.:	60429463					Page: 3	of 3	
STAFF: David Co	ofield							
DATE(S): 12/2	2/2016							
1. TOTAL CASING	AND SCREEN LENG	TH (FT.)			=	27.02	WELL ID. 1"	VOL. (GAL/FT) 0.04
	BELOW TOP OF CAS				=	15.59		0.17
3. NUMBER OF FE	ET STANDING WATE	ER (#1 - #2)			=	11.43	3"	0.38
4. VOLUME OF WA	ATER/FOOT OF CASI	NG (GAL.)			=	0.17	4"	0.66
5. VOLUME OF WA	ATER IN CASING (GA	L.)(#3 x #4)			=	1.94	5"	1.04
6. VOLUME OF WA	ATER TO REMOVE (C	GAL.)(#5 x 5	)		=	9.7	6"	1.50
7. VOLUME OF WA	ATER REMOVED (GA	L.)			=	8.5	8"	2.60 OR
				4001114		YOU LINE DUDGED (O	V=0.0408 x (CAS	-
				ACCUM	JLATED V	OLUME PURGED (G	FALLONS)	
PARAMETERS	0	3	4.5	5.5	8.5			
рН								
00ND ( 0)								
COND. (uS)								
PID (ppm)	2264	1456	1016	362	295			
TEMPERATURE (°C	C)							
(NTU)								
TIME	0845	0853	0920	0955	1155			
COMMENTS:	Very stro	25% ong odor, so				proximately 25% DN	NAPI recovery	
	vory one	nig odor, oc	orno on on	0000	vou. App	oroximatory 20% Di	va E rootvery.	

PROJECT TITLE:	Meeker Ave	e. Spic &	Span DNAPL	Recovery				WELL NO	).: <u>EW-05</u>				
PROJECT NO.:	60429463							Page: 1	of 1				
STAFF: David Co	field												
DATE(S):11/30	0/2016												
									WF	LL ID.	VOL. (C	GAL/FT)	
1. TOTAL CASING	AND SCREE	EN LENG	TH (FT.)			=	27.	52		1"	•		
2. WATER LEVEL E	BELOW TOP	OF CAS	ING (FT.)			=	20.	68	_	2"	(	0.17	
3. NUMBER OF FEI	ET STANDII	NG WATE	ER (#1 - #2)			=	6.8	34	_	3"	(	0.38	
4. VOLUME OF WA	TER/FOOT	OF CASI	NG (GAL.)			=	0.1	17	_	4"	(	0.66	
5. VOLUME OF WA	TER IN CAS	SING (GA	L.)(#3 x #4)			=	1.1	16	_	5"	0.04 0.17 0.38 0.66 1.04 1.50 2.60 OR (CASING DIAMETER) <sup>2</sup>		
6. VOLUME OF WA	TER TO RE	MOVE (C	GAL.)(#5 x 5 )			=	5.	8	_	6"		1.50	
7. VOLUME OF WA	TER REMO	VED (GA	L.)			=	6.	5	_	8"		2.60	
									V=0.040	08 x (CASI	-	TER)²	
			1 1		ACCUM	JLATED V	OLUME PL	JRGED (G	SALLONS)	-	<u> </u>	· 	
PARAMETERS		0	1	2.5	3	4	4	5.5	5.5	6.5			
рН													
pri													
COND. (uS)													
PID (ppm)		3569	Not Measured	347	1432	1621	Not Measured	1467	Not Measured	6518			
TEMPERATURE (°C	2)												
TEIMI ETOTTORE ( C	,,												
(NTU)													
TIME		1058	1100	1104	1135	1145	1320	1340	1420	1440			
COMMENTS:												_ was	
			iller. Result 1-14:40 then			men wer	it dry. Res	sumed at	13:20-13:4	to then w	ent ary.		
				-									

PROJECT TITLE:	Meeker Ave.	Spic & S	Span DNAPL	Recovery				WELL NO.	: <u>EW-06</u>			
PROJECT NO.:	60429463							Page: 1	of 1			
STAFF: David Co	ofield											
DATE(S): 11/3	0/2016											
1. TOTAL CASING	AND SCREEN	N I FNG	TH (FT )			=	25.	70	WE	LL ID. 1"	VOL. (C	GAL/FT) 0.04
2. WATER LEVEL I			, ,			=	19.			2"		0.17
3. NUMBER OF FE	ET STANDING	G WATE	R (#1 - #2)			=	6.1	10		3"	(	0.38
4. VOLUME OF WA	ATER/FOOT C	OF CASI	NG (GAL.)			=	0.1	17		4"	(	0.66
5. VOLUME OF WA	ATER IN CASI	NG (GAI	L.)(#3 x #4)			=	1.0	)4		5"		1.04
6. VOLUME OF WA	ATER TO REM	MOVE (G	AL.)(#5 x 5 )			=	5.	2		6"		1.50
7. VOLUME OF WA	ATER REMOV	'ED (GAI	)			=	2.	5	-	8"	OR 2	2.60
								IDOED (O.		08 x (CASI	NG DIAMET	ΓER)²
					ACCUM	JLATED V	OLUME PL	JRGED (GA	ALLONS)			
PARAMETERS		0	0.5	1.5	1.5	2	2	2.5				
рН												
COND. (uS)												
PID (ppm)		395.1	543	2296	1649	1763	Not Measured	1864				
TEMPERATURE (°C	C)											
(NTU)												
		0050	0005	0000	1010	4005	1050	4.400				
TIME COMMENTS:	Slow recha	0850 rge, we	0905 II went dry a	0920 at 09:20.	1018 Resumed	1025 at 10:18	1350 , went dry	1400 at 10:25.	Resume	d at 13:50	- 14:00 th	en
	went dry. N	-	-				-					

# APPENDIX H WASTE DISPOSAL DOCUMENTS

		923113-16			•				<i>(QQ</i> ).	37 (
p	easc	print or type. (Form designed for use on clife (12-pitch) typewriter.)						m Approved,	OMB No. 2	050-0039
ŀ	↑ C	NIFORM HAZARDOUS 1. General of ID Number		Emergency Response	Phone		Tracking N	1292	7 =	1 =
	-	WASTE MANIFEST   N Y R 0 D 0 2 1 7 6 3 8   Generator's Namo and Mauling Address		300-457-7382 nerator's Size Address (	ld different th	na malino adde	SS)	<u>LLUL</u>	1 1	<u> </u>
1	`	NEW YORK STATE DEPARTMENT OF ENVIRONMENTA		ORMER SPIC	& SPAI	I IRM SITE	22412	9 🦠		
	П	825 BROADWAY Cave Harrington	3	16 KINGSLAN				• `		
Ţ,	l G	ALBANY NY 12233	1 5	ROOKLYN N	¥ 3122	د م		_		
		Transporter 1 Company Name				U.S. EPA IO				-
	IL	ISLAND PUMP & TANK CORP.					<u> </u>	0 1 9	3 7 2	6
1	1	Transportery Company Name	1.20	S LL	(	US EPAID		. / 6		
1	1	Destroyled Facily Name and She Address	11CC	)		11011	-000	00 6.5	61	1
	] b.	NORTHLAND ENVIRONMENTAL				U.S. EPAID	tomper			
		275 ALLENS AVENUE		•						
П	F	PROVIDENCE RI 02805 Stys Prono: 401 781-8340				IRIC	0 0 4	009	8 3 5	2
П	92	AL HOROTE CONTRACTOR OF THE PROPERTY OF THE PR		10. Contains	215	11. Total	fz. Unit			•
П	Fish	10 17 0 00 11		No.	Туре	Quantity	WLVd.	13. 17	asio Codes	
		1. NA3882, HAZARDOUS WASTE, LIQUID, N.O.S.,				880		F002	B	
Ę	<u> </u>	(TETRACHLOROETHLYENE) 9, PGIII RO(F002)		121	NG.	40	p			
GENERATO	<u>i</u>	2,			12/01	<del>/</del> / ·				[
ű	il	**		1 1						
11					}				1	
]]	<b>!</b>	3.								
11							1			[
H	<u> </u>									
П		<b>6.</b>		1 1	- 1					
11	١.	,			1					
П	14.	Special Hanning Instructions and Additional Information						<del></del>		
11	l	1(T) ERG#171) X S D D D	20	,	110	سبد . نسب				ļ
		0 224818	.5	. a 7	123	715	•			
	15,	GENERATOR'S/OFFEROR'S CERTIFICATION: Thereby declare that the contents of this of	onstogment are fix	av and acquirately descri	fled above	by the proose shi	colno name.	and are dassif	ed. nackane	
11	<b> </b>	marked and labeled/placanded, and are in all respects in proper condition for transport accor Expecter, I confly that the contents of this consignment conform to the terms of the attached	ජනය to applicable i	inlemational and nation	al governme	หม่อใหญ่งไปมีอักร.	li export sh	buteut and I em	the Primory	
	1	exporter, a coasty that the contents of this consignment excepting to the terms of the analysts of the analysts of the analysts of the analysts of the content is a factor of the content in the content is a factor of the content in the content in the content is a factor of the content in the content in the content is a factor of the content in the co	quantity generator	) or (b) (d1 am a small i	quantity gen	erator) is true.				- 1
l I:	(jes	erator s/Offeror's Princial Typed Name	Signalun	fortofN	MANI	~ Q	01-	Monin	Day	Year
1.4	12	45 Agent of NXVEC Grant West		790170114	NO LA	200	7/	1W	10	16
E		LImport to U.S,	Export from U.S.	Pott of entry		·····				
F.		isporter signature (for exports only): irunsporter Acknowledgment of Receipt of Materials		Date feaving	0.5.,			<b></b>		
TRYANSPORTER		sporter A Printed Typed Namo	Signature	7	/	7	*******	Klonth	Day	Year
었		JOSEPH G1518CO	1 /	hAls,	, E-	11-1	ر	05	30	1.6
Z.A.N.	Уал	sporter aprinter stock Name (	Signalore	Hil		//1		Month	/ Day	199
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	ļ	Prince of the first of the firs								{·
		Lascrepancy indication space		Residue		Partial Reje	ction	لبا	Fuit Rejectio	n
1				Manifest Reference No	ımber;					
S	186.	Allemate Facility (or Generator)	-			U.S. EPAID No	mber			
Ş	er91	A Date of the second				t				1
9	IBC.	ty's Phone: Synahum of Atternate Facility (or Generator)		·····		J	<del></del>	Month	Day	Yoar
₹								ļ		-
		azardous Wasta Report Management Method Codes (i.e., codes for huzerdous waste treatme	ent, disposat, and r	ecyding systems)						
ā	1.	14141  2	]3.			4,				
甘	20 n	esgnated Facility Owner or Operator: Certification of receipt of hazardous materials covered a	to the manifest and	ont appoint in them 15						
		offyred Name	Signally		12	-/>	/1	a / Month	Day	Year
<b>∤</b> `[	<u>.                                    </u>	herm Barker Both Hrnc10	1 1 1/2	11/11		V3nt/	2(1/1)	old 4	131.	16
DA	Form	8700-22 (Roy 3-05). Provious editions are obstilate		henest	ATEDEA	מ משל לעני	CTIMAT	יייי מייי	uringai	Unima:

2360554 Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved, OMB No. 2050-0039 UNIFORM HAZARDOUS 1. Generator ID Number 3. Environcy Response Phono 800-457-7362 006612928 2, Page 1 of NYR000217638 WASTE MANIFEST 6. NEWYORK STATE DEPARTMENT OF ENVIRONMENTAL CO Congrues Situ Address (1 deficient than mailth address) FORMER SPIC & SPAN IRM SITE 224129 315 KINGSLAND AVENUE 625 BROADWAY BROOKLYN NY 11222 ALBANY NY 12233 Generalor's Phone: 8 () () 6. Transporter 1 Company Name 4 5 7 - 7 3 8 2 U.S. EPA 10 Number NYR 000121728 ISLAND PUMP & TANK CORP. 7. Transporter 2 Company Name U.S. EPA ID Number NJA 000063677 U.S. EPA ID Number 275 ALLENS AVENUE PROVIDENCE RI 02905 1810040098352 Facility's Prices: 401 781-6340 9b. U.S. DOY Description (Including Proper Shipping Name, Hazard Class, ID Number, 10. Containers **11.** Total 12.Unit 13. Waste Codes and Packing Group (if any)) Quantity No. Wt.∕Vol. Турэ NA3082, HAZARDOUS WASTE, LIQUID, N.O.S. 440 F002 В (TETRACHLORGETHLYENE) 9, PGIII RO(F002) MQ P ű ŧ 14. Special landing Instructions and Additional Information SSAM 15. GENERATOR'S JOFFEROR'S CERTIFICATION: Thereby declare that the consents of this consignment are fully and accurately described above by the proper shipping name, and are classified, pockaged, marked and labeled/placanded, and are in all respects in proper condition for transport according to applicable informational and national governmental regulations. If export stroment and tarn the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent, t certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true Generalors/Ofteror's Ponted/Typed Nam ASG gent of INET LImport to U.S. Export from U.S. Port of entry/exit: Transporter signalune (for exports only): Date leaving U.S. 17. Transporter Admowledgment of Receipt of Materials Transporter 1 Printed/Typed Name 18, Discrepancy 18a. Discrepancy Indication Space Туро Partial Rejection Ovantity Full Rejection Residue Manifest Reference Number: 18b. Alternato Facety (or Generator) U.S. EPAID Number

Ple	ase print or typo. (Form designed for use on elite (12-pitch) typewriter.)			• • • •			n Approved.	OMB No.	2050-0039
1	UNIFORM HAZARDOUS 1. Generator ID Number WASTE MANIFEST N. V. D. O. D. O. A. Z. B. C. D.	2 1	Emergency Response 300_457~738?		4. Manifest	1661	umber , 296	9 F	LE
	5. Generators having and Mating Audings DAVU Horring (TO) NEW YORK STATE DEPARTMENT OF ENVIRONMENT 825 BROADWAY GONAL BANKY, NY 12233	ತ	neralo's Ste Authors ORMER SPIC 115 KINGSLAN BROOKLYN N	& SPAN ID AVEN	VIRM SITE IUE ?	224129	7.		
	IST AND PLIMAP & TANK CORP  Transporter 2 Company Name  Stansporter 2 Company Name  ONSULTANT  8, Deskinated Facility Name and Site Address	Sien	ev jes	- ((	10 501 15	n n fumber	n 1 9	177 36	7>
	NORTHLAND ENVIRONMENTAL 275 ALLENS AVENUE PROVIDENCE RI 02905	**************************************		******		5 5	o-0-0-	<del>0 2 i</del>	- 2
	9a. 9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Humber, and Pecking Group (if any))		10. Contai No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. V	Yaste Code	S
GENERATOR -	X NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (TETRACHLOROETHLYENE) 9, PGIII RQ(F002)	•	2	MCI	HO 1	ជ	FON2	B	
NES -	2,							***************************************	
	3.								<b></b>
	4.								
	1)(T) ERG#171 765%6%  RG#175 765%6%	P	12047	2					
	15. GENERATOR'S/OFFEROR'S CERTIFIDATION: Thereby declare that the contents of this marked and tabeled/placarded, and are in all respects in proper condition for transport acc Exporter, I certify that the contents of this consignment conform to the terms of the attached certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a target in the content	cording to applicable ad EPA Acknowledg ge quantity generati	e international and national and national of Consent. x) or (b) (if I am a sma	onal gavernin	ental regulations.	pping name If export shi	pment and La	n the Prima	iry
1.5	Scherator's/Olderor's Printing Hyperd Name AS ADVINTOFF VISITED Grand TVEH 16. International Shipments Tripport to U.S.	Signatu   AS   Export from U.S.	Agent D		SDEC S	XXV	2 Nont	Day	7   16
ER INTE	Transporter signature (for exports only): 17. Transporter Adamovicogment of Receipt of Materials	э горосноли ох.	Đạte leavie						
TR ANSPORTE	Transported Printed Report  Transported Printed Report  Transported Printed Report	Signatu Signatu	beaut	hI	Si		Alone Alone	F12	Year.
产	18. Distrepancy		set.	مسيركرمم	da.	الديم بسيدين يميم		_ ال	1,6
	18a, Discrepancy Indication Space Quantity Typo		Residue  Manufest Reference	Number:	Partial Reje	ection		] Full Reje	ction
CILITY	18b. Alternate Facility (or Generator)				U.S. EPA ID N	นเมอยง			
DESIGNATED FACILITY	Facility's Phone: 18c. Signature of Alternate Facility (or Generator)			Almanda		*	Mon	h Day	Year
- DESIG	Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treat	3.			4.				
₽PA	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered Printed Typed Namo  The Pri	od by the manifest of Signatu			MACHITY TO I	VECTORIA	Mont	1//	Year V6

1. 957715-16

Pk	ease print or type. (Form designed for use on elite (12-pitch) typewriter.)					For	n Approved.	OMB No.	2050-0039
1	UNIFORM HAZARDOUS 1. Generator ID Number	2. Page 1 of 3. Em	ergency Response	Phone	4. Manifost	Tacking H	<sup>(Imber</sup> 297	'n m	-, ,
Ш	WASTE MANIFEST NYRGOO217638	2.   800	457-7362		1 00	ppl	162	U	FLE
II	5. Generalor's Name and Mailing Address Dave Hove the		lor's Site Address	(d different th	an making addres	is)			
П	NEW YORK STATE DEPARTMENT OF ENVIRONMENTA	ALCO FOR	RMER SPIC	& SPAN	I IRM SITE	224128	10		- 1
Н	625 BROADWAY		KINGSLAN						1
	ALBANY NY 12233 Generator's Phone: on n 457 7282	BR	OOKLYN N	Y 11222	2				
11	Generator's Phone: 0 0 0 4 5 7 7 2 8 2				U.S. EPAID I	lumber .		·····	
11	ISLAND PUMP & TANK CORP.				INVE	กก	0 1 9	171	วดไ
Н					ILC SEDATOR	Jumison			
П	Wichard Chucultant S	Elvice.	0 /		None	10	mal	. 26	77
П	8. Designated Facility Name and Site Address	TOPICS-	ادبعي		U.S. EPAION		000	را مستار	
П	NORTHLAND ENVIRONMENTAL				O.S. EPAION	(U)(UQ)			
H	275 ALLENS AVENUE								
П	PROVIDENCE RI 02905				1				
	Facilitys Phone: 404 784_8940				RID	1 4	000	835	12
П	ga, 9b. U.S. DOT Description (including Proper Shipping Name, Hozard Class, ID Number,		10. Contain	ers	11. Total	12. Unit	13. V	Yaste Code	.
Н	HM and Packing Group (if any))		No.	Type	Quantity	Wt./Vol.			
	NA3882, HAZARDOUS WASTE, LIQUID, N.O.S.,				A		F002	B	
2	X (TETRACHLOROETHLYENE) 9, PGIII RQ(F002)				880		-COUZ	12-	
2	, , , , , , , , , , , , , , , , , , , ,		002	DM	7606	P			
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	14. Special Handling Instructions and Additional Information								
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	000000	~ D	1200						
11	15. GENERATOR'S/OFFEROR'S CERTIFICATION: Thereby declare that the contents of this	conskamment are fully of	nd accurately desi	crode bodro	by the proper ship	ping name	, and are class	afied, packa	ged,
1	marked and labeled/placarded, and are in all respects in proper condition for transport accounts	rding to applicable into	oisn bas lanoitem						
	Exponer, I certify that the contents of this consignment conform to the terms of the attached I certify that the waste minimization statement identified in 40 CFR 262,27(a) (if I am a large	EPA Acknowledgment	of Consent. By (it Lamba small	ouanlitz oer	nerfor) is true	,,,,		_	
П	Generalor's Orieror's Printed Typed Name	Signature	(6) (1) (1)	\$ 1 / L	401	<del></del>	tion	Day	Year
IJ	X As a sent of NISPEU Grant I Not	T I AS	a gentr	rt NI	WC.	Ligar	クリシン	4178	1)6
نيا	16. International Shindrents		H-A-L-A	. 1 . 2	<u> </u>			7.10	<del></del>
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2566757 .530 18 9 Please mint or type. (Form designed for use on elile (12-pitch) typewnier.) Form Approved. 500 No. 2050 2039 UNIFORM HAZARDOUS 1. Generally 10 Number Manifest Tracking Number 2. Page 1 of | 3. Emergency Response Phone 009995279 FLE TWO TE MANIFEST NYRONN 2 1 7 6 3 8 800-457-7382 Generator's Site Address (if different than mailing address) NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CO FORMER SPIC & SPAN IRM SITE 224128 315 KINGSLAND AVENUE 625 BROADWAY ALBANY NY 12233 BROOKLYN NY 11222 Generalor's Phone: ann 8, Transporter i Company Name U.S. EPA ID Number ISLAND PUMP & TANK CORP. NYR000191726 7. Transported 2 Company Name U.S. EPAID Number DISPOSAL CONSULTANT SERVICES
8. Designated Flority Name and Site Address NJR 00006 NORTHLAND ENVIRONMENTAL 275 ALLENS AVENUE PROVIDENCE RI 02905 Facility's Phone: 404 794 8940 R I D D 4 D D <u>9 8 3 5 2</u> 9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, 10, Conlainers II. Total 12. Unit 13. Waste Codes and Packing Group (stany)) ни Турз Quantity WWW. No. NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., B F002 χ (TETRACHLOROETHLYENE) 9, PGII RO(F002) DM GEN WASSITT, HAZARDOUS WASTE, SOLID; N.O.S. F092 | D538 ₿ (TETTAC! ILOROETHLYENE), S. POIII RO(FEED) -EM NON-RORA & NON-DOT REGULATED MATERIALS (9)15 4 14. Special Handling Instructions and Additional Information 1)(T) ERG#171-2)(E,T) - ERG#171-3) 760576 DECAL: 412544 PLATE: 2345503 15. GENERATOR'S IOFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.

I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is tous. Generator's/Otleror's Printed/Typed Name DAVID HARRYGTON 11/16/16 16. International Shipmonts Export from U.S. .C.U et frogmi Port of entrylexit: Date teaving U.S. Transporter signature (for exports only): 17, Transporter Acknowledgment of Receipt of Materials Transporter, 1 Printed Typed Name GEORGE 18. Discrepancy 18a, Discrepancy Indication Space Птуро Quantity Partial Rejection Full Rejection Residue Manifest Reference Number: U.S. EPAID Number 18b. Allemate Facility (or Generator) Facility's Phone: Audit

18c. Signature of Miemate Facility (or Generator) Month Day Year 19. Hazardous Waste Report Management Method Codes (i.e., nodes for hazardous waste treatment, disposal, and recycling systems) 20. Designated Facility Gyner or Operator. Contrigation of receipt of bazardous materials covered by the manifest except as notify in them 18a Printed/Typed Name North. 122/16

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

EPA Form 8700-22 (Rov. 9-05) Previous editions are obsolete.

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	6. Generator's Name and Mailing Address NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CQ 625 BROADWAY Generator's Site Address (different than mailing address) FORMER SPIC & SPAN IRM SITE 224129 315 KINGSLAND AVENUE															
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Please print or type, (Form designed for use on citie (12-pitch) typewriter.) Form Approved, OMB No. 2050-0039 UNIFORM HAZARDOUS 1. Generator ID Number 2. Page 1 of 3. Emergency Response Phone 4. Manifest Tracking Number 009995230 800-457-7362 WASTE MANIFEST NYR000217838 Generator's Site Address (if different than making address 6. Generator's Name and Making Address FORMER SPIC & SPAN IRM SITE 224129 NEWYORK STATE DEPARTMENT OF ENVIRONMENTAL CO 315 KINGSLAND AVENUE **825 BROADWAY** BROOKLYN NY 11222 ALBANY NY 12233 Generator's Phone: 8 1) () 6. Transporter 1 Company Namo 457-7989 ILS, EPATO Number .... IN Y R 0 0 0 1 9 1 7 2 6 ISLAND PUMP & TANK CORP. U.S. EPA ID Number 7. Transporter 2 Company Name NJR 80006367 SERVICES DISPOSPYL CONSULT
Designaked Faculty Name and Site Address
NORTHLAND ENVIRONMENTAL MATTINZMOS 275 ALLENS AVENUE PROVIDENCE RI 02905 RID040098352 Facility's Phono: 401 781-8340 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, 10, Containers 11. Total 12. Unit 13. Waste Codes and Padding Group (if any)) WLVol Ouantity HM No. Type NA3082, HAZARDOUS WASTE, LIQUID, N.O.S. F002 Β GENERATOR Χ 180 (TERTACHLOROETHLYENE), 9, PGIII (F002) Þ  $\Omega M$ 14. Special Handing Instructions and Additional Information
1)(T) 780578 ERG#171
1X.55 GENERATOR'S JOFFEROR'S CERTIFICATION: | Dereby declare that the contents of this consignment are tudy and accurately described above by the proper shipping name, and are classified, packaged. merked and labeled/placended, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.

I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) of (b) (if I am a small quantity generator) Generalor's/Oiletor's Ponted/Typed Name relit Export from U.S. Port of entrylexit: Transporter signature (for exports only) Date leaving U.S. 17. Transporter Acknowledgment of Receipt of Materials Day 4 Printed/Typed Name 6.36% 12/08/16 GEORGE 18. Discrepancy 18a. Discrepancy Indication Space Type Partial Rejection Full Rejection Quantity Residue Manifest Reference Number: U.S. EPAID Number 18b. Allemate Facility (or Generalsx) FACIL Facility's Phone: Yoar 18c, Signature of Alternate Facility (or Generator) Mooth 뎶 Day DESIGN 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. 20. Designated Family Owner or Phyrator: Certification of receipt of hazardous materies covered by the manifest except as holded in Hem 18a Printed/Typed Name Signature Day Month EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

2594807 312283-16 Form Approved, OMB No. 2050-0039 Please print or type, (Form designed for use on clite (12-pitch) typewriter.) UNIFORM RAZARDOUS 1. Generator ID Number 4. Manifest Tracking Number 2, Page 1 of 3, Emergency Response Phone 009995232 800-457-7382 NYR000217838 WASTE MANIFEST Generalox's Site Address (if different than mailing address) 5. Generator's Name and Mailing Address NEWYORK STATE DEPARTMENT OF ENVIRONMENTAL CO FORMER SPIC & SPAN IRM SITE 224129 315 KINGSLAND AVENUE **625 PROADWAY** BROOKLYN NY 11222 ALBANY NY 12233 Generator's Phone: . . R. () []

6. Transporter 1 Company Name 457-7382 U.S. EPAID Number ISLAND PUMP & TANK CORP. NYR000101728 U.S. EPA (O Number 7. Transporter 2 Company Name CONSULTANT SERVICES WTR 000063677 INC Designated Facety Namo and Site Address
NORTHLAND ENVIRONMENTAL 275 ALLENS AVENUE PROVIDENCE RI 02905 Facility's Phone: 401 781-8340 RID040098352 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, 10. Containers 11, Total 12. Unit 13. Waste Codes and Packing Group (if any)) Quantity No Туре NA3082, HAZARDOUS WASTE, LIQUID, N.O.S. F002 Į MERTACHLOROETHLYENE), 9, PGIII (F002) 180 ďΜ P E C 14. Special Handing Instructions and Additional Information - 1)(T) 789576 ERG#171 酒CAL:4 15. GENBRATOR'S/OFFEROR'S CERTIFICATION: Thereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are described, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.

I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a targe quantity generator) or (b) (if I am a small quantity generator) is true. Granciator si Oficior s Populod Typed Name PAULO 16. International Shipments Export from U.S. Port of entry/exits Import to U.S. Transporter signature (for exports only); Date leaving U.Sf 17. Transporter Admondedoment of Receipt of Materials Month Day Transporter 1 Printed Typed Name 88 18. Discrepancy 18a. Discrepancy Indication Space Residue Type Full Rejection Partial Rejection Manifest Reference Number: 18b. Alternate Facility (or Generalor) U.S. EPAID Number Facility's Phone: 18c. Signature of Allomate Facility (or Generator) Month Day 19. Hazardous Wasto Report Management Method Codes (Lo., codes for hazardous waste treatment, disposal, and recycling systems)

Signature

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DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

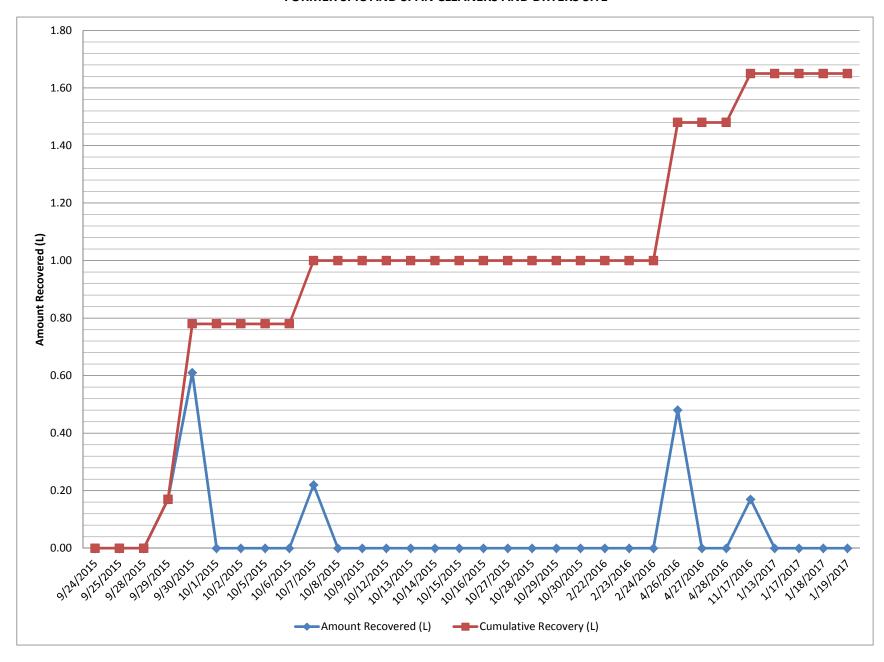
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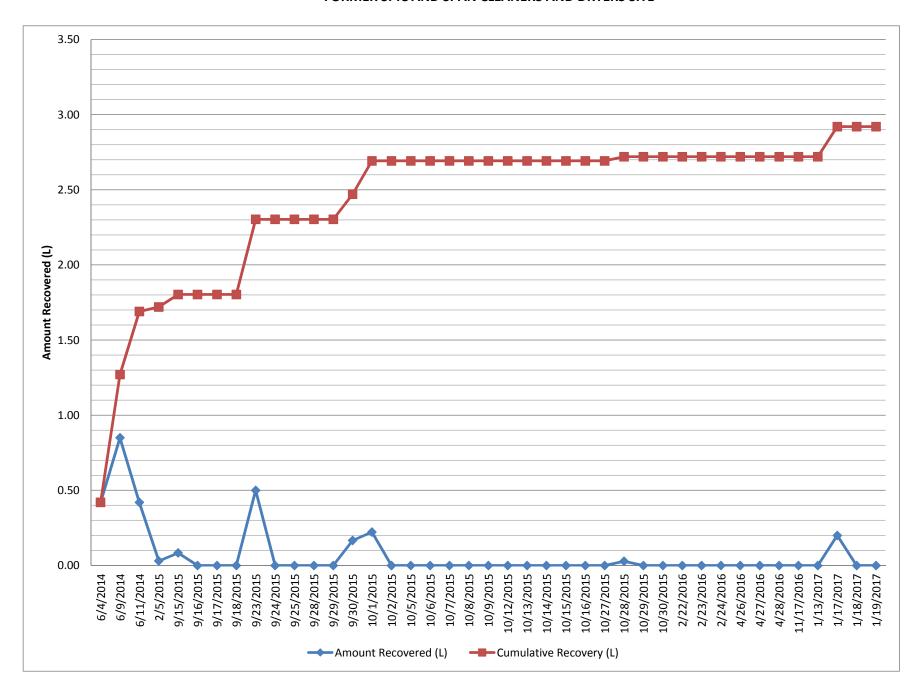
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# APPENDIX I DNAPL RECOVERY SUMMARIES PER WELL

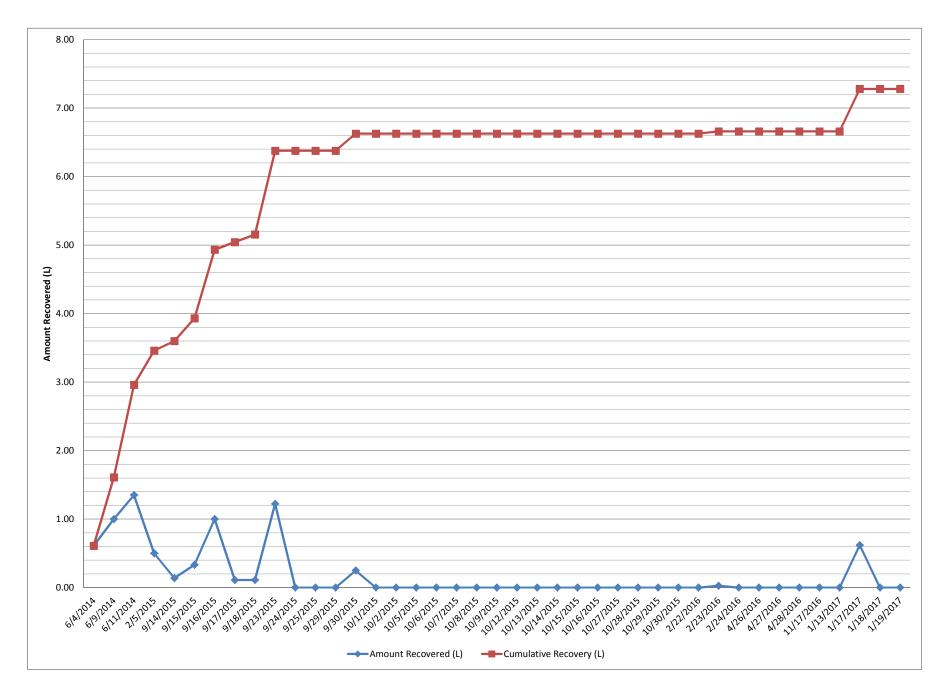
## SUMMARY OF DNAPL PRODUCT RECOVERY IN DEC-024 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



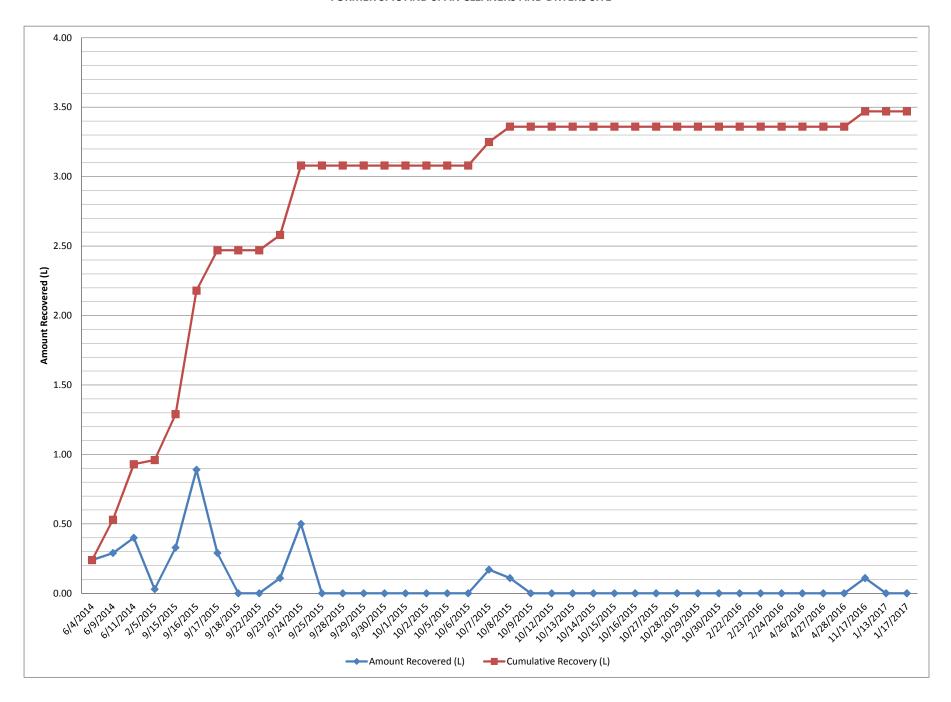
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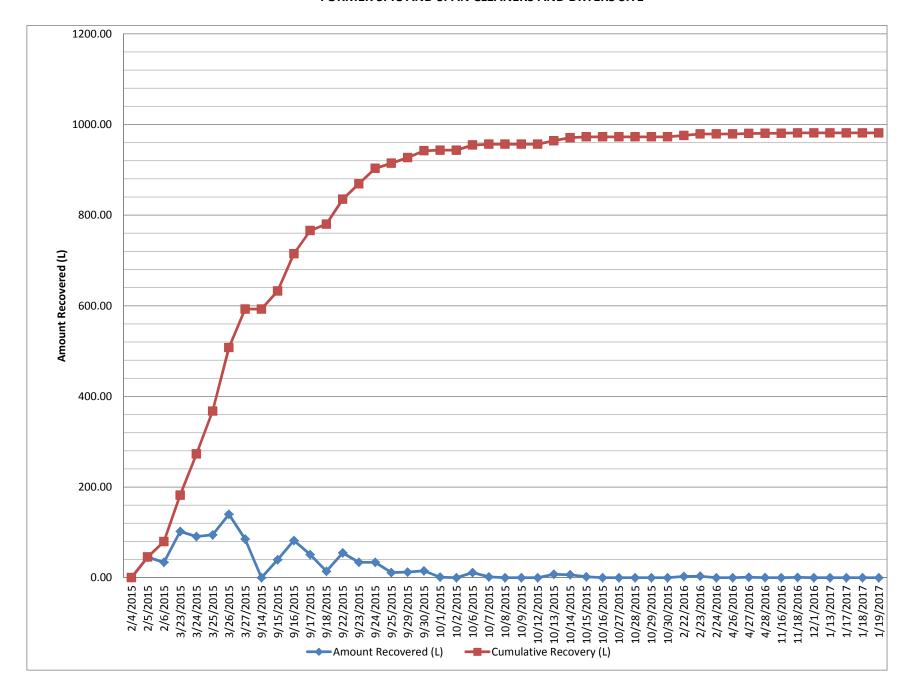
#### SUMMARY OF DNAPL PRODUCT RECOVERY IN DEC-024DR FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



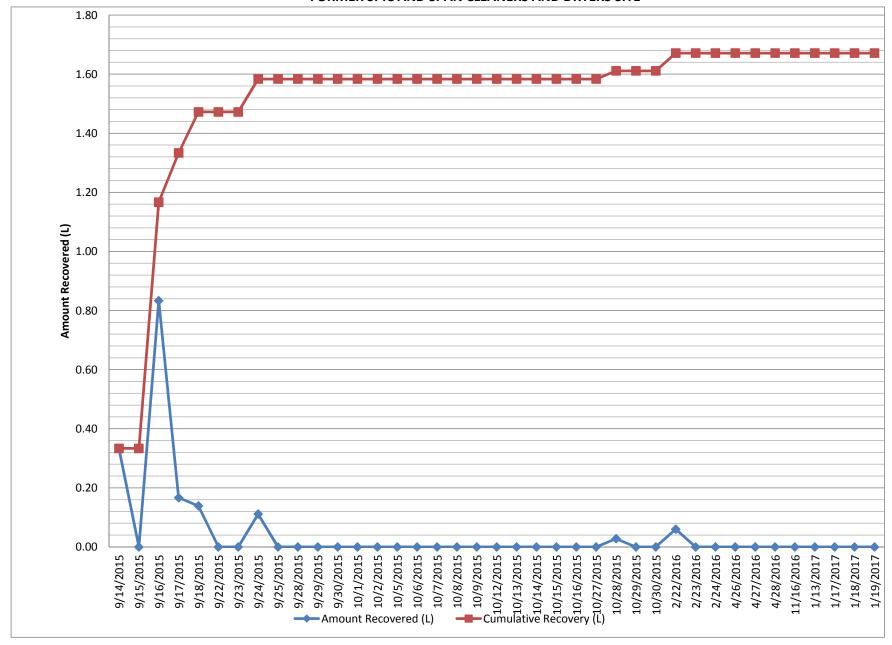
#### SUMMARY OF DNAPL PRODUCT RECOVERY IN DEC-092D FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



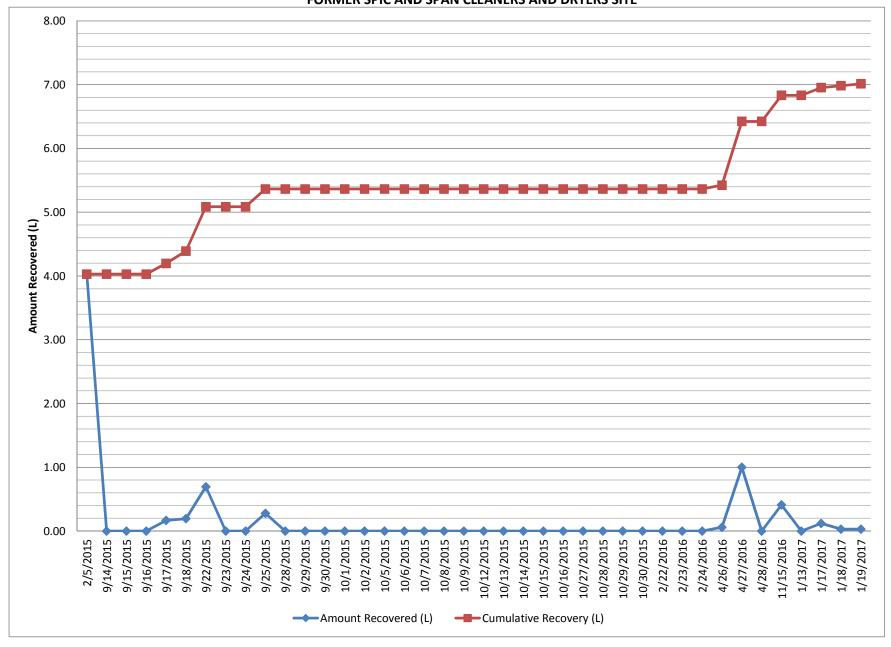
## SUMMARY OF DNAPL PRODUCT RECOVERY IN DEC-136 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



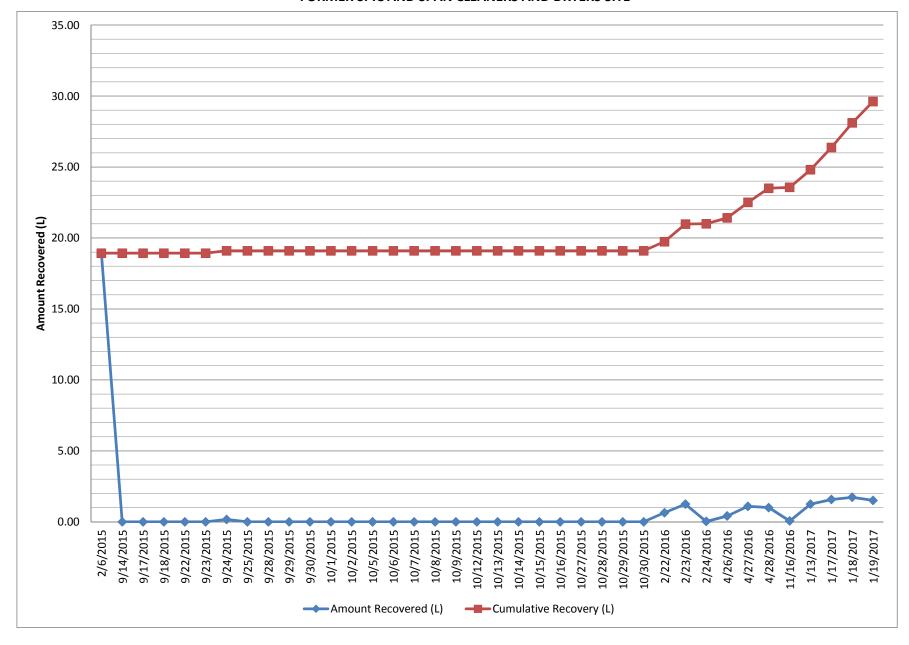
### SUMMARY OF DNAPL PRODUCT RECOVERY IN DEC-136D FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



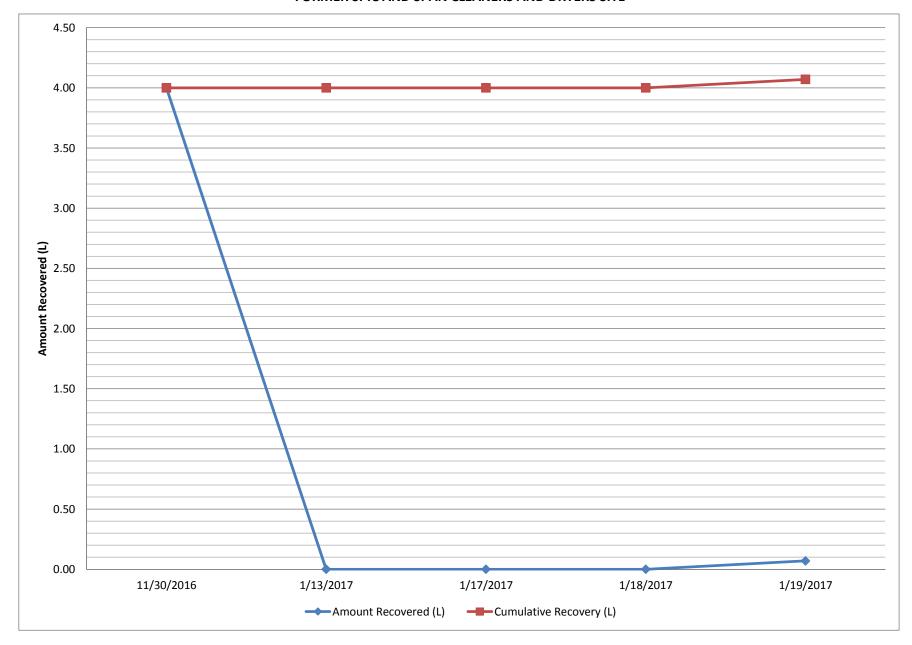
### SUMMARY OF DNAPL PRODUCT RECOVERY IN EW-01 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



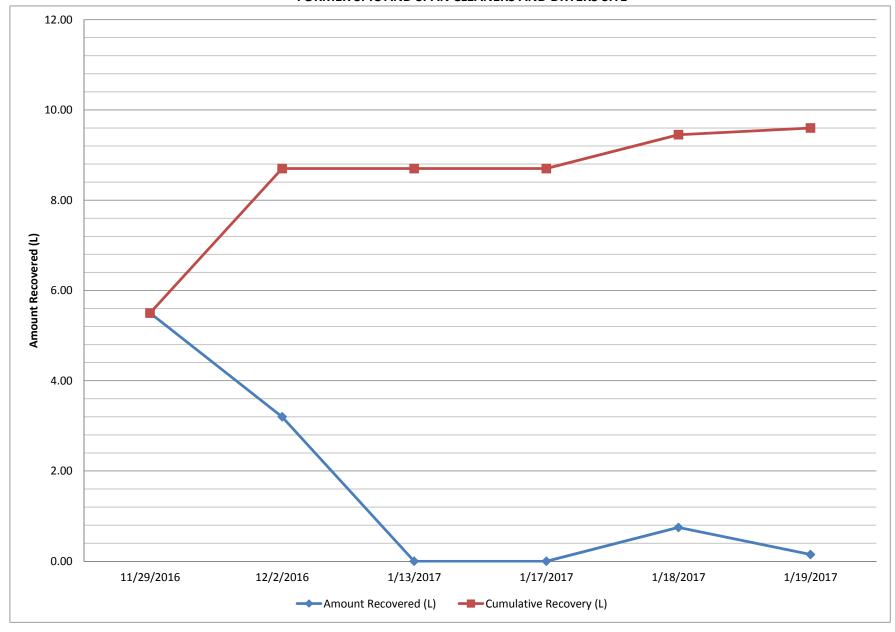
### SUMMARY OF DNAPL PRODUCT RECOVERY IN EW-02 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



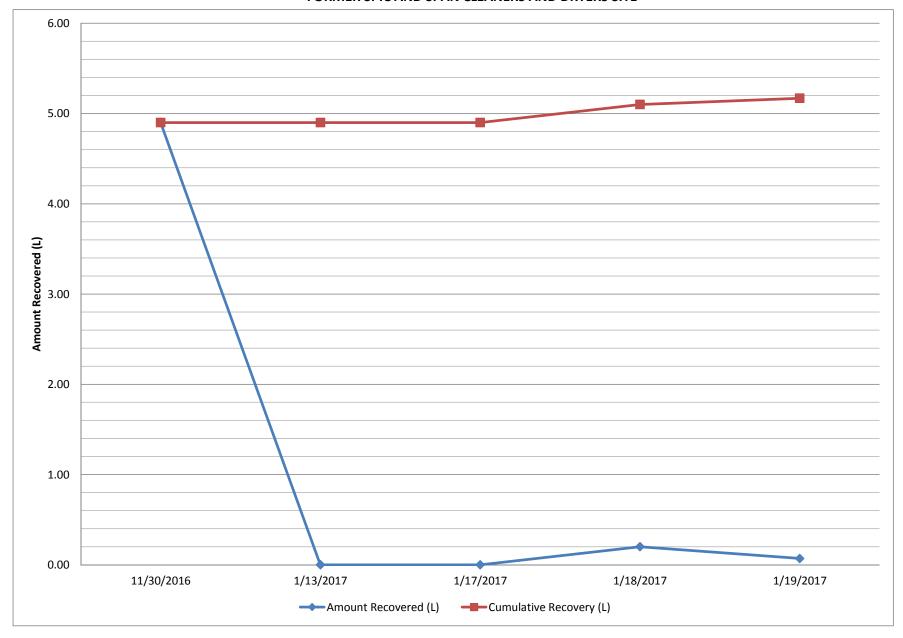
## SUMMARY OF DNAPL PRODUCT RECOVERY IN EW-03 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



## SUMMARY OF DNAPL PRODUCT RECOVERY IN EW-04 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



## SUMMARY OF DNAPL PRODUCT RECOVERY IN EW-05 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE



## SUMMARY OF DNAPL PRODUCT RECOVERY IN EW-06 FORMER SPIC AND SPAN CLEANERS AND DRYERS SITE

