

QUARTERLY OPERATION AND MAINTENANCE REPORT

April 2017 – June 2017

STANTON CLEANERS

(NYSDEC Site Number 130072)

NYSDEC STANDBY ENGINEERING CONTRACT

Work Assignment #D007625-06

PREPARED FOR

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	BACKGROUND	1
2.1	SITE HISTORY	1
2.2	EXISTING SITE CONDITIONS	3
2.3	SITE CLEANUP OBJECTIVES	5
3.0	O&M PROGRAM	5
3.1	GROUNDWATER EXTRACTION AND TREATMENT SYSTEM O&M	6
3.2	SAMPLING AND ANALYSIS	7
3.3	PROCESS AIR STREAM MONITORING	7
4.0	MONITORING WELL SAMPLING	8
5.0	PLUME PERIMETER MONITORING	9
6.0	INDOOR AIR QUALITY SAMPLING.....	9
7.0	MAINTENANCE ISSUES AND RECOMMENDED SOLUTIONS.....	10
7.1	DOWNTIME SUMMARY	10
8.0	FUTURE EVENTS PLANNED.....	10
9.0	SUMMARY/PROGRESS TOWARD ACHIEVING CLEANUP OBJECTIVES....	11

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Tables Follow Report Text</u>
Table 1	GWE&TS Influent and Effluent Data – April 2017-June 2017	
Table 2	Semi-Annual GW Sampling Data – May 2017	
Table 3	Semi-Annual SVI Sampling Data – May 2017	
Table 4	SVE System Sampling Data – May 2017	

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>Figures Follow Report Text</u>
Figure 1	Site Location	
Figure 2	Site Layout	
Figure 3	VOC Mass Removal by Groundwater Pumping and Treatment	
Figure 4	Contaminants of Concern Over Time in WAGNN Wells	
Figure 5	PCE Mass Removal by SVE system	
Figure 6	Monitoring Well Network	
Figure 7	Monitoring Schedule	
Figure 8	Shallow Interval Groundwater Contours	
Figure 9	Intermediate Interval Groundwater Contours	
Figure 10	Deep Interval Groundwater Contours	

LIST OF APPENDICES

<u>Appendix</u>	<u>Title</u>
Appendix A	Daily Reports
Appendix B	Groundwater Treatment System Operation & Maintenance Data Logs
Appendix C	Groundwater Treatment System Downloaded Operational Data
Appendix D	Air Sparge System Monitoring Logs
Appendix E	Soil Vapor Extraction System Monitoring Logs
Appendix F	Groundwater Level Monitoring Results
Appendix G	Groundwater Sampling Parameter Log
Appendix H	Structure Sampling Questionnaire and Building Inventory for Soil Vapor Intrusion Sampling

ACRONYMS AND ABBREVIATIONS

1,1,1-TCA	1,1,1-trichloroethane
1,1-DCE	1,1-dichloroethene
AS/SVE	Air sparging/soil vapor extraction
BGS	below ground surface
cVOC	chlorinated volatile organic compound
EDD	electronic data deliverable
GAC	granular activated carbon
GPM	gallons per minute
GWE&TS	groundwater extraction and treatment system
HDR	Henningson, Durham & Richardson Architecture and Engineering, PC.
MW	Monitoring Well
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	operation and maintenance
PCE	tetrachloroethene
PRP	potentially responsible party
RI	remedial investigation
ROD	record of decision
RSO	Remedial System Optimization
SG	soil gas
SPDES	State Pollution Detection and Elimination System
SVE	soil vapor extraction
SVI	soil vapor intrusion
TCL	target compound list
UGA	upper glacial aquifer
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WAGNN	Water Authority of Great Neck North
µg/l	micrograms per liter

1.0 INTRODUCTION

As part of the continuing site management at the Stanton Cleaners area groundwater contamination site (the Site) in Great Neck, NY (NYSDEC Site#130072) the New York State Department of Environmental Conservation (NYSDEC) has assigned the operation and maintenance (O&M) and monitoring to Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) under Standby Engineering Contract D007625. The Site is currently listed on the New York State Registry of Inactive Hazardous Waste Sites as a Class 4. This designation is for sites that are properly closed but require continued site management until the remedial objectives are achieved. Since 2001 the United States Environmental Protection Agency (USEPA) oversaw the O&M and the site management responsibility was transferred back to the NYSDEC in November 2012.

The on-going site management was assigned to HDR (D007625-06) in August 2012. The work assignment includes the following tasks:

- Task 1- Project Scoping
- Task 2- Develop Site Management Plan
- Task 3- O&M Program
- Task 4- Monitoring Program
- Task 5 – Periodic Review
- Task 6 – Remedial System Optimization (RSO)

This quarterly summary report was prepared under Task 4 to document and summarize the O&M and monitoring activities taking place at the Site between April 1, 2017 and June 30, 2017. These report provide a concise description of the work performed during the reporting period and include relevant data and performance monitoring documentation as attachments and appendices.

2.0 BACKGROUND

2.1 Site History

The Stanton Cleaners Area Groundwater Contamination site is located at 110 Cutter Mill Road in Great Neck, Nassau County, New York (Figure 1). The Stanton Cleaners property is approximately ¼ acre in size and includes a two-story building in which a dry-cleaning business

operates and an adjacent one-story boiler/storage building as well as a two-story treatment building. The present configuration of the remedial system including the locations of the existing extraction wells is shown in Figure 2. The site is bordered by an adjacent empty lot which formerly contained an indoor tennis facility, as well as by a synagogue and school facility.

Improper handling and disposal of spent dry cleaning solvents, including tetrachloroethylene (PCE), resulted in the release of hazardous substances at the site. PCE migrated from the site's subsurface soils into the indoor air environments of the surrounding buildings and into groundwater beneath the site, resulting in a significant threat to human health.

In 1983, approximately 20 cubic yards of PCE-contaminated soil was removed from behind the Stanton Cleaners property.

In 1989, a groundwater extraction and treatment system (GWE&TS) was installed by the potentially responsible party (PRP) under consent order to address groundwater contamination which resulted from improper disposal of spent PCE behind the Stanton Cleaners building. The system performed poorly and was abandoned shortly after. In 1993 the site was listed on the New York State Registry of Inactive Hazardous Waste Sites as a Class 2 site.

In 1998, the NYSDEC funded the construction of a new air stripper treatment system for the Water Authority of Great Neck North (WAGNN) water supply wells, which are impacted by contamination from the Site. At the time three production wells made up the WAGNN water supply and the three wells were approximately 1000 ft south and down gradient of the Site. USEPA assistance was requested in 1998 to address the known contamination and in January 1999 the Site was proposed for addition to the National Priorities List (NPL). A Record of Decision (ROD) was finalized in March 1999 and Site formally added to the NPL in May 1999.

In 2001, the EPA completed the construction and installation of a soil vapor extraction (SVE) system and a GWE&TS on the property. Both the SVE and GWE&TS are housed in the treatment building that was constructed on the Site. The SVE was installed to remediate the volatile organic compound (VOC) contaminated soils, thus reducing the indoor air contamination in the adjacent affected buildings to safe levels. The GWE&TS was installed to remediate the VOC-contaminated groundwater and to remove the potential pathway for vapor migration from

the groundwater to the Site soils. Both systems are currently operating at the Site. The collected VOC-contaminated vapors and groundwater from both systems are treated through separate granular activated carbon (GAC) systems prior to discharge.

The first five year review of the site was conducted by the USEPA in 2008. The review concluded that the remedy was in place and functioning as intended. The review did not identify any significant issues that required attention. The most recent five year review was completed in December 2013, with similar results to that of 2008. The next five year review is expected to be conducted in 2018.

In 2012 the EPA completed construction and installation of a complementary groundwater air sparge system and began its operation in March 2012. In December 2014 the air sparge was shut down due to an oil leak. Based on NYSDEC recommendation, the air sparge remains offline indefinitely.

In February 2014, snow and ice on the roof collapsed the gutter system which pulled the service drop from the building. When this occurred, many of the treatment electrical systems were damaged and required repairs. This caused extensive downtime during the 2014 operational year.

A significant amount of downtime (approximately 10 months) occurred for the SVE system during the 2016 monitoring period because the blower required repairs and this was delayed for administrative reasons during the approval process for the amendment.

The May 2016 amendment to the HDR WA included a remedial system optimization task that was initiated at the site in November 2016 and completed in February 2017. The results of the RSO were presented in a draft report submitted on May 10, 2017. The report is currently in the process of being finalized.

2.2 Existing Site Conditions

The Site is approximately 1/4-acre in size and includes a one-story building in which the dry-cleaning business operates and an adjacent one-story boiler/storage building. The entire site has been paved since 2005 when the last remaining unpaved area between the boiler/storage building and the treatment building was paved over.

Adjoining, but separate, properties include a synagogue/day care and school facility, a pre-school across Cutter Mill road, a condominium complex, and a service station. The indoor tennis facility often cited in the historical data was dismantled in the fall of 2004. The community surrounding the Site is zoned commercial and residential and is serviced by public sewer and water.

The Water Authority of Great Neck North (WAGNN) supplies the public water. Three public water supply wells are located approximately 1000 feet south (down gradient) of the Site. Two of these wells are approximately 145 ft deep and the third well is 434 ft deep. The two 145 ft deep wells are designated as PW-2A (N-12796) and PW-9 (N-4388) and both are completed in the deeper portion of the upper glacial aquifer (UGA). The third deep well is designated as PW-11 and is completed in the Lloyd Aquifer which is not believed to be impacted by the site. Well 11 was taken out of service in October of 2015 for drilling a new well (designated PW-11-A). The motor, base, baseplate, column pipe, shafting and pump were pulled from PW-11 in October of 2016 to be used for the new well. The operation schedule for the new well is not yet known. The treatment system on the WAGNN supply wells is currently in operation and VOC contamination has been reduced to below federal and state drinking water standards. WAGNN analytical data provided to NYSDEC shows that the PCE concentration in the pre-treatment samples collected from PW-2A (down gradient of Stanton Cleaners Site) periodically exceeds drinking water standards. In the sampling data provided by WAGNN, the highest PCE concentration in a pre-treatment sample observed this quarter occurred on May 3, 2017 with a concentration of 2.8 µg/l (June 2017 data unavailable). Figure 4 shows the concentrations of the contaminants of concern in the WAGNN wells over time.

Long Island's geology is composed of a sequence of unconsolidated glacial, lacustrine, deltaic, and marine deposits of clay, silt, and gravel that ranges in age from Upper Cretaceous to Pleistocene. These deposits overlay a Precambrian to Paleozoic crystalline bedrock. In the region of Nassau County where the site is located, the thickness of the unconsolidated deposits is approximately 500 feet (minus 419 ft msl).

Previous investigations at the Site have shown that only the UGA exhibits impacts from the site. In this area of Long Island the UGA can be subdivided into shallow, intermediate, and deep zones. For the purposes of the on-going Site Management this convention will be maintained

such that the data collection efforts and analysis are consistent with the Final Hydrogeologic Investigation Report- Operable Unit 1 (Earth Tech 2004) and Final Capture Zone Analysis Report (Earth Tech 2004). The shallow UGA consists of orange brown, poorly to well graded outwash sands and till of generally high permeability. In the vicinity of the water table at approximately 50 to 60 ft. bgs a fine grained light gray to white micaceous silty sand and clay. This intermediate zone transitions with depth into the North Shore confining unit which separates the shallow/intermediate zones from the deep zone. The confining unit consists of a much higher percentage of fine grained deposits and is described as light brown clay, light gray clayey silts and silty clay. The finer grained materials are likely marine or post glacial lake deposits which in some areas of the site overlie the deeper UGA. The deep portion of the UGA is generally a thin deposit of outwash sands and gravels that represent possible infilling of low lying areas during an interglacial stage.

The historical monitoring that has occurred at the site has shown that the PCE concentrations in groundwater have declined significantly. The water levels in the vicinity of the site are impacted by the pumping stress associated with the WAGNN pumping wells with the most pronounced impacts in the intermediate and deep zone of the UGA.

2.3 Site Cleanup Objectives

The cleanup objectives for the Stanton Cleaners site include:

Groundwater – NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

Soil – Environmental Conservation Law (ECL) 6 NYCRR Part 375-6: Remedial Program Soil Cleanup Objectives.

Vapor – New York State Department of Health Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

3.0 O&M PROGRAM

The O&M activities at the Site include:

- Monthly sample collection from the GWE&TS influent and effluent for analysis of volatile organic compounds;
- Monthly system checks of the GWE&TS, and the SVE system;
- Monthly water levels on a subset of existing monitoring wells;
- Quarterly sampling of influent and effluent on the SVE system;
- Semi-annual GAC change out on the GWE&TS and SVE systems (if necessary);
- Semi-annual monitoring well sampling event;
- Semi-annual air monitoring event, from building locations at or adjacent to the Site;
- Annual State Pollutant Discharge Elimination System (SPDES) sampling event;
- EDDs will be prepared and submitted as they are received; and
- A Periodic Review Report will be issued annually.

This report is a summary of all activities that have occurred within the second quarter of 2017. A chronological summary of the activities at the site with the daily reports is found in Appendix A. Performance monitoring logs for the various components of the system are found in Appendix B to E. The groundwater level monitoring data are found in Appendix F. The semi-annual groundwater sampling parameters, and LIHA SVI questionnaire, are found in Appendix G and H, respectively. Groundwater influent/effluent analytical results are found in Table 1, semi-annual groundwater sampling data are found in Table 2, soil vapor intrusion results are found in Table 3, and SVE effluent sampling data is found in Table 4.

3.1 Groundwater Extraction and Treatment System O&M

The table below is a summary of mass removal of PCE performed by the system during this quarter. The monthly flow rate is the average of all flow measurements recorded by Lookout monitoring software during the month, which records the flow every four hours. The total monthly gallons are calculated by subtracting the first recorded cumulative volume in the month from the last recorded cumulative volume in the month. The cumulative volume is the final volume recorded by the system in the month. CVOC volume is the concentration of PCE detected in the monthly influent sample. The GWE&TS treated and discharged 2,481,005 gallons in April, 1,842,914 gallons in May and another 2,463,060 gallons during June 2017. The average flow rate for the period that the system was operational was approximately 57.05 GPM.

The system has treated an approximate total of 380,648,958 gallons since startup in November 2001 through June 30, 2017.

Currently EPA-EXT-02 is the only extraction well pumping at the site; it is located at the corner of Cutter Mill Road and Ascot Road (Figure 2). Extraction wells EPA-EXT-4R and EPA-MW-24 were taken offline by the USEPA previously.

Summary of GWE&TS Mass Removal

Date	Average Monthly Flow Rate (GPM)	Monthly Total (gal/month)	Cumulative over life of system (gallons)	CVOC Concentration in Influent	Monthly CVOC Mass	Cumulative Mass Removed
---	---	---	---	PCE (ug/L)	PCE (lb/Month)	PCE (lb)
April-17	58.16	2481005.9	376314636.2	5	0.10	6.39
May-17	54.2	1842914.3	378171692.6	14	0.22	6.60
June-17	58.79	2463060.3	380648958.5	7.6	0.16	6.76
				Quarter Total	0.48	

3.2 Sampling and Analysis

GWE&TS sampling is performed monthly to monitor plant efficiency, to determine whether liquid carbon breakthrough has occurred, and to verify that discharge parameters do not exceed the SPDES permit equivalency. The combined GWE&TS influent, along with the GWE&TS effluent (discharge) are sampled each month during the O&M visit. Collected samples are shipped to Hampton Clarke Laboratory of Fairfield, NJ and analyzed for TCL of VOCs. Influent and effluent samples were taken on April 27, May 25, and July 26 of this quarter. Analytical results are found in Table 1. PCE concentrations of 5.0 µg/l, 14.0 µg/l, and 7.6 µg/l were found in April, May, and June effluents, respectively. No contamination was detected in any of the effluent samples. Figure 3 is a graphical presentation of PCE concentration over time from 2003 to the present.

3.3 Process Air Stream Monitoring

Air monitoring of the SVE is performed on a monthly basis. It includes monitoring for VOCs, carbon monoxide, oxygen, lower explosive limit (LEL), hydrogen sulfide, air velocity in cubic feet per minute (CFM), temperature, relative humidity, dew point, and vacuum pressure as specified in the O&M Manual. Soil Vapor Extraction System Air Monitoring Logs are provided in Appendix E. Air monitoring is performed at the following locations:

- Combined SVE – influent (pre-treatment);
- Post vapor phase carbon vessel – SVE air discharge, effluent (post treatment);
- SVE wells EPA-SVE-1 through EPA-SVE-3.

Figure 5 uses the PID measurements obtained during monitoring to estimate the mass recovery of the SVE system over the life of the system. When applicable, measurement of the SVE influent from a more robust source, such as sample collection via summa canister and laboratory analysis is used instead of a PID measurement. Calculation assumes that PCE is the bulk of the VOC detected in PID readings attained at the site.

Quarterly, 1- liter SUMMA canister influent and effluent samples are collected. During this quarter, samples were collected from the influent and effluent ports on May 9, 2017. Results of that sampling event indicated a PCE concentration of 3,322 $\mu\text{g}/\text{m}^3$ in the SVE influent.

4.0 MONITORING WELL SAMPLING

Preferred Environmental Services collected a round of monitoring well samples on May 8-9, 2017. These samples were collected using the low-flow method. Samples were shipped to Hampton Clarke Laboratory of Fairfield, NJ. Sampling results are presented in Table 2. Six of the sixteen wells sampled contained measurable quantities of VOCs. ST-MW-19, located downgradient, contained the highest concentration of PCE at 12 $\mu\text{g}/\text{L}$, and exceeds the 5.0 $\mu\text{g}/\text{L}$ Class GA drinking water standard found in the TOGS 1.1.1. EPA-CL-4D contained 3.4 $\mu\text{g}/\text{L}$, 1.8 $\mu\text{g}/\text{L}$ and 6.5 $\mu\text{g}/\text{L}$ of cis-1,2 DCE, PCE and TCE, respectively. The TCE concentrations exceeds the 5.0 $\mu\text{g}/\text{L}$ standard. EPA-MW-23, ST-MW-20, ST-MW-18, and EPA-CL-4S contained PCE concentrations of 1.0 $\mu\text{g}/\text{L}$, 2.6 $\mu\text{g}/\text{L}$, 4.4 $\mu\text{g}/\text{L}$, and 3.5 $\mu\text{g}/\text{L}$, respectively. The surface water catch basin in which the GWE&T system discharges its effluent contained 20 $\mu\text{g}/\text{L}$ of toluene and 38 $\mu\text{g}/\text{L}$ of acetone. Similarly, EPA-MW-26 contained 1.0 $\mu\text{g}/\text{L}$ of xylene. The BTEX compounds along with Acetone are not considered site-related.

A comparison of the 2017Q2 semi-annual groundwater-sampling event to the 2016Q4 semi-annual groundwater-sampling event does not show a clear relationship of contamination over time. Only EPA-CL-4S tested positive for VOC contamination during both 2017Q2 and 2016Q4 sampling events. A potential cause of these differences is that the GWE&T system was not

operating during the 2016Q4 sampling event, whereas it was operational during the 2017Q2 sampling event.

Groundwater sampling parameter logs are found in Appendix G.

5.0 PLUME PERIMETER MONITORING

Groundwater level measurements are obtained from both onsite and offsite wells once a month in order to evaluate capture zones(s) around the groundwater extractions wells.

Water level measurements were collected during the April, May, and June monthly O&M visits. Water level measurements are made at 18 on and off-site wells. The location and number of monitoring wells was previously determined by the USEPA based on the site Capture Zone Analysis. Groundwater level measurements for the quarter and historical groundwater level measurements are provided in Appendix F. An aquifer test was conducted in February 2017 as part of the RSO. The aquifer test included collecting water level data continuously in 14 monitoring wells across the site and this data indicated that the water levels in and around the public supply wells are typically much lower than previously believed.. The groundwater contours have been adjusted to reflect observations from the aquifer test data. Figures 8, 9, and 10 show the groundwater contours for the shallow, intermediate, and deep aquifer components.

The groundwater flow directions in the shallow and deep UGA resemble those measured previously for this site, however contours have been refined to represent the more accurate southward flow toward the public water supply wells. Generally the groundwater is flowing to the southwest. A downward component of flow is also apparent when comparing the shallow, intermediate, and deep groundwater contours. A noticeable depression in the shallow water table (Figure 8) is centered about the extraction well, EPA-EXT-02, and the entire site falls within the capture zones of the public water supply wells, which strongly influence flow. The intermediate UGA flow direction was found to be to the southwest in May 2017 (Figure 9). In the deep zone the groundwater was found to be flowing to the southwest (Figure 10).

6.0 INDOOR AIR QUALITY SAMPLING

Indoor air quality samples from buildings along the perimeter of the site are collected using summa canisters on a semi-annual basis and shipped to a laboratory (Chemtech) for TO-15

analysis. Results of that sampling event are detailed in Table 3 and indicate indoor air concentration are below the threshold action levels as described by the NYSDOH soil vapor/indoor air matrix 1 and 2. Based on these results of the follow-up sampling, no further action is required.

7.0 MAINTENANCE ISSUES AND RECOMMENDED SOLUTIONS

Based on the site visits and data collected during this period HDR has identified the following maintenance issues and our recommendations relative to those findings.

- As the RSO field events and the replacement of the SVE blower and belts are both complete, a review of the ability of the SVE system to handle and dispose of condensate and an assessment of its drainage routing options is recommended.

Unless otherwise noted HDR has requested approval to proceed with our recommendations as outlined above and future quarterly reports will document how the maintenance issues were addressed.

7.1 Downtime Summary

During this quarterly monitoring period, the system components as noted were not operating for the reasons cited.

- On April 26, 2017 a flow sensor malfunction was noted on the GWE&T system. The system piping was inspected, and the system restarted. Upon restart, the flow sensor returned to normal operation.
- On May 23, 2017 the GWE&T system experienced an unknown issue that caused a lower than normal pumping rate. An inspection of the piping and of the influent strainers did not yield an obvious cause. After a system restart, the GWE&T system returned to normal operation.

8.0 FUTURE EVENTS PLANNED

Upcoming maintenance and monitoring activities at the site includes the following:

- Routine monthly maintenance continues to occur near the end of every month.

- 2017Q3 influent and effluent sampling of the SVE system is planned for August 2017.
- Additional maintenance planned for 2017Q3-Q4 involves the assessment of condensate lines linking the SVE knockout tank to settling tank, and of the line linking the settling tank to the liquid-phase GAC unit.

9.0 SUMMARY/PROGRESS TOWARD ACHIEVING CLEANUP OBJECTIVES

Total cost incurred associated with the operation of the Stanton Cleaners remedial system during the first quarter is \$52,162.96 (see quarterly cost summary below). Mass removal calculations for the SVE system determined that 24.8 lbs of VOCs were removed by the system. This calculation uses the PID reading collected at the influent port each month, or if laboratory data is available within the quarter for the PCE value detected in the influent sample, this more precise value will be used in the calculation. In terms of groundwater contamination, 0.48 lbs. of VOCs were calculated to have been removed by the GWE&TS, this calculation uses an average of the flow readings collected by the Lookout software, which records the system flow once every four hours (system down time is not included in this average flow). The concentration of PCE which is detected in the GWE&TS influent analytical sample for each month is used to calculate the amount of PCE removed by the extract and treat system every month, if laboratory data is unavailable then an average of the values detected in samples from the month preceding and following may be used to estimate the volume removed. During this quarter, the cost per pound of VOCs removed was \$2,063.41. Progress continues toward achieving the site cleanup objectives. An overall bulk reduction in the groundwater contaminant concentration has been achieved, but the groundwater concentrations still exceed applicable goals.

Quarterly Cost Summary						
PERIOD	COST (\$)	Total VOCs Measured at SVE (lbs.)	Total VOCs Measured at GWE&TS (lbs.)	Quarterly Sum (\$)	Total VOCs Removed (lbs.)	Cost per Pound
4/1/2017 - 4/26/2017	\$ 26,708.10					
4/27/2017 - 5/27/2017	\$ 11,668.68					
5/28/2017 - 7/1/2017	\$ 13,786.18	24.8	0.48	\$ 52,162.96	25.3	\$ 2,063.41

Note: Cost is based on the spending associated with the WAD007625-06 and does not include costs related to the RSO task. Specific details on the costs are documented in the HDR CAPs covering these periods.

Tables

Constituent	CLIENT ID: LAB ID: COLLECTION DATE:		INF-GW-042717 AC97607-002 4/27/2017		EFF-GW-042717 AC97607-001 4/27/2017		INF-GW-052517 AC98152-002 5/25/2017		EFF-GW-052517 AC98152-001 5/25/2017		INF-GW-62617 AC98692-002 6/26/2017		EFF-GW-62617 AC98692-001 6/26/2017	
	Criteria	Results	Qualifiers	Results	Qualifiers	Results	Qualifiers	Results	Qualifiers	Results	Qualifiers	Results	Qualifiers	
:TotalVolatileTic	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,1,1-Trichloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,1,2,2-Tetrachloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,1,2-Trichloroethane	1	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,1-Dichloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,1-Dichloroethene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2,3-Trichlorobenzene	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2,4-Trichlorobenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2-Dibromo-3-chloropropane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2-Dibromoethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2-Dichlorobenzene	3	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2-Dichloroethane	0.6	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,2-Dichloropropane	1	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,3-Dichlorobenzene	3	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,4-Dichlorobenzene	3	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
1,4-Dioxane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
2-Butanone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
2-Hexanone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
4-Methyl-2-pentanone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Acetone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Benzene	1	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Bromochloromethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Bromodichloromethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Bromoform	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Bromomethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Carbon disulfide	60	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Carbon tetrachloride	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Chlorobenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Chloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Chloroform	7	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Chloromethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
cis-1,2-Dichloroethene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
cis-1,3-Dichloropropene	cis+trans =0.4	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Cyclohexane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Dibromochloromethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Dichlorodifluoromethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Ethylbenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Isopropylbenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
m&p-Xylenes	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Methyl Acetate	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Methylcyclohexane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Methylene chloride	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Methyl-t-butyl ether	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
o-Xylene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Styrene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Tetrachloroethene	5	5		ND	U	14		ND	U	7.6		ND	U	
Toluene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
trans-1,2-Dichloroethene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
trans-1,3-Dichloropropene	cis+trans =0.4	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Trichloroethene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Trichlorofluoromethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Vinyl chloride	2	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	
Xylenes (Total)	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	

Units - ug/l
 Qualifiers - NA - criteria or standard not available
 R - rejected
 B - also detected in associated method blank
 J - estimated value; ND - not detected
 NDJ - not detected, estimated reporting limit
 NJ - positive identification of tentatively identified compound, estimated value
 P - greater than 40% difference between primary and confirmation analyses
 Criteria- DEC Part 703.5 Water Quality Standards Class GA

Sample Location		ST-MW-17		ST-MW-12		EPA-CL-4D		EPA-CL-4S		ST-MW-14		EPA-MW-27		ST-MW-19		ST-MW-20		EPA-MW-26		EPA-MW-11D		EPA-MW-23		ST-MW-16		ST-CB-1		ST-MW-15		ST-MW-13		ST-MW-18	
Sample ID		AC97775-001		AC97775-002		AC97775-003		AC97775-004		AC97775-005		AC97775-006		AC97775-007		AC97775-008		AC97775-009		AC97775-010		AC97775-011		AC97775-012		AC97775-013		AC97775-014		AC97775-015		AC97775-016	
Sample Date		5/8/2017		5/8/2017		5/8/2017		5/8/2017		5/8/2017		5/8/2017		5/8/2017		5/8/2017		5/9/2017		5/9/2017		5/9/2017		5/9/2017		5/9/2017		5/9/2017		5/9/2017		5/9/2017	
Constituent	Criteria																																
1,1,1-Trichloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,1,2,2-Tetrachloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,1,2-Trichloroethane	1	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,1-Dichloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,1-Dichloroethene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2,3-Trichlorobenzene	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2,4-Trichlorobenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2-Dibromo-3-chloropropane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2-Dibromoethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2-Dichlorobenzene	3	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2-Dichloroethane	0.6	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,2-Dichloropropane	1	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,3-Dichlorobenzene	3	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,4-Dichlorobenzene	3	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
1,4-Dioxane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
2-Butanone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
2-Hexanone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
4-Methyl-2-pentanone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Acetone	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	38		ND	U	ND	U	ND	U	ND	U
Benzene	1	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Bromochloromethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Bromodichloromethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Bromoform	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Bromomethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Carbon disulfide	60	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Carbon tetrachloride	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Chlorobenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Chloroethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Chloroform	7	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Chloromethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
cis-1,2-Dichloroethene	5	ND	U	ND	U	3.4		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
cis-1,3-Dichloropropene	0.4	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Cyclohexane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Dibromochloromethane	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Dichlorodifluoromethane	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Ethylbenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Isopropylbenzene	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
m&p-Xylenes	5	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	1		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Methyl Acetate	NA	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
Methylcyclohexane	NA	ND	U																														

Units - ug/l
NS - No Standard
Qualifiers -
 Bold/highlighted cell – exceedance of criteria
 NA - criteria or standard not available
 R - rejected
 B – also detected in associated method blank
 J – estimated value; ND – not detected
 NDJ – not detected, estimated reporting limit
 NJ – positive identification of tentatively identified compound, estimated value
 P – greater than 40% difference between primary and confirmation analyses
Criteria – Water – PART 703.5- Water Quality Standards Surface and Ground Water

Sample ID Lab Sample Number Sampling Date	LIHA-IA-1-050817 I3105-01 5/9/2017		LIHA-IA-1-050817-DUP I3105-02 5/9/2017	
Constituent	Results	Qualifiers	Results	Qualifiers
1,1,1-Trichloroethane	ND	U	ND	U
1,1,2,2-Tetrachloroethane	ND	U	ND	U
1,1,2-Trichloroethane	ND	U	ND	U
1,1,2-Trichlorotrifluoroethane	ND	U	ND	U
1,1-Dichloroethane	ND	U	ND	U
1,1-Dichloroethene	ND	U	ND	U
1,2,4-Trichlorobenzene	ND	U	ND	U
1,2,4-Trimethylbenzene	0.54	J	1.82	J
1,2-Dibromoethane	ND	U	ND	U
1,2-Dichlorobenzene	ND	U	ND	U
1,2-Dichloroethane	ND	U	ND	U
1,2-Dichloropropane	ND	U	ND	U
1,3,5-Trimethylbenzene	ND	U	ND	J
1,3-Butadiene	ND	U	ND	U
1,3-Dichlorobenzene	ND	U	ND	U
1,4-Dichlorobenzene	ND	U	ND	U
1,4-Dioxane	ND	U	ND	U
2,2,4-Trimethylpentane	ND	U	ND	J
2-Butanone	0.56	J	0.8	J
2-Chlorotoluene	ND	U	ND	U
4-Ethyltoluene	ND	U	ND	J
4-Methyl-2-Pentanone	ND	U	ND	U
Acetone	23		17.6	
Allyl Chloride	ND	U	ND	U
Benzene	0.61	J	0.51	J
Bromodichloromethane	ND	U	ND	U
Bromoethene	ND	U	ND	U
Bromoform	ND	U	ND	U
Bromomethane	ND	U	ND	U
Carbon Disulfide	ND	U	ND	U
Carbon Tetrachloride	0.44		0.44	
Chlorobenzene	ND	U	ND	U
Chloroethane	ND	U	ND	U
Chloroform	ND	U	ND	U
Chloromethane	1.2		1.14	
cis-1,2-Dichloroethene	ND	U	ND	U
cis-1,3-Dichloropropene	ND	U	ND	U
Cyclohexane	ND	U	ND	U
Dibromochloromethane	ND	U	ND	U
Dichlorodifluoromethane	1.04	J	0.94	J
Dichlorotetrafluoroethane	ND	U	ND	U
Ethyl Benzene	ND	U	ND	J
Heptane	0.82	J	0.61	J
Hexachloro-1,3-Butadiene	ND	U	ND	U
Hexane	ND	U	ND	
m/p-Xylene	1.35	J	4.13	J
Methyl Methacrylate	ND	U	ND	U
Methyl tert-Butyl Ether	ND	U	ND	U
Methylene Chloride	3.13		8.69	
Naphthalene	ND	U	ND	U
o-Xylene	ND	U	ND	J
Styrene	ND	U	ND	U
trans-1,3-Dichloropropene	ND	U	ND	U
tert-Butyl alcohol	ND	U	ND	U
Tetrachloroethene	0.95		1.29	
Tetrahydrofuran	ND	U	ND	U
Toluene	2.37		3.13	
trans-1,2-Dichloroethene	ND	U	ND	U
Trichloroethene	ND	U	ND	U
Trichlorofluoromethane	1.46	J	1.4	J
Vinyl Chloride	ND	U	ND	U

Units - ug/m³

Qualifiers -

NA - criteria or standard not available

U - Compound analyzed for, but not detected

B - also detected in associated method blank

J - estimated value; ND - not detected

NDJ - not detected, estimated reporting limit

NJ - positive identification of tentatively identified compound, estimated value

P - greater than 40% difference between primary and confirmation analyses

Sample ID Lab Sample Number Sampling Date	SVE-EFF-050917 I3107-01 5/9/2017		SVE-INF-050917 I3107-02 5/9/2017		
	Constituent	Results	Qualifiers	Results	Qualifiers
1,1,1-Trichloroethane	ND	U	ND	U	
1,1,2,2-Tetrachloroethane	ND	U	ND	U	
1,1,2-Trichloroethane	ND	U	ND	U	
1,1,2-Trichlorotrifluoroethane	ND	U	ND	U	
1,1-Dichloroethane	ND	U	ND	U	
1,1-Dichloroethene	ND	U	ND	U	
1,2,4-Trichlorobenzene	ND	U	ND	U	
1,2,4-Trimethylbenzene	ND	U	ND	U	
1,2-Dibromoethane	ND	U	ND	U	
1,2-Dichlorobenzene	ND	U	ND	U	
1,2-Dichloroethane	ND	U	ND	U	
1,2-Dichloropropane	ND	U	ND	U	
1,3,5-Trimethylbenzene	ND	U	ND	U	
1,3-Butadiene	ND	U	ND	U	
1,3-Dichlorobenzene	ND	U	ND	U	
1,4-Dichlorobenzene	ND	U	ND	U	
1,4-Dioxane	ND	U	ND	U	
2,2,4-Trimethylpentane	ND	U	0.98	J	
2-Butanone	0.32	J	2.6		
2-Chlorotoluene	ND		ND	U	
4-Ethyltoluene	ND	U	ND	U	
4-Methyl-2-Pentanone	ND	U	ND	U	
Acetone	3.33		11.6		
Allyl Chloride	ND	U	ND	U	
Benzene	ND	U	1.21	J	
Bromodichloromethane	ND	U	ND	U	
Bromoethene	ND	U	ND	U	
Bromoform	ND	U	ND	U	
Bromomethane	ND	U	ND	U	
Carbon Disulfide	1.53	J	ND	U	
Carbon Tetrachloride	ND	U	ND	U	
Chlorobenzene	ND	U	ND	U	
Chloroethane	ND	U	ND	U	
Chloroform	ND	U	1.07	J	
Chloromethane	0.66	J	0.91	J	
cis-1,2-Dichloroethene	ND	U	54.7		
cis-1,3-Dichloropropene	ND	U	ND	U	
Cyclohexane	ND	U	1.96		
Dibromochloromethane	ND	U	ND	U	
Dichlorodifluoromethane	ND	U	0.64	J	
Dichlorotetrafluoroethane	ND	U	ND	U	
Ethyl Benzene	ND	U	1.04	J	
Heptane	ND	U	ND	U	
Hexachloro-1,3-Butadiene	ND	U	ND	U	
Hexane	0.63	J	8.11		
m/p-Xylene	ND	U	6.08		
Methyl Methacrylate	ND	U	ND	U	
Methyl tert-Butyl Ether	ND	U	ND	U	
Methylene Chloride	6.6		37.9		
Naphthalene	ND	U	ND	U	
o-Xylene	ND	U	2.13	J	
Styrene	ND	U	ND	U	
t-1,3-Dichloropropene	ND	U	ND	U	
tert-Butyl alcohol	ND	U	2.79		
Tetrachloroethene	ND	U	3322	D	
Tetrahydrofuran	ND	U	0.88	J	
Toluene	ND	U	1.21	J	
trans-1,2-Dichloroethene	ND	U	ND	U	
Trichloroethene	ND	U	54.3		
Trichlorofluoromethane	ND	U	1.91	J	
Vinyl Chloride	ND	U	ND	U	

Units - ug/m³

Qualifiers -

NA - criteria or standard not available

U - Compound analyzed for, but not detected

B - also detected in associated method blank

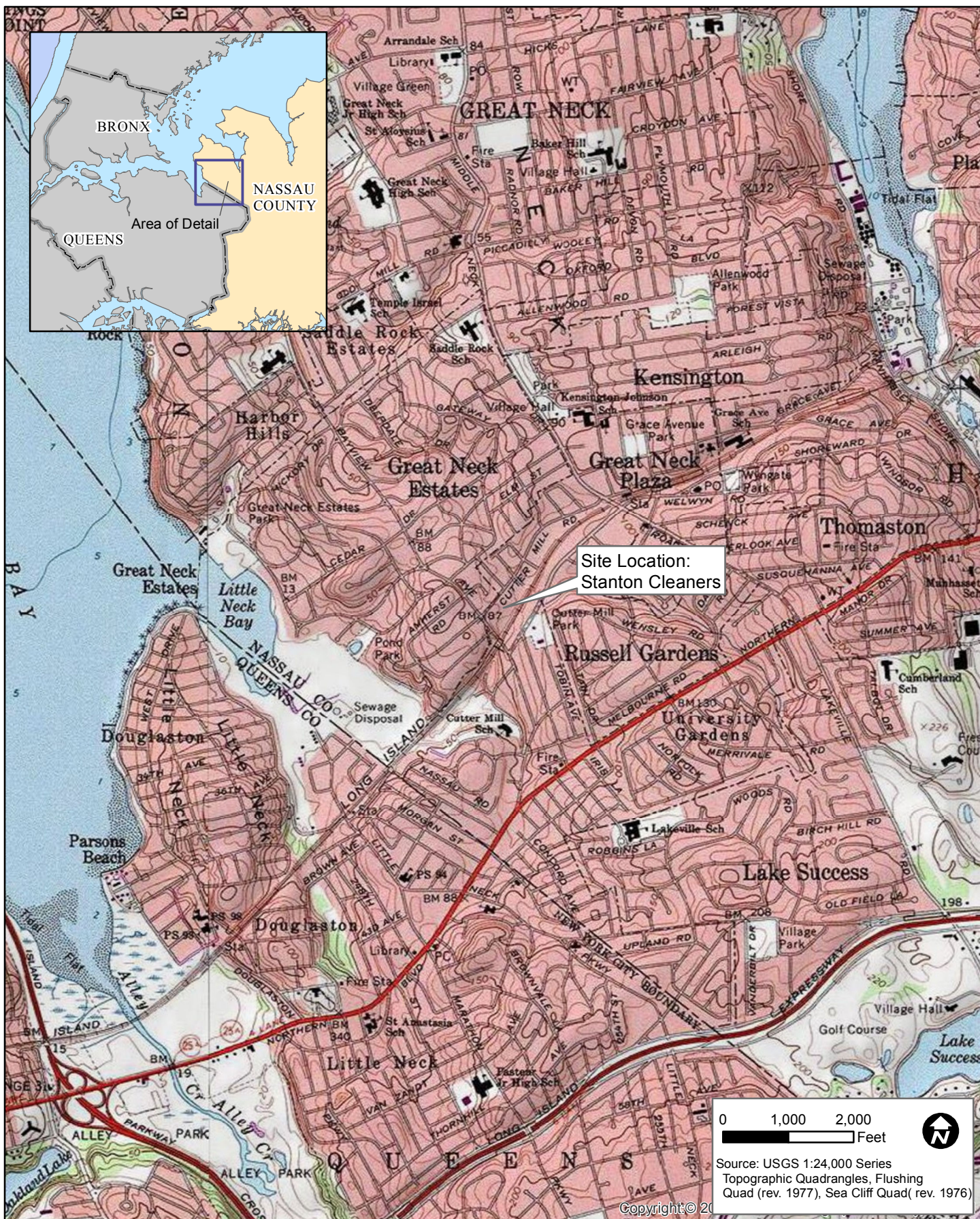
J - estimated value; ND - not detected

NDJ - not detected, estimated reporting limit

NJ - positive identification of tentatively identified compound, estimated value

P - greater than 40% difference between primary and confirmation analyses

Figures

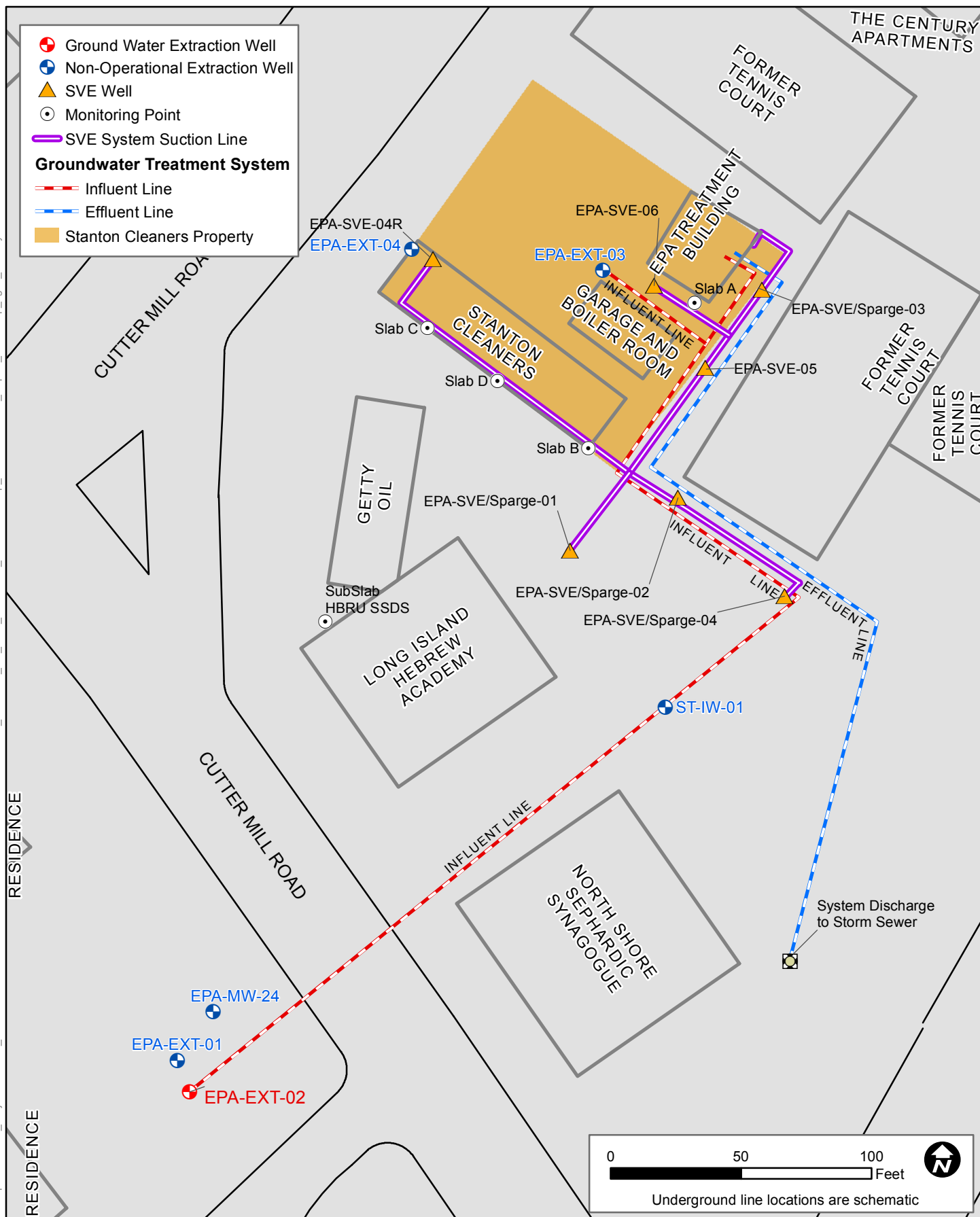


Site Location
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 1

April 30, 2013

\\nahpi-file01\GIS_Projects\202315_NEW YORK STATE DEPT OF ENVIRONMENTAL CON\0191231_NYSDEC_ML_WAG_STANTON_CLNR\GISMap_Docs\Draft\PRR_Report_2014\map_fig02_Sitelayout.mxd

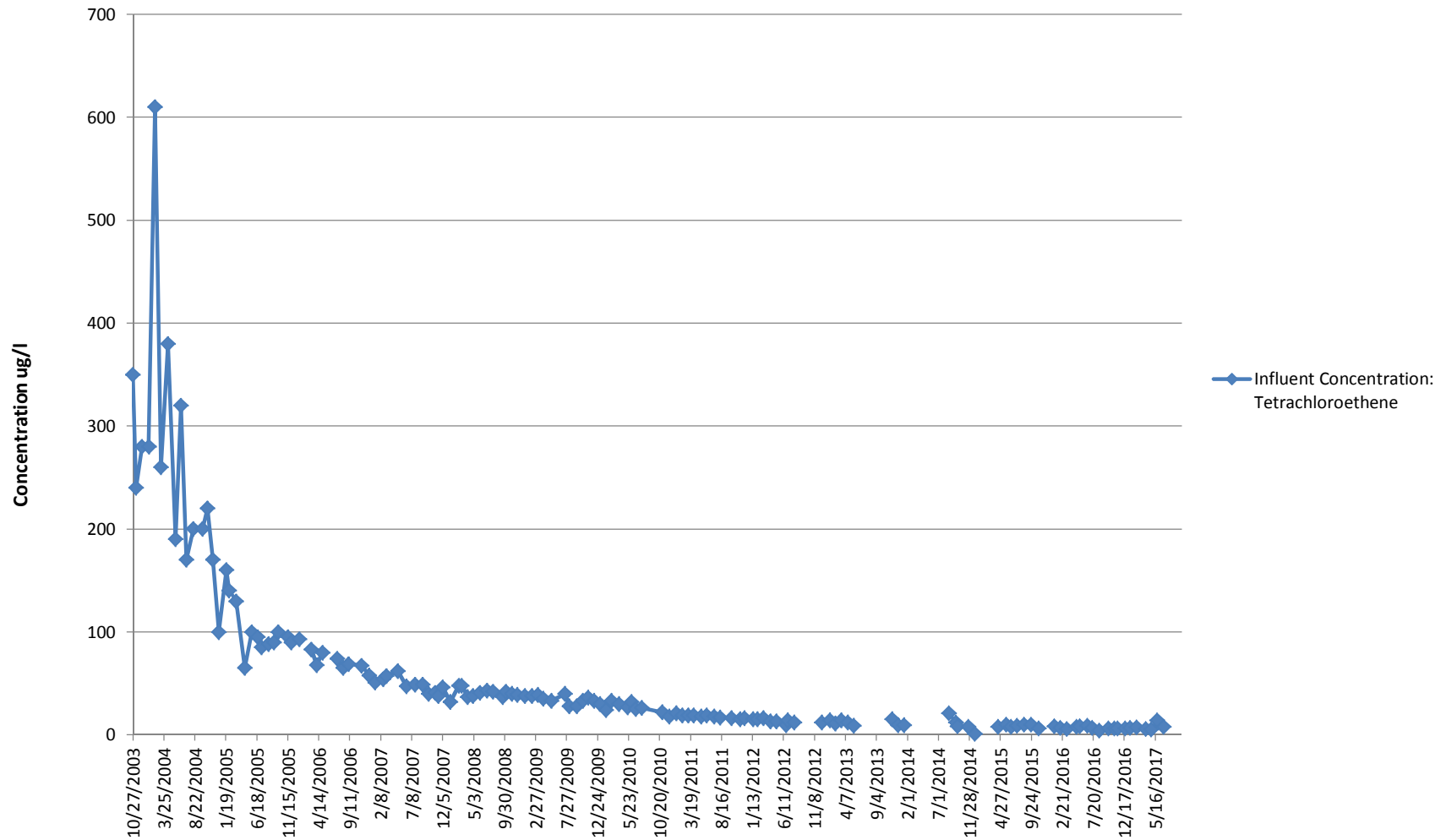


Site Layout
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 2

April 30, 2015

Groundwater Influent Concentration: Tetrachloroethene

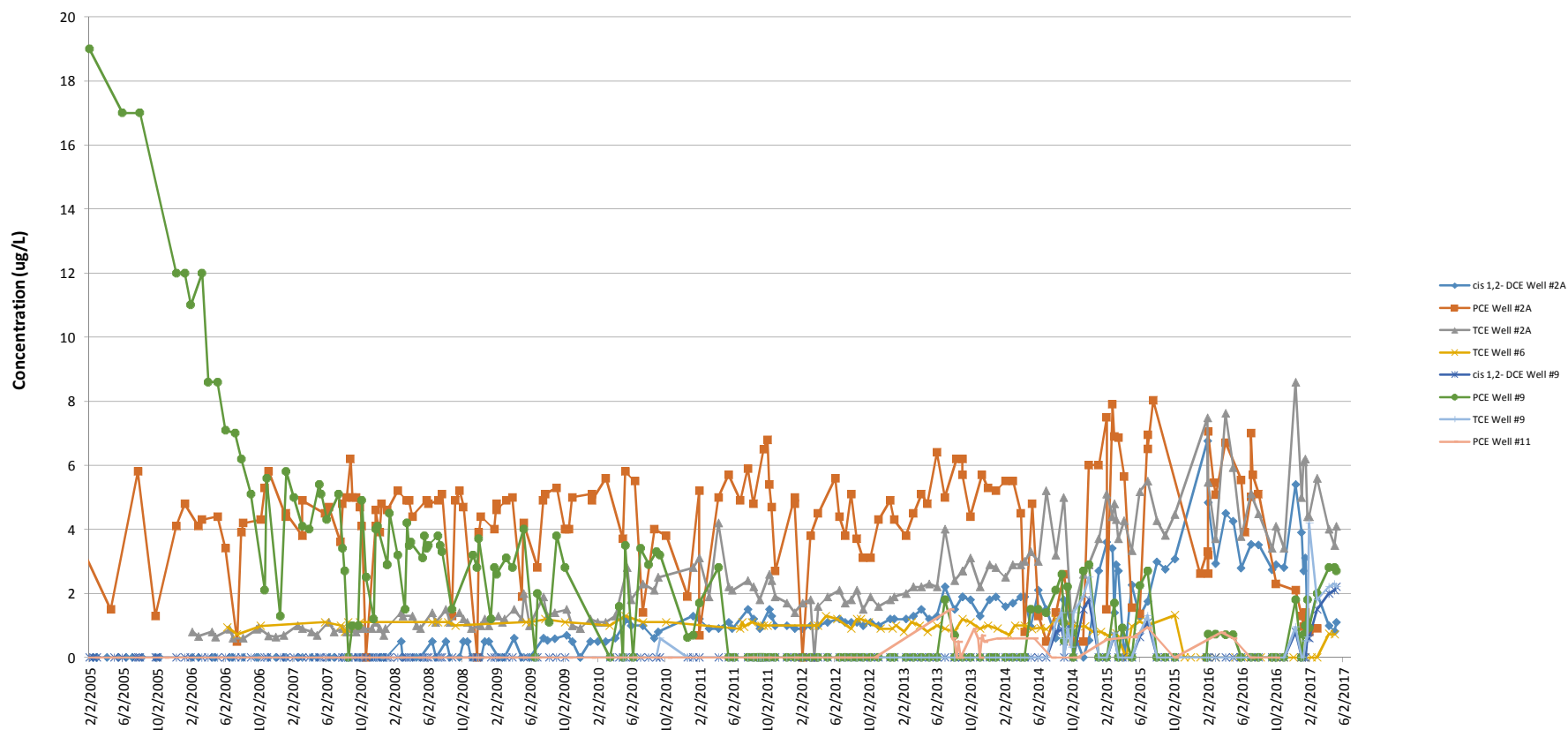


VOC Mass Removal by Pumping and Treatment

Stanton Cleaners, NYSDEC Site # 130072, Great Neck, NY

Figure 3

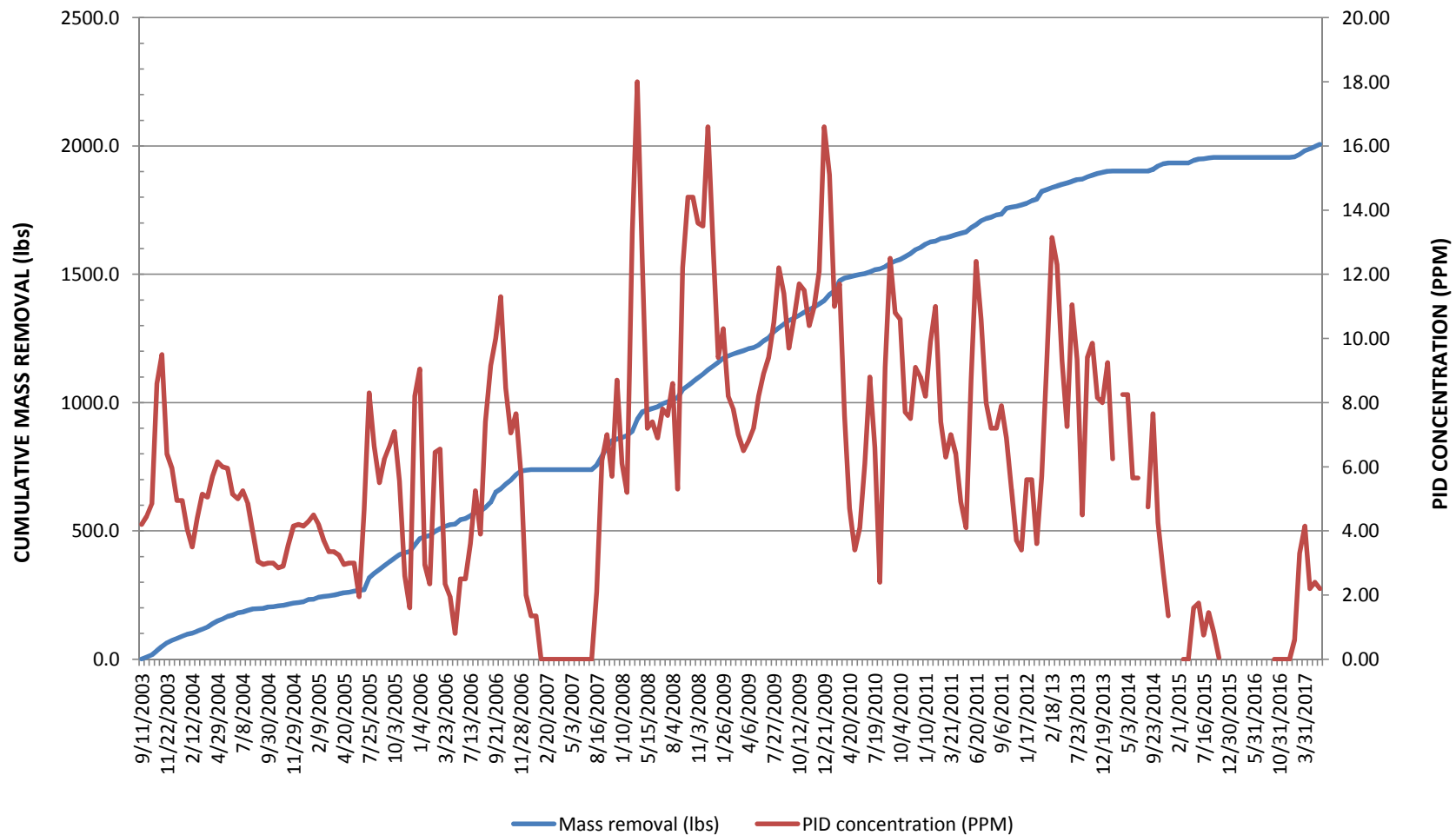
Contaminants of Concern Over Time in WAGNN Wells



Concentration of COCs vs. Time in WAGNN wells

Stanton Cleaners, NYSDEC Site # 130072, Great Neck, NY

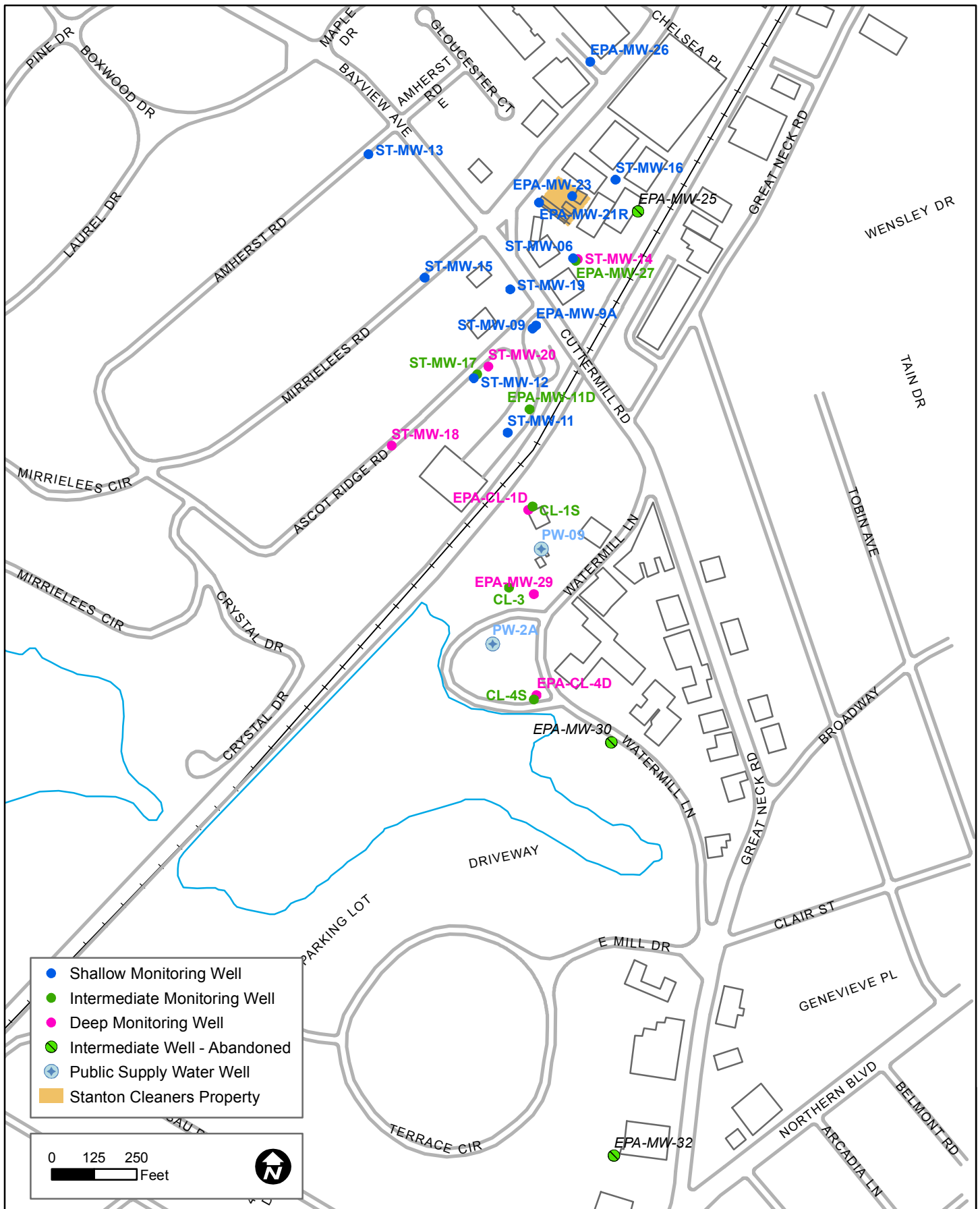
Figure 4



PCE Mass Removal by SVE System

Stanton Cleaners, NYSDEC Site # 130072, Great Neck, NY

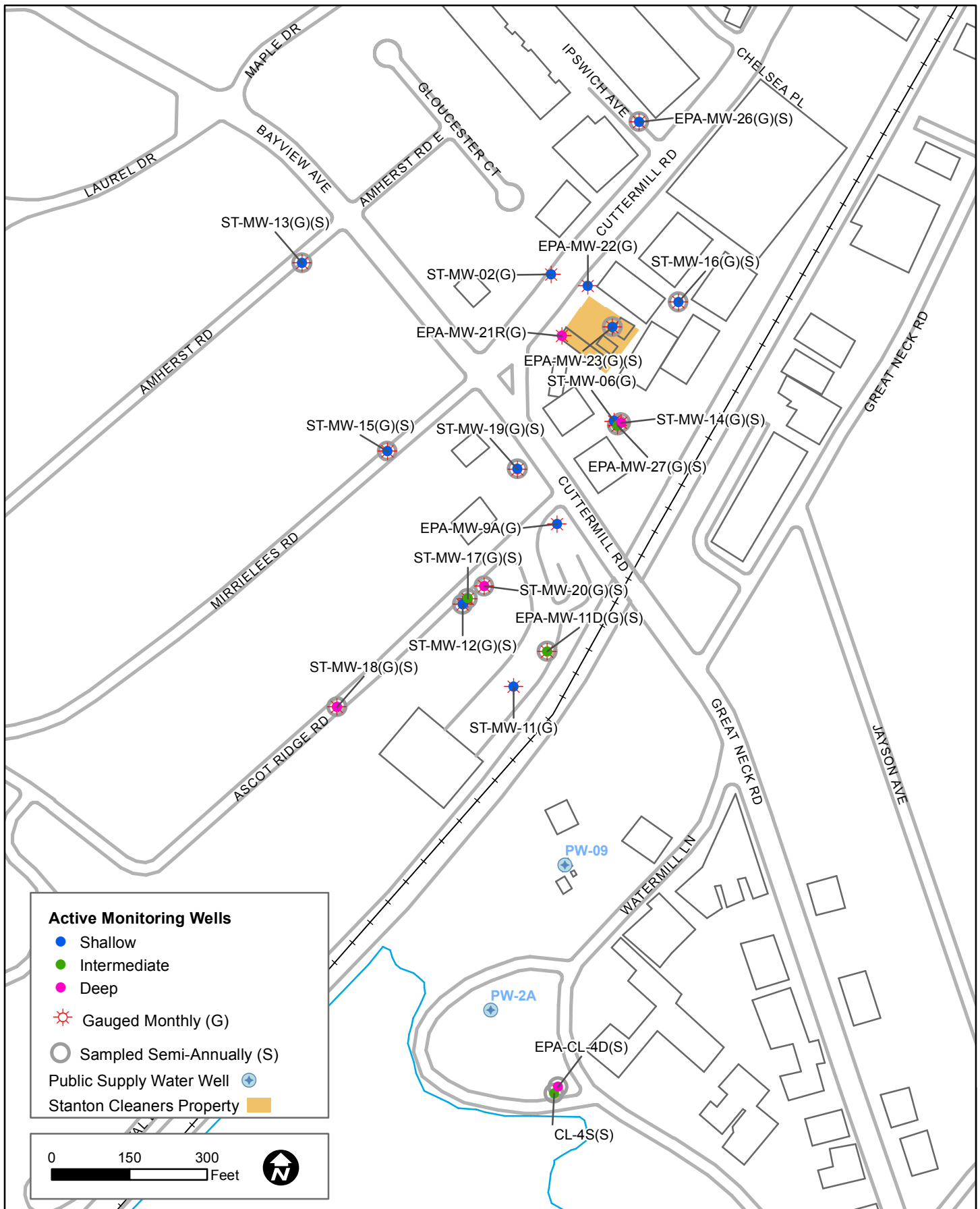
Figure 5



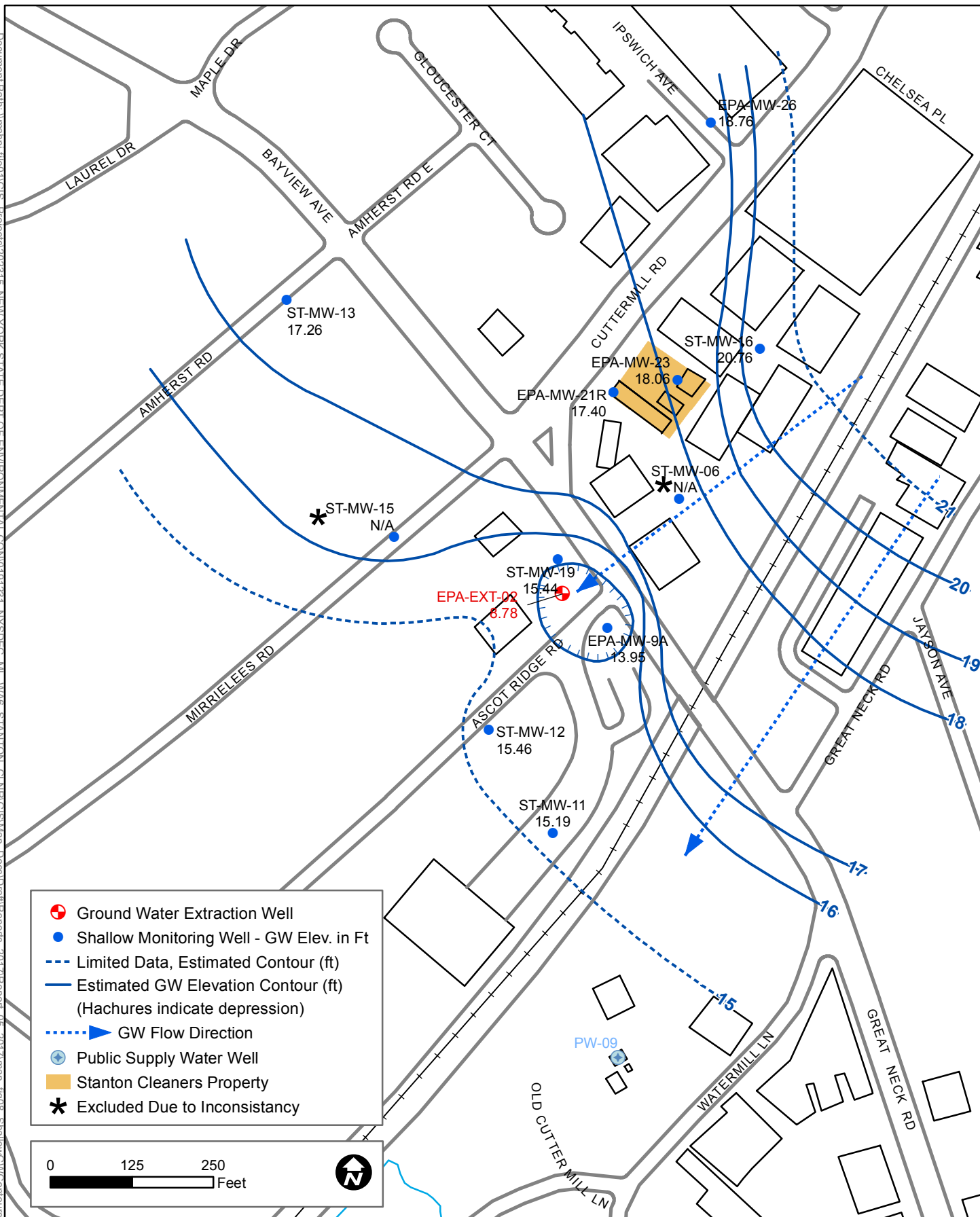
Monitoring Well Network
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 6

October 29, 2013



Document Path: \\nysdec\h101\GIS\Projects\2023\15_NEW YORK STATE DEPT OF ENVIRONMENTAL CONTOUR\19121_NYSDEC_ML_WAB_STANTON_CLEANING\Map_Docs\Draft\Reports_2017\Report_05_2017\map_fig8_ShallowGWContours.mxd



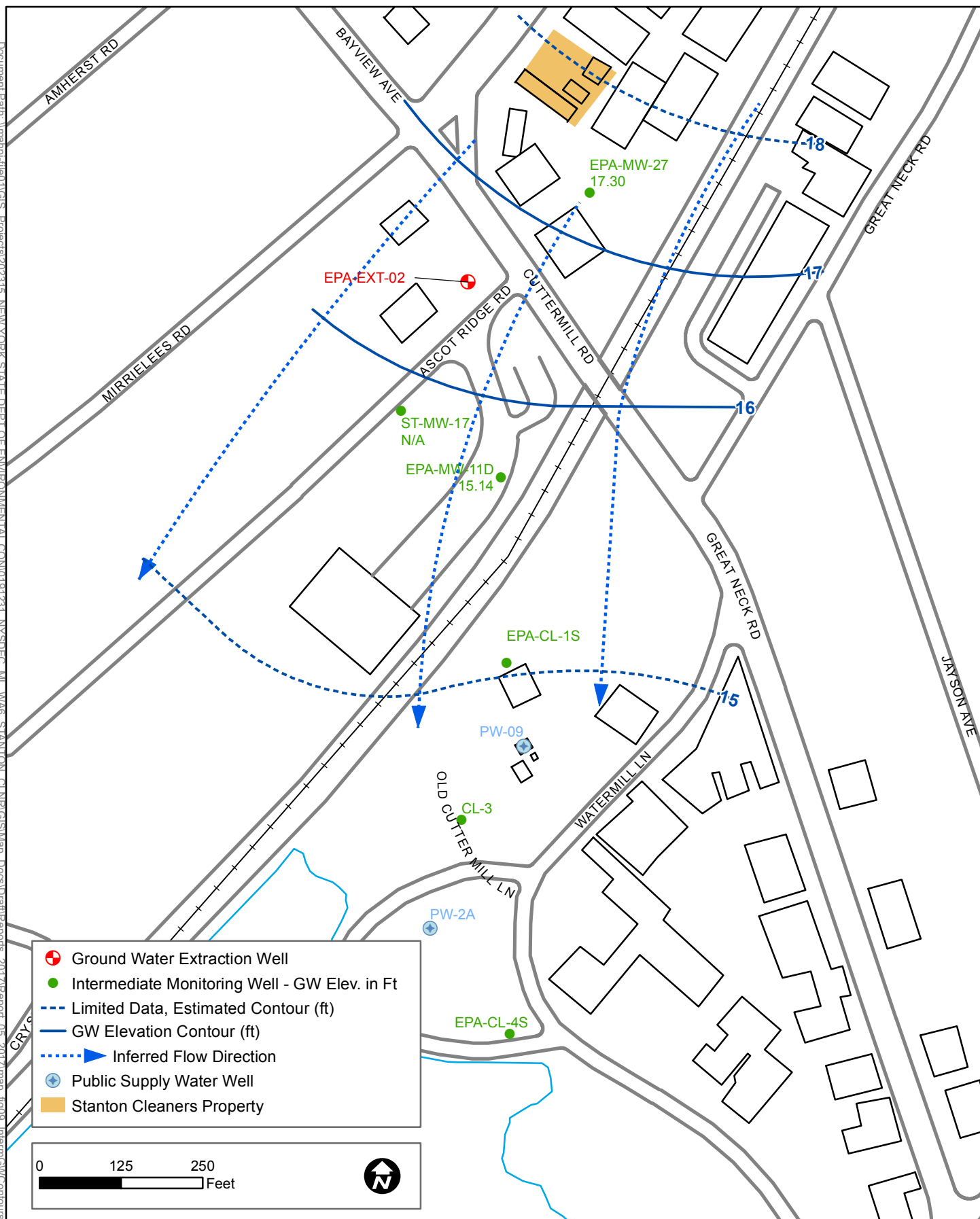
Shallow Ground Water Elevations (May 25, 2017)
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 8

July 14, 2017



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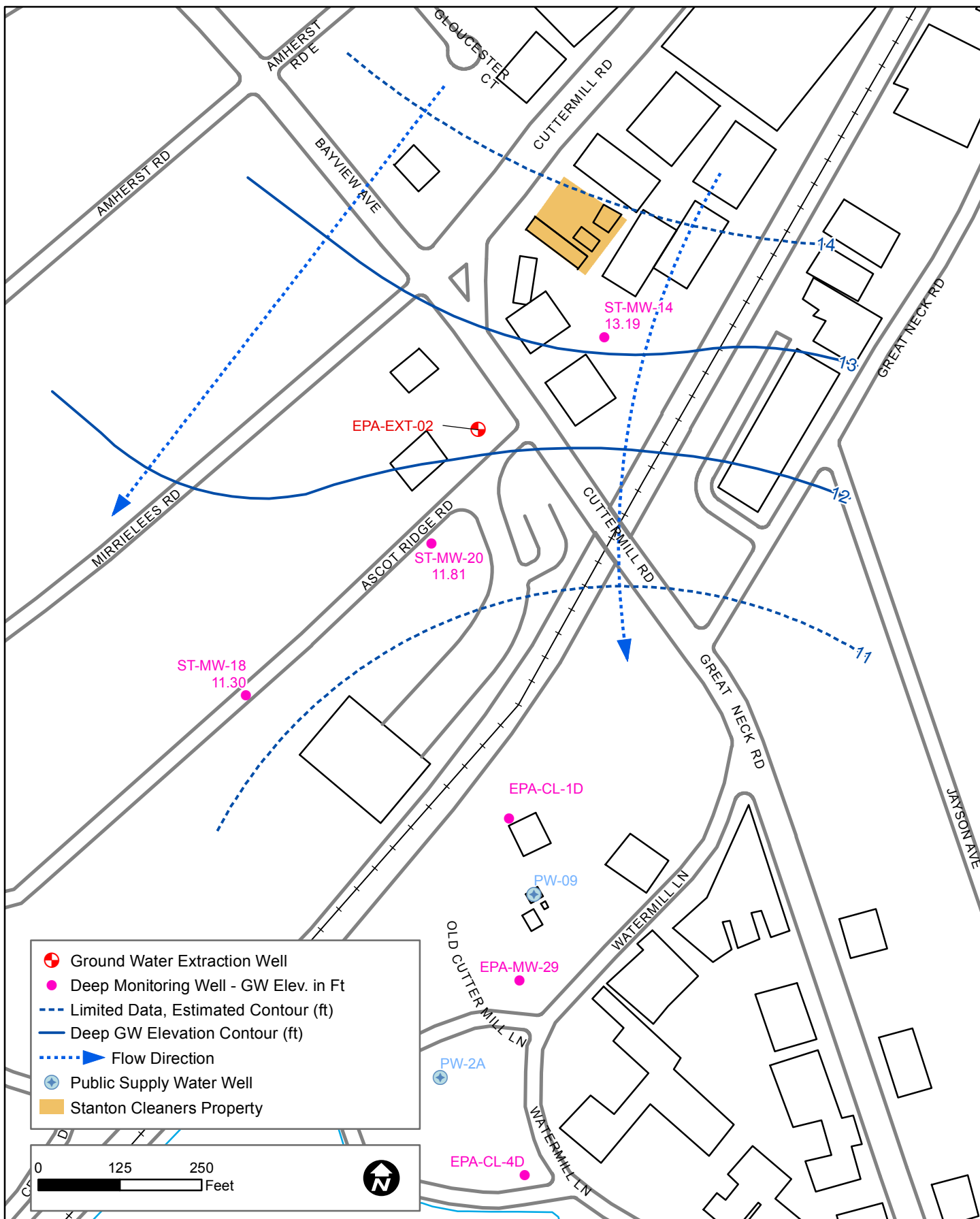


Intermediate Ground Water Elevations (May 25, 2017)
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 9

July 14, 2017





Deep Ground Water Elevations (May 25, 2017)
 Stanton Cleaners
 NYSDEC Site # 130072
 Great Neck-North Hempstead, New York

Figure 10

July 14, 2017

Appendix A
Daily Reports

2017 Quarter 2 Site Activities

4-27-2017 - Preferred conducts monthly O&M activities.

4-27-2017 – Preferred notes metal chain surrounding primary parking lot, installed by property owner

5-23-2017 – Preferred on-site to inspect malfunctioning GWE&TS flow meter. Preferred confirms intermittent movement of flow meter but no obvious signs of pipe or drainage clog / breaks. Preferred restarts system. Issue is resolved.

5-25-2017 - Preferred conducts monthly O&M activities. Preferred informs HDR regarding SVE knockout tank. HDR directed Preferred to drain condensate into on-site drums and sample water to determine if treatment necessary.

6-23-2017 - Tom king (Delta) on-site to replace SVE piping from knock out tank to holding tank. Verified SVE transfer pump is working. Identified missing piping from holding tank to carbon vessel. HDR directed Delta to replace holding tank to carbon vessel piping and pump, and to identify / resolve potential cause for SVE water infiltration.

6-26-2017 - Preferred conducts monthly O&M activities.

Project: Stanton Cleaners - Site Management
 Contractors: HDR and Preferred Environmental Services
 HDR Job No: _____
 Site No: _____
 HDR Project Manager: Michael Lehtinen

HDR
 16 Corporate Woods Blvd
 Albany, NY 12211
 Telephone: 518.937.9500

DAILY REPORT

Day:

S	M	T	W	TH	F	S
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 Date: 4/27/2017
 REPORT No. _____
 PAGE No. 1
 PREPARED BY: Dennis Berthold TITLE: Site Rep.

WEATHER	Bright Sun	Partly Cloudy	Overcast	Rain	Clear
TEMP	To 32	32-50	50-70	70-85	85 and up
WIND	Light	Moderate	High		
HUMIDITY	Dry	Moderate	Humid		
WIND DIR	NE	NW	SE	SW	
	N	S	E	W	

AVERAGE FIELD FORCE

Name of Contractor	Title	Hours Worked	Remarks
Dennis Berthold	Technician	8:00 - 15:00	Preferred
Olojede Adewale (BJ)	Technician	8:00 - 15:00	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W	5. Diaphragm Sampling Pump - W	
2. VelociCalc - TSI 8386 - W	4. 100-ft Solinst - W	6. Tedlar Bag + Tubing - W	

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Dennis Berthold - Preferred
8:00 - Preferred on site. GWTS and SVE systems were on upon arrival. Air Sparge was off upon arrival. Metal chain gate installed around lot.
8:05 - Monthly O&M started.
8:10 - Logged system readings from PC.
8:30 - Took readings from meter on system and catwalk, flow sensor malfunction. Spoke with J Starr, Take eff. & inf., Shutdown & bleed GWTS, clear sand filter, call back.
8:49 - Sampled Influent GW "INF-GW-042717".
8:52 - Sampled Effluent GW "EFF-GW-042717".
9:02 - GWTS (RW-2) offline - began draining of system.
9:20 - 10:15 - Preferred gauged all SVE ports with VelociCalc and MiniRAE 5 gas meter.
10:25 - SVE system shut down, oil change performed. 4.5 oz oil replaced.
10:35 - SVE system restarted.
10:37 - Started monitoring well gauging under Task 4.
10:40 - Preferred performing housekeeping in and around system shed, Continued bleeding system.
11:00 - Began draining knock-out tank to SVE (Tank no longer attached to transfer pump).
12:00 - 12:30 - Preferred on lunch break.
12:40 - Restarted GWTS, Effluent and RW-2 gauge working.
13:11 - Resampled Effluent GW "EFF-GW-042717".
13:14 - Resampled Influent GW "INF-GW-042717".
13:28 - 14:51 - Gauging monitoring wells.
15:00 - Shed locked, Preferred off site.

x

 - Designates report is continued on additional pages

HDR/Preferred Site Representative:

Dennis Berthold (Preferred)

Project Manager: M. Lehtinen

Project: Stanton Cleaners - Site Management
Contractors: HDR and Preferred Environmental Services
HDR Job No: _____
Site No: _____
HDR Project Manager: Michael Lehtinen

HDR
16 Corporate Woods Blvd
Albany, NY 12211
Telephone: 518.937.9500

DAILY REPORT

Day:

S	M	T	W	TH	F	S
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Date: 23-May-17
REPORT No. _____
PAGE No. 1

WEATHER	Bright Sun	Partly Cloudy	Overcast	Rain	Clear
TEMP	To 32	32-50	50-70	70-85	85 and up
WIND	Light	Moderate	High		
HUMIDITY	Dry	Moderate	Humid		
WIND DIR	NE	NW	SE	SW	
	N	S	E	W	

PREPARED BY: Daniel Prisco-Buxbaum TITLE: Site Rep.

AVERAGE FIELD FORCE

Name of Contractor	Title	Hours Worked	Remarks
Daniel Prisco-Buxbaum	Site Representative	9:45-10:40	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W			

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Daniel Prisco-Buxbaum - Preferred
DESCRIPTION OF WORK PERFORMED AND OBSERVED
9:45 - Preferred on-site. SVE system and GWTS system running upon arrival. RW-2 running on "hand".
9:50 - Began inspecting piping associated with GWTS. No leaks or damage to piping noted. Strainers observed to be free of sediment. Influent flow meter observed to be "fluttering" but not spinning. Effluent flow meter shows 2,584 GPH (~43 GPM).
10:20 - Turned off RW-2.
10:25 - Turned on RW-2
10:30 - Influent flow meter functioning normally and reading approximately 58 GPM.
10:40 - Preferred off-site

☐ - Designates report is continued on additional pages

HDR/Preferred Site Representative:

Daniel Prisco-Buxbaum

Project Manager: M. Lehtinen

Project: Stanton Cleaners - Site Management
 Contractors: HDR and Preferred Environmental Services
 HDR Job No: _____
 Site No: _____
 HDR Project Manager: Michael Lehtinen

HDR
 16 Corporate Woods Blvd
 Albany, NY 12211
 Telephone: 518.937.9500

DAILY REPORT

Day:

S	M	T	W	TH	F	S
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 Date: 5/25/2017
 REPORT No. _____
 PAGE No. 1

WEATHER	Bright Sun	Partly Cloudy	Overcast	Rain	Clear
TEMP	To 32	32-50	50-70	70-85	85 and up
WIND	Light	Moderate	High		
HUMIDITY	Dry	Moderate	Humid		
WIND DIR	NE	NW	SE	SW	
	N	S	E	W	

PREPARED BY: Dennis Berthold TITLE: Site Rep.

AVERAGE FIELD FORCE

Name of Contractor	Title	Hours Worked	Remarks
Dennis Berthold	Technician	8:00 - 13:40	Preferred
John Zator	Technician	8:00 - 13:40	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W	5. Diaphragm Sampling Pump - W	
2. VelociCalc - TSI 8386 - W	4. 100-ft Solinst - W	6. Tedlar Bag + Tubing - W	

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Dennis Berthold - Preferred
8:00 - Preferred on site. GWTS and SVE systems were on upon arrival. Air Sparge was off upon arrival. Metal chain gate installed around lot.
8:05 - Monthly O&M started.
8:10 - Logged system readings from PC.
8:20 - Slow leak observed near influent flow meter. Patched leak with plumber's putty.
8:30 - Took readings from meters on system and catwalk.
8:36 - Sampled Influent GW "INF-GW-052517".
8:39 - Sampled Effluent GW "EFF-GW-052517".
8:50 - Call with J. Starr from HDR regarding SVE System Knockout (K.O.) Tank. Was instructed to shut down the system, drain the condensate within the K.O. Tank to drums on-site and sample the water.
8:55 - SVE system shut down, oil change performed. 5.0 oz oil replaced. Drained condensate from K.O. Tank to drums utilizing transfer pump.
9:00 - Performed housekeeping in and around the system shed, including the removal of overgrowth along the rear and side of the system shed.
9:17 - Sampled condensate water from K.O. Tank "EFF-SVE-GW-052517".
11:00 - 11:52 - Performed monitoring well gauging under Task 4.
12:30 - K.O. Tank emptied completely, and SVE system restarted. All overgrowth cleared.
12:30 - 12:50 - Preferred on lunch break.
12:50 - 13:35 - Preferred gauged all SVE ports with VelociCalc and MiniRAE 5 gas meter.
13:37 - O&M activities completed.
13:40 - Shed locked, Preferred off site.

x

 - Designates report is continued on additional pages

HDR/Preferred Site Representative:

Dennis Berthold (Preferred)

Project Manager: M. Lehtinen

Project: Stanton Cleaners - Site Management
 Contractors: HDR and Preferred Environmental Services
 HDR Job No: _____
 Site No: _____
 HDR Project Manager: Michael Lehtinen

HDR
 16 Corporate Woods Blvd
 Albany, NY 12211
 Telephone: 518.937.9500

DAILY REPORT

Day:

S	M	T	W	TH	F	S
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 Date: 6/26/2017
 REPORT No. _____
 PAGE No. 1

WEATHER	Bright Sun	Partly Cloudy	Overcast	Rain	Clear
TEMP	To 32	32-50	50-70	70-85	85 and up
WIND	Light	Moderate	High		
HUMIDITY	Dry	Moderate	Humid		
WIND DIR	NE	NW	SE	SW	
	N	S	E	W	

PREPARED BY: John Zator TITLE: Site Rep.

AVERAGE FIELD FORCE

Name of Contractor	Title	Hours Worked	Remarks
Dan Prisco-Buxbaum	Technician	7:45 - 11:00	Preferred
John Zator	Technician	7:45 - 13:30	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W	5. Diaphragm Sampling Pump - W	
2. VelociCalc - TSI 8386 - W	4. 100-ft Solinst - W	6. Tedlar Bag + Tubing - W	

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: John Zator - Preferred
7:45 - Preferred on site. GWTS and SVE systems were on upon arrival. Air Sparge was off upon arrival. Metal chain gate installed around lot.
7:50 - Monthly O&M started. Housekeeping was performed in and around the system shed including the removal of overgrowth.
8:30 - Logged system readings from PC.
8:40 - Took readings from meters on system and catwalk.
8:45 - 9:50 - Preferred gauged all SVE ports with VelociCalc and MiniRAE 5-gas meter.
9:50 - Drained condensate from SVE-1 Combined.
10:00 - Sampled Effluent GW "EFF-GW-62617".
10:07 - SVE system shut down. Drained condensate which had collected in SVE-1 Combined piping.
10:10 - Sampled Influent GW "INF-GW-62617".
10:25 - Oil change performed on blower. 5.0 oz oil replaced.
10:30 - Greased blower.
10:35 - SVE system restarted.
10:35 - Continued housekeeping in and around the system shed, including the removal of overgrowth along the rear and side of the system shed.
11:45 - 13:15 - Performed monitoring well gauging under Task 4.
13:15 - O&M activities completed.
13:30 - System shed locked, Preferred off site.

x

 - Designates report is continued on additional pages

HDR/Preferred Site Representative: Dennis Berthold (Preferred) Project Manager: M. Lehtinen

Appendix B

Groundwater Treatment System Operation & Maintenance Datalogs

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Soil-Vapor Extraction and Pump and Treat System Monthly O&M Data Log

Date: 4/27/2017

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	59 GPM	100%
Total Gallons Treated: 376,005,943		
Discharge Rate: 0 GPM		
Discharge Conductivity: 0*		
Discharge pH: 5.6*		
SVE Air Flow Rate: 199 CFM (180 CFM at meter)		

Visual Digital Readouts from Catwalk:

Discharge pH:	5.15
Discharge Temp:	19°C
Discharge Conductivity:	21

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 9,759,031 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,587 GPH
Total gallons: 433,784.7 gallons	

Weather:

67°F, overcast, humid, east wind

Notes:

* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter

GPM- Gallons Per Minute

CFM- Cubic Feet Per Minute

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Soil-Vapor Extraction and Pump and Treat System Monthly O&M Data Log

Date: 5/25/2017

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	61 GPM	100%
Total Gallons Treated: 375,805,295		
Discharge Rate: 0 GPM		
Discharge Conductivity: 0*		
Discharge pH: 5.6*		
SVE Air Flow Rate: 156 CFM (160 CFM at meter)		

Visual Digital Readouts from Catwalk:

Discharge pH:	5.12
Discharge Temp:	19°C
Discharge Conductivity:	-1.4

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 1,879,399 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,594 GPH
Total gallons: 4,278,245.5 gallons	

Weather:

62°F, rain, humid, northeast wind

Notes:

* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter

GPM- Gallons Per Minute

CFM- Cubic Feet Per Minute

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Soil-Vapor Extraction and Pump and Treat System Monthly O&M Data Log

Date: 6/26/2017

Data from Computer Display Screen:

Pump	Flow	Valve open	
RW-2	59 GPM	100%	
Total Gallons Treated: 378,413,521			
Discharge Rate: 0 GPM			
Discharge Conductivity: 0*			
Discharge pH: 5.6*			
SVE Air Flow Rate: 196 CFM (160 CFM at meter)			

Visual Digital Readouts from Catwalk:

Discharge pH:	4.98
Discharge Temp:	21°C
Discharge Conductivity:	-1.4

Flow meter reading:

Flow Rate:	58 GPM
Total gallons: 4,527,850 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,582 GPH
Total gallons: 3,468,168.6 gallons	

Weather:

75°F, bright sun, dry, northwest wind

Notes:

* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter

GPM- Gallons Per Minute

CFM- Cubic Feet Per Minute

Appendix C

Groundwater Treatment System Downloaded Operational Data

Stanton Cleaners Groundwater Contamination Site - April 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/1/2017 0:00	59	373833630.3	189
4/1/2017 4:00	59	373847758.6	192
4/1/2017 8:00	60	373861874.1	198
4/1/2017 12:00	61	373875994.6	195
4/1/2017 16:00	59	373890114.5	195
4/1/2017 20:00	59	373904222.4	177
4/2/2017 0:00	62	373918321	175
4/2/2017 4:00	58	373932444.5	152
4/2/2017 8:00	58	373946543.1	146
4/2/2017 12:00	59	373960604.9	152
4/2/2017 16:00	59	373974676.9	193
4/2/2017 20:00	58	373988722.6	195
4/3/2017 0:00	60	374002805.1	162
4/3/2017 4:00	59	374016872.8	169
4/3/2017 8:00	59	374030944.7	199
4/3/2017 12:00	59	374045027.2	194
4/3/2017 16:00	59	374059116.6	193
4/3/2017 20:00	58	374073207.6	200
4/4/2017 0:00	59	374087301.3	197
4/4/2017 4:00	60	374101394.9	189
4/4/2017 8:00	59	374115505.3	194
4/4/2017 12:00	60	374129606	197
4/4/2017 16:00	61	374143725.8	189
4/4/2017 20:00	57	374157847.7	180
4/5/2017 0:00	58	374171966.3	143
4/5/2017 4:00	60	374186077.2	137
4/5/2017 8:00	58	374200191.7	147
4/5/2017 12:00	62	374214308.4	144
4/5/2017 16:00	60	374228395.2	141
4/5/2017 20:00	58	374242465.4	142
4/6/2017 0:00	61	374256536.2	142
4/6/2017 4:00	60	374270600.1	138
4/6/2017 8:00	57	374284651	144
4/6/2017 12:00	59	374298718.2	135
4/6/2017 16:00	58	374312839.4	174
4/6/2017 20:00	57	374326976.2	195
4/7/2017 0:00	59	374341135.2	198
4/7/2017 4:00	62	374355260.6	164
4/7/2017 8:00	58	374369381.3	143
4/7/2017 12:00	57	374383497.5	152
4/7/2017 16:00	59	374397609.6	156
4/7/2017 20:00	59	374411703.8	160

Stanton Cleaners Groundwater Contamination Site - April 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/8/2017 0:00	58	374425815	165
4/8/2017 4:00	59	374439932.8	162
4/8/2017 8:00	59	374454044.2	159
4/8/2017 12:00	58	374468153.1	149
4/8/2017 16:00	62	374482269.5	195
4/8/2017 20:00	60	374496341.5	162
4/9/2017 0:00	58	374510452.5	158
4/9/2017 4:00	59	374524560.8	154
4/9/2017 8:00	59	374538644	198
4/9/2017 12:00	58	374552718.8	199
4/9/2017 16:00	59	374566786.6	194
4/9/2017 20:00	57	374580845.1	199
4/10/2017 0:00	58	374594921.7	195
4/10/2017 4:00	59	374608987.9	197
4/10/2017 8:00	58	374623085.1	199
4/10/2017 12:00	60	374637180.9	201
4/10/2017 16:00	59	374651255.3	199
4/10/2017 20:00	62	374665332.9	199
4/11/2017 0:00	60	374679409.6	198
4/11/2017 4:00	60	374693500.9	201
4/11/2017 8:00	61	374707585.1	200
4/11/2017 12:00	59	374721649.2	204
4/11/2017 16:00	61	374735713.4	202
4/11/2017 20:00	61	374749769.7	202
4/12/2017 0:00	58	374763854.8	201
4/12/2017 4:00	61	374777937.8	203
4/12/2017 8:00	59	374792003.5	201
4/12/2017 12:00	59	374806063	207
4/12/2017 16:00	60	374820113	205
4/12/2017 20:00	61	374834162.6	197
4/13/2017 0:00	59	374848238.1	203
4/13/2017 4:00	59	374862311.6	202
4/13/2017 8:00	59	374876390	204
4/13/2017 12:00	59	374890521	204
4/13/2017 16:00	58	374904682.9	201
4/13/2017 20:00	58	374918859.8	203
4/14/2017 0:00	60	374933016.7	201
4/14/2017 4:00	61	374947161.1	199
4/14/2017 8:00	60	374961303.6	205
4/14/2017 12:00	59	374975419	205
4/14/2017 16:00	59	374989514.2	201
4/14/2017 20:00	60	375003596.1	202

Stanton Cleaners Groundwater Contamination Site - April 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/15/2017 0:00	58	375017702.1	202
4/15/2017 4:00	58	375031807.1	201
4/15/2017 8:00	58	375045903	204
4/15/2017 12:00	59	375060010.2	201
4/15/2017 16:00	60	375074096	204
4/15/2017 20:00	61	375088201.1	203
4/16/2017 0:00	60	375102321.2	204
4/16/2017 4:00	59	375116425.8	202
4/16/2017 8:00	58	375130490.4	210
4/16/2017 12:00	61	375144535.4	210
4/16/2017 16:00	60	375158590.6	209
4/16/2017 20:00	57	375172672.8	206
4/17/2017 0:00	59	375186750	207
4/17/2017 4:00	62	375200822.6	203
4/17/2017 8:00	59	375214896.4	203
4/17/2017 12:00	59	375228949	208
4/17/2017 16:00	57	375243028.3	202
4/17/2017 20:00	59	375257100.8	203
4/18/2017 0:00	59	375271196.4	202
4/18/2017 4:00	60	375285296.4	202
4/18/2017 8:00	59	375299379.2	204
4/18/2017 12:00	61	375313446.9	203
4/18/2017 16:00	58	375327511.5	202
4/18/2017 20:00	61	375341577.9	200
4/19/2017 0:00	59	375355651.2	201
4/19/2017 4:00	60	375369722	201
4/19/2017 8:00	59	375383807.1	199
4/19/2017 12:00	58	375397894.6	203
4/19/2017 16:00	59	375411969.6	200
4/19/2017 20:00	61	375426045.6	202
4/20/2017 0:00	58	375440168.6	201
4/20/2017 4:00	59	375454310.5	201
4/20/2017 8:00	59	375468487	204
4/20/2017 12:00	61	375482646.3	202
4/20/2017 16:00	58	375496811.7	204
4/20/2017 20:00	58	375510963.6	203
4/21/2017 0:00	60	375525168.9	201
4/21/2017 4:00	58	375539284.2	201
4/21/2017 8:00	58	375553380.5	203
4/21/2017 12:00	59	375567491.8	198
4/21/2017 16:00	57	375581587.1	196
4/21/2017 20:00	61	375595678.4	201

Stanton Cleaners Groundwater Contamination Site - April 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/22/2017 0:00	59	375609783.5	201
4/22/2017 4:00	59	375623882.5	196
4/22/2017 8:00	58	375637979.3	202
4/22/2017 12:00	59	375652107.9	199
4/22/2017 16:00	58	375666221.4	199
4/22/2017 20:00	60	375680321	198
4/23/2017 0:00	60	375694422.7	200
4/23/2017 4:00	61	375708539.2	203
4/23/2017 8:00	60	375722654.6	204
4/23/2017 12:00	58	375736748.6	199
4/23/2017 16:00	58	375750831.4	200
4/23/2017 20:00	58	375764940.1	200
4/24/2017 0:00	58	375779029	201
4/24/2017 4:00	59	375793127.9	203
4/24/2017 8:00	58	375807212.7	203
4/24/2017 12:00	58	375821314.5	200
4/24/2017 16:00	59	375835407.3	199
4/24/2017 20:00	59	375849497.4	198
4/25/2017 0:00	60	375863582.5	199
4/25/2017 4:00	60	375877648.4	201
4/25/2017 8:00	58	375891747.7	202
4/25/2017 12:00	60	375905846.4	195
4/25/2017 16:00	60	375919935.2	202
4/25/2017 20:00	61	375934037.4	201
4/26/2017 0:00	59	375948139.2	200
4/26/2017 4:00	58	375962240.2	202
4/26/2017 8:00	58	375976343.9	204
4/26/2017 12:00	61	375990454.5	200
4/26/2017 16:00	57	376004548.7	204
4/26/2017 20:00	0	376005869.5	204
4/27/2017 0:00	0	376005869.5	200
4/27/2017 4:00	0	376005873.7	163
4/27/2017 8:00	60	376018002.5	199
4/27/2017 12:00	62	376032156.6	201
4/27/2017 16:00	59	376046293.2	203
4/27/2017 20:00	58	376060435.3	203
4/28/2017 0:00	60	376074575	205
4/28/2017 4:00	60	376088704	209
4/28/2017 8:00	57	376102797	205
4/28/2017 12:00	59	376116884.5	207
4/28/2017 16:00	61	376130986.6	201
4/28/2017 20:00	58	376145101.3	204

Stanton Cleaners Groundwater Contamination Site - April 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/29/2017 0:00	60	376159237.8	206
4/29/2017 4:00	58	376173360.4	210
4/29/2017 8:00	58	376187468.9	210
4/29/2017 12:00	59	376201565.3	207
4/29/2017 16:00	58	376215695	208
4/29/2017 20:00	58	376229838.8	202
4/30/2017 0:00	58	376243976.9	205
4/30/2017 4:00	58	376258101	204
4/30/2017 8:00	61	376272241.3	202
4/30/2017 12:00	60	376286381.1	204
4/30/2017 16:00	58	376300492.2	204
4/30/2017 20:00	58	376314636.2	204

Stanton Cleaners Groundwater Contamination Site - May 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/1/2017 0:00	59	376328778.3	201
5/1/2017 4:00	58	376342908.8	207
5/1/2017 8:00	58	376357077.5	208
5/1/2017 12:00	58	376371187.1	207
5/1/2017 16:00	58	376385310.7	205
5/1/2017 20:00	61	376399445.3	205
5/2/2017 0:00	59	376413577	207
5/2/2017 4:00	59	376427702.3	207
5/2/2017 8:00	60	376441831.2	207
5/2/2017 12:00	59	376455960.3	206
5/2/2017 16:00	61	376470083.6	206
5/2/2017 20:00	62	376484226.1	205
5/3/2017 0:00	60	376498360.5	207
5/3/2017 4:00	58	376512494.4	206
5/3/2017 8:00	60	376526626.8	205
5/3/2017 12:00	60	376540765.9	199
5/3/2017 16:00	58	376554896.3	202
5/3/2017 20:00	59	376569048.7	201
5/4/2017 0:00	61	376583199.8	205
5/4/2017 4:00	60	376597362.8	199
5/4/2017 8:00	60	376611511.5	203
5/4/2017 12:00	58	376625672.7	198
5/4/2017 16:00	60	376639809.1	203
5/4/2017 20:00	61	376653963.5	198
5/5/2017 0:00	58	376668127.1	202
5/5/2017 4:00	62	376682269.2	202
5/5/2017 8:00	62	376696442.2	203
5/5/2017 12:00	61	376710573.4	203
5/5/2017 16:00	61	376724702.5	198
5/11/2017 8:00	58	376724702.5	202
5/11/2017 12:00	61	376738958	198
5/11/2017 16:00	62	376753214.8	200
5/11/2017 20:00	61	376767482.2	200
5/12/2017 0:00	61	376781737.6	202
5/12/2017 4:00	61	376795988.7	203
5/12/2017 8:00	60	376810283.1	203
5/12/2017 12:00	61	376824555.3	202
5/12/2017 16:00	60	376838816.1	199
5/12/2017 20:00	62	376853102.8	196
5/13/2017 0:00	58	376867386.2	202
5/13/2017 4:00	59	376881683.4	200
5/13/2017 8:00	60	376895979.3	198

Stanton Cleaners Groundwater Contamination Site - May 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/15/2017 0:00	58	376906894.1	155
5/15/2017 4:00	59	376921166.5	196
5/15/2017 8:00	61	376935434.5	196
5/15/2017 12:00	60	376949707.6	197
5/15/2017 16:00	58	376963968.2	196
5/15/2017 20:00	59	376978232.3	175
5/16/2017 0:00	58	376992485.7	199
5/16/2017 4:00	61	377006736.7	199
5/16/2017 8:00	61	377020973.8	197
5/16/2017 12:00	58	377035213.7	197
5/16/2017 16:00	61	377049464.2	197
5/16/2017 20:00	58	377063731.1	195
5/17/2017 0:00	62	377077973.9	201
5/17/2017 4:00	58	377092192.7	201
5/17/2017 8:00	59	377106408.7	197
5/17/2017 12:00	58	377120642.6	198
5/17/2017 16:00	59	377134879.3	199
5/17/2017 20:00	60	377149124.6	200
5/18/2017 0:00	59	377163355.2	204
5/18/2017 4:00	60	377177588.9	205
5/18/2017 8:00	60	377191798.1	204
5/18/2017 12:00	59	377206028.2	202
5/18/2017 16:00	60	377220263.8	201
5/18/2017 20:00	60	377234480.8	202
5/19/2017 0:00	60	377248699.5	205
5/19/2017 4:00	58	377262900.8	205
5/19/2017 8:00	0	377274590.6	202
5/19/2017 12:00	61	377288429.3	199
5/19/2017 16:00	60	377302656.7	200
5/19/2017 20:00	60	377316893	199
5/20/2017 0:00	58	377331139.8	199
5/20/2017 4:00	61	377345381.4	200
5/20/2017 8:00	61	377359621.2	199
5/20/2017 12:00	60	377373868.7	194
5/20/2017 16:00	59	377388110.2	193
5/20/2017 20:00	59	377402371.1	197
5/21/2017 0:00	59	377416623.4	200
5/21/2017 4:00	60	377430863.2	200
5/21/2017 8:00	59	377445097.4	200
5/21/2017 12:00	59	377459326.1	196
5/21/2017 16:00	0	377462697.9	193
5/21/2017 20:00	0	377462711.5	197

Stanton Cleaners Groundwater Contamination Site - May 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/22/2017 0:00	0	377462711.5	197
5/22/2017 4:00	0	377462711.5	197
5/22/2017 8:00	0	377462711.5	197
5/22/2017 12:00	0	377462711.5	194
5/22/2017 16:00	0	377462711.5	198
5/22/2017 20:00	0	377462711.5	194
5/23/2017 0:00	0	377462715.8	197
5/23/2017 4:00	59	377476588.4	198
5/23/2017 8:00	60	377490801.4	199
5/23/2017 12:00	58	377505030.1	195
5/23/2017 16:00	0	377517775.4	190
5/23/2017 20:00	59	377529506.8	191
5/24/2017 0:00	60	377543742	197
5/24/2017 4:00	58	377557965.5	196
5/24/2017 8:00	59	377572183.4	195
5/24/2017 12:00	57	377586409.5	197
5/24/2017 16:00	59	377600638.2	195
5/24/2017 20:00	60	377614880	157
5/25/2017 0:00	60	377629131	103
5/25/2017 4:00	60	377643381.9	156
5/25/2017 8:00	58	377657626.4	195
5/25/2017 12:00	0	377663369.6	156
5/25/2017 16:00	60	377667695.9	153
5/25/2017 20:00	58	377681937.6	153
5/26/2017 0:00	60	377696173.2	197
5/26/2017 4:00	59	377708415.3	196
5/26/2017 8:00	61	377722635.8	193
5/26/2017 12:00	62	377736864.3	197
5/26/2017 16:00	59	377751099.6	190
5/26/2017 20:00	60	377765349	195
5/27/2017 0:00	60	377779597.9	196
5/27/2017 4:00	59	377793820.2	197
5/27/2017 8:00	61	377808042	198
5/27/2017 12:00	58	377822275.3	198
5/27/2017 16:00	61	377836505.2	197
5/27/2017 20:00	59	377850745.6	197
5/28/2017 0:00	60	377858901.9	199
5/28/2017 4:00	59	377873100.6	198
5/28/2017 8:00	62	377887296.7	198
5/28/2017 12:00	60	377897649.4	198
5/28/2017 16:00	60	377911862	197
5/28/2017 20:00	60	377926093.7	196

Stanton Cleaners Groundwater Contamination Site - May 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/29/2017 0:00	59	377940320.9	197
5/29/2017 4:00	58	377954535.5	197
5/29/2017 8:00	59	377968755.3	195
5/29/2017 12:00	0	377980695.9	194
5/29/2017 16:00	58	377992522.3	195
5/29/2017 20:00	59	378006748.6	196
5/30/2017 0:00	58	378018963.4	192
5/30/2017 4:00	59	378033199.4	193
5/30/2017 8:00	60	378047435.9	192
5/30/2017 12:00	60	378061667	196
5/30/2017 16:00	60	378074082	195
5/30/2017 20:00	59	378088315.5	192
5/31/2017 0:00	61	378102535.4	197
5/31/2017 4:00	59	378116751.8	196
5/31/2017 8:00	59	378129065.5	200
5/31/2017 12:00	61	378143261.8	194
5/31/2017 16:00	57	378157475.7	191
5/31/2017 20:00	59	378171692.6	193

Stanton Cleaners Groundwater Contamination Site - June 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/1/2017 0:00	59	378185898.2	199
6/1/2017 4:00	59	378200082	198
6/1/2017 8:00	58	378214267.7	199
6/1/2017 12:00	58	378228106.7	198
6/1/2017 16:00	59	378242317.7	196
6/1/2017 20:00	61	378256531.1	196
6/2/2017 0:00	58	378270731.9	198
6/2/2017 4:00	60	378284920.2	194
6/2/2017 8:00	59	378298612	197
6/2/2017 12:00	58	378310957.2	198
6/2/2017 16:00	60	378325161.5	196
6/2/2017 20:00	60	378339380.8	195
6/3/2017 0:00	59	378351257.2	197
6/3/2017 4:00	59	378365453.5	199
6/3/2017 8:00	58	378379645.4	197
6/3/2017 12:00	59	378393836.6	194
6/3/2017 16:00	60	378408032.3	196
6/3/2017 20:00	60	378422240.7	155
6/4/2017 0:00	60	378436458.1	201
6/4/2017 4:00	60	378450649	199
6/4/2017 8:00	0	378459852.8	197
6/4/2017 12:00	58	378473165.3	197
6/4/2017 16:00	59	378486780.1	194
6/4/2017 20:00	62	378499589.7	195
6/5/2017 0:00	61	378512537.4	197
6/5/2017 4:00	60	378526724.3	194
6/5/2017 8:00	58	378539131.8	193
6/5/2017 12:00	60	378553329.2	195
6/5/2017 16:00	59	378567538.1	195
6/5/2017 20:00	58	378579496.3	196
6/6/2017 0:00	60	378590771.7	156
6/6/2017 4:00	58	378604144.9	193
6/6/2017 8:00	60	378616757	195
6/6/2017 12:00	61	378630751.4	156
6/6/2017 16:00	61	378644972	190
6/6/2017 20:00	59	378656498.1	157
6/7/2017 0:00	62	378669498.1	193
6/7/2017 4:00	61	378682562	197
6/7/2017 8:00	59	378695447.7	196
6/7/2017 12:00	60	378709263.3	199

Stanton Cleaners Groundwater Contamination Site - June 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/7/2017 16:00	60	378723399.6	157
6/7/2017 20:00	60	378737607.3	191
6/8/2017 0:00	58	378751806.9	198
6/8/2017 4:00	60	378765541.9	198
6/8/2017 8:00	60	378779483.1	196
6/8/2017 12:00	59	378793685.7	196
6/8/2017 16:00	61	378806803.7	155
6/8/2017 20:00	60	378820516	156
6/9/2017 0:00	60	378833877.5	196
6/9/2017 4:00	59	378847747.8	200
6/9/2017 8:00	59	378858120.7	200
6/9/2017 12:00	59	378867677.5	199
6/9/2017 16:00	58	378879393.5	193
6/9/2017 20:00	58	378893167.7	197
6/10/2017 0:00	59	378907049.5	201
6/10/2017 4:00	58	378920095.3	197
6/10/2017 8:00	59	378932784.8	202
6/10/2017 12:00	59	378945145.2	194
6/10/2017 16:00	60	378957344.1	199
6/10/2017 20:00	59	378969054.9	199
6/11/2017 0:00	0	378981181.8	199
6/11/2017 4:00	61	378993313.8	202
6/11/2017 8:00	61	379006950.4	200
6/11/2017 12:00	59	379021084.2	203
6/11/2017 16:00	59	379033583.8	200
6/11/2017 20:00	59	379047746.9	199
6/12/2017 0:00	59	379061887.7	199
6/12/2017 4:00	60	379074309.4	204
6/12/2017 8:00	60	379088417.1	205
6/12/2017 12:00	59	379102541.9	197
6/12/2017 16:00	59	379116663.4	200
6/12/2017 20:00	61	379130779.4	200
6/13/2017 0:00	59	379144903.5	204
6/13/2017 4:00	60	379159000.2	205
6/13/2017 8:00	59	379173079.3	205
6/13/2017 12:00	59	379187181.9	201
6/13/2017 16:00	62	379201297.8	202
6/13/2017 20:00	61	379215404.7	195
6/14/2017 0:00	58	379229529.3	202
6/14/2017 4:00	62	379243652.4	200

Stanton Cleaners Groundwater Contamination Site - June 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/14/2017 8:00	60	379257010.4	201
6/14/2017 12:00	58	379271152.1	197
6/14/2017 16:00	60	379285316.8	199
6/14/2017 20:00	60	379299453.1	198
6/15/2017 0:00	60	379313488.8	201
6/15/2017 4:00	59	379327620	202
6/15/2017 8:00	61	379341782.5	201
6/15/2017 12:00	61	379355922.8	199
6/15/2017 16:00	59	379370072.3	195
6/15/2017 20:00	59	379384235.9	197
6/16/2017 0:00	58	379398376.8	194
6/16/2017 4:00	59	379412524.1	196
6/16/2017 8:00	61	379425802.4	199
6/16/2017 12:00	59	379438448.7	197
6/16/2017 16:00	60	379452593.1	195
6/16/2017 20:00	61	379466746.1	195
6/17/2017 0:00	58	379480890.7	199
6/17/2017 4:00	58	379495056.6	194
6/17/2017 8:00	60	379509214.9	196
6/17/2017 12:00	61	379522311.7	197
6/17/2017 16:00	59	379535241.6	195
6/17/2017 20:00	57	379549091	196
6/18/2017 0:00	59	379562447.2	201
6/18/2017 4:00	62	379576587.9	205
6/18/2017 8:00	59	379590707.4	204
6/18/2017 12:00	60	379604817.7	202
6/18/2017 16:00	59	379618941.1	202
6/18/2017 20:00	58	379633056.7	197
6/19/2017 0:00	60	379647181.7	201
6/19/2017 4:00	58	379661296.4	200
6/19/2017 8:00	58	379675409.5	201
6/19/2017 12:00	58	379689525.9	200
6/19/2017 16:00	61	379703640.4	198
6/19/2017 20:00	58	379717765.2	195
6/20/2017 0:00	59	379731891	201
6/20/2017 4:00	60	379745998.8	198
6/20/2017 8:00	59	379760107.2	200
6/20/2017 12:00	60	379774214.3	199
6/20/2017 16:00	61	379788335.2	199
6/20/2017 20:00	60	379802459	198

Stanton Cleaners Groundwater Contamination Site - June 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/21/2017 0:00	60	379816574.2	202
6/21/2017 4:00	58	379830690.3	198
6/21/2017 8:00	59	379844809.8	198
6/21/2017 12:00	58	379858926.7	201
6/21/2017 16:00	60	379873047.4	200
6/21/2017 20:00	60	379887179.6	193
6/22/2017 0:00	60	379901288.8	202
6/22/2017 4:00	59	379915396	202
6/22/2017 8:00	60	379929505.3	198
6/22/2017 12:00	59	379943626.2	197
6/22/2017 16:00	61	379957728	196
6/22/2017 20:00	59	379971831	194
6/23/2017 0:00	59	379985938.4	71
6/23/2017 4:00	60	380000042.9	197
6/23/2017 8:00	58	380014146.9	200
6/23/2017 12:00	60	380028258	196
6/23/2017 16:00	58	380042379.3	199
6/23/2017 20:00	58	380056506.1	197
6/24/2017 0:00	60	380070630.1	196
6/24/2017 4:00	59	380084742.2	194
6/24/2017 8:00	59	380098846.3	198
6/24/2017 12:00	58	380112955.1	197
6/24/2017 16:00	58	380127049.6	199
6/24/2017 20:00	60	380141158	197
6/25/2017 0:00	61	380155253.8	200
6/25/2017 4:00	62	380169347.9	197
6/25/2017 8:00	60	380183442.1	200
6/25/2017 12:00	61	380197516.8	198
6/25/2017 16:00	60	380211612.4	196
6/25/2017 20:00	59	380225720.6	197
6/26/2017 0:00	58	380239821.7	157
6/26/2017 4:00	60	380253933.5	195
6/26/2017 8:00	61	380268048	198
6/26/2017 12:00	60	380282146.6	196
6/26/2017 16:00	59	380296248.2	196
6/26/2017 20:00	60	380310369.4	196
6/27/2017 0:00	61	380324470	197
6/27/2017 4:00	60	380338557.7	199
6/27/2017 8:00	58	380352649.5	197
6/27/2017 12:00	60	380366756.2	197

Stanton Cleaners Groundwater Contamination Site - June 2017 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/27/2017 16:00	60	380380866.1	196
6/27/2017 20:00	62	380394980.6	195
6/28/2017 0:00	61	380409086.8	197
6/28/2017 4:00	58	380423189.9	198
6/28/2017 8:00	58	380437297.9	196
6/28/2017 12:00	60	380451411.9	200
6/28/2017 16:00	59	380465522	197
6/28/2017 20:00	58	380479640.5	199
6/29/2017 0:00	60	380493750.4	201
6/29/2017 4:00	59	380507855.4	196
6/29/2017 8:00	59	380521965.7	201
6/29/2017 12:00	58	380536086.3	195
6/29/2017 16:00	58	380550208.5	195
6/29/2017 20:00	58	380564331	198
6/30/2017 0:00	59	380578439.1	199
6/30/2017 4:00	61	380592534.6	202
6/30/2017 8:00	58	380606634.8	203
6/30/2017 12:00	59	380620743.2	196
6/30/2017 16:00	59	380634854.8	200
6/30/2017 20:00	60	380648958.5	199

Appendix D

Air Sparge System Monitoring Logs

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Air Sparge System O&M Data Log

Date: 4/27/2017

Readings at Well	
Near Well Head	N/A*
Bladder	

Treatment Room Readings	
SCFM	N/A* PSI
psi-1	N/A* PSI
psi-2	N/A* PSI
psi-3	N/A* PSI
P ₁	N/A* PSI
P ₂	N/A* PSI
P ₃	N/A* PSI

System Readings	
Temp.	N/A* °F
EN-37-1	N/A* bar
K/O Tank	N/A* PSI

Notes:

*Air readings could not be collected due to the Air Sparge System being offline.

*Air Sparge System offline

SCFM- Standard Cubic Feet per Minute

psi- pounds per square inch

Locations:

Near Well Head- psi gauge at corner of New Stanton Cleaners Building

Bladder- psi gauge at well head

SCFM- gauge in treatment room (first gauge when looking at wall from left to right)

psi-1 - 2nd gauge attached to line on wall when looking left to right

psi-2 - 3rd gauge

psi-3- 4th gauge

P₁- influent relief valve

P₂- adjacent to catwalk

P₃- on top of carbon tank

Temp.- from compressor screen display

EN-37-1- gauge on compressor

K/O Tank- gauge on knockout tank

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Air Sparge System O&M Data Log

Date: 5/25/2017

Readings at Well	
Near Well Head	N/A*
Bladder	

Treatment Room Readings	
SCFM	N/A* PSI
psi-1	N/A* PSI
psi-2	N/A* PSI
psi-3	N/A* PSI
P ₁	N/A* PSI
P ₂	N/A* PSI
P ₃	N/A* PSI

System Readings	
Temp.	N/A* °F
EN-37-1	N/A* bar
K/O Tank	N/A* PSI

Notes:

*Air readings could not be collected due to the Air Sparge System being offline.

*Air Sparge System offline
SCFM- Standard Cubic Feet per Minute
psi- pounds per square inch

Locations:

Near Well Head- psi gauge at corner of New Stanton Cleaners Building
Bladder- psi gauge at well head
SCFM- gauge in treatment room (first gauge when looking at wall from left to right)
psi-1 - 2nd gauge attached to line on wall when looking left to right
psi-2 - 3rd gauge
psi-3- 4th gauge
P₁- influent relief valve
P₂- adjacent to catwalk
P₃- on top of carbon tank
Temp.- from compressor screen display
EN-37-1- gauge on compressor
K/O Tank- gauge on knockout tank

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Air Sparge System O&M Data Log

Date: 6/26/2017

Readings at Well	
Near Well Head	N/A*
Bladder	

Treatment Room Readings	
SCFM	N/A* PSI
psi-1	N/A* PSI
psi-2	N/A* PSI
psi-3	N/A* PSI
P ₁	N/A* PSI
P ₂	N/A* PSI
P ₃	N/A* PSI

System Readings	
Temp.	N/A* °F
EN-37-1	N/A* bar
K/O Tank	N/A* PSI

Notes:

*Air readings could not be collected due to the Air Sparge System being offline.

*Air Sparge System offline

SCFM- Standard Cubic Feet per Minute

psi- pounds per square inch

Locations:

Near Well Head- psi gauge at corner of New Stanton Cleaners Building

Bladder- psi gauge at well head

SCFM- gauge in treatment room (first gauge when looking at wall from left to right)

psi-1 - 2nd gauge attached to line on wall when looking left to right

psi-2 - 3rd gauge

psi-3- 4th gauge

P₁- influent relief valve

P₂- adjacent to catwalk

P₃- on top of carbon tank

Temp.- from compressor screen display

EN-37-1- gauge on compressor

K/O Tank- gauge on knockout tank

Appendix E

Soil Vapor Extraction System Air Monitoring Logs

**STANTON CLEANERS AREA GROUNDWATER
CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly Air Monitoring Log**

Date: 4/27/2017
Project #

		FID	MultiRAE Plus PGM-50					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	5.709	N/A	1.5	0.0	20.2	0.0	0.0	68.2	N/A**	67.7	57.2	N/A**
Post- Blower Pre-Carbon*	5.706	N/A	2.2	0.0	20.1	0.0	0.0	87.3	1.133	45.7	63.8	1,443
EPA-SVE-1 (shallow)	1.913	N/A	0.0	0.0	20.9	0.0	0.0	65.7	1.613	74.7	57.5	2,054
EPA-SVE-1 (medium)	1.913	N/A	0.0	0.0	20.9	0.0	0.0	65.6	0.500	70.5	55.7	623
EPA-SVE-2 (shallow)	1.913	N/A	0.0	0.0	20.9	0.0	0.0	63.2	1.301	80.6	56.7	1,574
EPA-SVE-2 (medium)	1.913	N/A	0.0	0.0	20.9	0.0	0.0	64.0	0.785	83.7	58.9	996
SS-A	1.913	N/A	0.0	0.0	20.9	0.0	0.0	62.7	2.045	85.4	58.3	3,290
SVE-3A	1.913	N/A	0.0	0.0	20.9	0.0	0.0	65.3	6.139	76.9	57.9	7,817
SVE-3B	1.913	N/A	0.0	0.0	20.9	0.0	0.0	66.4	4.990	72.6	57.3	6,353
SVE-1 Combined	1.913	N/A	0.0	0.0	20.9	0.0	0.0	65.0	N/A**	73.2	56.5	N/A**
SVE-2 Combined	1.913	N/A	0.0	0.0	20.9	0.0	0.0	63.2	3.168	83.6	57.1	3,968
Background		N/A	0.0	0.0	20.9	0.0	0.0	64.6	N/A	74.5	56.3	N/A

Notes:

*SVE-Effluent relabeled as "Post-Blower Pre-Carbon Sampling Location"
Dew Point data

unavailable, an alternate
velocicalc

Equipment calibrated by: Dennis Berthold
Air readings collected by: Dennis Berthold

Notes:

**Maxed out reading on meter

FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

	<u>Prior to 10/3/05</u>	<u>After 10/3/05</u>
SVE 1	shallow on	shallow and medium on
SVE 2	shallow on	shallow on
SVE 3	shallow on	shallow on
SVE 4	off	off
EPA-SVE-04R/SSB(A)	on	on
SS-A	on	on
SS-B(B)	on	off
SS-B(C)	on	on
L1	on	off
L2	on	off

Comments:

New SVE well EPA-EXT-04 online since 11/4/04
LIHA sub-slab system was removed by the EPA from service in the Fall of 2012.
N/A- Not Available

**STANTON CLEANERS AREA GROUNDWATER
CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly Air Monitoring Log**

Date: 5/25/2017
Project #

	Pipe ID	FID	MultiRAE Plus PGM-50					VelociCalc Plus				
		VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	5.709	N/A	1.1	0.0	20.2	0.0	0.0	66.9	N/A**	71.3	57.4	N/A**
Post- Blower Pre-Carbon*	5.706	N/A	1.7	0.0	20.0	0.0	0.0	74.1	-1.336	88.5	70.4	1,010
EPA-SVE-1 (shallow)	1.913	N/A	0.1	0.0	20.9	0.0	0.0	53.9	11.781	100.0	53.9	1,218
EPA-SVE-1 (medium)	1.913	N/A	0.1	0.0	20.9	0.0	0.0	56.4	9.315	100.0	56.4	993
EPA-SVE-2 (shallow)	1.913	N/A	0.1	0.0	20.9	0.0	0.0	56.8	4.917	100.0	56.8	1,172
EPA-SVE-2 (medium)	1.913	N/A	0.1	0.0	20.9	0.0	0.0	57.6	3.454	100.0	57.6	1,881
SS-A	1.913	N/A	0.1	0.0	20.9	0.0	0.0	54.2	N/A**	100.0	54.2	1,785
SVE-3A	1.913	N/A	0.1	0.0	20.9	0.0	0.0	58.3	N/A**	82.4	53.0	N/A**
SVE-3B	1.913	N/A	0.1	0.0	20.9	0.0	0.0	64.1	N/A**	66.5	52.7	6,232
SVE-1 Combined	1.913	N/A	0.1	0.0	20.9	0.0	0.0	56.3	13.852	100.0	56.3	N/A**
SVE-2 Combined	1.913	N/A	0.1	0.0	20.9	0.0	0.0	55.4	13.496	100.0	55.4	3,975
Background		N/A	0.0	0.0	20.9	0.0	0.0	55.0	N/A	100.0	57.0	N/A

Notes:

*SVE-Effluent relabeled as "Post-Blower Pre-Carbon Sampling Location"
Dew Point data

unavailable, an alternate
velocicalc

Equipment calibrated by: Dennis Berthold
Air readings collected by: Dennis Berthold

Notes:

**Maxed out reading on meter

FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

	<u>Prior to 10/3/05</u>	<u>After 10/3/05</u>
SVE 1	shallow on	shallow and medium on
SVE 2	shallow on	shallow on
SVE 3	shallow on	shallow on
SVE 4	off	off
EPA-SVE-04R/SSB(A)	on	on
SS-A	on	on
SS-B(B)	on	off
SS-B(C)	on	on
L1	on	off
L2	on	off

Comments:

New SVE well EPA-EXT-04 online since 11/4/04
LIHA sub-slab system was removed by the EPA from service in the Fall of 2012.
N/A- Not Available

**STANTON CLEANERS AREA GROUNDWATER
CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly Air Monitoring Log**

Date: 6/26/2017
Project #

	Pipe ID	FID	MultiRAE Plus PGM-50					VelociCalc Plus			
		VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.
SVE-Influent	5.709	N/A	1.1	0.0	20.2	0.0	0.0	82.4	N/A**	72.3	55.6
Post- Blower Pre-Carbon*	5.706	N/A	1.5	0.0	20.0	0.0	0.0	99.6	-1.473	46.2	62.0
EPA-SVE-1 (shallow)	1.913	N/A	0.3	0.0	20.9	0.0	0.0	83.6	-0.005	100.0	83.5
EPA-SVE-1 (medium)	1.913	N/A	0.0	0.0	20.9	0.0	0.0	80.2	-0.012	97.7	79.1
EPA-SVE-2 (shallow)	1.913	N/A	0.0	0.0	20.0	0.0	0.0	74.5	-3.142	51.3	55.1
EPA-SVE-2 (medium)	1.913	N/A	3.1	0.0	20.9	0.0	0.0	73.3	-2.630	51.9	54.2
SS-A	1.913	N/A	0.0	0.0	20.9	0.0	0.0	73.3	-9.976	47.8	54.0
SVE-3A	1.913	N/A	0.0	0.0	20.9	0.0	0.0	74.4	-12.013	61.1	62.0
SVE-3B	1.913	N/A	0.2	0.0	19.9	0.0	0.0	82.5	-10.395	37.2	54.2
SVE-1 Combined	1.913	N/A	0.1	0.0	20.9	0.0	0.0	82.4	-0.011	100.0	83.1
SVE-2 Combined	1.913	N/A	5.5	0.0	20.1	0.0	0.0	73.8	-8.720	51.3	54.2
Background		N/A	0.0	0.0	20.9	0.0	0.0	73.0	N/A	36.0	45.0

Notes:

*SVE-Effluent relabeled as "Post-Blower Pre-Carbon Sampling Location"

Dew Point data

unavailable, an alternate
velocicalc

Equipment calibrated by: John Zator
Air readings collected by: John Zator

Notes:

**Maxed out reading on meter

FID: Flame Ionization Detector

VOC: Volatile Organic Compounds (in parts per million)

CO: Carbon Monoxide

LEL: Lower Explosive Limit

H2S: Hydrogen Sulfide

Temperature: Measured in Degrees Fahrenheit

Vacuum Pressure: measured in inches of water (in/H2O)

%RH: relative humidity

Dew Pt.: dew point in degrees Fahrenheit

Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper

SVE: Soil Vapor Extraction System

	<u>Prior to 10/3/05</u>	<u>After 10/3/05</u>
SVE 1	shallow on	shallow and medium on
SVE 2	shallow on	shallow on
SVE 3	shallow on	shallow on
SVE 4	off	off
EPA-SVE-04R/SSB(A)	on	on
SS-A	on	on
SS-B(B)	on	off
SS-B(C)	on	on
L1	on	off
L2	on	off

Comments:

New SVE well EPA-EXT-04 online since 11/4/04

LIHA sub-slab system was removed by the EPA from service in the Fall of 2012.

N/A- Not Available

Appendix F
Groundwater Level Monitoring Results

WATER LEVEL DATA SUMMARY

PROJECT: <u>Stanton Cleaners</u>				JOB NUMBER: _____		
LOCATION: <u>Great Neck, NY</u>				DATE: <u>4/27/2017</u>		
CLIENT: <u>HDR</u>				MEASURED BY: <u>DB</u>		
SURVEY DATUM: <u>ft msl</u>				_____		
MEASURING DEVICE: <u>Solinst Water Level Indicator</u>				_____		

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	14:37	56.96	17.67	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	14:57	68.63	15.50	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	---	N/A	-	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	13:28	64.13	18.70	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	14:51	50.96	18.36	LIHA PL
ST-MW-06	ft BTOC	69.83	14:49	45.38	24.45	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	14:07	71.42	6.71	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	14:39	58.09	17.16	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	14:18	70.32	16.88	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	14:48	50.03	19.70	LIHA PL
ST-MW-16	ft BTOC	75.78	13:34	55.33	20.45	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	14:16	69.32	17.21	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	13:58	65.96	16.54	Triangle park well
ST-MW-20	ft BTOC	84.53	14:14	65.20	19.33	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	13:40	59.40	18.97	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	13:51	73.04	17.09	Mirreless Rd
ST-MW-13	ft BTOC	130.95	13:44	86.40	44.55	Amherst Rd
ST-MW-18	ft BTOC	84.40	14:23	66.71	17.69	Ascot Ridge (past apt bldg)

Notes:

WATER LEVEL DATA SUMMARY

PROJECT: <u>Stanton Cleaners</u>				JOB NUMBER: _____		
LOCATION: <u>Great Neck, NY</u>				DATE: <u>5/25/2017</u>		
CLIENT: <u>HDR</u>				MEASURED BY: <u>DB</u>		
SURVEY DATUM: <u>ft msl</u>				_____		
MEASURING DEVICE: <u>Solinst Water Level Indicator</u>				_____		

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:29	59.49	15.14	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	11:52	66.73	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	---	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	11:00	64.77	18.06	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:43	52.02	17.30	LIHA PL
ST-MW-06	ft BTOC	69.83	11:41	44.88	N/A	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	11:18	64.18	13.95	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:31	60.06	15.19	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	11:20	71.74	15.46	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	11:40	56.54	13.19	LIHA PL
ST-MW-16	ft BTOC	75.78	11:06	55.02	20.76	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	11:21	60.97	25.56	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	11:17	67.06	15.44	Triangle park well
ST-MW-20	ft BTOC	84.53	11:22	72.72	11.81	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	11:09	59.61	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	---	*	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	11:12	86.69	44.26	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:24	73.10	11.30	Ascot Ridge (past apt bldg)

Notes:

*Unable to gauge due to flooding over manhole caused by active rain

WATER LEVEL DATA SUMMARY

PROJECT: <u>Stanton Cleaners</u>				JOB NUMBER: _____		
LOCATION: <u>Great Neck, NY</u>				DATE: <u>6/26/2017</u>		
CLIENT: <u>HDR</u>				MEASURED BY: <u>JZ</u>		
SURVEY DATUM: <u>ft msl</u>				_____		
MEASURING DEVICE: <u>Solinst Water Level Indicator</u>				_____		

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	12:44	58.37	16.26	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	13:13	66.74	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	---	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	11:55	68.96	13.87	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	12:59	51.86	17.46	LIHA PL
ST-MW-06	ft BTOC	69.83	13:04	44.38	N/A	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	12:52	60.10	18.03	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	12:48	59.50	15.75	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	12:31	71.61	15.59	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	13:08	46.72	23.01	LIHA PL
ST-MW-16	ft BTOC	75.78	11:49	55.06	20.72	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	12:34	70.58	15.95	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	12:54	66.99	15.51	Triangle park well
ST-MW-20	ft BTOC	84.53	12:38	68.02	16.51	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	12:06	59.86	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	12:19	73.97	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	12:12	86.91	44.04	Amherst Rd
ST-MW-18	ft BTOC	84.40	12:26	68.81	15.59	Ascot Ridge (past apt bldg)

Notes:

*Unable to gauge due to flooding over manhole caused by active rain

Appendix G
Groundwater Sampling Parameters Logs

5-8 (815-1530)
5-9 (750-)

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

DB

14 R
27L

Field Analysis													
MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
* 40 EPA-CL-40	5-8-17	1101	—	6.52	0.1216	14.00	418.7	20.8	91	.136	11.10	0.5	11:21
		1106	0.5	6.16	0.247	13.04	12.6	6.51	150	.161			
		1111	1.0	6.03	0.245	13.08	11.4	5.79	161	.160			
		1116	1.5	6.08	0.244	13.05	11.9	5.30	161	.159			
		1121	2.0	6.00	0.236	13.05	12.5	5.20	166	.153			
* 45 EPA-CL-45 52													
EPA-MW 11 D	5-9-17	829	—	6.03	0.514	13.41	26.2	6.81	136	.329	59.62	0.5	849
		834	0.5	6.71	0.509	14.46	2.2	5.75	138	.327			
		839	1.0	6.54	0.522	14.34	0.0	5.63	151	.334			
		844	1.5	6.53	0.522	14.36	0.0	5.60	158	.335			
		849	2.0	6.49	0.520	14.41	0.0	5.57	161	.333			
52 EPA-MW 26 5-9-17													

87.50 Hz

~~87.50 Hz~~

177.90 Hz

Notes:

All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping

Water levels taken using a Solinst water level meter (Model 101)

Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.

Temperature is measured in degrees Celsius

Conductivity is measured in milliSiemens per centimeter (mS/cm)

Turbidity is measured in nephelometric turbidity units (NTU)

Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)

Oxidation Reduction Potential (ORP)

Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

pennel transfer 5-8-17 @ 10:41, replaced @ 11:38

pennel transfer 5-8-17 @ 10:41, replaced @ 11:38

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

DB

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
ST- MW 20	5-8-17	1425	—	6.32	0.547	17.21	7163	6.97	169	344		0.5	1450
		1430	0.5	6.31	0.541	16.03	725	6.77	150	342			
		1435	1.0	6.20	0.532	15.67	394	6.09	148	341			
		1440	1.5	6.22	0.539	15.44	403	6.16	144	344			
		1445	2.0	6.23	0.541	15.12	418	6.23	143	346			
		1450	2.5	6.25	0.535	15.40	409	6.39	144	343			
		1455											
ST- MW 13	5-9-17	1207	—	6.69	0.625	16.11	523	6.29	174	396	86.58	0.5	1232
		1212	0.5	5.96	0.618	15.83	638	5.52	158	338			
		1217	1.0	6.00	0.606	17.39	364	5.09	149	388			
		1222	1.5	5.92	0.609	18.36	177	4.85	157	390			
		1227	2.0	5.81	0.604	18.46	169	4.57	164	386			
		1232	2.5	5.90	0.600	18.30	167	4.67	167	384			
ST- MW 14	5-8-17	1213	—	9.17	0.416	14.57	15.1	5.64	82	267		0.5	1242
		1217		7.04	0.419	13.89	750	5.84	136	273		0.5	
		1222		6.56	0.421	13.75	480	5.76	141	274			
		1227		6.27	0.420	13.77	420	5.67	147	273			
		1232		6.17	0.420	14.00	275	5.62	149	273			
		1237		6.14	0.420	14.02	266	5.67	149	273			
		1242		6.09	0.419	14.02	260	5.69	150	273			
ST- MW 15	5-9-17												

196.90 Hz

212.30 Hz

165.40 Hz

Notes:

All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping

Water levels taken using a Solinst water level meter (Model 101)

Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.

Temperature is measured in degrees Celsius

Conductivity is measured in milliSiemens per centimeter (mS/cm)

Turbidity is measured in nephelometric turbidity units (NTU)

Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)

Oxidation Reduction Potential (ORP)

Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

DB

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
ST- MW 16	5-9-17	947	—	6.71	0.884	13.62	800*	7.15	116	156	55.20	0.5	1017
		952	0.5	6.43	0.827	14.99	56.6	6.20	150	1593			
		957	1.0	6.42	0.927	16.09	117	5.97	136	1593			
		1002	1.5	6.42	0.928	16.59	75.6	5.81	128	1594			
		1007	2.0	6.42	0.926	17.15	35.4	5.70	122	1592			
		1012	2.5	6.43	0.919	17.48	32.9	5.52	121	1588			
		1017	3.0	6.43	0.914	17.59	29.9	5.40	119	1585			
ST- MW 17	5-8-17												
ST- MW 18		1307	—	6.46	0.225	15.19	33.2	14.97	-10	146	68.57	0.5	1337
		1312	0.5	8.75	0.472	15.27	*0.0	6.49	70	1331			
		1317	1.0	7.27	0.603	14.40	*0.0	6.23	98	1386			
		1322	1.5	6.79	0.605	14.36	*0.0	6.23	103	1388			
		1327	2.0	6.55	0.604	14.43	*0.0	6.46	106	1386			
		1332	2.5	6.44	0.601	14.51	*0.0	6.38	107	1384			
		1337	3.0	6.38	0.598	14.55	*0.0	6.39	108	1382			
ST- MW 19	5-8-17												

168.70 Hz

189.30 Hz

Notes:

All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping

Water levels taken using a Solinst water level meter (Model 101)

Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.

Temperature is measured in degrees Celsius

Conductivity is measured in milliSiemens per centimeter (mS/cm)

Turbidity is measured in nephelometric turbidity units (NTU)

Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)

Oxidation Reduction Potential (ORP)

Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

DB

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
EPA- MW 23	5-8-17												
ST- MW 20	5-8-17	9:13	—	6.59	1.07	12.79	800*	6.79	147	684	66.34	0.5	
		9:18	0.5	5.53	1.09	12.86	800*	6.52	189	697			
		9:23	1.0	5.53	1.22	15.47	661	6.07	162	776			
		9:28	1.5	5.51	1.37	18.30	430	5.89	157	871			
		9:33	2.0	5.72	1.35	18.90	238	6.59	157	864			
		9:38	2.5	5.73	1.34	18.77	112	6.57	162	888			
		9:43	3.0	5.73	1.34	18.42	110	6.57	167	855			
		9:48	3.5	5.73	1.34	18.13	104	6.56	167	852			
EPA- MW 27	5-8-17												

188.80 Hz

9.48

Notes:

- All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping
- Water levels taken using a Solinst water level meter (Model 101)
- Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.
- Temperature is measured in degrees Celsius
- Conductivity is measured in milliSiemens per centimeter (mS/cm)
- Turbidity is measured in nephelometric turbidity units (NTU)
- Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)
- Oxidation Reduction Potential (ORP)
- Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

km

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

52

Field Analysis													
MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
EPA-CL-4S	5/8/17	1106		6.22	.411	13.22	10.3	4.32	154	.267	347	0.5	1126
		1111		6.16	.411	13.27	16.4	4.08	156	.267			
		1116		6.16	.411	13.28	18.1	4.05	158	.267			
		1121		6.22	.412	13.24	20.7	4.09	157	.268			
		1126		6.24	.411	13.27	21.5	4.09	156	.268			
EPA-CL-4D													
EPA-MW 11 D													
EPA-MW 26	5/11/17	813		6.90	.869	13.95	84.7	9.96	151	.625	59.62	0.5	838
		818		6.35	1.47	15.64	61.3	6.86	140	.948			
		823		6.28	1.53	15.95	52.5	5.88	136	.984			
		828		6.27	1.54	16.08	50.0	5.59	134	.984			
		833		6.25	1.54	16.23	45.6	5.52	134	.985			
		838		6.26	1.54	16.32	42.7	5.14	134	.988			

61.6 Hz

175.40 Hz

Notes:

All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping

Water levels taken using a Solinst water level meter (Model 101)

Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.

Temperature is measured in degrees Celsius

Conductivity is measured in milliSiemens per centimeter (mS/cm)

Turbidity is measured in nephelometric turbidity units (NTU)

Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)

Oxidation Reduction Potential (ORP)

Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

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Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
ST- MW 12													
ST- MW 13													
ST- MW 14													
ST- MW 15	5/9/17	1200	—	6.83	.333	14.40	189	2.71	-125	214	73.5	0.5	
		1205	0.5	6.48	.375	17.42	229	1.86	-100	.265			
		1210	1.0	6.41	.557	18.58	91.3	2.90	-52	.366			
		1215	1.5	6.40	.893	18.59	57.6	3.18	-40	.382			
		1220	well dried VP, sampled after recharge										
		1225											

1225 195.30 HZ

Notes:

- All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping
- Water levels taken using a Solinst water level meter (Model 101)
- Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.
- Temperature is measured in degrees Celsius
- Conductivity is measured in milliSiemens per centimeter (mS/cm)
- Turbidity is measured in nephelometric turbidity units (NTU)
- Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)
- Oxidation Reduction Potential (ORP)
- Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

MW#	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
ST- MW 16													
ST- MW 17	5/8/17	910		6.27	.623	13.32	725	13.50	164	.387	70.22	0.5	
		915		5.93	.647	13.84	672	8.87	138	.414			
		920		5.70	.648	14.50	490	7.55	133	.415			
		925		5.70	.650	14.74	401	7.02	137	.416			
		930		5.70	.649	14.89	344	6.69	142	.416			
		935		5.70	.649	14.97	310	7.20	146	.416			
		940		5.90	.649	15.10	300	6.37	149	.416			
ST- MW 18													
ST- MW 19	5/8/17	1420		6.24	.649	14.57	382	5.84	171	.442		0.5	
		1425		6.07	.757	16.77	341	3.87	151	.484			
		1430		6.09	.767	17.13	386	3.75	142	.492			
		1435		6.10	.775	17.33	392	3.69	134	.497			
		1440		6.12	.777	17.20	369	3.84	137	.497			
		1445		6.08	.762	16.98	354	3.99	132	.488			
		1450		6.08	.757	17.45	347	3.58	129	.485			

191.20 Hz

184.80 Hz

Notes:

All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping

Water levels taken using a Solinst water level meter (Model 101)

Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.

Temperature is measured in degrees Celsius

Conductivity is measured in milliSiemens per centimeter (mS/cm)

Turbidity is measured in nephelometric turbidity units (NTU)

Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)

Oxidation Reduction Potential (ORP)

Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Trip Report April 2013

52

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
EPA- MW 23	5/9/17	945	-	6.50	.843	14.69	800	5.39	139	.549	64.76	0.5	10/8 183.30 H2
		950	0.5	6.29	.979	16.46	250	3.76	125	.630			
		955	1.0	6.28	.990	16.67	90.1	3.87	128	.635			
		1000	1.5	6.28	.998	16.80	34.0	3.81	129	.639			
		1005	2.0	6.28	.998	16.86	20.9	3.76	129	.639			
		1010	2.5	6.26	1.00	16.92	18.2	3.61	129	.640	✓	✓	
ST- MW 28 20													
EPA- MW 27	5-8-17	1217	-	6.45	.258	16.08	38.7	5.13	166	.194		0.5	1247 163.20 H2
		1222	0.5	6.18	.465	15.65	702	5.92	162	.307			
		1227	1.0	6.11	.486	15.49	481	6.01	152	.317			
		1232	1.5	6.10	.495	15.42	265	6.00	150	.324			
		1237	2.0	6.10	.501	15.51	207	5.94	150	.321			
		1242	2.5	6.09	.506	15.54	194	5.98	150	.324			
		1247	3.0	6.09	.507	15.60	188	6.29	150	.324		✓	

Notes:

All water quality readings taken using a U-52 HORIBA water quality meter attached to a flow through cell. Readings taken initially and every five minutes during low flow pumping

Water levels taken using a Solinst water level meter (Model 101)

Flow rate taken using a marked graduated beaker and stop watch. Volume purged represents gallons.

Temperature is measured in degrees Celsius

Conductivity is measured in milliSiemens per centimeter (mS/cm)

Turbidity is measured in nephelometric turbidity units (NTU)

Dissolved Oxygen (DO) is measured in milligrams per liter (mg/L)

Oxidation Reduction Potential (ORP)

Total Dissolved Solids (TDS) is measured in grams per liter (g/L)

1 -

Appendix H

Structure Sampling Questionnaire and Building Inventory for

Soil Vapor Intrusion Sampling



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

Site Name: Stanton Cleaners Site Code: _____ Operable Unit: _____
Building Code: _____ Building Name: Long Island Hebrew Academy
Address: 122 Cattermill Rd Apt/Suite No: 3A
City: Great Neck State: NY Zip: 11021 County: Nassau

Contact Information

Preparer's Name: Dennis Berthold Phone No: 516-546-1100
Preparer's Affiliation: Preferred Environmental Services Company Code: _____
Purpose of Investigation: Indoor Air Sampling Date of Inspection: 5-8-17
Contact Name: Sharyn Blaustein Affiliation: LIHA
Phone No: 516-466-3656 Alt. Phone No: Rose@LIHA.GH.org Email: Murchson@LIHA.GH.org
Number of Occupants (total): 180 Number of Children: 160
☐ Occupant Interviewed? ☐ Owner Occupied? ☐ Owner Interviewed?
Owner Name (if different): North Shore Sephardic Synagogue Owner Phone: 516-482-4228
Owner Mailing Address: 130 Cattermill Rd, Great Neck, NY

Building Details

Bldg Type (Res/Com/Ind/Mixed): Commercial/Mixed Bldg Size (S/M/L): medium
If Commercial or Industrial Facility, Select Operations: School If Residential Select Structure Type: _____
Number of Floors: 3 Approx. Year Construction: 1960 ☒ Building Insulated? ☐ Attached Garage?

Describe Overall Building 'Tightness' and Airflows (e.g., results of smoke tests):

Foundation Description

Foundation Type: Basement Foundation Depth (bgs): _____ Unit: FEET
Foundation Floor Material: Poured Concrete Foundation Floor Thickness: _____ Unit: INCHES
Foundation Wall Material: Poured Concrete Foundation Wall Thickness: _____
☐ Floor penetrations? Describe Floor Penetrations: N/A
☐ Wall penetrations? Describe Wall Penetrations: N/A
Basement is: Finished Basement is: DRY ☐ Sumps/Drains? Water In Sump?: _____
Describe Foundation Condition (cracks, seepage, etc.): _____
☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating/Cooling/Ventilation Systems

Heating System: Forced Air Heat Fuel Type: oil ☒ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: oil Clothes Dryer Fuel Type: _____
Water Htr Vent Location: _____ Dryer Vent Location: _____



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Loy Island Hebrew Assn Bldg Code: _____ Date: May 8, 2017
Bldg Address: 122 Cattermill Rd Apt/Suite No: 3A
Bldg City/State/Zip: Great Neck, NY 11021
Make and Model of PID: MiniRaе 2000 Date of Calibration: May 8, 2017

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
Maintenance closet	Windex	1.34 gal (5)	U		0.0	☐
	Rustoleum enamel	1 gal (3)	U		0.0	☐
	Fatomatic	1 gal (2)	U		0.0	☐
	WD-40	14.62 (2)	U		0.0	☐
	Fabuloso cleaner	1 gal (5)	U		0.0	☐
✓	Snap blot blot cleaner	32 oz (1)	U		0.0	☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☒ Yes Were there any elevated PID readings taken on site? ☒ No ☐ Products with COC?



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

Site Name: SLANTON Site Code: _____ Operable Unit: _____
Building Code: _____ Building Name: LISA
Address: 122 CATTARAUGUS RD Apt/Suite No: _____
City: Great Neck State: NY Zip: _____ County: _____

Factors Affecting Indoor Air Quality

Frequency Basement/Lowest Level is Occupied?: Full time Floor Material: Lino/leum/vinyl
☒ Inhabited? ☐ HVAC System On? ☒ Bathroom Exhaust Fan? ☐ Kitchen Exhaust Fan?
Alternate Heat Source: none ☐ Is there smoking in the building?
☐ Air Fresheners? Description/Location of Air Freshener: _____
☒ Cleaning Products Used Recently? Description of Cleaning Products: Bleach, Fabuloso
☐ Cosmetic Products Used Recently? Description of Cosmetic Products: _____
☐ New Carpet or Furniture? Location of New Carpet/Furniture: _____
☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics: _____
☐ Recent Painting/Staining? Location of New Painting: _____
☐ Solvent or Chemical Odors? Describe Odors (if any): _____
☐ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: _____
☐ Recent Pesticide/Rodenticide? Description of Last Use: _____

Describe Any Household Activities (chemical use, storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

Bleach Fabuloso used daily to clean floor

☐ Any Prior Testing For Radon? If So, When?: _____
☐ Any Prior Testing For VOCs? If So, When?: _____

Sampling Conditions

Weather Conditions: Sunny Outdoor Temperature: 59 °F
Current Building Use: School Barometric Pressure: _____ in(hg)
Product Inventory Complete? Yes ☒ Building Questionnaire Completed?



Structure Sampling Questionnaire and Building Inventory
New York State Department of Environmental Conservation

Building Code: _____ Address: 122 Cattermill Rd, Great Neck, NY

Sampling Information

Sampler Name(s): Dennis Berthel Sampler Company Code: _____
Sample Collection Date: 5-8-17 to 5-9-17 Date Samples Sent To Lab: 5-9-17
Sample Chain of Custody Number: B1704113 Outdoor Air Sample Location ID: _____

SUMMA Canister Information

Sample ID:	LIHA-IA-1 050817	LIHA-IA-1 050817 dup
Location Code:		
Location Type:	Basement	Basement
Canister ID:	10597	10199
Regulator ID:	10696	10110
Matrix:	Indoor Air	Indoor Air
Sampling Method:	SUMMA	SUMMA

Sampling Area Info

Slab Thickness (inches):				
Sub-Slab Material:				
Sub-Slab Moisture:				
Seal Type:				
Seal Adequate?:	☐	☐	☐	☐

Sample Times and Vacuum Readings

Sample Start Date/Time:	5-8-17/1244	5-8-17/1244
Vacuum Gauge Start:	>30	>30
Sample End Date/Time:	5-9-17/1049	5-9-17/1049
Vacuum Gauge End:	4.0	8.0
Sample Duration (hrs):	20	20
Vacuum Gauge Unit:	in (Hg)	in (Hg)

Sample QA/QC Readings

Vapor Port Purge:	☐	☐	☐	☐
Purge PID Reading:				
Purge PID Unit:				
Tracer Test Pass:	☐	☐	☐	☐

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM



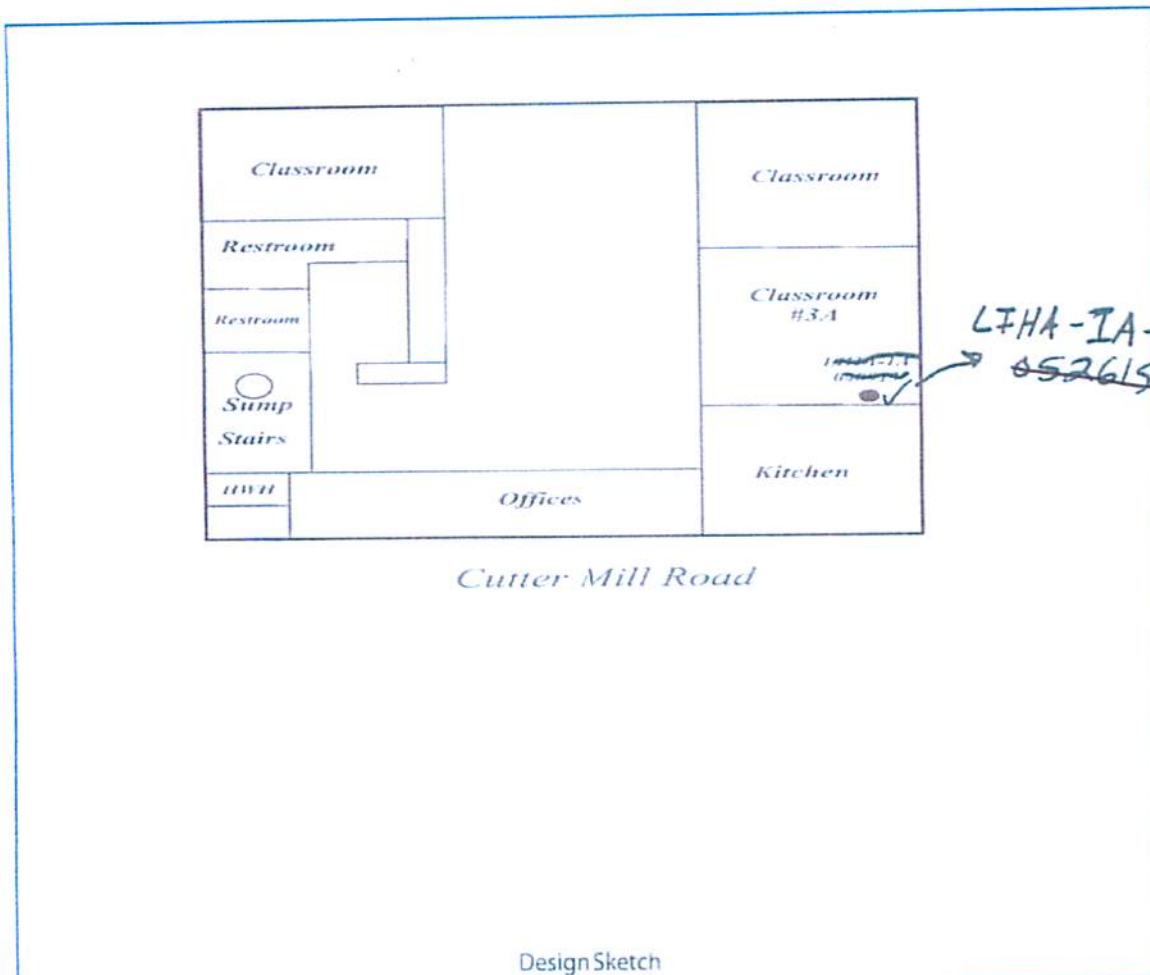
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbolology

- Identify and label the locations of all sub-slab indoor air, and outdoor air samples on the layout sketch
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch
- Identify the locations of the following features on the layout sketch, using the appropriate symbols

B or F	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	xxxxxxx	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	#####	Areas of broken-up concrete
WS	Wood Stoves	• SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	• IA-1	Location & label of indoor air samples
S	Sumps	• OA-1	Location & label of outdoor air samples
@	Floor Drains	• PFET-1	Location and label of any pressure field test holes



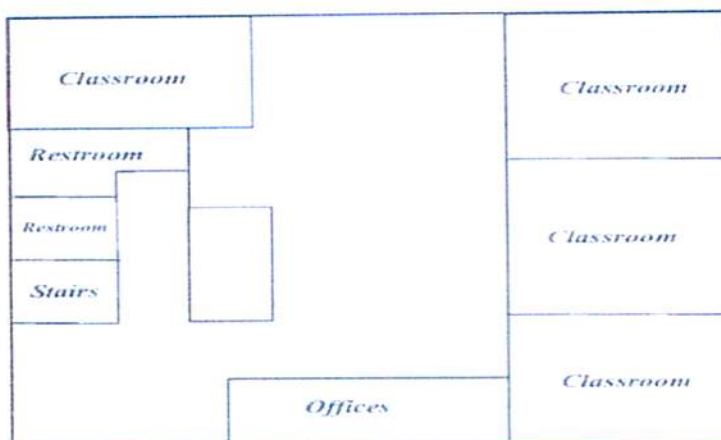
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



Cutter Mill Road

Design Sketch

Design Sketch Guidelines and Recommended Symbolology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch
- Identify the locations of the following features on the layout sketch, using the appropriate symbols

B or F Boiler or Furnace
HW Hot Water Heater
FP Fireplaces
WS Wood Stoves
W/D Washer / Dryer
S Sumps
@ Floor Drains

o Other floor or wall penetrations (label appropriately)
xxxxxxx Perimeter Drains (draw inside or outside outer walls as appropriate)
Areas of broken-up concrete
● SS-1 Location & label of sub-slab samples
● IA-1 Location & label of indoor air samples
● OA-1 Location & label of outdoor air samples
● PFET-1 Location and label of any pressure field test holes



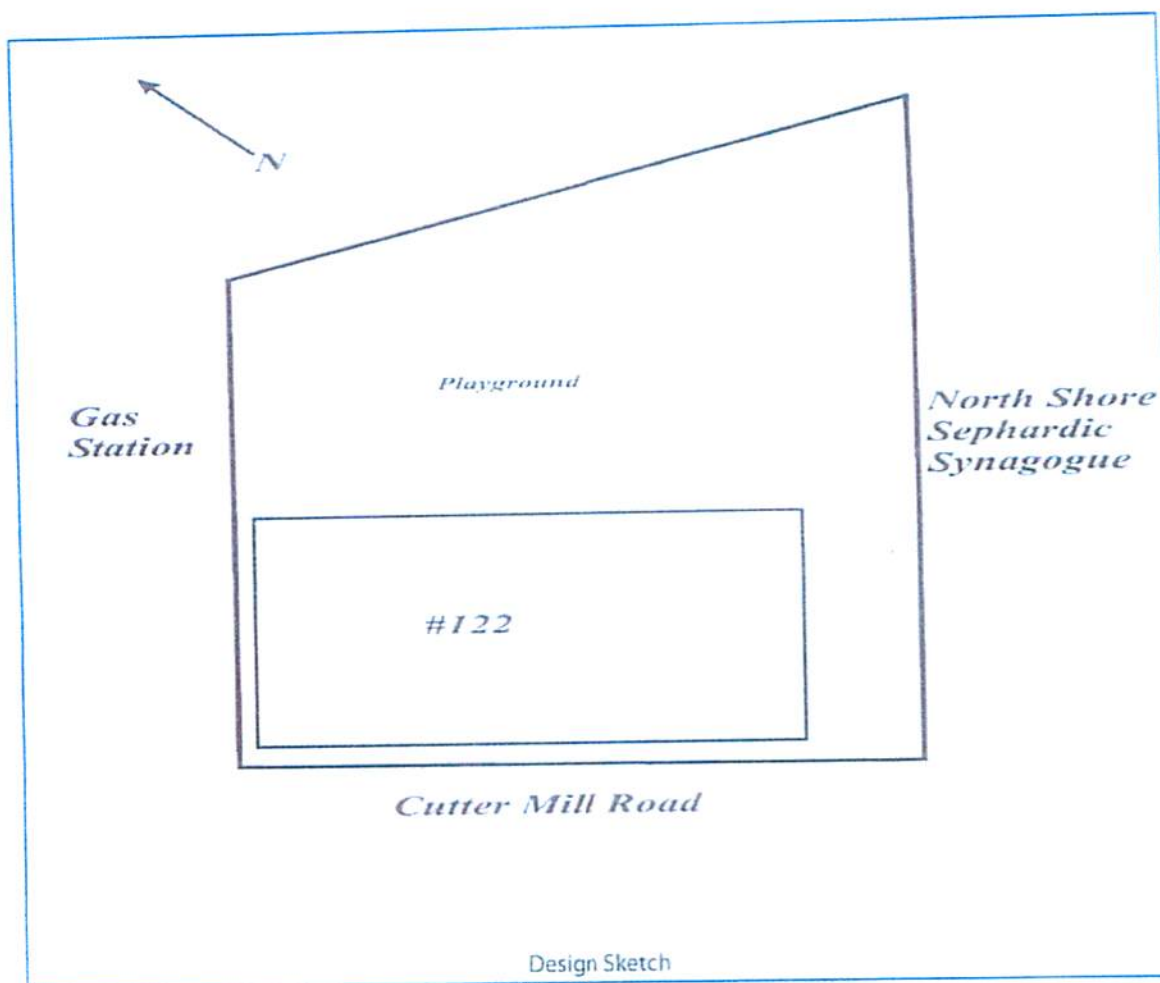
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the outdoor plot of the building as well as the surrounding area. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



Design Sketch Guidelines and Recommended Symbolology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch.
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or F	Boiler or Furnace	○	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	xxxxxxx	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	#####	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
WD	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes



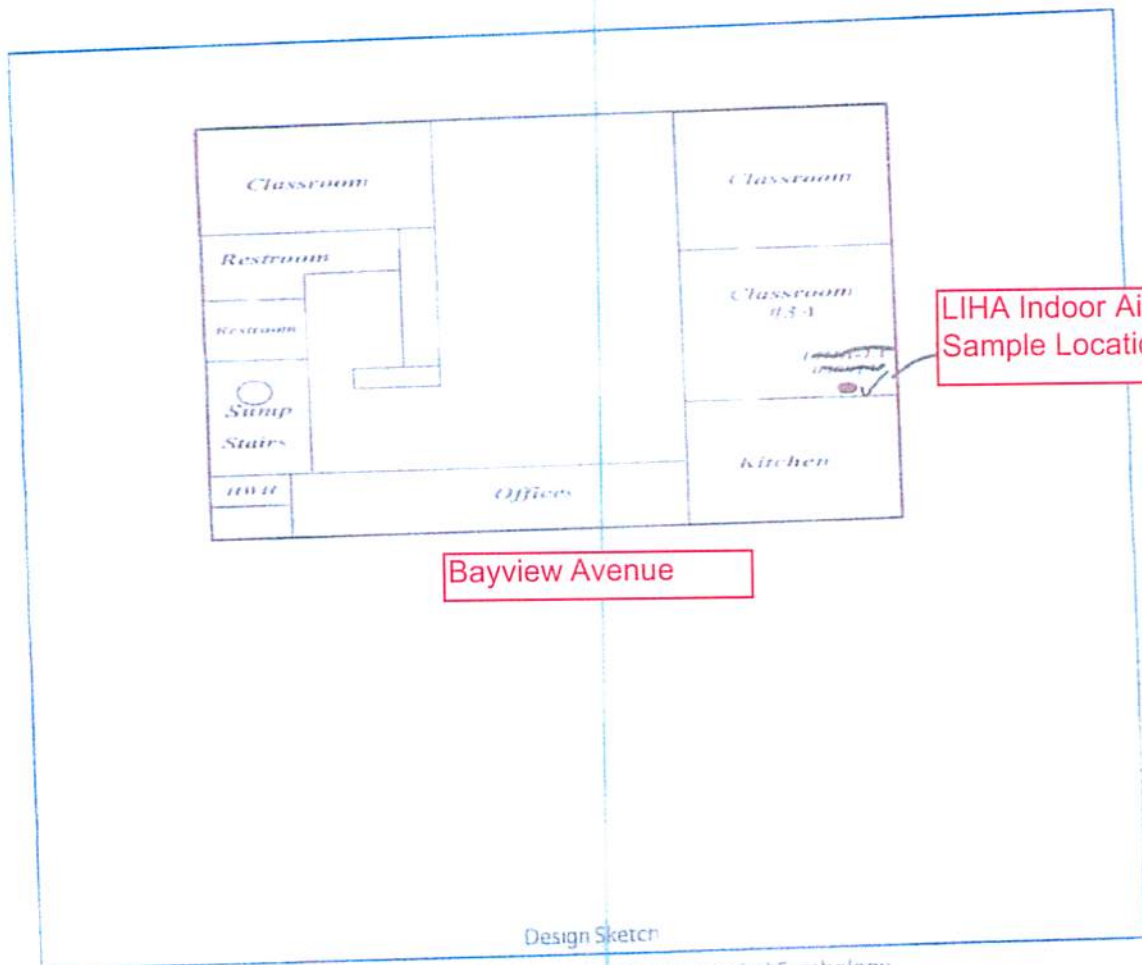
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbolology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch
- Identify the locations of the following features on the layout sketch, using the appropriate symbols

B or F	Boiler or Furnace	○	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	xxxxxxx	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	#####	Areas of broken-up concrete
WS	Wood Stoves	●	Location & label of sub-slab samples
W/D	Washer / Dryer	●	Location & label of indoor air samples
S	Sumps	●	Location & label of outdoor air samples
Ⓢ	Floor Drains	●	Location and label of any pressure field test holes