Quarterly Operation and Maintenance Report – 2Q2019

Stanton Cleaners

NYSDEC Site No: 130072

110 Cuttermill Road, Great Neck, New York

Work Assignment # D007625-06

January 31, 2020

Prepared for:

New York State Department of Environmental Conservation

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Albany, New York 12233

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

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ACRONYMS AND ABBREVIATIONS

AS	Air Sparge
ASP	Analytical Services Protocol
bgs	below ground surface
CAP	Contractor's Application for Payment
cfm	cubic feet per minute
COC	contaminant of concern
DUSR	data usability summary report
DVS	Data Validation Services
EC	emerging contaminant
ECL	Environmental Conservation Law
EFF	effluent
GAC	Granular Activated Carbon
gpm	gallons per minute
GWE&T	Groundwater Extraction and Treatment
GWQS	Groundwater Quality Standard
HC	Hampton Clarke
HDR	Henningson, Durham & Richardson Architecture and Engineering, P.C.
INF	influent
LIHA	Long Island Hebrew Academy
lbs	pounds
LEL	lower explosive limit
LGAC	liquid phase granular activated carbon
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
MDL	minimum detection limit
ND	non-detect
ng/L	nanograms per liter
NPL	National Priorities List
NYCRR	New York Codes of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operations and Maintenance
PCE	tetrachloroethene
PES	Preferred Environmental Services
PFC	perfluorinated compounds
PFOA	perfuorooctanoic acid
PFOS	perfluorooctane sulfonic acid
PID	photo-ionization detector

ACRONYMS AND ABBREVIATIONS (CONT.)

PRR	Periodic Review Report
RAO	Remedial Action Objective
ROD	Record of Decision
RSO	Remedial System Optimization
SCG	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objective
SPDES	State Pollutant Discharge Elimination System
SSDS	sub-slab depressurization system
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TA	Test America
TCL	Target Compound List
TICs	Tentatively Identified Compounds
TOGS	Technical and Operational Guidance Series
UGA	Upper Glacial Aquifer
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WA	Work Assignment
WAGNN	Water Authority of Great Neck North

1.0 INTRODUCTION

As part of on-going remediation system operations and maintenance (O&M) and monitoring at the Stanton Cleaners groundwater contamination site located in Great Neck, New York (NYSDEC Site#130072), the New York State Department of Environmental Conservation (NYSDEC) has assigned site management tasks 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 properly closed sites but requires continued management until remedial objectives are achieved. From 2001 to 2012, the United States Environmental Protection Agency (USEPA) oversaw the O&M and site management, with the NYSDEC resuming responsibility in 2012.

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

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

This quarterly O&M Report (Task 4) summarizes the O&M and monitoring activities completed during the second quarter of 2019 (April through June 2019). This report provides a description of the work performed throughout the reporting period and includes all relevant data and performance monitoring documentation.

2.0 BACKGROUND

2.1 Site Location and Current Use

The site's physical address is 110 Cutter Mill Road in Great Neck, New York. The property is approximately ¼ acre in size and includes a vacant two-story building (formerly the Stanton Cleaners building), a one-story boiler/storage building, and the two-story groundwater extraction and treatment (GWE&T)/soil vapor extraction (SVE) system building. The site is bordered to the north and east by empty lots (former indoor tennis facility), to the south by a Sunoco gasoline fueling station and the Long Island Hebrew Academy (LIHA), and to the west by Cutter Mill Road. The surrounding area is largely urbanized and consists of various mixed uses with residential areas on side streets and commercial buildings along the main roadways. The entire area is serviced by public water and sewer with Water Authority of Great Neck North (WAGNN) as the primary water supplier. A United States Geological Survey (USGS) 7.5-minute map showing the site's location is provided on Figure 1.

As mentioned above, the Stanton Cleaners building is currently vacant. During a 2014 inspection, the NYSDEC verified that the facility terminated the use of a fourth generation tetrachloroethene (PCE) dry cleaning machine and surrendered their Air Facility Registration. In February 2017, the dry cleaning machinery was removed from the property and operations were moved to another location.

Three WAGNN public water supply wells are located approximately 1,000 feet west (downgradient) of the site. Two of these wells are approximately 145 feet deep and the third well is 434 feet deep. The two 145-foot deep wells, designated as PW-2A (N-12796) and PW-9 (N-4388), are screened within a deeper portion of the Upper Glacial Aquifer (UGA). The third 434-foot deep well, designated as PW-11, is within the Lloyd Aquifer and not believed to be impacted by the site. In October 2015, well PW-11 was taken out of service and replaced by well PW-11A in April 2017.

The WAGNN supply well treatment system is currently in operation and influent (INF) volatile organic compound (VOC) concentrations are treated to below federal and state drinking water standards. WAGNN analytical data provided to the NYSDEC indicates that PCE concentrations in raw water samples collected from PW-2A (down gradient of Stanton Cleaners site) periodically exceed its respective NYSDEC Groundwater Quality Standard (GWQS) of 5 micrograms per liter (µg/L).

2.1 Site Geology

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

Underlying the site, the UGA is subdivided into shallow, intermediate, and deep zones. For on-going site management, this naming convention is maintained such that all data collected is consistent with the *April*

2004 Final Hydrogeologic Investigation Report- Operable Unit 1 and *Final Capture Zone Analysis Report*. The shallow UGA consists of orange brown, poorly to well graded outwash sands and till of generally high permeability. The intermediate zone, at the water table's vicinity (depth between 50 to 60 feet below ground surface (bgs)), consists of a light grey to white fine grained micaceous silty sand and clay. The intermediate zone then transitions with depth into the North Shore confining unit, which separates the shallow-intermediate and deep zones. The confining unit consists 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 UGA zone is generally a thin deposit of outwash sands and gravels that represent possible infilling of low lying areas during an interglacial stage.

Previous site investigations have shown that only the UGA has been impacted and groundwater PCE concentrations have declined significantly over time. The site groundwater levels are impacted by the pumping stress associated with the WAGNN pumping wells, with the most pronounced impacts in the UGA intermediate and deep zones.

2.2 Remedial History

Improper handling and disposal of spent dry cleaning solvents, including PCE, has resulted in hazardous substance releases at the site. As a result, PCE migrated from the underlying subsurface soils to surrounding indoor air and groundwater environments, producing significant threats to human health. Site remedial activities began in 1983 and are briefly summarized below.

- 1983 – Approximately 20 cubic yards of PCE-contaminated soil was removed from behind the Stanton Cleaners property
- 1986 – The NYSDEC funded construction of an air stripper treatment system for the WAGNN water supply wells.
- 1989 - A GWE&T system was installed by the potentially responsible party (PRP). The system performed poorly and was abandoned shortly thereafter.
- 1993 – The site was listed on the New York State Registry of Inactive Hazardous Waste Sites as a Class 2.
- 1998 – A new air stripper treatment system for the site-impacted WAGNN water supply wells was installed.
- 1998/1999 – USEPA assistance was requested; the site was proposed for addition to the National Priorities List (NPL); a Record of Decision (ROD) was finalized. The site was formally added to the NPL in May 1999.
- 2001 – The USEPA completed the installation of the dual GWE&T/SVE system on the property to address and contain the on-site contamination source. Additionally, the USEPA installed a sub-slab depressurization system (SSDS) on the LIHA.

- 2002 – Two 250-gallon PCE and one 500-gallon oil underground storage tanks (UST) were removed.
- 2008 – The USEPA conducted the first five-year site review. The review concluded that the remedy was in place and functioning as intended and did not identify significant issues requiring attention.
- 2011 – The site was reclassified from a Class 2 to a Class 4 Inactive Hazardous Waste site.
- 2012 – The USEPA completed the installation of a groundwater air sparge (AS) system and began operations in March. Additionally, the USEPA removed the LIHA SSDS prior to the NYSDEC assuming O&M in November.
- 2013 – The USEPA conducted the second five-year review in December.
- 2014 – Due to an air compressor oil leak, the AS system was shut down. The AS component of the groundwater system was removed from service such that the remaining remedial system consists of GWE&T and SVE. In February, snow and ice on the roof collapsed the gutter system, pulling the electrical service drop from the building. As a result, extensive downtime occurred due the electrical system damage and subsequent repairs.
- 2015 – In July, USEPA representatives met with NYSDEC representatives to review remedial action objective (RAO) progress and discuss site management program plans.
- 2016 – Significant downtime to the SVE system (approximately 10 months) occurred due to needed repairs for the blower. Repairs were delayed for administrative reasons during the Amendment 1 approval process.
- 2017 – The NYSDEC completed an RSO investigation from November 2016 through February 2017 to evaluate subsurface soil and the local aquifer in the vicinity of EPA-EXT-02. Additionally, the Stanton Cleaners building was vacated, with all associated equipment and operations removed from the site.

2.3 Site Cleanup Objectives

The site cleanup objective is, to the extent feasible, restore the impacted media to pre-disposal conditions. Closure criterion will be determined by the NYSDEC based on the future monitoring data. The Standards, Criteria, and Guidance (SCGs) currently used for the various sample media are summarized below.

- Soil – NYSDEC Environmental Conservation Law (*ECL*) *6 New York Code of Rules and Regulations (NYCRR) Part 375-6: Remedial Program Soil Cleanup Objectives (SCOs)*
- Groundwater - NYSDEC *Technical and Operational Guidance Series (TOGS) 1.1.1. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*.
- Soil Vapor - New York State Department of Health (NYSDOH) *Final Guidance for Evaluating Soil Vapor Intrusion (SVI) in the State of New York.*

3.0 OPERATIONS AND MAINTENANCE PROGRAM

The on-going O&M program at the Stanton Cleaners site includes the following:

- Monthly operational checks of the GWE&T and SVE systems;
- Monthly water level monitoring;
- Monthly influent (INF)/effluent (EFF) sampling of the GWE&T system;
- Quarterly INF/EFF sampling of the SVE system; Annual, or as needed, granular activated carbon (GAC) change outs on the GWE&T and SVE systems; and
- Annual State Pollutant Discharge Elimination System (SPDES) sampling of the GWE&T system EFF.

This report is a summary of all second quarter 2019 activities (April through June). Daily reports summarizing the activities completed for that day are in Appendix A.

3.1 Groundwater Extraction and Treatment System Operations and Maintenance

Currently EPA-EXT-02, located at the corner of Cutter Mill and Ascot Roads, is the only operational extraction well. Four additional extraction wells (EPA-EXT-01, EPA-EXT-03, EPA-EXT-04R, and ST-IW-01) are not operational and were formerly included in the groundwater monitoring well network. The locations of the five extractions wells are shown on Figure 2.

The GWE&T system was not operational during a portion of the second quarter of 2019.

A summary of the second quarter 2019 GWE&T system mass removed, including average monthly flow rate, total and cumulative flow, PCE influent concentration and mass removal rate is provided in Table 1. Performance monitoring logs including the monthly O&M reports and Lookout® operational data is provided in Appendix B and C, respectively.

From April 1 through June 30, 2019 the GWE&T system treated and discharged a total of 15,317,612 gallons with an average flow rate of 61 gallons per minute (gpm). Since initial startup in November 2001, the GWE&T system has treated an approximate total of 462,370,853 gallons. Monthly flow rates and cumulative discharge amounts are calculated utilizing the continuous four-hour data logging software, Lookout®, located on the site computer and accessed remotely.

As a result of second quarter 2019 operations, approximately 0.72 pounds (lbs) of PCE have been removed in the liquid phase, totaling 9.10 lbs. since the NYSDEC assumed O&M in 2013. To calculate monthly PCE mass removed, the average flow rate is multiplied by the number of operational days and the PCE concentration (from monthly O&M samples).

3.1.1 Groundwater Extraction and Treatment System Influent/Effluent Sampling

Sampling of the GWE&T system INF and EFF is performed monthly to monitor plant efficiency and determine whether liquid GAC (LGAC) breakthrough has occurred. All collected samples are submitted to Hampton Clarke Analytical and Field Services of Fairfield, New Jersey (HC) for the analysis of target compound list (TCL) VOCs and tentatively identified compounds (TICs) by USEPA Method 624. As a result of the laboratory analysis, PCE was detected in each of the three monthly INF samples and ranged in concentration from 3.0 (April) to 8.5 micrograms per liter (µg/L) (May). Detected PCE concentrations in the three monthly INF samples exceeded the NYSDEC GWQS of 5 µg/L in May and June. No VOCs were detected in any monthly EFF sample collected for analysis. A summary of the second quarter 2019 GWE&T system INF/EFF analytical results is provided in Table 2. A graph showing the GWE&T system influent PCE concentrations from 2003 through the second quarter of 2019 is provided on Figure 3.

3.1.2 Groundwater Extraction and Treatment System Annual SPDES Sampling

Sampling of the GWE&T system EFF is performed annually to verify that discharge parameters do not exceed the SPDES permit equivalency. During this quarter, a sample was not collected from the effluent port.

3.2 Soil Vapor Extraction System Operations and Maintenance

Air monitoring of the SVE system is performed on a monthly basis. In accordance with the *2012 O&M Manual*, monthly SVE system performance monitoring includes the collection of the following parameters: 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. Air monitoring is performed at the following locations:

- SVE wells: EPA-SVE-1 (shallow), EPA-SVE-1 (medium), EPA-SVE-2 (shallow), EPA-SVE-2 (medium), EPA-SVE-3A, EPA-SVE-3B, and SS-A
- SVE-Influent, SVE-1 Combined, SVE-2 Combined: Sampling ports on SVE influent lines, prior to blower and vapor phase carbon
- Post-Blower Pre-Carbon: Prior to vapor phase carbon treatment, post blower
- Post-VGAC – Post vapor phase treated effluent (quarterly as needed to evaluate carbon breakthrough)

Since the SVE system remained offline for the entire second quarter of 2019, VOC and PCE mass removal calculations were not prepared and graphs showing the cumulative PCE mass removed over the past year and since September 2003 are not updated (Figures 4 and 5, respectively) in this quarterly report. Monthly performance monitoring logs including both the AS and SVE systems can be found in Appendix D and E, respectively.

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 not collected by Preferred Environmental Services from the influent and effluent ports.

4.0 MONITORING PROGRAM

The on-going Monitoring program at the Stanton Cleaners site includes the following:

- Quarterly O&M reports;
- Semi-annual groundwater sampling; and
- Annual SVI sampling at the LIHA (previously this was performed on a semi-annual basis)

4.1 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 groundwater extractions well EPA-EXT-02. The monitoring well network and well monitoring schedule are provided as Figures 6 and 7, respectively.

Water level measurements were collected during the second quarter 2019 monthly O&M visits at 17 of the18 on and off-site monitoring wells (one was not accessible). The location and number of monitoring wells was previously determined by the USEPA based on the 2014 *Final Capture Zone Analysis Report*. Groundwater level measurements for this quarter are provided in Appendix F. During the February 2017 RSO aquifer test, it was found that the entire site falls within the capture zones of the public water supply wells, which strongly influence flow.

4.2 Groundwater Sampling

Routine semi-annual groundwater samples were not collected during this quarter. The next routine semi-annual groundwater sampling event is scheduled for the third quarter of 2019.

4.3 Indoor Air Quality Sampling

Annual indoor air quality samples were not collected from the LIHA building during this quarter. The next routine semi-annual indoor air quality sampling event is scheduled for December 2019.

4.4 Water Authority of Great Neck North Public Supply Well Monitoring

On a periodic basis, WAGNN personnel collect raw and treated water samples from each of its public supply wells (PW-2A, PW-6, PW-9, and PW-11) and submits for the analysis of various compounds, including site specific chlorinated VOCs. It should be noted that PW-11 was permanently removed from service on October 19, 2016 and abandoned in March 2017. A new location, PW-11A, was installed during that time and began operation in April 2017.

In the analytical data provided by WAGNN for this quarter, the highest PCE concentration in any pre-treatment sample occurred on May 15, 2019 in PW-8 at a concentration of 11.5 µg/L. All post-treatment

samples were non-detect (ND) for PCE. A graph showing the contaminants of concern (COCs) concentrations in the WAGNN wells over time can be found on Figure 8.

5.0 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.

- SVE remains offline.
- Delta on-site on 4/26/19 and replaced section of GWTS line/piping. GWTS remained offline until 4/29/19 to allow glue on piping to dry.
- Slip cap for MW-9A was destroyed (likely due to a vehicle driving over it); it was replaced by Preferred Environmental Services on 6/4/19.
- Completed repairs to vandalized sections of SVE piping (4/29/19).

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.

5.1 Downtime Summary

During this quarterly monitoring period, the GWE&T and SVE system components were not operating for the reasons cited below.

- SVE not operating
- GWE&T was operational after 4/29/19.

6.0 FUTURE ACTIVITIES

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

- Routine monthly O&M activities will continue.
- Semi-annual monitoring well sampling is planned for the third quarter of 2019.

7.0 PROGRESS TOWARD CLEANUP OBJECTIVES

As a result of ongoing GWE&T and SVE system operations during the second quarter of 2019, a total of 0.72 and 0.0 lbs. of VOCs have been removed in liquid and vapor phases, respectively. The total cost incurred in association with operation of these remedial system operations and subsequent site monitoring during this past quarter was $45,528.31 (see quarterly cost summary below). During this quarter, the cost of both liquid and vapor phase VOC removal was $63,233.76 per pound. Note that the cost per VOC pound removed is based on spending associated with WA D007625-06 Tasks 1 (Project Scoping), 2 (Site Management Plan), 3 (O&M), 4 (Monitoring and Reporting), and 5 (Periodic Review). Costs associated with Task 6 (RSO) are not included. Specific cost details can be found on HDR's Contractor's Application for Payments (CAPs) for this period.

Progress continues toward achieving the site cleanup objectives. An overall bulk reduction in the groundwater contaminant concentration has been achieved, but groundwater concentrations still exceed applicable goals. The SVE system continues to remove VOCs in the vapor phase, as determined by PID readings and flow measurements. Operation of the SVE system should continue until the cost per pound of VOC removed exceeds that which is determined efficient, or if asymptotic conditions have been reached.

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
4/1/2019 - 4/27/2019	$ 16,383.59						
4/28/2019 - 5/25/2019	$ 20,601.63						
5/26/2019 - 6/30/2019	$ 8,543.09	0	0.72	$ 45,528.31	0.7		$ 63,233.76

Table 1
Groundwater Extraction and Treatment System
PCE Mass Removal Summary - April through June 2019
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

Quarter No.	Date	Average Monthly Flow Rate (GPM)	Total Flow (gal/month)	Cumulative Flow (gal)	INF PCE Concentration (µg/L)	PCE Mass Removal Rate (lbs/Month)	Cumulative PCE Mass Removed (lbs)
2	April-19	60	6.732E+06	4.537E+08	3.0	0.17	8.55
	May-19	60	4.837E+06	4.586E+08	8.5	0.34	8.89
	June-19	63	3.749E+06	4.624E+08	6.7	0.21	9.10

Notes
GPM : gallons per minute
gal/month : gallons per month
INF : Influent
PCE : tetrachloroethene
µg/L : micrograms per liter
lbs/month : pounds per month
NA : Not applicable

Table 2
Groundwater Extraction and Treatment System
Influent and Effluent Analytical Results - April through June 2019
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Rd., Great Neck, NY

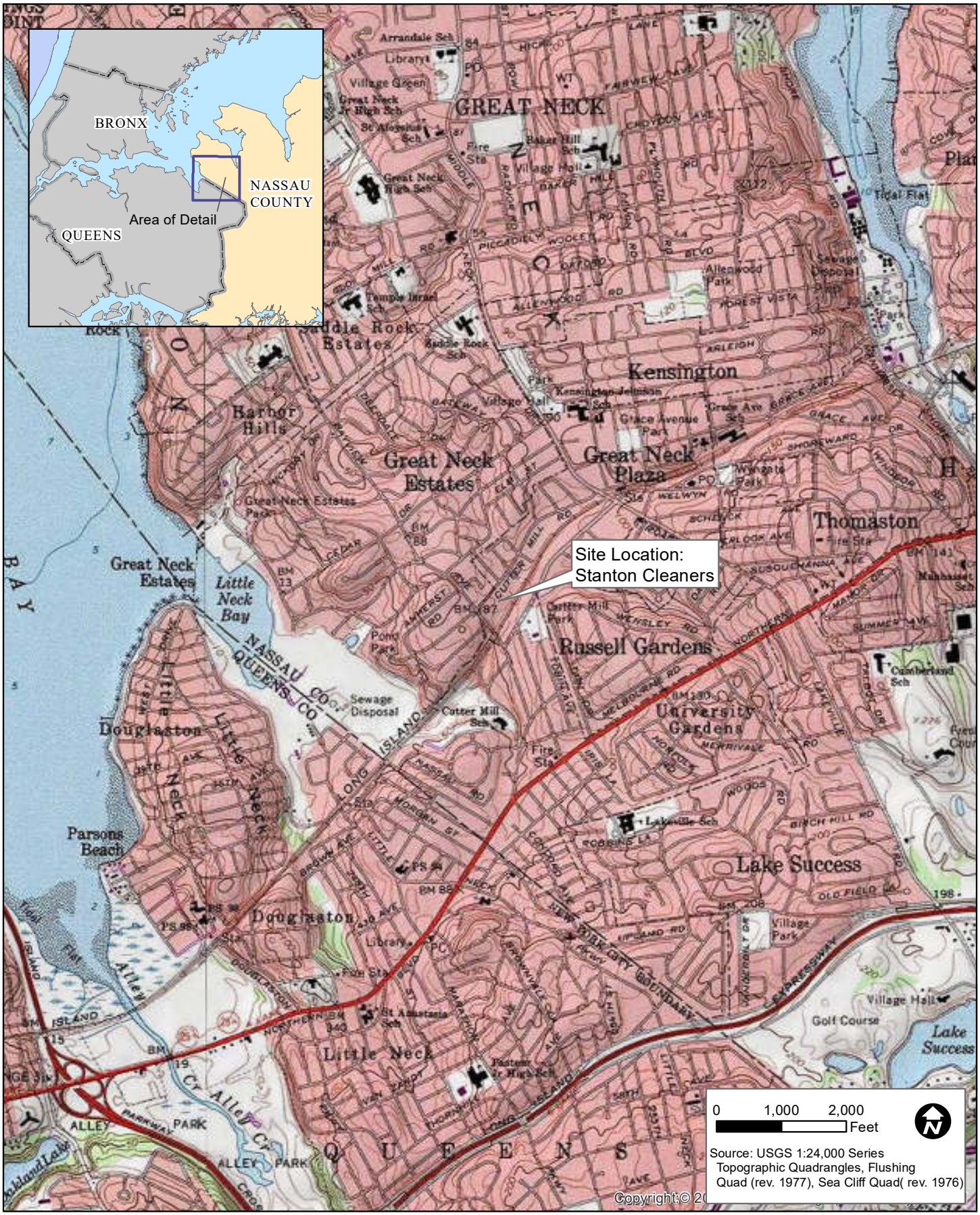
	Sample Location:	INF-GW	EFF-GW	INF-GW	EFF-GW	INF-GW	EFF-GW
	Sample Date:	4/29/2019	4/29/2019	6/4/2019	6/4/2019	6/28/2019	6/28/2019
Analyte	**GWQS (µg/L)**	**Results (µg/L)**					
Total TICs	NS	28 J	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2,2-Tetrachloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloroethane	1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2,3-Trichlorobenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2,4-Trichlorobenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dibromo-3-chloropropane	0.04	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dibromoethane	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethane	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloropropane	1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,3-Dichlorobenzene	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,4-Dichlorobenzene	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,4-Dioxane	NA	ND (50) U	ND (50) U	ND (50) U	ND (50) U	ND (50)	ND (50)
2-Butanone	NS	21.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
2-Hexanone	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
4-Methyl-2-pentanone	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Acetone	50*	30.4	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromochloromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromodichloromethane	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromoform	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromomethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon disulfide	60*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon tetrachloride	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chlorobenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroform	7	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,2-Dichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,3-Dichloropropene	0.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Cyclohexane	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dibromochloromethane	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dichlorodifluoromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Ethylbenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Isopropylbenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
m&p-Xylenes	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methyl Acetate	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methylcyclohexane	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methylene chloride	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methyl-t-butyl ether	10*	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

Table 2
Groundwater Extraction and Treatment System
Influent and Effluent Analytical Results - April through June 2019
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Rd., Great Neck, NY

	Sample Location:	INF-GW	EFF-GW	INF-GW	EFF-GW	INF-GW	EFF-GW
	Sample Date:	4/29/2019	4/29/2019	6/4/2019	6/4/2019	6/28/2019	6/28/2019
Analyte	**GWQS (µg/L)**	**Results (µg/L)**					
o-Xylene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Tetrachloroethene	5	3.00	ND (1.0)	**8.50**	ND (1.0)	**6.70**	ND (1.0)
Toluene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,2-Dichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,3-Dichloropropene	0.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichlorofluoromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vinyl chloride	2	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Xylenes (Total)	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)

Notes:

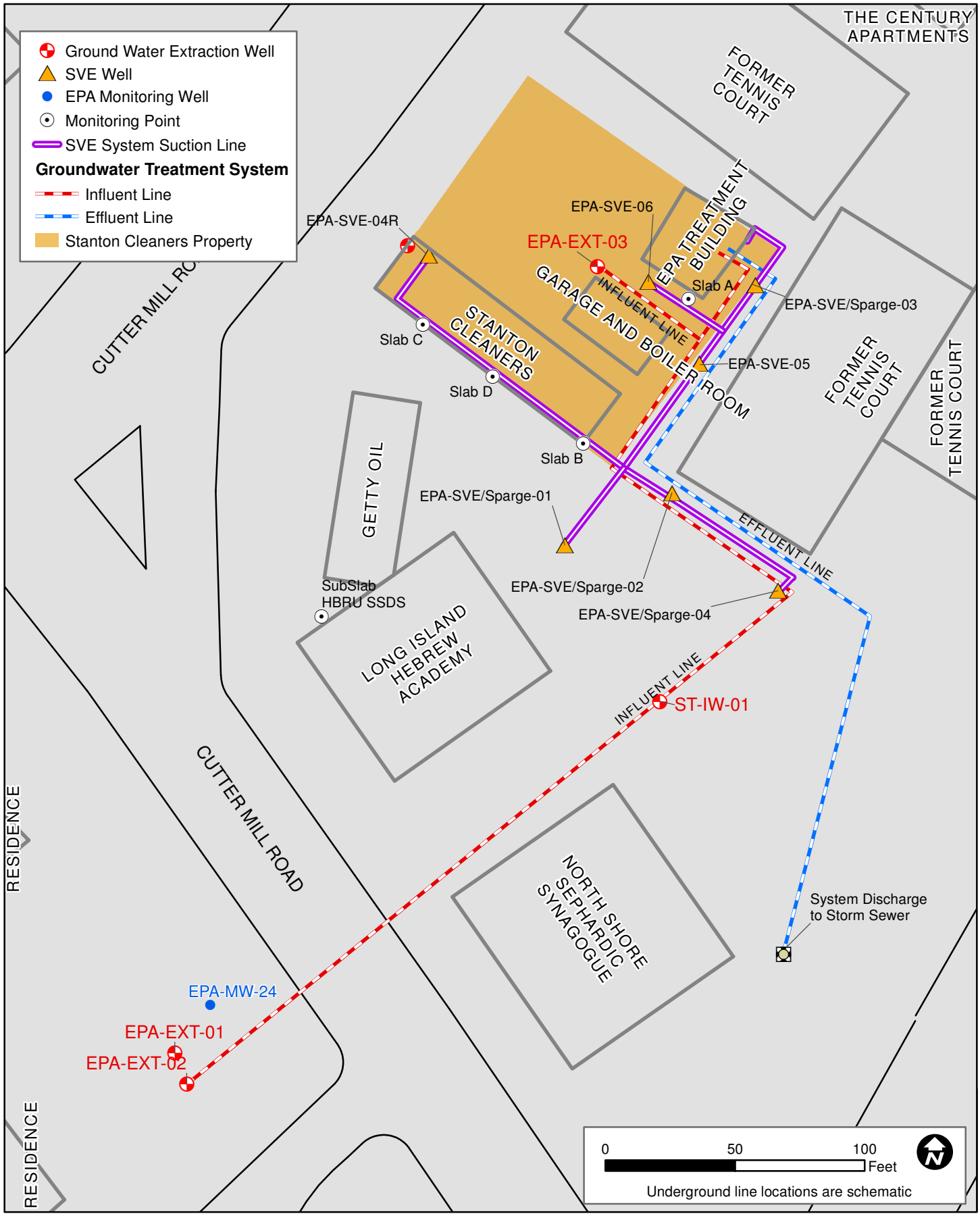
GWQS	: NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, *Table 1 - NYS Ambient Water Quality Standards and Guidance Values (Class GA)*
NYSDEC	: New York State Department of Environmental Conservation
NS	: No Standard
NA	: Not Applicable
ND (#)	: Not Detected at the indicated laboratory run limit
TICs	: Tentatively Identified Compounds
J	: Estimated value
Bold	: Detected concentration exceeds its respective GWQS
*	: Denotes a guidance value
INF	: Influent
EFF	: Effluent
µg/L	: micrograms per liter



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

Figure 1

June 28, 2019

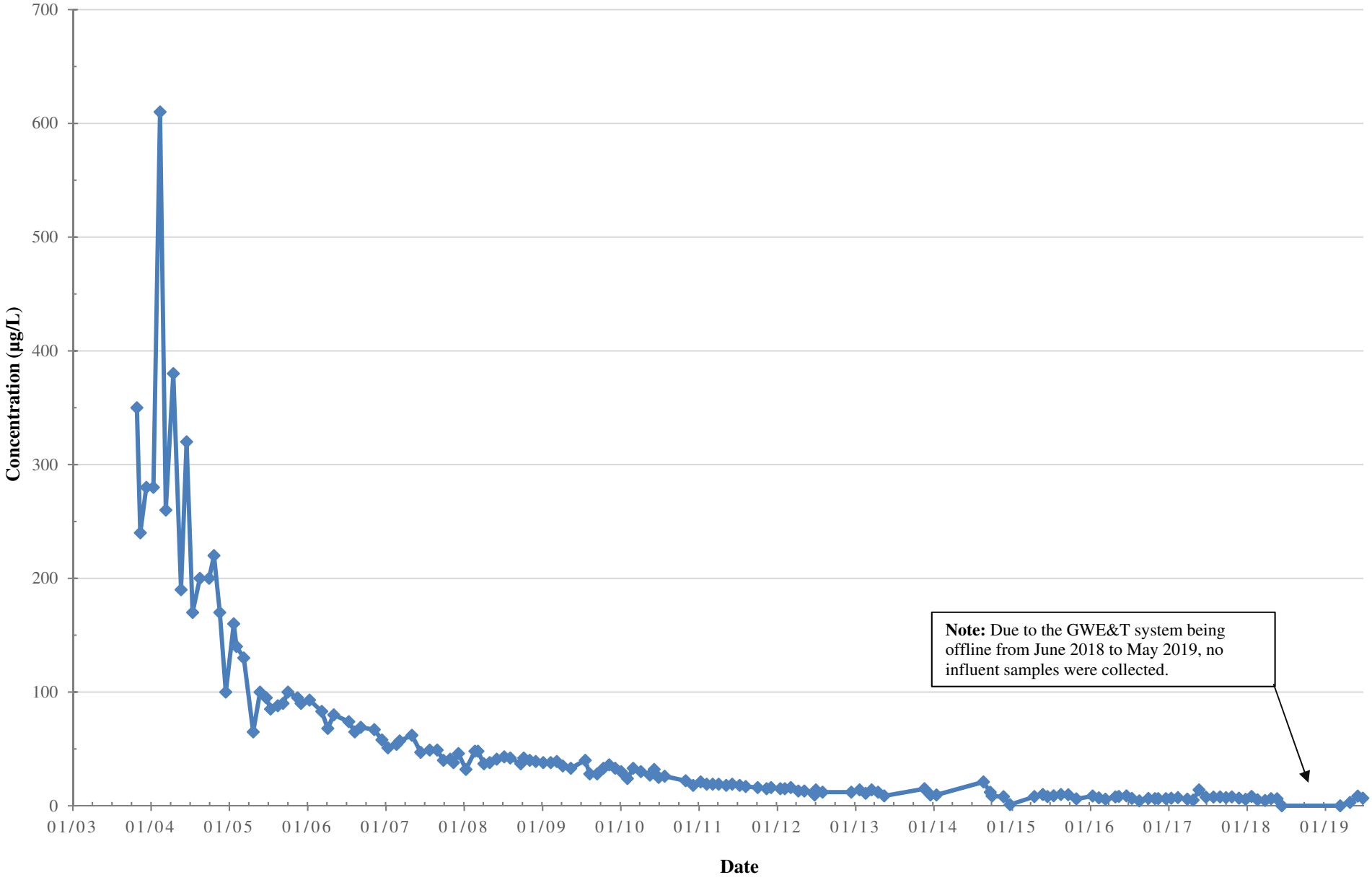


Site Layout
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 2

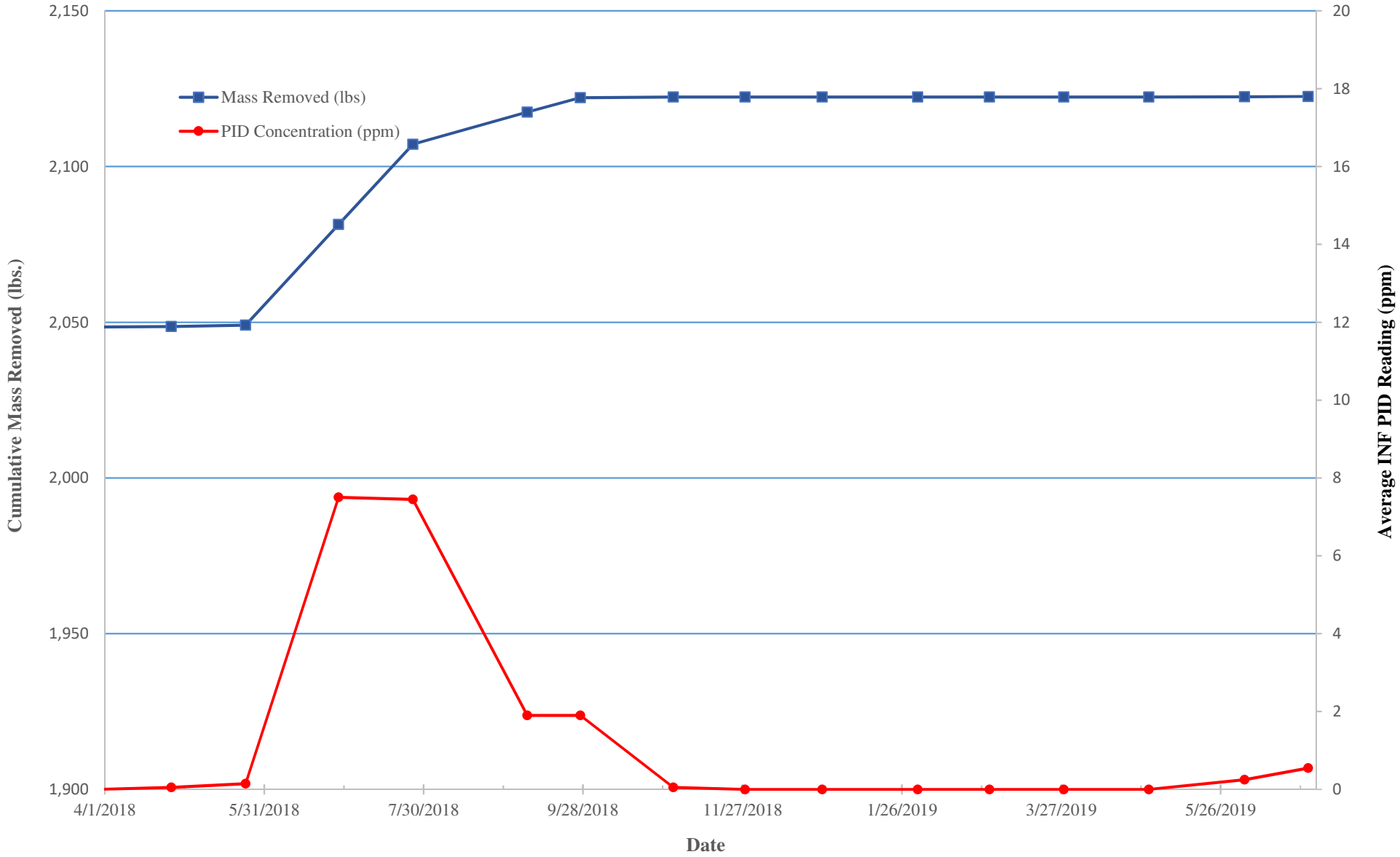
June 28, 2019

Figure 3
GWE&T System Influent PCE Concentrations - 2003-2019
Stanton Cleaners
110 Cuttermill Road, Great Neck, NY



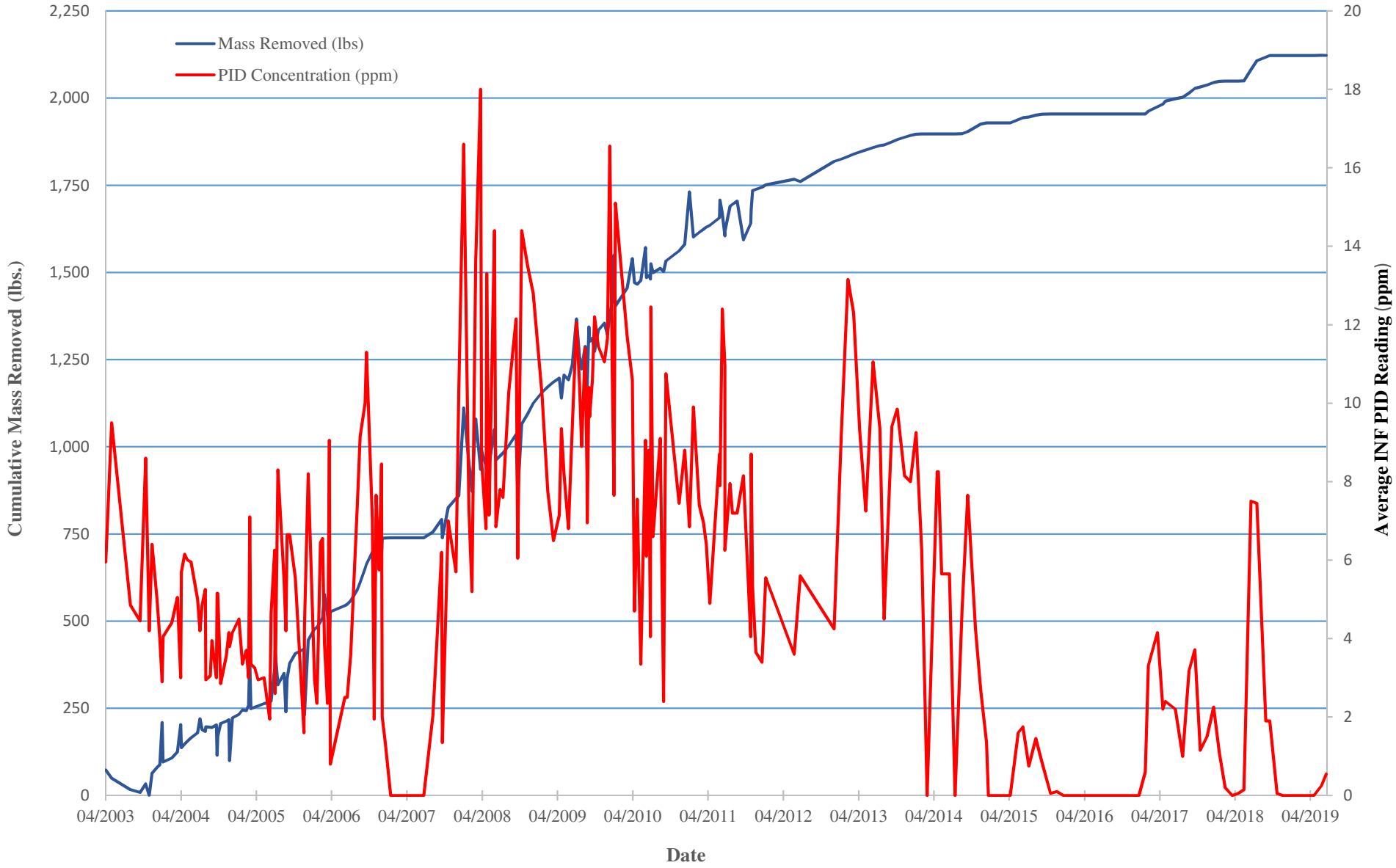
NYSDEC Site No: 130072
Standby Contract: D007625-06

Figure 4
SVE System Annual Cumulative PCE Mass Removal
Stanton Cleaners
110 Cuttermill Road, Great Neck, NY

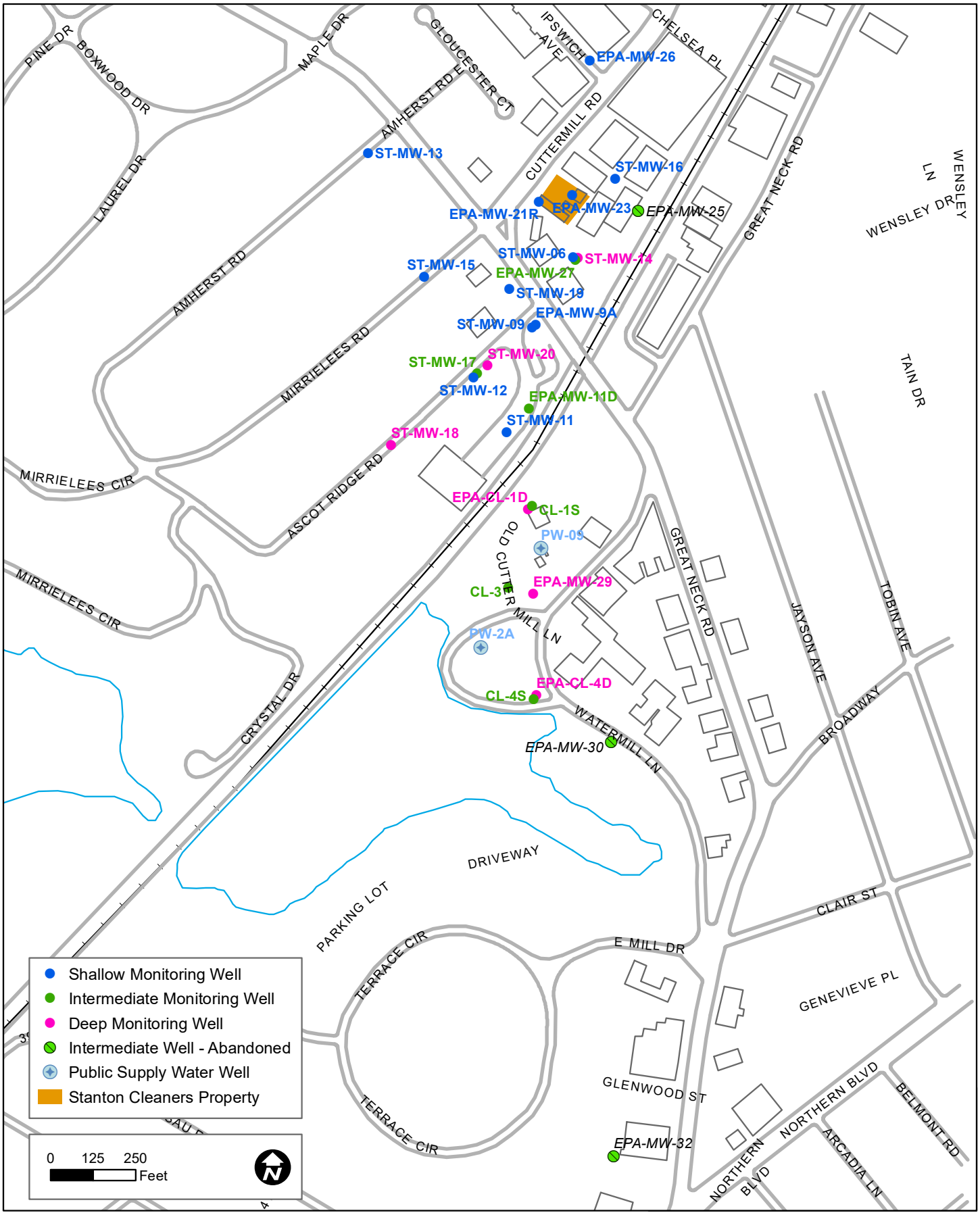


NYSDEC Site No: 130072
Standby Contract: D007625-06

Figure 5
SVE System Cumulative PCE Mass Removal
Stanton Cleaners
110 Cuttermill Road, Great Neck, NY



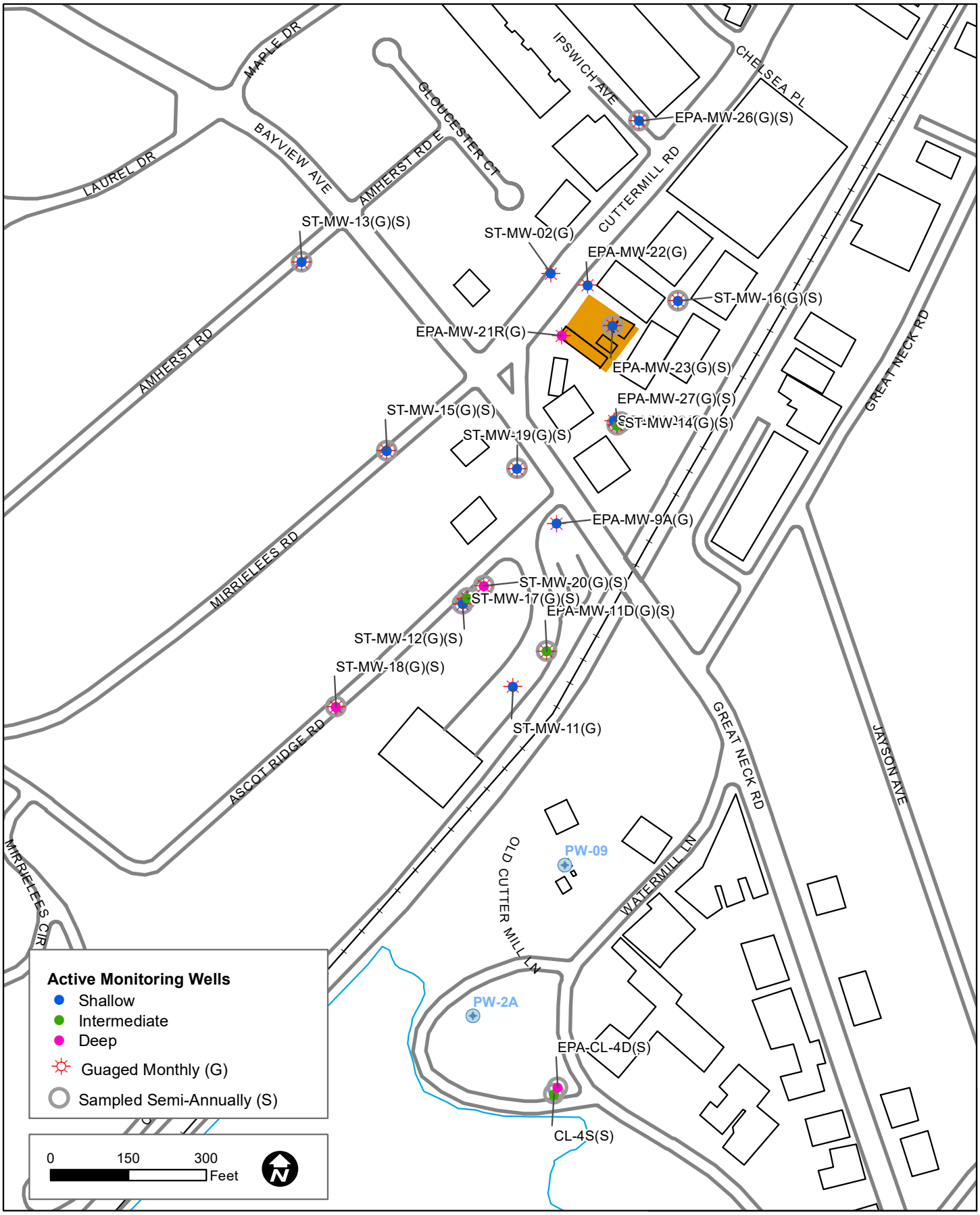
NYSDEC Site No: 130072
Standby Contract: D007625-06



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

Figure 6

June 28, 2019

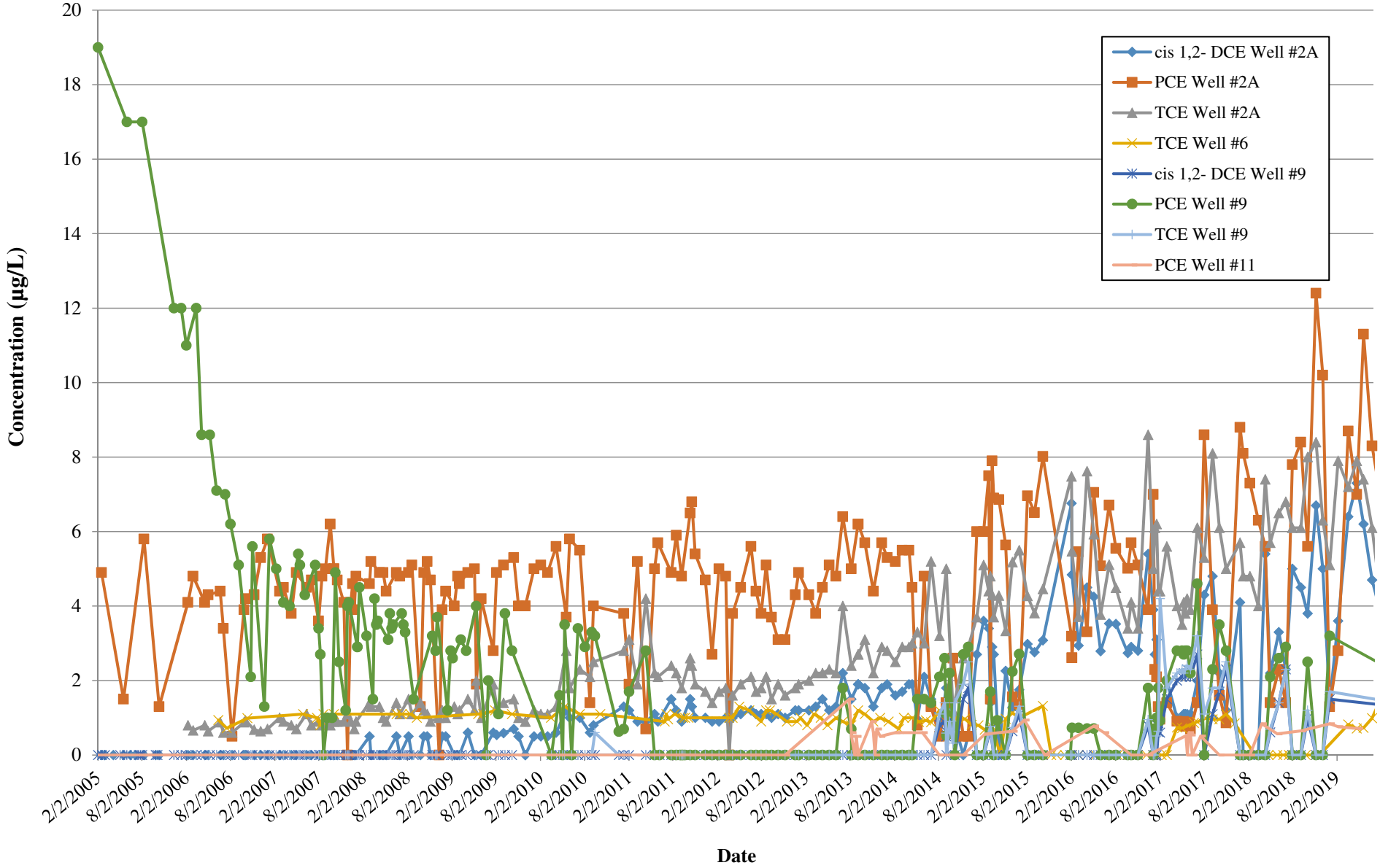


Well Monitoring Schedule
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 7

June 28, 2019

Figure 8
Contaminants of Concern in WAGNN Wells
Stanton Cleaners
110 Cuttermill Road, Great Neck, NY



NYSDEC Site No: 130072
Standby Contract: D007625-06

Appendix A

Daily O&M Reports

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

Date: 4/29/2019
REPORT No.
PAGE No. 1

PREPARED BY: Daniel Prisco-Buxbaum 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
Daniel Prisco-Buxbaum	Technician	7:30 - 14:30	Preferred
Chris Murphy	Technician	8:00 - 14:30	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
Tom King (with Assistant)	8:40 - 9:10	Delta Well & Pump	GWTS Restart Following Piping Repairs
Yash Saha	8:15 - 11:15	HDR Inc.	Structural Engineering Inspection
Marlon Montoya	9:35 - 11:45	HDR Inc.	Electrical Engineering Inspection
Rachel (Intern)	9:35 - 11:45	HDR Inc.	Electrical Engineering Inspection

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W		
2. 100-ft Solinst - W			

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Daniel Prisco-Buxbaum - Preferred

7:30 - DPB (Preferred) on-site. SVE and GWTS offline upon arrival.
8:00 - CM (Preferred) on-site.
8:15 - Yash Saha (HDR Inc.) on-site to conduct structural engineering inspection.
8:40 - Tom King (Delta Well & Pump) on-site with an assistant.
8:50 - Restarted GWTS. No leaks or other issues noted with piping. Flow rate of 60 GPM observed. Computer readout upstairs incorrectly lists flow as 166 GPM.
9:10 - Delta Well & Pump off-site.
9:35 - Marlon and Rachel (HDR Inc.) on-site. Preferred personnel conducted complete site walk-through with HDR representatives.
10:20 - 11:20 - DPB and CM performed Task 4 monitoring well gauging activities.
11:10 - Monitoring well MW-9A slip cap observed to have been shattered (possibly due to a car driving over the well).
11:15 - Yash (HDR Inc.) off-site
11:45 - Marlon and Rachel (HDR Inc.) off-site
12:30 - Collected sample: INF-GW-042919
12:35 - Collected sample: EFF-GW-042919
12:45 - Collected readings from SVE legs with system offline using 5-gas meter.
13:15 - 14:15 - DPB and CM completed repairs to vandalized sections of SVE piping.
14:30 - Treatment building secured. All parties off-site.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Daniel Prisco-Buxbaum (Preferred)** Project Manager: **M. Lehtinen**

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly O&M Data Log

Date: 4/29/2019

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	166 GPM*	100%

Total Gallons Treated:	448,642,600*
Discharge Rate:	293*
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	37 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	4.79
Discharge Temp:	18ºC
Discharge Conductivity:	-1.4

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 4,596,100 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,607 GPH
Total gallons: 6,342,560 gallons	

Weather:
55ºF, sunny, moderate humidity, light southwesterly 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
Air Sparge System
O&M Data Log

Date: 4/29/2019

Readings at Well	
Near Well Head Bladder	N/A*

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* ºF
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
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- 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 GROUNDWATEF
CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly Air Monitoring Log

Date: 4/29/2019
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	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	0.2*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	0.4*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Daniel Prisco-Buxbaum**
Air readings collected by: **Daniel Prisco-Buxbaum**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
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

	Prior to 10/3/05	**After 10/3/05**
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

Air Sparge System Monitoring Log

Date: 4/29/2019

	MultiRAE Plus PGM-50				
	VOC	**CO**	**Oxygen**	**LEL**	**H2S**
EPA-EXT-04	N/A	N/A	N/A	N/A	N/A
EPA-MW-21R	N/A	N/A	N/A	N/A	N/A
ST-MW-19	N/A	N/A	N/A	N/A	N/A
Background	N/A	N/A	N/A	N/A	N/A

VOC: Volatile Organic Compounds (in ppm)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
ppm: parts per million
All PID readings taken at well heads.

	HORIBA						
	pH	**Conduc.**	**Turb.**	**DO**	**Temp.**	**Sal.**	**ORP**
Effluent	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA-MW-21R	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ST-MW-19	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Influent	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
***Air readings could not be collected due to the SVE Blower being offline.**

TEMP. - Temperature measured in degrees Fahrenheit.
COND. - Conductivity measured in milliSiemens per centimeter (mS/cm).
TURB. - Turbidity measure in nephelometric turbidity units (NTU).
DO - Dissolved Oxygen measured in milligrams per liter (mg/L).
SALINITY - Salinity in percentage.
ORP- Oxidation Reduction Potential

WATER LEVEL DATA SUMMARY

PROJECT: Stanton Cleaners
LOCATION: Great Neck, NY
CLIENT: HDR
SURVEY DATUM: ft msl
MEASURING DEVICE: Solinst Water Level Indicator

JOB NUMBER:
DATE: 4/29/2019
MEASURED BY: DPB

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:00	54.39	20.24	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	11:20	61.40	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	10:20	59.54	23.29	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:11	47.74	21.58	LIHA PL
ST-MW-06	ft BTOC	69.83	11:15	42.48	N/A	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	11:07	58.98	19.15	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:02	54.83	20.42	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	10:53	65.86	21.34	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	11:10	51.21	18.52	LIHA PL
ST-MW-16	ft BTOC	75.78	10:25	50.36	25.42	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	10:52	65.60	20.93	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	10:45	61.46	21.04	Triangle park well
ST-MW-20	ft BTOC	84.53	10:54	67.40	17.13	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	10:30	54.67	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	10:42	68.08	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	10:37	81.28	49.67	Amherst Rd
ST-MW-18	ft BTOC	84.40	10:50	69.25	15.15	Ascot Ridge (past apt bldg)

Notes:
*Slip cap for MW-9A was shattered (completely destroyed), likely due to a vehicle driving over it.

Stanton Cleaners – April 2019 O&M (4/29/19) – Additional SVE Monitoring

- Collect headspace readings directly on the SVE wells with associated piping valves closed

Well ID	VOC	CO	Oxygen	LEL	H_2S
EPA-SVE-Sparge 1	0.0	0	20.9	0	0
EPA-SVE-Sparge 2	0.0	0	20.9	0	0
EPA-SVE-Sparge 3	Could Not Locate				
EPA-SVE-Sparge 4	0.0	0	20.9	0	0
EPA-SVE-4R	Steel Vault Cover Welded Shut				
EPA-SVE-5	0.0	0	20.9	0	0
EPA-SVE-6	Could Not Locate				

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	9.48	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.0	0	20.9	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

*The Fernco connection of SS-D was found to be disconnected again, likely from the piping being distorted by tree growth along the side of the building. This was reconnected, although this tree will need to be removed to prevent further incidence of the Fernco connection becoming disconnected.

PHOTOGRAPHIC LOG
Date: 4/29/19
HDR Job No.
Stanton Cleaners Site

PHOTO	DATE	TIME	DESCRIPTION	COMMENTS
Picture DSCF2265	4/29/2019	11:07	View of the completely shattered PVC slip cap for MW-09A (PVC splinters can be seen in the unpaved area surrounding the well).	
Picture DSCF2266	4/29/2019	13:15	The vandalized sections of the SVE piping were repaired and/or replaced as necessary.	
Picture DSCF2270	4/29/2019	9:00	View of the recently replaced Y-filter and repaired piping for the GWTS. The GWTS was restarted without incident and was running when Preferred secured the treatment system at the end of the day.	
Picture DSCF2271	4/29/2019	14:15	The bollards protecting the vapor-phase carbon unit have now been completely torn from their anchoring bolts and are in need of replacement and/or reinstallation.	

Photos 4/29/2019

Picture DSCF2265

View of the completely shattered PVC slip cap for MW-09A (PVC splinters can be seen in the unpaved area surrounding the well).

Picture DSCF2266

The vandalized sections of the SVE piping were repaired and/or replaced as necessary.

Photos 4/29/2019

Picture DSCF2270

View of the recently replaced Y-filter and repaired piping for the GWTS. The GWTS was restarted without incident and was running when Preferred secured the treatment system at the end of the day.

Picture DSCF2271

The bollards protecting the vapor-phase carbon unit have now been completely torn from their anchoring bolts and are in need of replacement and/or reinstallation.

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

Date: 26-Apr-19
REPORT No.
PAGE No. 1

PREPARED BY: Edward Combs 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
Edward Combs	Technician	9:00 - 13:15	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
Tom King	9:15 - 12:00	Delta Well & Pump	GWTS Piping Repairs
Frank	9:15 - 12:00	Delta Well & Pump	GWTS Piping Repairs

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W			

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs -Preferred

11:48 - Preferred (EC) on-site. SVE and GWTS both remain offline
9:15 - Tom King and Frank (Delta Well & Pump) on-site. Begin draining water in the GWTS lines and disconnecting the section of piping which required replacing.
11:45 - GWTS repairs completed. GWTS was not restarted due to needing to allow the glue used to secure the piping to dry. GWTS will be restarted on Monday morning.
12:00 - Delta Well & Pump technicians off-site. EC mobilized to Ace Hardware to purchase necessary supplies to repair vandalized sections of SVE piping.
13:15 - EC returned to the site with the supplies for the SVE piping repairs, and secured the treatment building. EC off-site.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Daniel Prisco-Buxbaum (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

Date: 6/4/2019
REPORT No.
PAGE No. 1

PREPARED BY: Edward Combs 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
Edward Combs	Technician	9:30 - 14:45	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W		
2. 100-ft Solinst - W			

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs - Preferred

9:30 - EC (Preferred) on-site. SVE offline and GWTS online upon arrival.
9:45 - Collect system readings in treatment building.
10:00 - Collect GWTS Influent and Effluent Samples
10:30 - Collect readings from SVE well headspaces and sample ports with 5-gas meter.
11:00 - Perform Task 4 monitoring well gauging activities; Replaced PVC slip cap for MW-09A.
12:45 - Perform general housekeeping around property.
14:45 - Treatment building secured, EC (Preferred) offsite.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Edward Combs (Preferred)** Project Manager: **M. Lehtinen**

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly O&M Data Log

Date: 6/4/2019

Data from Computer Display Screen:

Pump	Flow	Valve open	
RW-2	166 GPM*	100%	
Total Gallons Treated:			454,917,109*
Discharge Rate:			293*
Discharge Conductivity:			0*
Discharge pH:			5.6*
SVE Air Flow Rate:			9 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.02
Discharge Temp:	18ºC
Discharge Conductivity:	-1.4

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 7,713,800 gallons	

meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,603 GPH
Total gallons: 1,453,149.9 gallons	

Weather:
65ºF, clear, moderate humidity, light northerly 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
Air Sparge System
O&M Data Log

Date: 6/4/2019

Readings at Well	
Near Well Head Bladder	N/A*

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* ºF
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
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- 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
Soil-Vapor Extraction and Pump and Treat System
Monthly Air Monitoring Log

Date: 6/4/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.5*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	2.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	1.4*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	3.7*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	1.7*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	3.5*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	2.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Edward Combs**
Air readings collected by: **Edward Combs**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
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

	Prior to 10/3/05	**After 10/3/05**
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

Air Sparge System Monitoring Log

Date: 6/4/2019

	MultiRAE Plus PGM-50				
	VOC	**CO**	**Oxygen**	**LEL**	**H2S**
EPA-EXT-04	N/A	N/A	N/A	N/A	N/A
EPA-MW-21R	N/A	N/A	N/A	N/A	N/A
ST-MW-19	N/A	N/A	N/A	N/A	N/A
Background	N/A	N/A	N/A	N/A	N/A

VOC: Volatile Organic Compounds (in ppm)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
ppm: parts per million
All PID readings taken at well heads.

	HORIBA						
	pH	**Conduc.**	**Turb.**	**DO**	**Temp.**	**Sal.**	**ORP**
Effluent	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA-MW-21R	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ST-MW-19	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Influent	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
***Air readings could not be collected due to the SVE Blower being offline.**

TEMP. - Temperature measured in degrees Fahrenheit.
COND. - Conductivity measured in milliSiemens per centimeter (mS/cm).
TURB. - Turbidity measure in nephelometric turbidity units (NTU).
DO - Dissolved Oxygen measured in milligrams per liter (mg/L).
SALINITY - Salinity in percentage.
ORP- Oxidation Reduction Potential

WATER LEVEL DATA SUMMARY

PROJECT: Stanton Cleaners
LOCATION: Great Neck, NY
CLIENT: HDR
SURVEY DATUM: ft msl
MEASURING DEVICE: Solinst Water Level Indicator

JOB NUMBER:
DATE: 6/4/2019
MEASURED BY: EC

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	12:12	55.49	19.14	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	12:29	65.73	18.40	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	12:39	62.89	19.94	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	12:21	47.90	21.42	LIHA PL
ST-MW-06	ft BTOC	69.83	12:25	42.28	27.55	LIHA PL 4"
ST-MW-09A*	ft BTOC	78.13	12:16	63.14	14.99	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	12:09	56.25	19.00	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	12:00	67.70	19.50	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	12:22	51.66	18.07	LIHA PL
ST-MW-16	ft BTOC	75.78	12:33	50.55	25.23	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	12:02	67.17	19.36	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	12:19	63.10	19.40	Triangle park well
ST-MW-20	ft BTOC	84.53	12:05	67.80	16.73	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	11:33	55.47	22.90	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:48	69.89	20.24	Mirreless Rd
ST-MW-13	ft BTOC	130.95	11:42	82.72	48.23	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:57	69.86	14.54	Ascot Ridge (past apt bldg)

Notes:
*Slip cap for MW-9A was replaced.

PHOTOGRAPHIC LOG
Date: 6/4/19
HDR Job No.
Stanton Cleaners Site

PHOTO	DATE	TIME	DESCRIPTION	COMMENTS
IMG_8230	6/4/2019	10:25	Samples were collected from the GWTS as part of this O&M event. With the GWTS operating again, Influent and Effluent sample collection will be routine during monthly O&M events.	
IMG_8233	6/4/2019	14:30	View of the replaced PVC slip cap for MW-09A	

Photos 6/4/2019

IMG_8230
Samples were collected from the GWTS as part of this O&M event. With the GWTS operating again, Influent and Effluent sample collection will be routine during monthly O&M events.

IMG_8233

View of the replaced PVC slip cap for MW-09A

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

Date: 6/28/2019
REPORT No.
PAGE No. 1

PREPARED BY: Edward Combs 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
Edward Combs	Technician	9:45-13:45	Preferred
Sean Igoe	Technician	9:45-13:45	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W		
2. 100-ft Solinst - W			

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs - Preferred

9:45 - EC & SI (Preferred) on-site. SVE offline and GWTS online upon arrival.
10:00 - Collect system readings in treatment building.
10:30 - Collect GWTS Influent and Effluent Samples
10:40 - Collect readings from SVE well headspaces and sample ports with 5-gas meter.
11:20 - Perform Task 4 monitoring well gauging activities.
12:40 - Perform general housekeeping around property.
13:45 - Treatment building secured, EC & SI (Preferred) offsite.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Edward Combs (Preferred)** Project Manager: **M. Lehtinen**

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly O&M Data Log

Date: 6/28/2019

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	85 GPM	100%

Total Gallons Treated:	457,972,438
Discharge Rate:	150
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	9 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	4.92
Discharge Temp:	20ºC
Discharge Conductivity:	-1.5

Flow meter reading:

Flow Rate:	63 GPM
Total gallons: 9,796,368 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,607 GPH
Total gallons: 1,573,804.8. gallons	

Weather:
90ºF, clear, high humidity, light northerly 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
Air Sparge System
O&M Data Log

Date: 6/28/2019

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* ºF
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
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- 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
Soil-Vapor Extraction and Pump and Treat System
Monthly Air Monitoring Log

Date: 6/28/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.2*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.3*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	1.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.9*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	0.3*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Edward Combs**
Air readings collected by: **Edward Combs**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
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

	Prior to 10/3/05	**After 10/3/05**
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

Air Sparge System Monitoring Log

Date: 6/28/2019

	MultiRAE Plus PGM-50				
	VOC	**CO**	**Oxygen**	**LEL**	**H2S**
EPA-EXT-04	N/A	N/A	N/A	N/A	N/A
EPA-MW-21R	N/A	N/A	N/A	N/A	N/A
ST-MW-19	N/A	N/A	N/A	N/A	N/A
Background	N/A	N/A	N/A	N/A	N/A

VOC: Volatile Organic Compounds (in ppm)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
ppm: parts per million
All PID readings taken at well heads.

	HORIBA						
	pH	**Conduc.**	**Turb.**	**DO**	**Temp.**	**Sal.**	**ORP**
Effluent	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EPA-MW-21R	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ST-MW-19	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Influent	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
***Air readings could not be collected due to the SVE Blower being offline.**

TEMP. - Temperature measured in degrees Fahrenheit.
COND. - Conductivity measured in milliSiemens per centimeter (mS/cm).
TURB. - Turbidity measure in nephelometric turbidity units (NTU).
DO - Dissolved Oxygen measured in milligrams per liter (mg/L).
SALINITY - Salinity in percentage.
ORP- Oxidation Reduction Potential

WATER LEVEL DATA SUMMARY

PROJECT: Stanton Cleaners
LOCATION: Great Neck, NY
CLIENT: HDR
SURVEY DATUM: ft msl
MEASURING DEVICE: Solinst Water Level Indicator

JOB NUMBER:
DATE: 6/28/2019
MEASURED BY: EC

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:47	56.15	18.48	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	12:05	63.20	20.93	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	12:08	61.13	21.70	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:58	48.43	20.89	LIHA PL
ST-MW-06	ft BTOC	69.83	12:02	42.80	27.03	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	11:52	60.85	17.28	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:45	56.92	18.33	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	11:39	68.36	18.84	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	12:00	52.40	17.33	LIHA PL
ST-MW-16	ft BTOC	75.78	12:17	50.76	25.02	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	11:41	67.80	18.73	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	11:55	63.68	18.82	Triangle park well
ST-MW-20	ft BTOC	84.53	11:43	68.74	15.79	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	11:21	55.88	22.49	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:30	70.69	19.44	Mirreless Rd
ST-MW-13	ft BTOC	130.95	11:26	83.23	47.72	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:35	70.72	13.68	Ascot Ridge (past apt bldg)

Notes:

PHOTOGRAPHIC LOG
Date: 6/28/19
HDR Job No.
Stanton Cleaners Site

PHOTO	DATE	TIME	DESCRIPTION	COMMENTS
IMG_8494	6/28/2019	11:00	SVE sample port readings were collected using a 5-Gas Meter only during this O&M event, due to the system currently being offline.	
IMG_8495	6/28/2019	11:30	View of monitoring well gauging being performed under Task 4.	

Photos 6/28/2019

IMG_8494

SVE sample port readings were collected using a 5-Gas Meter only during this O&M event, due to the system currently being offline.

IMG_8495

View of monitoring well gauging being performed under Task 4.

Appendix B

GWE&TS O&M Reports

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE
Soil-Vapor Extraction and Pump and Treat System
Monthly O&M Data Log

Date: 4/29/2019

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	166 GPM*	100%

Total Gallons Treated:	448,642,600*
Discharge Rate:	293*
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	37 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	4.79
Discharge Temp:	18ºC
Discharge Conductivity:	-1.4

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 4,596,100 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,607 GPH
Total gallons: 6,342,560 gallons	

Weather:
55ºF, sunny, moderate humidity, light southwesterly 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: 6/4/2019

Data from Computer Display Screen:

Pump	Flow	Valve open	
RW-2	166 GPM*	100%	
Total Gallons Treated:			454,917,109*
Discharge Rate:			293*
Discharge Conductivity:			0*
Discharge pH:			5.6*
SVE Air Flow Rate:			9 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.02
Discharge Temp:	18ºC
Discharge Conductivity:	-1.4

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 7,713,800 gallons	

meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,603 GPH
Total gallons: 1,453,149.9 gallons	

Weather:
65ºF, clear, moderate humidity, light northerly 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: 6/28/2019

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	85 GPM	100%

Total Gallons Treated:	457,972,438
Discharge Rate:	150
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	9 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	4.92
Discharge Temp:	20ºC
Discharge Conductivity:	-1.5

Flow meter reading:

Flow Rate:	63 GPM
Total gallons: 9,796,368 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2,607 GPH
Total gallons: 1,573,804.8. gallons	

Weather:
90ºF, clear, high humidity, light northerly 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

Lookout Operational Data Logs

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/1/2019 0:00	166	446992194.1	39
4/1/2019 4:00	166	447031491.8	38
4/1/2019 8:00	166	447070792.3	39
4/1/2019 12:00	166	447110092.8	37
4/1/2019 16:00	166	447149390.6	39
4/1/2019 20:00	166	447188691.1	38
4/2/2019 0:00	166	447227988.8	40
4/2/2019 4:00	166	447267289.3	40
4/2/2019 8:00	166	447306589.8	40
4/2/2019 12:00	166	447345887.5	40
4/2/2019 16:00	166	447385188	39
4/2/2019 20:00	166	447424488.5	40
4/3/2019 0:00	166	447463786.3	39
4/3/2019 4:00	166	447503086.8	39
4/3/2019 8:00	166	447542387.3	40
4/3/2019 12:00	166	447581685	37
4/3/2019 16:00	166	447620985.5	39
4/3/2019 20:00	166	447660286	38
4/4/2019 0:00	85	447680975.7	36
4/4/2019 4:00	166	447713397.4	40
4/4/2019 8:00	166	447752697.9	36
4/4/2019 12:00	166	447791995.6	40
4/4/2019 16:00	166	447831296.1	40
4/4/2019 20:00	166	447870596.6	40
4/5/2019 0:00	166	447909894.3	39
4/5/2019 4:00	166	447949194.8	39
4/5/2019 8:00	166	447988495.3	40
4/5/2019 12:00	166	448027793.1	40
4/5/2019 16:00	166	448067093.6	38
4/5/2019 20:00	166	448106394.1	36
4/6/2019 0:00	166	448145691.8	38
4/6/2019 4:00	166	448184992.3	38
4/6/2019 8:00	166	448224292.8	40
4/6/2019 12:00	166	448263590.5	38
4/6/2019 16:00	166	448302891	40
4/6/2019 20:00	166	448342191.5	36
4/7/2019 0:00	166	448381489.3	39
4/7/2019 4:00	166	448420789.8	39
4/7/2019 8:00	166	448460087.5	35
4/7/2019 12:00	166	448499388	37
4/7/2019 16:00	166	448538688.5	35

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/7/2019 20:00	166	448577986.2	39
4/8/2019 0:00	166	448617286.7	39
4/8/2019 4:00	166	448656587.2	39
4/8/2019 8:00	166	448695885	39
4/8/2019 12:00	166	448735185.5	35
4/8/2019 16:00	166	448774486	38
4/8/2019 20:00	166	448813783.7	39
4/9/2019 0:00	166	448853084.2	38
4/9/2019 4:00	166	448892384.7	36
4/9/2019 8:00	166	448931682.4	39
4/9/2019 12:00	166	448970982.9	38
4/9/2019 16:00	85	449004594.2	36
4/9/2019 20:00	166	449037099.8	35
4/10/2019 0:00	166	449076400.3	37
4/10/2019 4:00	166	449115700.8	38
4/10/2019 8:00	166	449154998.5	35
4/10/2019 12:00	166	449194299	35
4/10/2019 16:00	166	449233599.5	40
4/10/2019 20:00	166	449272897.3	34
4/11/2019 0:00	166	449312197.8	36
4/11/2019 4:00	166	449351498.3	41
4/11/2019 8:00	166	449390796	39
4/11/2019 12:00	166	449430096.5	38
4/11/2019 16:00	166	449469397	36
4/11/2019 20:00	166	449508694.7	40
4/12/2019 0:00	166	449547995.2	39
4/12/2019 4:00	166	449587295.7	38
4/12/2019 8:00	166	449626593.5	39
4/12/2019 12:00	166	449665894	38
4/12/2019 16:00	166	449705194.5	37
4/12/2019 20:00	166	449744492.2	39
4/13/2019 0:00	166	449783792.7	40
4/13/2019 4:00	166	449823090.4	39
4/13/2019 8:00	166	449862390.9	40
4/13/2019 12:00	85	449890315.3	39
4/13/2019 16:00	166	449923903.1	37
4/13/2019 20:00	166	449963203.6	39
4/14/2019 0:00	166	450002504.1	35
4/14/2019 4:00	166	450041801.8	34
4/14/2019 8:00	166	450081102.3	38
4/14/2019 12:00	85	450111352.5	12

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/14/2019 16:00	166	450143157.6	13
4/14/2019 20:00	166	450182458.1	36
4/15/2019 0:00	166	450221758.6	38
4/15/2019 4:00	166	450261056.3	40
4/15/2019 8:00	166	450300356.8	36
4/15/2019 12:00	166	450339657.3	38
4/15/2019 16:00	166	450378955.1	38
4/15/2019 20:00	166	450418255.6	39
4/16/2019 0:00	166	450457556.1	37
4/16/2019 4:00	166	450496853.8	37
4/16/2019 8:00	166	450536154.3	40
4/16/2019 12:00	166	450575454.8	40
4/16/2019 16:00	166	450614752.5	40
4/16/2019 20:00	166	450654053	37
4/17/2019 0:00	166	450693353.5	37
4/17/2019 4:00	166	450732651.3	36
4/17/2019 8:00	166	450771951.8	38
4/17/2019 12:00	166	450811252.3	37
4/17/2019 16:00	166	450850550	39
4/17/2019 20:00	166	450889850.5	40
4/18/2019 0:00	166	450929151	40
4/18/2019 4:00	166	450968448.7	40
4/18/2019 8:00	166	451007749.2	38
4/18/2019 12:00	166	451047047	40
4/18/2019 16:00	166	451086347.5	37
4/18/2019 20:00	166	451125648	36
4/19/2019 0:00	166	451164945.7	39
4/19/2019 4:00	166	451204246.2	38
4/19/2019 8:00	166	451243546.7	37
4/19/2019 12:00	166	451282844.4	39
4/19/2019 16:00	166	451322144.9	39
4/19/2019 20:00	166	451361442.7	39
4/20/2019 0:00	166	451400743.2	38
4/20/2019 4:00	166	451440043.7	39
4/20/2019 8:00	166	451479341.4	35
4/20/2019 12:00	166	451518641.9	37
4/20/2019 16:00	166	451557942.4	37
4/20/2019 20:00	166	451597240.1	39
4/21/2019 0:00	166	451636540.6	39
4/21/2019 4:00	166	451675841.1	36
4/21/2019 8:00	166	451715138.8	39

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/21/2019 12:00	166	451754439.3	37
4/21/2019 16:00	166	451793739.8	39
4/21/2019 20:00	166	451833037.6	39
4/22/2019 0:00	166	451872338.1	40
4/22/2019 4:00	85	451893094.7	36
4/22/2019 8:00	166	451928311	38
4/22/2019 12:00	166	451967611.5	40
4/22/2019 16:00	166	452006912	38
4/22/2019 20:00	166	452046209.8	38
4/23/2019 0:00	166	452085510.3	39
4/23/2019 4:00	166	452124810.8	39
4/23/2019 8:00	166	452164108.5	39
4/23/2019 12:00	166	452203409	39
4/23/2019 16:00	166	452242709.5	37
4/23/2019 20:00	166	452282007.2	38
4/24/2019 0:00	85	452314973.6	40
4/24/2019 4:00	85	452335097.4	45
4/24/2019 8:00	166	452368734.7	40
4/24/2019 12:00	166	452408035.2	38
4/24/2019 16:00	166	452447335.7	36
4/24/2019 20:00	166	452486633.4	37
4/25/2019 0:00	166	452525933.9	35
4/25/2019 4:00	166	452565234.4	37
4/25/2019 8:00	166	452604532.1	38
4/25/2019 12:00	166	452643832.6	41
4/25/2019 16:00	166	452683130.4	39
4/25/2019 20:00	85	452719753	36
4/26/2019 0:00	166	452740876	38
4/26/2019 4:00	166	452780173.7	39
4/26/2019 8:00	166	452819474.2	40
4/26/2019 12:00	166	452858774.7	39
4/26/2019 16:00	166	452898072.4	37
4/26/2019 20:00	85	452933238.9	35
4/27/2019 0:00	85	452953362.6	38
4/27/2019 4:00	166	452981359	38
4/27/2019 8:00	166	453020659.5	37
4/27/2019 12:00	166	453059960	36
4/27/2019 16:00	166	453099257.7	39
4/27/2019 20:00	85	453123317.6	34
4/28/2019 0:00	85	453143441.4	40
4/28/2019 4:00	166	453177997.7	39

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
4/28/2019 8:00	166	453217298.2	39
4/28/2019 12:00	166	453256598.7	36
4/28/2019 16:00	166	453295896.5	38
4/28/2019 20:00	166	453335197	40
4/29/2019 0:00	166	453374497.5	37
4/29/2019 4:00	166	453413795.2	35
4/29/2019 8:00	166	453453095.7	36
4/29/2019 12:00	166	453492396.2	38
4/29/2019 16:00	166	453531693.9	38
4/29/2019 20:00	85	453553784.1	40
4/30/2019 0:00	85	453573907.9	36
4/30/2019 4:00	166	453596516.9	38
4/30/2019 8:00	166	453635817.4	39
4/30/2019 12:00	166	453675117.9	38
4/30/2019 16:00	85	453703667.8	38
4/30/2019 20:00	85	453723791.5	40

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/1/2019 0:00	166	453747191.5	39
5/1/2019 4:00	166	453786492	36
5/1/2019 8:00	166	453825792.5	35
5/1/2019 12:00	166	453865090.2	37
5/1/2019 16:00	166	453904390.7	38
5/1/2019 20:00	166	453943691.2	40
5/2/2019 0:00	166	453982988.9	40
5/2/2019 4:00	166	454022289.4	35
5/2/2019 8:00	166	454061589.9	36
5/2/2019 12:00	166	454100887.7	39
5/2/2019 16:00	166	454140188.2	35
5/2/2019 20:00	166	454179488.7	39
5/3/2019 0:00	166	454218786.4	38
5/3/2019 4:00	166	454258086.9	39
5/3/2019 8:00	166	454297387.4	38
5/3/2019 12:00	166	454336685.1	40
5/3/2019 16:00	166	454375985.6	39
5/3/2019 20:00	166	454415286.1	39
5/4/2019 0:00	166	454454583.9	39
5/4/2019 4:00	166	454493884.4	40
5/4/2019 8:00	166	454533184.9	38
5/4/2019 12:00	166	454572482.6	39
5/4/2019 16:00	166	454611783.1	35
5/4/2019 20:00	166	454651083.6	38
5/5/2019 0:00	166	454690381.3	39
5/5/2019 4:00	166	454729681.8	38
5/5/2019 8:00	166	454768982.3	40
5/5/2019 12:00	85	454796719.8	37
5/5/2019 16:00	85	454816843.6	36
5/5/2019 20:00	166	454852890.7	38
5/6/2019 0:00	166	454892191.2	36
5/6/2019 4:00	166	454931491.7	40
5/6/2019 8:00	85	454956351.1	6
5/6/2019 12:00	85	454976474.9	35
5/6/2019 16:00	85	454996598.6	38
5/6/2019 20:00	166	455016223.4	39
5/7/2019 0:00	166	455055523.9	38
5/7/2019 4:00	166	455094824.4	38
5/7/2019 8:00	85	455118260.6	12
5/7/2019 12:00	85	455138384.3	10
5/7/2019 16:00	85	455158508.1	38

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/7/2019 20:00	166	455193190.9	35
5/8/2019 0:00	166	455232491.4	37
5/8/2019 4:00	85	455265667.4	38
5/8/2019 8:00	85	455285789.7	12
5/8/2019 12:00	85	455305913.5	12
5/8/2019 16:00	85	455326037.2	38
5/8/2019 20:00	85	455346159.5	38
5/9/2019 0:00	85	455366283.3	12
5/9/2019 4:00	85	455386407	9
5/9/2019 8:00	85	455406529.4	8
5/9/2019 12:00	85	455426653.1	37
5/9/2019 16:00	85	455446776.9	9
5/9/2019 20:00	85	455466899.2	37
5/10/2019 0:00	166	455494577.9	12
5/10/2019 4:00	85	455519675.5	9
5/10/2019 8:00	85	455539797.8	12
5/10/2019 12:00	85	455559921.6	8
5/10/2019 16:00	166	455589305.5	38
5/10/2019 20:00	166	455628603.2	38
5/11/2019 0:00	166	455667903.7	10
5/11/2019 4:00	85	455693359.8	11
5/11/2019 8:00	85	455713482.1	12
5/11/2019 12:00	85	455733605.9	8
5/11/2019 16:00	166	455754564.4	10
5/11/2019 20:00	166	455793864.9	12
5/12/2019 0:00	166	455833165.4	38
5/12/2019 4:00	85	455854809.4	11
5/12/2019 8:00	85	455874933.2	11
5/12/2019 12:00	85	455895056.9	12
5/12/2019 16:00	85	455915179.3	11
5/12/2019 20:00	85	455935303	13
5/13/2019 0:00	85	455955426.8	9
5/13/2019 4:00	85	455975549.1	11
5/13/2019 8:00	85	455995672.9	12
5/13/2019 12:00	85	456015796.6	11
5/13/2019 16:00	166	456050861.9	8
5/13/2019 20:00	166	456090162.4	38
5/14/2019 0:00	85	456110603	10
5/14/2019 4:00	85	456130725.3	13
5/14/2019 8:00	85	456150849.1	39
5/14/2019 12:00	166	456177357.7	34

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/14/2019 16:00	166	456216655.5	11
5/14/2019 20:00	85	456238610.1	11
5/15/2019 0:00	85	456258733.9	9
5/15/2019 4:00	85	456278856.2	10
5/15/2019 8:00	85	456298979.9	8
5/15/2019 12:00	85	456319103.7	12
5/15/2019 16:00	85	456339226	25
5/15/2019 20:00	85	456359349.8	11
5/16/2019 0:00	85	456379473.5	12
5/16/2019 4:00	85	456399595.9	12
5/16/2019 8:00	85	456419719.6	12
5/16/2019 12:00	85	456439843.4	12
5/16/2019 16:00	85	456459965.7	36
5/16/2019 20:00	85	456480089.4	9
5/17/2019 0:00	85	456500211.8	12
5/17/2019 4:00	85	456520335.5	8
5/17/2019 8:00	85	456540459.3	13
5/17/2019 12:00	85	456560581.6	37
5/17/2019 16:00	85	456580317.1	11
5/17/2019 20:00	85	456600440.8	12
5/18/2019 0:00	85	456620563.1	12
5/18/2019 4:00	166	456651151.6	24
5/18/2019 8:00	166	456690452.1	11
5/18/2019 12:00	166	456729749.8	25
5/18/2019 16:00	166	456769050.3	11
5/18/2019 20:00	85	456799358.2	13
5/19/2019 0:00	166	456821074.2	38
5/19/2019 4:00	166	456860374.7	36
5/19/2019 8:00	166	456899675.2	10
5/19/2019 12:00	166	456938972.9	36
5/19/2019 16:00	85	456962324.6	11
5/19/2019 20:00	85	456982448.4	11
5/20/2019 0:00	85	457002570.7	12
5/20/2019 4:00	85	457022694.4	11
5/20/2019 8:00	85	457042818.2	10
5/20/2019 12:00	85	457062940.5	36
5/20/2019 16:00	85	457083064.3	11
5/20/2019 20:00	85	457103188	12
5/21/2019 0:00	85	457123310.4	9
5/21/2019 4:00	85	457143434.1	39
5/21/2019 8:00	85	457163557.9	10

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/21/2019 12:00	85	457183680.2	13
5/21/2019 16:00	85	457203804	12
5/21/2019 20:00	85	457223927.7	12
5/22/2019 0:00	85	457244050	13
5/22/2019 4:00	85	457264173.8	13
5/22/2019 8:00	85	457284297.5	39
5/22/2019 12:00	85	457304419.9	37
5/22/2019 16:00	85	457324543.6	12
5/22/2019 20:00	85	457344666	12
5/23/2019 0:00	85	457364789.7	13
5/23/2019 4:00	166	457400140.1	10
5/23/2019 8:00	166	457439437.9	12
5/23/2019 12:00	42	457477582.3	12
5/23/2019 16:00	85	457497430.5	13
5/23/2019 20:00	85	457517552.8	10
5/24/2019 0:00	85	457537676.6	13
5/24/2019 4:00	166	457565978.8	13
5/24/2019 8:00	85	457601010.7	10
5/24/2019 12:00	85	457621134.5	10
5/24/2019 16:00	85	457641258.2	14
5/24/2019 20:00	85	457661380.6	11
5/25/2019 0:00	85	457681504.3	13
5/25/2019 4:00	85	457701628.1	12
5/25/2019 8:00	85	457721750.4	13
5/25/2019 12:00	85	457741874.1	12
5/25/2019 16:00	85	457761997.9	10
5/25/2019 20:00	85	457782120.2	9
5/26/2019 0:00	85	457802244	7
5/26/2019 4:00	85	457822367.7	12
5/26/2019 8:00	85	457842490.1	12
5/26/2019 12:00	85	457862613.8	8
5/26/2019 16:00	85	457882737.6	11
5/26/2019 20:00	85	457902859.9	10
5/27/2019 0:00	85	457922983.6	11
5/27/2019 4:00	85	457943107.4	10
5/27/2019 8:00	85	457963229.7	13
5/27/2019 12:00	85	457983353.5	11
5/27/2019 16:00	85	458003477.2	13
5/27/2019 20:00	85	458023599.6	12
5/28/2019 0:00	166	458045075.2	13
5/28/2019 4:00	85	458074143.8	10

Stanton Cleaners Groundwater Contamination Site - May 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
5/28/2019 8:00	85	458094266.1	12
5/28/2019 12:00	85	458114389.8	12
5/28/2019 16:00	85	458134512.2	13
5/28/2019 20:00	85	458154635.9	11
5/29/2019 0:00	166	458191124	12
5/29/2019 4:00	166	458230421.7	11
5/29/2019 8:00	85	458258780	12
5/29/2019 12:00	85	458278903.8	6
5/29/2019 16:00	85	458299026.1	12
5/29/2019 20:00	85	458319149.9	11
5/30/2019 0:00	85	458339273.6	11
5/30/2019 4:00	85	458359395.9	12
5/30/2019 8:00	85	458379519.7	11
5/30/2019 12:00	85	458399643.4	11
5/30/2019 16:00	85	458419765.8	10
5/30/2019 20:00	166	458444521.1	8
5/31/2019 0:00	166	458483821.6	8
5/31/2019 4:00	85	458504654.6	10
5/31/2019 8:00	85	458524778.3	12
5/31/2019 12:00	85	458544902.1	11
5/31/2019 16:00	85	458565024.4	12
5/31/2019 20:00	37	458584137.2	11

Stanton Cleaners Groundwater Contamination Site - June 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/1/2019 0:00	166	458621766.8	8
6/1/2019 4:00	166	458661064.6	11
6/1/2019 8:00	85	458682228.7	9
6/1/2019 12:00	166	458709933.4	12
6/1/2019 16:00	166	458749231.2	9
6/1/2019 20:00	166	458788531.7	12
6/2/2019 0:00	166	458827832.2	12
6/2/2019 4:00	85	458857024.1	11
6/2/2019 8:00	85	458877147.8	12
6/2/2019 12:00	85	458897271.6	11
6/2/2019 16:00	166	458931211.8	11
6/2/2019 20:00	166	458970512.3	10
6/3/2019 0:00	85	459000041.9	12
6/3/2019 4:00	85	459020165.7	11
6/3/2019 8:00	85	459040289.4	8
6/3/2019 12:00	85	459060411.8	12
6/3/2019 16:00	85	459080535.5	11
6/3/2019 20:00	85	459100659.3	9
6/4/2019 0:00	85	459120781.6	12
6/4/2019 4:00	85	459140905.4	11
6/4/2019 8:00	85	459161029.1	13
6/4/2019 12:00	85	459181151.4	12
6/4/2019 16:00	85	459201275.2	12
6/4/2019 20:00	85	459221398.9	7
6/5/2019 0:00	85	459241521.3	11
6/5/2019 4:00	85	459261645	13
6/5/2019 8:00	85	459281768.8	13
6/5/2019 12:00	85	459301891.1	13
6/5/2019 16:00	85	459322014.9	14
6/5/2019 20:00	85	459342138.6	14
6/6/2019 0:00	85	459362261	12
6/6/2019 4:00	85	459382384.7	12
6/6/2019 8:00	85	459402508.5	12
6/6/2019 12:00	85	459422630.8	12
6/6/2019 16:00	85	459442754.5	11
6/6/2019 20:00	85	459462878.3	8
6/7/2019 0:00	85	459483000.6	10
6/7/2019 4:00	85	459503124.4	12
6/7/2019 8:00	85	459523248.1	11
6/7/2019 12:00	85	459543370.5	11
6/7/2019 16:00	85	459563494.2	7

Stanton Cleaners Groundwater Contamination Site - June 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/7/2019 20:00	85	459583618	11
6/8/2019 0:00	85	459603740.3	12
6/8/2019 4:00	85	459623864	12
6/8/2019 8:00	85	459643986.4	12
6/8/2019 12:00	85	459664110.1	11
6/8/2019 16:00	85	459684233.9	8
6/8/2019 20:00	85	459704356.2	12
6/9/2019 0:00	85	459724480	12
6/9/2019 4:00	85	459744603.7	12
6/9/2019 8:00	85	459764726	8
6/9/2019 12:00	166	459794193	9
6/9/2019 16:00	85	459815181.3	12
6/9/2019 20:00	85	459835303.7	12
6/10/2019 0:00	85	459855427.4	10
6/10/2019 4:00	85	459875551.2	11
6/10/2019 8:00	85	459895673.5	8
6/10/2019 12:00	85	459915797.2	10
6/10/2019 16:00	85	459935921	11
6/10/2019 20:00	85	459956043.3	11
6/11/2019 0:00	85	459976167.1	9
6/11/2019 4:00	85	459996290.8	11
6/11/2019 8:00	85	460016413.2	11
6/11/2019 12:00	85	460036536.9	7
6/11/2019 16:00	85	460056660.7	12
6/11/2019 20:00	85	460076783	11
6/12/2019 0:00	85	460096906.7	11
6/12/2019 4:00	85	460117030.5	12
6/12/2019 8:00	85	460137152.8	10
6/12/2019 12:00	85	460157276.6	11
6/12/2019 16:00	85	460177400.3	10
6/12/2019 20:00	85	460197522.7	11
6/13/2019 0:00	85	460217646.4	11
6/13/2019 4:00	85	460237770.2	8
6/13/2019 8:00	85	460257892.5	8
6/13/2019 12:00	85	460278016.2	7
6/13/2019 16:00	85	460298140	10
6/13/2019 20:00	85	460318262.3	11
6/14/2019 0:00	85	460338386.1	8
6/14/2019 4:00	85	460358508.4	12
6/14/2019 8:00	85	460378632.2	10
6/14/2019 12:00	85	460398755.9	10

Stanton Cleaners Groundwater Contamination Site - June 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/14/2019 16:00	85	460418878.2	10
6/14/2019 20:00	85	460439002	10
6/15/2019 0:00	85	460459125.7	8
6/15/2019 4:00	85	460479248.1	11
6/15/2019 8:00	85	460499371.8	10
6/15/2019 12:00	85	460519495.6	6
6/15/2019 16:00	85	460539617.9	10
6/15/2019 20:00	85	460559741.7	9
6/16/2019 0:00	85	460579865.4	11
6/16/2019 4:00	85	460599987.8	11
6/16/2019 8:00	85	460620111.5	8
6/16/2019 12:00	85	460640235.3	11
6/16/2019 16:00	85	460660357.6	8
6/16/2019 20:00	85	460680481.3	12
6/17/2019 0:00	85	460700605.1	11
6/17/2019 4:00	85	460720727.4	10
6/17/2019 8:00	85	460740851.2	12
6/17/2019 12:00	85	460760974.9	10
6/17/2019 16:00	85	460781097.3	7
6/17/2019 20:00	85	460801221	9
6/18/2019 0:00	85	460821344.8	8
6/18/2019 4:00	85	460841467.1	11
6/18/2019 8:00	85	460861590.8	11
6/18/2019 12:00	85	460881714.6	10
6/18/2019 16:00	85	460901836.9	10
6/18/2019 20:00	85	460921960.7	11
6/19/2019 0:00	85	460942084.4	11
6/19/2019 4:00	85	460962206.8	7
6/19/2019 8:00	85	460982330.5	11
6/19/2019 12:00	85	461002454.3	8
6/19/2019 16:00	85	461022576.6	10
6/19/2019 20:00	85	461042700.3	12
6/20/2019 0:00	85	461062822.7	12
6/20/2019 4:00	85	461082946.4	11
6/20/2019 8:00	85	461103070.2	10
6/20/2019 12:00	85	461123192.5	11
6/20/2019 16:00	85	461143316.3	11
6/20/2019 20:00	85	461163440	11
6/21/2019 0:00	85	461183562.3	11
6/21/2019 4:00	85	461203686.1	11
6/21/2019 8:00	85	461223809.8	10

Stanton Cleaners Groundwater Contamination Site - June 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/21/2019 12:00	85	461243932.2	7
6/21/2019 16:00	85	461264055.9	12
6/21/2019 20:00	85	461284179.7	12
6/22/2019 0:00	85	461304302	11
6/22/2019 4:00	85	461324425.8	11
6/22/2019 8:00	85	461344549.5	8
6/22/2019 12:00	85	461364671.8	7
6/22/2019 16:00	85	461384795.6	9
6/22/2019 20:00	85	461404919.3	11
6/23/2019 0:00	85	461425041.7	9
6/23/2019 4:00	85	461445165.4	12
6/23/2019 8:00	85	461465289.2	11
6/23/2019 12:00	85	461485411.5	11
6/23/2019 16:00	85	461505535.3	9
6/23/2019 20:00	85	461525659	11
6/24/2019 0:00	85	461545781.3	7
6/24/2019 4:00	85	461565905.1	7
6/24/2019 8:00	85	461586028.8	10
6/24/2019 12:00	85	461606151.2	10
6/24/2019 16:00	85	461626274.9	9
6/24/2019 20:00	85	461646398.7	9
6/25/2019 0:00	85	461666521	11
6/25/2019 4:00	85	461686644.8	11
6/25/2019 8:00	85	461706767.1	7
6/25/2019 12:00	85	461726890.9	11
6/25/2019 16:00	85	461747014.6	11
6/25/2019 20:00	85	461767136.9	10
6/26/2019 0:00	85	461787260.7	12
6/26/2019 4:00	85	461807384.4	12
6/26/2019 8:00	85	461827506.8	11
6/26/2019 12:00	85	461847630.5	11
6/26/2019 16:00	85	461867754.3	12
6/26/2019 20:00	85	461887876.6	9
6/27/2019 0:00	85	461908000.4	9
6/27/2019 4:00	85	461928124.1	10
6/27/2019 8:00	85	461948246.4	9
6/27/2019 12:00	85	461968370.2	11
6/27/2019 16:00	85	461988493.9	11
6/27/2019 20:00	85	462008616.3	11
6/28/2019 0:00	85	462028740	12
6/28/2019 4:00	85	462048863.8	11

Stanton Cleaners Groundwater Contamination Site - June 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
6/28/2019 8:00	85	462068986.1	8
6/28/2019 12:00	85	462089109.9	7
6/28/2019 16:00	85	462109233.6	8
6/28/2019 20:00	85	462129355.9	9
6/29/2019 0:00	85	462149479.7	11
6/29/2019 4:00	85	462169603.4	12
6/29/2019 8:00	85	462189725.8	11
6/29/2019 12:00	85	462209849.5	11
6/29/2019 16:00	85	462229973.3	11
6/29/2019 20:00	85	462250095.6	11
6/30/2019 0:00	85	462270219.4	10
6/30/2019 4:00	85	462290343.1	11
6/30/2019 8:00	85	462310465.4	11
6/30/2019 12:00	85	462330589.2	11
6/30/2019 16:00	85	462350711.5	12
6/30/2019 20:00	85	462370835.3	8

Appendix D

AS System O&M Reports

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE
Air Sparge System
O&M Data Log

Date: 4/29/2019

Readings at Well	
Near Well Head Bladder	N/A*

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* ºF
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
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- 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: 6/4/2019

Readings at Well	
Near Well Head Bladder	N/A*

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* ºF
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
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- 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: 6/28/2019

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* ºF
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
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- 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

SVE System O&M Reports

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

Date: 4/29/2019
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	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	0.2*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	0.4*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Daniel Prisco-Buxbaum**
Air readings collected by: **Daniel Prisco-Buxbaum**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
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

	Prior to 10/3/05	**After 10/3/05**
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 – April 2019 O&M (4/29/19) – Additional SVE Monitoring

- Collect headspace readings directly on the SVE wells with associated piping valves closed

Well ID	VOC	CO	Oxygen	LEL	H_2S
EPA-SVE-Sparge 1	0.0	0	20.9	0	0
EPA-SVE-Sparge 2	0.0	0	20.9	0	0
EPA-SVE-Sparge 3	Could Not Locate				
EPA-SVE-Sparge 4	0.0	0	20.9	0	0
EPA-SVE-4R	Steel Vault Cover Welded Shut				
EPA-SVE-5	0.0	0	20.9	0	0
EPA-SVE-6	Could Not Locate				

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	9.48	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.0	0	20.9	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

*The Fernco connection of SS-D was found to be disconnected again, likely from the piping being distorted by tree growth along the side of the building. This was reconnected, although this tree will need to be removed to prevent further incidence of the Fernco connection becoming disconnected.

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

Date: 6/4/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.5*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	2.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	1.4*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	3.7*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	1.7*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	3.5*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	2.1*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Edward Combs**
Air readings collected by: **Edward Combs**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
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

	Prior to 10/3/05	**After 10/3/05**
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 – May 2019 O&M (6/4/19) – Additional SVE Monitoring

- Collect headspace readings directly on the SVE wells with associated piping valves closed

Well ID	VOC	CO	Oxygen	LEL	H_2S
EPA-SVE-Sparge 1	0.0	0	20.9	0	0
EPA-SVE-Sparge 2	0.3	0	20.4	0	0
EPA-SVE-Sparge 3	Could Not Locate				
EPA-SVE-Sparge 4	0.1	0	20.7	0	0
EPA-SVE-4R	Steel Vault Cover Welded Shut				
EPA-SVE-5	0.0	0	20.9	0	0
EPA-SVE-6	Could Not Locate				

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	9.48	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.0	0	20.9	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

*The Fernco connection of SS-D was found to be disconnected again, likely from the piping being distorted by tree growth along the side of the building. This was reconnected, although this tree will need to be removed to prevent further incidence of the Fernco connection becoming disconnected.

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

Date: 6/28/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.2*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.3*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	1.6*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.9*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	0.3*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Edward Combs**
Air readings collected by: **Edward Combs**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
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

	Prior to 10/3/05	**After 10/3/05**
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 – June 2019 O&M (6/28/19) – Additional SVE Monitoring

- Collect headspace readings directly on the SVE wells with associated piping valves closed

Well ID	VOC	CO	Oxygen	LEL	H_2S
EPA-SVE-Sparge 1	0.0	0	20.9	0	0
EPA-SVE-Sparge 2	0.3	0	20.9	0	0
EPA-SVE-Sparge 3	Could Not Locate				
EPA-SVE-Sparge 4	0.1	0	20.9	0	0
EPA-SVE-4R	Steel Vault Cover Welded Shut				
EPA-SVE-5	0.0	0	20.9	0	0
EPA-SVE-6	Could Not Locate				

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	8.45	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.1	0	20.5	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

*The Fernco connection of SS-D was found to be disconnected again, likely from the piping being distorted by tree growth along the side of the building. This was reconnected, although this tree will need to be removed to prevent further incidence of the Fernco connection becoming disconnected.

Appendix F

Monthly Groundwater Level Measurements

WATER LEVEL DATA SUMMARY

PROJECT: Stanton Cleaners
LOCATION: Great Neck, NY
CLIENT: HDR
SURVEY DATUM: ft msl
MEASURING DEVICE: Solinst Water Level Indicator

JOB NUMBER:
DATE: 4/29/2019
MEASURED BY: DPB

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:00	54.39	20.24	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	11:20	61.40	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	10:20	59.54	23.29	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:11	47.74	21.58	LIHA PL
ST-MW-06	ft BTOC	69.83	11:15	42.48	N/A	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	11:07	58.98	19.15	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:02	54.83	20.42	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	10:53	65.86	21.34	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	11:10	51.21	18.52	LIHA PL
ST-MW-16	ft BTOC	75.78	10:25	50.36	25.42	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	10:52	65.60	20.93	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	10:45	61.46	21.04	Triangle park well
ST-MW-20	ft BTOC	84.53	10:54	67.40	17.13	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	10:30	54.67	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	10:42	68.08	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	10:37	81.28	49.67	Amherst Rd
ST-MW-18	ft BTOC	84.40	10:50	69.25	15.15	Ascot Ridge (past apt bldg)

Notes:
*Slip cap for MW-9A was shattered (completely destroyed), likely due to a vehicle driving over it.

WATER LEVEL DATA SUMMARY

PROJECT: Stanton Cleaners
LOCATION: Great Neck, NY
CLIENT: HDR
SURVEY DATUM: ft msl
MEASURING DEVICE: Solinst Water Level Indicator

JOB NUMBER:
DATE: 6/4/2019
MEASURED BY: EC

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	12:12	55.49	19.14	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	12:29	65.73	18.40	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	12:39	62.89	19.94	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	12:21	47.90	21.42	LIHA PL
ST-MW-06	ft BTOC	69.83	12:25	42.28	27.55	LIHA PL 4"
ST-MW-09A*	ft BTOC	78.13	12:16	63.14	14.99	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	12:09	56.25	19.00	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	12:00	67.70	19.50	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	12:22	51.66	18.07	LIHA PL
ST-MW-16	ft BTOC	75.78	12:33	50.55	25.23	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	12:02	67.17	19.36	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	12:19	63.10	19.40	Triangle park well
ST-MW-20	ft BTOC	84.53	12:05	67.80	16.73	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	11:33	55.47	22.90	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:48	69.89	20.24	Mirreless Rd
ST-MW-13	ft BTOC	130.95	11:42	82.72	48.23	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:57	69.86	14.54	Ascot Ridge (past apt bldg)

Notes:
*Slip cap for MW-9A was replaced.

WATER LEVEL DATA SUMMARY

PROJECT: Stanton Cleaners
LOCATION: Great Neck, NY
CLIENT: HDR
SURVEY DATUM: ft msl
MEASURING DEVICE: Solinst Water Level Indicator

JOB NUMBER:
DATE: 6/28/2019
MEASURED BY: EC

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:47	56.15	18.48	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	12:05	63.20	20.93	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	12:08	61.13	21.70	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:58	48.43	20.89	LIHA PL
ST-MW-06	ft BTOC	69.83	12:02	42.80	27.03	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	11:52	60.85	17.28	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:45	56.92	18.33	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	11:39	68.36	18.84	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	12:00	52.40	17.33	LIHA PL
ST-MW-16	ft BTOC	75.78	12:17	50.76	25.02	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	11:41	67.80	18.73	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	11:55	63.68	18.82	Triangle park well
ST-MW-20	ft BTOC	84.53	11:43	68.74	15.79	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	11:21	55.88	22.49	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:30	70.69	19.44	Mirreless Rd
ST-MW-13	ft BTOC	130.95	11:26	83.23	47.72	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:35	70.72	13.68	Ascot Ridge (past apt bldg)

Notes: