Quarterly Operation and Maintenance Report – 4Q2018

Stanton Cleaners

NYSDEC Site No: 130072

110 Cuttermill Road, Great Neck, New York

Work Assignment # D007625-06

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Prepared for:

New York State Department of Environmental Conservation

625 Broadway

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 fourth quarter of 2018 (October through December 2018). 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 fourth quarter 2018 activities (October through December). 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 through the fourth quarter of 2018; samples were not collected and sample collection data tables are not included in this quarterly report. Performance monitoring logs including the monthly O&M reports and Lookout® operational data is provided in Appendices B and C, respectively.

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. Since the RW-2 motor was not working and the GWE&T system remained offline for the entire fourth quarter of 2018, monthly influent and effluent samples were not collected. A graph showing the GWE&T system influent PCE concentrations from 2003 through the fourth quarter of 2018 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)

As a result of the fourth quarter 2018 SVE system operations (October through December), approximately 79.2 lbs. of VOCs has been removed through the vapor phase. SVE mass removal rates are calculated utilizing total VOC measurements via a photo-ionization detector (PID). Since the start of operations in September 2003, the SVE system is estimated to have removed an approximately 2,110.0 lbs. of PCE. Graphs showing the cumulative PCE mass removed over the past year and since September 2003 can be found on Figures 4 and 5, respectively. Monthly performance monitoring logs including both the AS and SVE systems can be found in Appendices 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
- Semi-annual SVI sampling at the LIHA

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 October through December 2018 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*. Potentiometric surface maps for the shallow, intermediate, and deep UGA, based on the November 2018 values, can be found on Figures 8, 9, and 10, respectively. Groundwater level measurements for this quarter are provided in Appendix F.

The groundwater flow directions in the shallow and deep UGA resemble those measured previously for the site. In each of the contour maps, groundwater generally appears to flow to the southwest. A downward component of flow is also apparent when comparing the shallow, intermediate, and deep groundwater contours. A noticeable depression in the shallow water table (Figure 8) is centered around extraction well, EPA-EXT-02. The intermediate and deep UGA flow directions are to the southwest (Figures 9 and 10). 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 collected during this quarter. The next routine semi-annual groundwater sampling event is scheduled during the third quarter of 2019.

Preferred Environmental Services collected a round of monitoring well samples on November 1-2, 2018. These samples were collected using the low-flow method. Samples were shipped to Hampton Clarke Laboratory of Fairfield, NJ. Sampling results are presented in Table 3. Seven of the fifteen wells sampled contained measurable quantities of VOCs. ST-MW-19, located downgradient, contained the highest concentration of PCE at 80 µg/L, and exceeds the 5.0 µg/L Class GA water standard found in the TOGS 1.1.1. ST-MW-15, also downgradient, contained PCE at a concentration of 20 µg/L, and exceeds

the Class GA water standard. These are the only wells that contained VOCs in exceedance of those standards. PCE was found in five other wells at concentrations of 1.1 µg/L to 4.0 µg/L, none which exceeds its respective standard. One well contained more than one contaminant. EPA-CL-4D contained 2.7 µg/L, 1.4 µg/L and 4.2 µg/L of cis-1,2 DCE, PCE and TCE, respectively.

A comparison of the 2018Q2 semi-annual groundwater-sampling event to the 2018Q4 semi-annual groundwater-sampling event does not show a consistent relationship of where the highest contamination is typically found. This may be due to the fact that not all of the wells were sampled during the 2018Q2 event.

Groundwater sampling parameter logs can be found in Appendix G.

4.3 Indoor Air Quality Sampling

On November 1-2, 2018, one indoor air sample and one duplicate (basement level) were collected from the LIHA building using 6-liter Summa® canisters, equipped with 24-hour flow controllers, and submitted to Chemtech of Mountainside, New Jersey (Chemtech) for the analysis of VOCs by USEPA Method TO-15. Laboratory deliverables were in accordance with NYSDEC Analytical Services Protocol (ASP) Category B and subjected to data validation by HDR's independent contract validator, Data Validation Services of North Creek, New York (DVS). A copy of the LIHA indoor air sampling questionnaire and DVS' data usability summary report (DUSR) are provided in Appendix H and I, respectively.

As indicated by the laboratory analytical results, site contaminants of concern (COCs) are below threshold action levels as described by the NYSDOH soil vapor/indoor air decision matrices A, B, and C (May 2017 amendment). The compound carbon tetrachloride was detected in the LIHA-IA1 and duplicate sample at concentrations of 0.44 and 0.5 micrograms per cubic meter (µg/m^3), respectively, which exceed its respective concentration range 2 threshold of 0.2 µg/m^3 to 1 µg/m^3. It should be noted that carbon tetrachloride also exceeded the concentration range 2 threshold of 0.2 µg/m^3 to 1 µg/m^3 in the May 2018 SVI sample collected on the Stanton Cleaners property. This suggests that the compound is potentially a laboratory contaminant or representative of the use of chemicals within the LIHA building. A summary of the LIHA air sampling analytical results is provided on Table 4.

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-11A) 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 November 7, 2018 in PW-2A at a concentration of 12.4 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 11.

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 blower was taken offline for routine maintenance (11/28/18) and could not be brought back online; issue appeared to be electrical. Electrician on-site on 12/6/18 for repairs. Preferred Environmental Services was on-site on 12/27/18 and the SVE was offline. The GWTS also remained offline.

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.

- On November 19 and 20, 2018, the recovery well for the GWE&T system stopped functioning. An inspection of the system indicated that the pump had experienced an internal failure and required replacement. Removal and replacement of the pump occurred on November 29, with a resumption of normal system operation on November 30.
- On December 5, the computer with the Lookout™ system monitoring software experienced a malfunction and crashed. HDR IT visited the site, repaired the computer, and restored normal system operation on December 13.
- On December 28, the heating system for the treatment shed was found to be non-operational. Delta repaired the heating system on December 30, 2018.

6.0 FUTURE ACTIVITIES

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

- Routine monthly O&M activities will continue.
- LIHA air sampling is scheduled to be completed during the first quarter of 2019.
- Influent and effluent sampling of the SVE system is planned for the first quarter of 2019.
- Assessment of condensate lines linking the SVE knockout tank to settling tank, and of the line linking the settling tank to the liquid-phase GAC unit.

7.0 PROGRESS TOWARD CLEANUP OBJECTIVES

As a result of the GWE&T being offline and ongoing SVE system operations during the third quarter of 2018, a total of 79.2 lbs. of VOCs have been removed in the vapor phase. The total cost incurred in association with operation of these remedial system operations and subsequent site monitoring during this past quarter was $5,308.70 (see quarterly cost summary below). During this quarter, the cost of both liquid and vapor phase VOC removal was $71.55 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
10/28/2018 - 11/24/2018	$ 5,308.70	74.2	0	$ 5,308.70	74.2		$ 71.55

Table 3
Summary of Semi-Annual Groundwater Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

			Sample ID	EPA-CL-4D _20181101		EPA-CL-4S _20181101		EPA-MW_11D _20181101		EPA-MW-18 _20181101		EPA-MW-23 _20181102		EPA-MW-26 _20181102		EPA-MW-27 _20181102	
			Sample Location	CL-4D		CL-4S		EPA-MW-11D		EPA-MW-18		EPA-MW-23		EPA-MW-26		EPA-MW-27	
			Date	11/1/2018		11/1/2018		11/1/2018		11/1/2018		11/1/2018		11/1/2018		11/1/2018	
Analyte	**CAS Number**	**NYSDEC Guidance**		**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
1,1,1-Trichloroethane	71-55-6	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1,2,2-Tetrachloroethane	79-34-5	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1,2-Trichloroethane	79-00-5	1		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1-Dichloroethane	75-34-3	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1-Dichloroethene	75-35-4	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2,3-Trichlorobenzene	87-61-6	NS		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2,4-Trichlorobenzene	120-82-1	NS		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.04		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.0006		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dichlorobenzene	95-50-1	3		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dichloroethane	107-06-2	0.6		*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*
1,2-Dichloropropane	78-87-5	1		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,3-Dichlorobenzene	541-73-1	3		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,4-Dichlorobenzene	106-46-7	3		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,4-Dioxane	123-91-1	NS		*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*
2-Butanone	78-93-3	50		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
2-Hexanone	591-78-6	50		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
4-Methyl-2-Pentanone	108-10-1	NS		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Acetone	67-64-1	50		*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*
Benzene	71-43-2	1		*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*
Bromochloromethane	74-97-5	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Bromodichloromethane	75-27-4	50		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Bromoform	75-25-2	50		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Bromomethane	74-83-9	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Carbon Disulfide	75-15-0	60		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Carbon Tetrachloride	56-23-5	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chlorobenzene	108-90-7	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chlorodibromomethane	124-48-1	50		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chloroethane	75-00-3	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chloroform	67-66-3	7		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chloromethane	74-87-3	5		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Cis-1,2-Dichloroethene	156-59-2	5		2.7		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Cis-1,3-Dichloropropene	10061-01-5	NS		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Cyclohexane	110-82-7	NS		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*

Table 3
Summary of Semi-Annual Groundwater Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

		Sample ID	EPA-CL-4D _20181101		EPA-CL-4S _20181101		EPA-MW_11D _20181101		EPA-MW-18 _20181101		EPA-MW-23 _20181102		EPA-MW-26 _20181102		EPA-MW-27 _20181102	
		Sample Location	CL-4D		CL-4S		EPA-MW-11D		EPA-MW-18		EPA-MW-23		EPA-MW-26		EPA-MW-27	
		Date	11/1/2018		11/1/2018		11/1/2018		11/1/2018		11/1/2018		11/1/2018		11/1/2018	
Analyte	**CAS Number**	**NYSDEC Guidance**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Dichlorodifluoromethane	75-71-8	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Dichloromethane	75-09-2	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Ethylbenzene	100-41-4	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Freon 113	76-13-1	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Isopropyl benzene	98-82-8	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
m,p-Xylene	136777-61-2	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Methyl acetate	79-20-9	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Methyl T-Butyl Ether (MTBE)	1634-04-4	10	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*
Methylcyclohexane	108-87-2	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
O-Xylene	95-47-6	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Styrene	100-42-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Tetrachloroethene	127-18-4	5	1.4		*1*	*U*	*1*	*U*	4		1.1		*1*	*U*	*1*	*U*
Toluene	108-88-3	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Total Xylenes	1330-20-7	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trans-1,2-Dichloroethene	156-60-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trans-1,3-Dichloropropene	10061-02-6	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trichloroethylene	79-01-6	5	4.2		*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trichlorofluoromethane	75-69-4	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Vinyl Chloride	75-01-4	2	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*

Notes:
All sample results and NYSDEC guidance values are reported in ug/l
All sample analytical results are compared to Part 703.5 - Water Quality Standards Surface and Ground Water
µg/l: : micrograms per liter
NYSDEC: : New York State Department of Environmental Conservation
Q : Qualifier
U : indicates the compound was not detected above the MDL
MDL : method detection limit
NS : no standard
Shaded : the result was not detected above the MDL
Bold : the result exceeded the NYSDEC Criteria

Table 3
Summary of Semi-Annual Groundwater Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

		Sample ID	ST-MW-12 _20181101		ST-MW-13 _20181102		ST-MW-14 _20181102		ST-MW-15 _20181102		ST-MW-16 _20181102		ST-MW-17 _20181101		ST-MW-19 _20181101	
		Sample Location	ST-MW-12		ST-MW-13		ST-MW-14		ST-MW-15		ST-MW-16		ST-MW-17		ST-MW-19	
		Date	11/2/2018		11/2/2018		11/2/2018		11/2/2018		11/2/2018		11/2/2018		11/1/2018	
Analyte	**CAS Number**	**NYSDEC Guidance**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
1,1,1-Trichloroethane	71-55-6	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1,2,2-Tetrachloroethane	79-34-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1,2-Trichloroethane	79-00-5	1	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1-Dichloroethane	75-34-3	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,1-Dichloroethene	75-35-4	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2,3-Trichlorobenzene	87-61-6	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2,4-Trichlorobenzene	120-82-1	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.04	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.0006	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dichlorobenzene	95-50-1	3	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,2-Dichloroethane	107-06-2	0.6	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*
1,2-Dichloropropane	78-87-5	1	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,3-Dichlorobenzene	541-73-1	3	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,4-Dichlorobenzene	106-46-7	3	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
1,4-Dioxane	123-91-1	NS	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*	*50*	*U*
2-Butanone	78-93-3	50	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
2-Hexanone	591-78-6	50	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
4-Methyl-2-Pentanone	108-10-1	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Acetone	67-64-1	50	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*	*5*	*U*
Benzene	71-43-2	1	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*
Bromochloromethane	74-97-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Bromodichloromethane	75-27-4	50	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Bromoform	75-25-2	50	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Bromomethane	74-83-9	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Carbon Disulfide	75-15-0	60	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Carbon Tetrachloride	56-23-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chlorobenzene	108-90-7	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chlorodibromomethane	124-48-1	50	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chloroethane	75-00-3	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chloroform	67-66-3	7	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Chloromethane	74-87-3	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Cis-1,2-Dichloroethene	156-59-2	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Cis-1,3-Dichloropropene	10061-01-5	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Cyclohexane	110-82-7	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*

Table 3
Summary of Semi-Annual Groundwater Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

		Sample ID	ST-MW-12 _20181101		ST-MW-13 _20181102		ST-MW-14 _20181102		ST-MW-15 _20181102		ST-MW-16 _20181102		ST-MW-17 _20181101		ST-MW-19 _20181101	
		Sample Location	ST-MW-12		ST-MW-13		ST-MW-14		ST-MW-15		ST-MW-16		ST-MW-17		ST-MW-19	
		Date	11/2/2018		11/2/2018		11/2/2018		11/2/2018		11/2/2018		11/2/2018		11/1/2018	
Analyte	**CAS Number**	**NYSDEC Guidance**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Dichlorodifluoromethane	75-71-8	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Dichloromethane	75-09-2	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Ethylbenzene	100-41-4	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Freon 113	76-13-1	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Isopropyl benzene	98-82-8	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
m,p-Xylene	136777-61-2	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Methyl acetate	79-20-9	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Methyl T-Butyl Ether (MTBE)	1634-04-4	10	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*	*0.5*	*U*
Methylcyclohexane	108-87-2	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
O-Xylene	95-47-6	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Styrene	100-42-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Tetrachloroethene	127-18-4	5	3.4		*1*	*U*	1.1		**20**		*1*	*U*	3.6		**80**	
Toluene	108-88-3	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Total Xylenes	1330-20-7	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trans-1,2-Dichloroethene	156-60-5	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trans-1,3-Dichloropropene	10061-02-6	NS	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trichloroethylene	79-01-6	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Trichlorofluoromethane	75-69-4	5	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*
Vinyl Chloride	75-01-4	2	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*	*1*	*U*

Notes:
All sample results and NYSDEC guidance values are reported in ug/l
All sample analytical results are compared to Part 703.5 - Water Quali
and Ground Water
µg/l: : micrograms per liter
NYSDEC: : New York State Department of Environmental Cons
Q : Qualifier
U : indicates the compound was not detected above the l
MDL : method detection limit
NS : no standard
Shaded : the result was not detected above the MDL
Bold : the result exceeded the NYSDEC Criteria

Table 3
Summary of Semi-Annual Groundwater Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

		Sample ID	ST-MW-20 _20181101	
		Sample Location		
		Date	11/1/2018	
Analyte	**CAS Number**	**NYSDEC Guidance**	**Result**	**Q**
1,1,1-Trichloroethane	71-55-6	5	*1*	*U*
1,1,2,2-Tetrachloroethane	79-34-5	5	*1*	*U*
1,1,2-Trichloroethane	79-00-5	1	*1*	*U*
1,1-Dichloroethane	75-34-3	5	*1*	*U*
1,1-Dichloroethene	75-35-4	5	*1*	*U*
1,2,3-Trichlorobenzene	87-61-6	NS	*1*	*U*
1,2,4-Trichlorobenzene	120-82-1	NS	*1*	*U*
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.04	*1*	*U*
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.0006	*1*	*U*
1,2-Dichlorobenzene	95-50-1	3	*1*	*U*
1,2-Dichloroethane	107-06-2	0.6	*0.5*	*U*
1,2-Dichloropropane	78-87-5	1	*1*	*U*
1,3-Dichlorobenzene	541-73-1	3	*1*	*U*
1,4-Dichlorobenzene	106-46-7	3	*1*	*U*
1,4-Dioxane	123-91-1	NS	*50*	*U*
2-Butanone	78-93-3	50	*1*	*U*
2-Hexanone	591-78-6	50	*1*	*U*
4-Methyl-2-Pentanone	108-10-1	NS	*1*	*U*
Acetone	67-64-1	50	*5*	*U*
Benzene	71-43-2	1	*0.5*	*U*
Bromochloromethane	74-97-5	5	*1*	*U*
Bromodichloromethane	75-27-4	50	*1*	*U*
Bromoform	75-25-2	50	*1*	*U*
Bromomethane	74-83-9	5	*1*	*U*
Carbon Disulfide	75-15-0	60	*1*	*U*
Carbon Tetrachloride	56-23-5	5	*1*	*U*
Chlorobenzene	108-90-7	5	*1*	*U*
Chlorodibromomethane	124-48-1	50	*1*	*U*
Chloroethane	75-00-3	5	*1*	*U*
Chloroform	67-66-3	7	*1*	*U*
Chloromethane	74-87-3	5	*1*	*U*
Cis-1,2-Dichloroethene	156-59-2	5	*1*	*U*
Cis-1,3-Dichloropropene	10061-01-5	NS	*1*	*U*
Cyclohexane	110-82-7	NS	*1*	*U*

Table 3
Summary of Semi-Annual Groundwater Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

		Sample ID	ST-MW-20 _20181101	
		Sample Location	ST-MW-20	
		Date	11/1/2018	
Analyte	**CAS Number**	**NYSDEC Guidance**	**Result**	**Q**
Dichlorodifluoromethane	75-71-8	5	*1*	*U*
Dichloromethane	75-09-2	5	*1*	*U*
Ethylbenzene	100-41-4	5	*1*	*U*
Freon 113	76-13-1	5	*1*	*U*
Isopropyl benzene	98-82-8	5	*1*	*U*
m,p-Xylene	136777-61-2	NS	*1*	*U*
Methyl acetate	79-20-9	NS	*1*	*U*
Methyl T-Butyl Ether (MTBE)	1634-04-4	10	*0.5*	*U*
Methylcyclohexane	108-87-2	NS	*1*	*U*
O-Xylene	95-47-6	5	*1*	*U*
Styrene	100-42-5	5	*1*	*U*
Tetrachloroethene	127-18-4	5	*1*	*U*
Toluene	108-88-3	5	*1*	*U*
Total Xylenes	1330-20-7	5	*1*	*U*
Trans-1,2-Dichloroethene	156-60-5	5	*1*	*U*
Trans-1,3-Dichloropropene	10061-02-6	NS	*1*	*U*
Trichloroethylene	79-01-6	5	*1*	*U*
Trichlorofluoromethane	75-69-4	5	*1*	*U*
Vinyl Chloride	75-01-4	2	*1*	*U*

Notes:
All sample results and NYSDEC guidance values are reported in ug/l
All sample analytical results are compared to Part 703.5 - Water Quali
and Ground Water
µg/l: : micrograms per liter
NYSDEC: : New York State Department of Environmental Cons
Q : Qualifier
U : indicates the compound was not detected above the
MDL : method detection limit
NS : no standard
Shaded : the result was not detected above the MDL
Bold : the result exceeded the NYSDEC Criteria

Table 4
Summary of LIHA Indoor Air Sampling Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

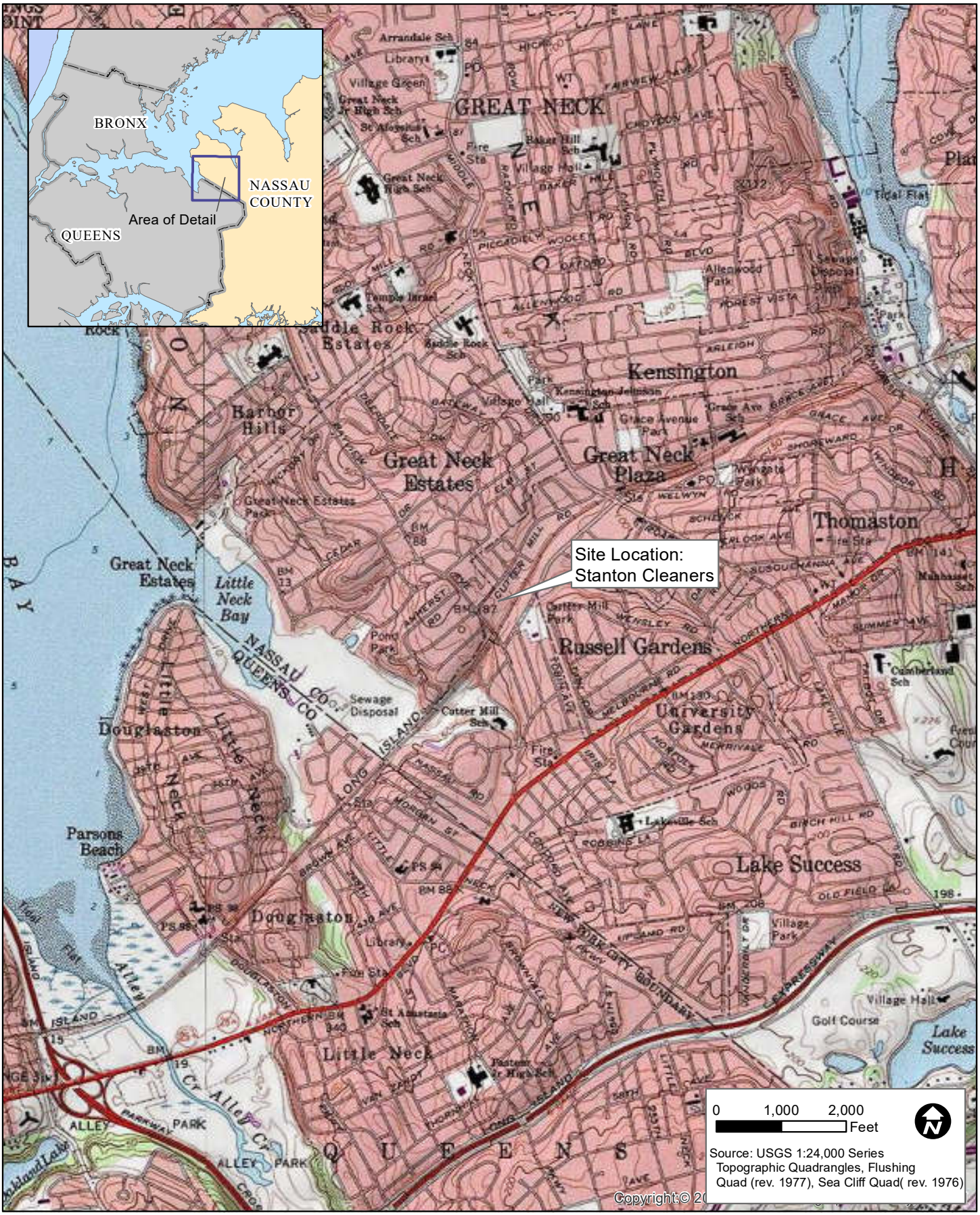
				Sample ID	**LIHA-IA1-110118**		**LIHA-IA1-DUP-110118**	
				Sample Location	**LIHA-IA1**		**LIHA-IA1**	
				Date	**11/2/2018**		**11/2/2018**	
Analyte	**CAS Number**	**NYSDOH Decision Matrices A, B, C Indoor Air Concentration**			**Result**	**Q**	**Result**	**Q**
1,1,1-Trichloroethane (111-TCA)	71-55-6	<3	3 to <10	10 and above	*0.16*	*U*	*0.16*	*U*
1,1,2,2-Tetrachloroethane	79-34-5	-	-	-	*3.43*	*U*	*3.43*	*U*
1,1,2-Trichloroethane	79-00-5	-	-	-	*2.73*	*U*	*2.73*	*U*
1,1-Dichloroethane	75-34-3	-	-	-	*2.02*	*U*	*2.02*	*U*
1,1-Dichloroethene (11-DCE)	75-35-4	<0.2	0.2 to <1	1 and above	*1.98*	*U*	*1.98*	*U*
1,2,4-Trichlorobenzene	120-82-1	-	-	-	*3.71*	*U*	*3.71*	*U*
1,2,4-Trimethylbenzene	95-63-6	-	-	-	1.52	J	1.72	J
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	-	-	-	*3.84*	*U*	*3.84*	*U*
1,2-Dichlorobenzene	95-50-1	-	-	-	*3.01*	*U*	*3.01*	*U*
1,2-Dichloroethane	107-06-2	-	-	-	*2.02*	*U*	*2.02*	*U*
1,2-Dichloropropane	78-87-5	-	-	-	*2.31*	*U*	*2.31*	*U*
1,2-Dichlorotetrafluoroethane	76-14-2	-	-	-	*3.49*	*U*	*3.49*	*U*
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	-	-	-	*2.46*	*U*	*2.46*	*U*
1,3-Butadiene	106-99-0	-	-	-	*1.11*	*U*	*1.11*	*U*
1,3-Dichlorobenzene	541-73-1	-	-	-	*3.01*	*U*	*3.01*	*U*
1,4-Dichlorobenzene	106-46-7	-	-	-	*3.01*	*U*	*3.01*	*U*
1,4-Dioxane	123-91-1	-	-	-	*1.8*	*U*	*1.8*	*U*
2,2,4-Trimethylpentane	540-84-1	-	-	-	1.31	J	1.31	J
2-Butanone (MEK)	78-93-3	-	-	-	1.92		2.06	
2-Chlorotoluene	95-49-8	-	-	-	*2.59*	*U*	*2.59*	*U*
4-Ethyltoluene	622-96-8	-	-	-	*2.46*	*U*	*2.46*	*U*
4-Methyl-2-Pentanone	108-10-1	-	-	-	*2.05*	*U*	*2.05*	*U*
Acetone	67-64-1	-	-	-	65.3	D	30.4	
Allyl Chloride (3-Chloropropene)	107-05-1	-	-	-	*1.57*	*U*	*1.57*	*U*
Benzene	71-43-2	-	-	-	1.41	J	1.31	J
Bromodichloromethane	75-27-4	-	-	-	*3.35*	*U*	*3.35*	*U*
Bromoform	75-25-2	-	-	-	*5.17*	*U*	*5.17*	*U*
Bromomethane	74-83-9	-	-	-	*1.94*	*U*	*1.94*	*U*
Carbon Disulfide	75-15-0	-	-	-	*1.56*	*U*	*1.56*	*U*
Carbon Tetrachloride	56-23-5	<0.2	0.2 to <1	1 and above	**0.44**		**0.5**	
Chlorobenzene	108-90-7	-	-	-	*2.3*	*U*	*2.3*	*U*
Chlorodibromomethane	124-48-1	-	-	-	*4.26*	*U*	*4.26*	*U*
Chloroethane	75-00-3	-	-	-	*1.32*	*U*	*1.32*	*U*
Chloroform	67-66-3	-	-	-	0.49	J	0.78	J
Chloromethane	74-87-3	-	-	-	1.18		1.16	
Cis-1,2-Dichloroethene (c12-DCE)	156-59-2	<0.2	0.2 to <1	1 and above	*1.98*	*U*	*1.98*	*U*
Cis-1,3-Dichloropropene	10061-01-5	-	-	-	*2.27*	*U*	*2.27*	*U*
Cyclohexane	110-82-7	-	-	-	*1.72*	*U*	*1.72*	*U*
Dichlorodifluoromethane	75-71-8	-	-	-	1.09	J	1.38	J
Dichloromethane	75-09-2	<3	3 to <10	10 and above	2.74		1.98	
Ethylbenzene	100-41-4	-	-	-	0.78	J	0.78	J
Freon 113	76-13-1	-	-	-	*3.83*	*U*	0.69	J
Hexachlorobutadiene	87-68-3	-	-	-	*5.33*	*U*	*5.33*	*U*
m,p-Xylene	179601-23-1	-	-	-	2.69	J	2.61	J
Methyl Methacrylate	80-62-6	-	-	-	*2.05*	*U*	*2.05*	*U*
Methyl T-Butyl Ether (MTBE)	1634-04-4	-	-	-	*1.8*	*U*	*1.8*	*U*
Naphthalene	91-20-3	-	-	-	*2.62*	*U*	*2.62*	*U*
N-Heptane	142-82-5	-	-	-	1.27	J	1.43	J
N-Hexane	110-54-3	-	-	-	2.29		1.83	
O-Xylene	95-47-6	-	-	-	1.04	J	0.96	J

Table 4
Summary of LIHA Indoor Air Sampling Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

				Sample ID	**LIHA-IA1-110118**		**LIHA-IA1-DUP-110118**	
				Sample Location	**LIHA-IA1**		**LIHA-IA1**	
				Date	**11/2/2018**		**11/2/2018**	
	CAS	**NYSDOH Decision Matrices A, B, C**						
Analyte	**Number**	**Indoor Air Concentration**			**Result**	**Q**	**Result**	**Q**
Styrene	100-42-5	-	-	-	*2.13*	*U*	0.51	J
Tert-Butyl Alcohol	75-65-0	-	-	-	19.7		11.2	
Tetrachloroethene (PCE)	127-18-4	<3	3 to <10	10 and above	1.29		1.22	
Tetrahydrofuran	109-99-9	-	-	-	*1.47*	*U*	*1.47*	*U*
Toluene	108-88-3	-	-	-	7.54		12.1	
Trans-1,2-Dichloroethene	156-60-5	-	-	-	*1.98*	*U*	*1.98*	*U*
Trans-1,3-Dichloropropene	10061-02-6	-	-	-	*2.27*	*U*	*2.27*	*U*
Trichloroethylene (TCE)	79-01-6	<0.2	0.2 to <1	1 and above	*0.16*	*U*	*0.16*	*U*
Trichlorofluoromethane	75-69-4	-	-	-	1.18	J	1.29	J
Vinyl Bromide	593-60-2	-	-	-	*2.19*	*U*	*2.19*	*U*
Vinyl Chloride	75-01-4	<0.2	-	0.2 and above	*0.08*	*U*	*0.08*	*U*

Notes:
All sample results and NYSDOH guidance values are reported in µg/m3
All sample analytical results are compared to October 2006 and May 2017 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Matrices A, B, and C
Outdoor air sample results from OA-1 are not compared to the NYSDOH Decision Matrices

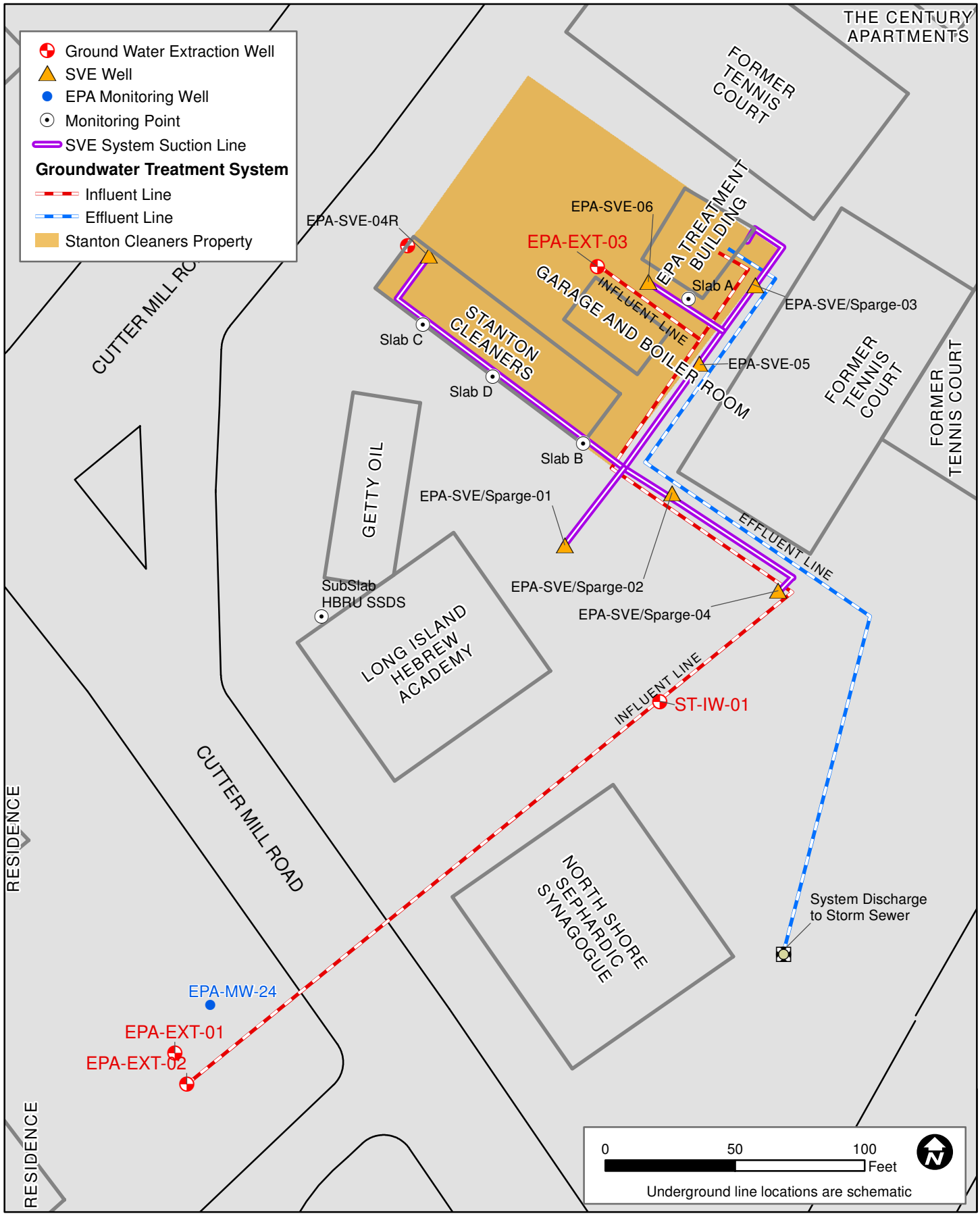
µg/m3: : micrograms per cubic meter
NYSDOH: : New York State Department of Health
Q : Qualifier
J : indicates an estimated value
N : indicates presumptive evidence of the compound
B : Indicates the analyte was detected in the blank and the sample
U : indicates the compound was not detected at the indicated MDL
MDL : minimum detection limit
Shaded : the result was not detected but the MDL exceeds at least one concentration range of the decision matrix
Bold : the result was detected within concentration range 2 of the decision matrix
Bold/Italic : the results exceeds concentration range 3 of the decision matrix



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

Figure 1

December 28, 2018

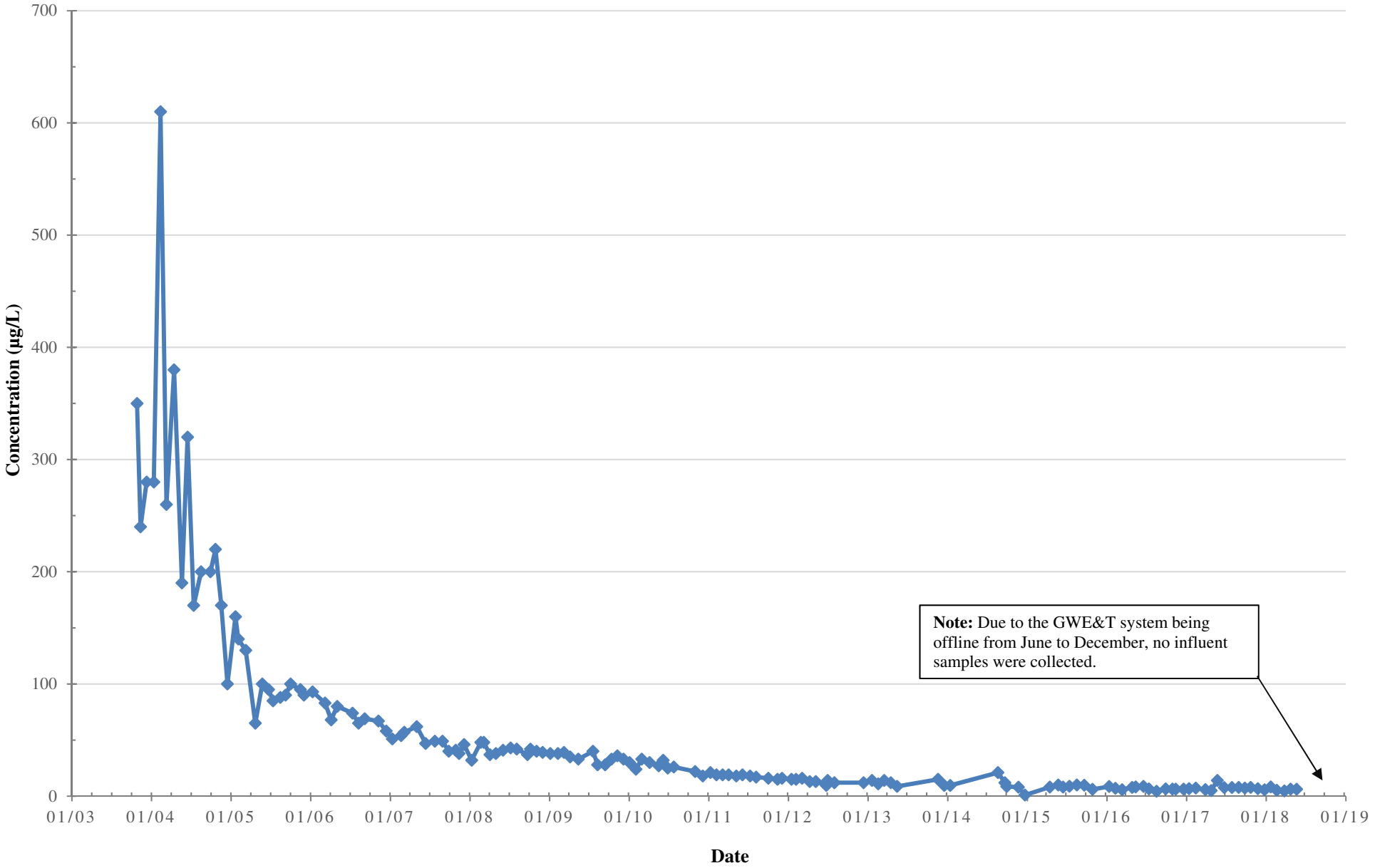


Site Layout
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 2

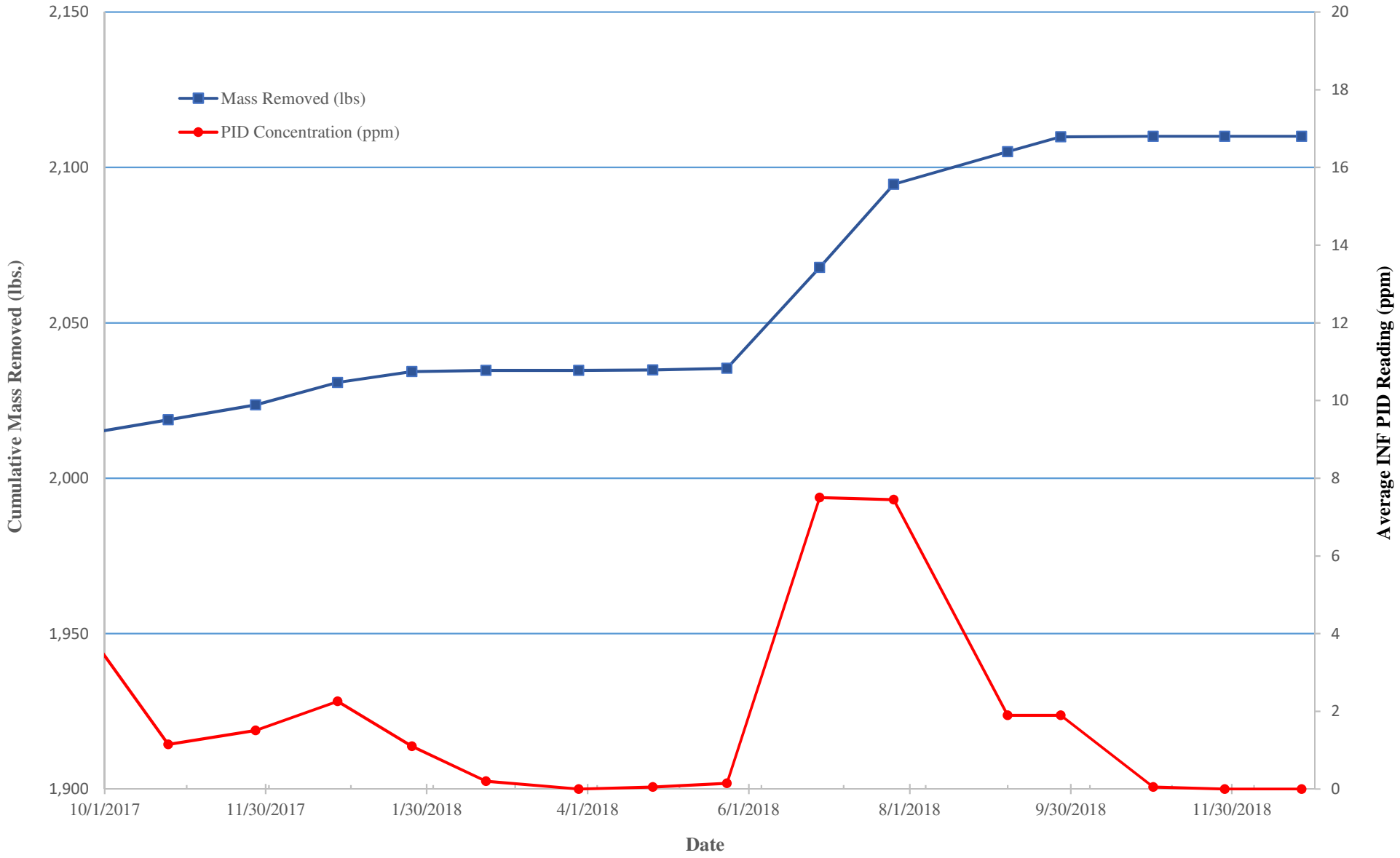
December 28, 2018

Figure 3
GWE&T System Influent PCE Concentrations - 2003-2018
Stanton Cleaners
110 Cuttermill Road, Great Neck, NY



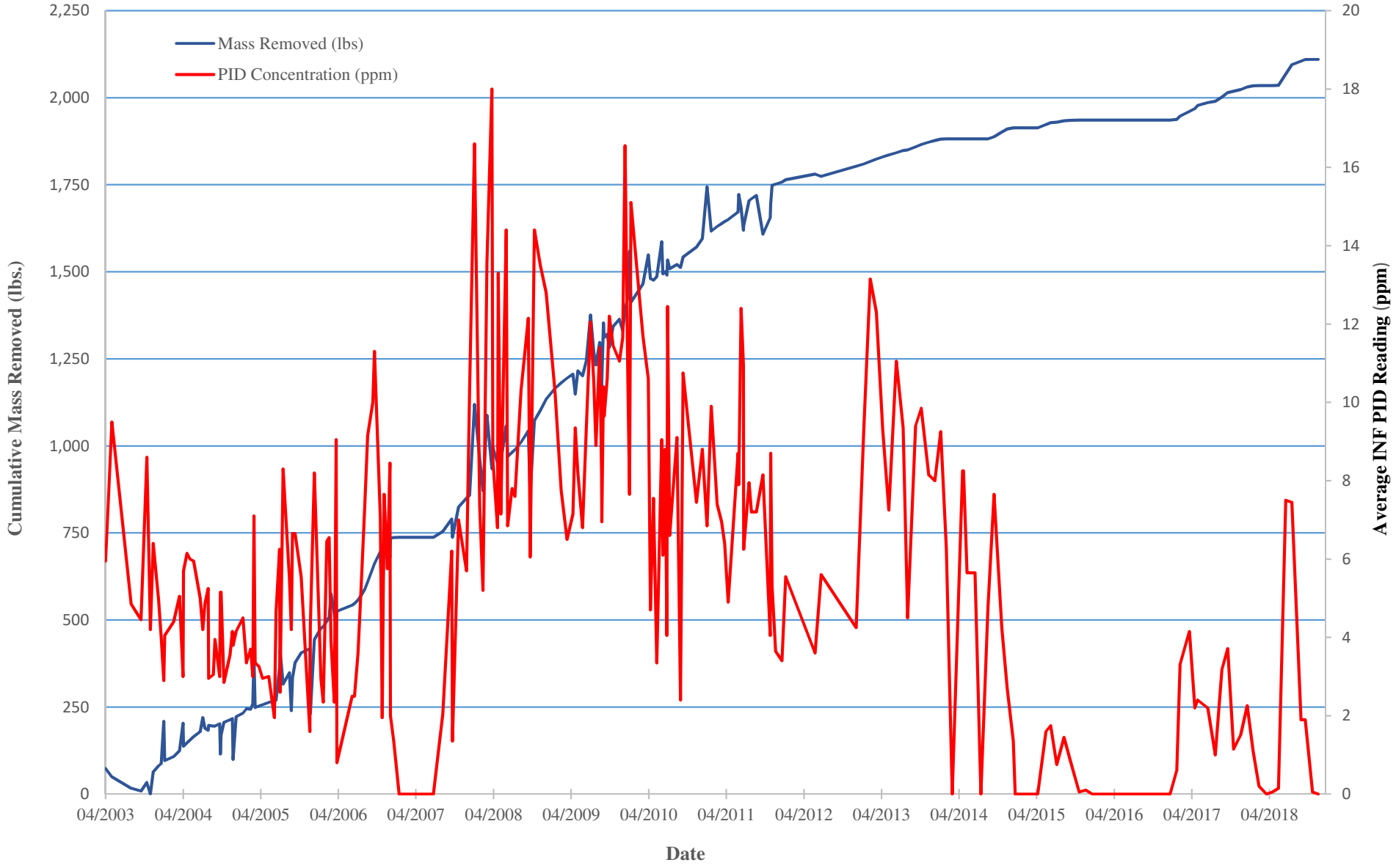
NYSDEC Site No: 130072
Standby Contract: D007625-06

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

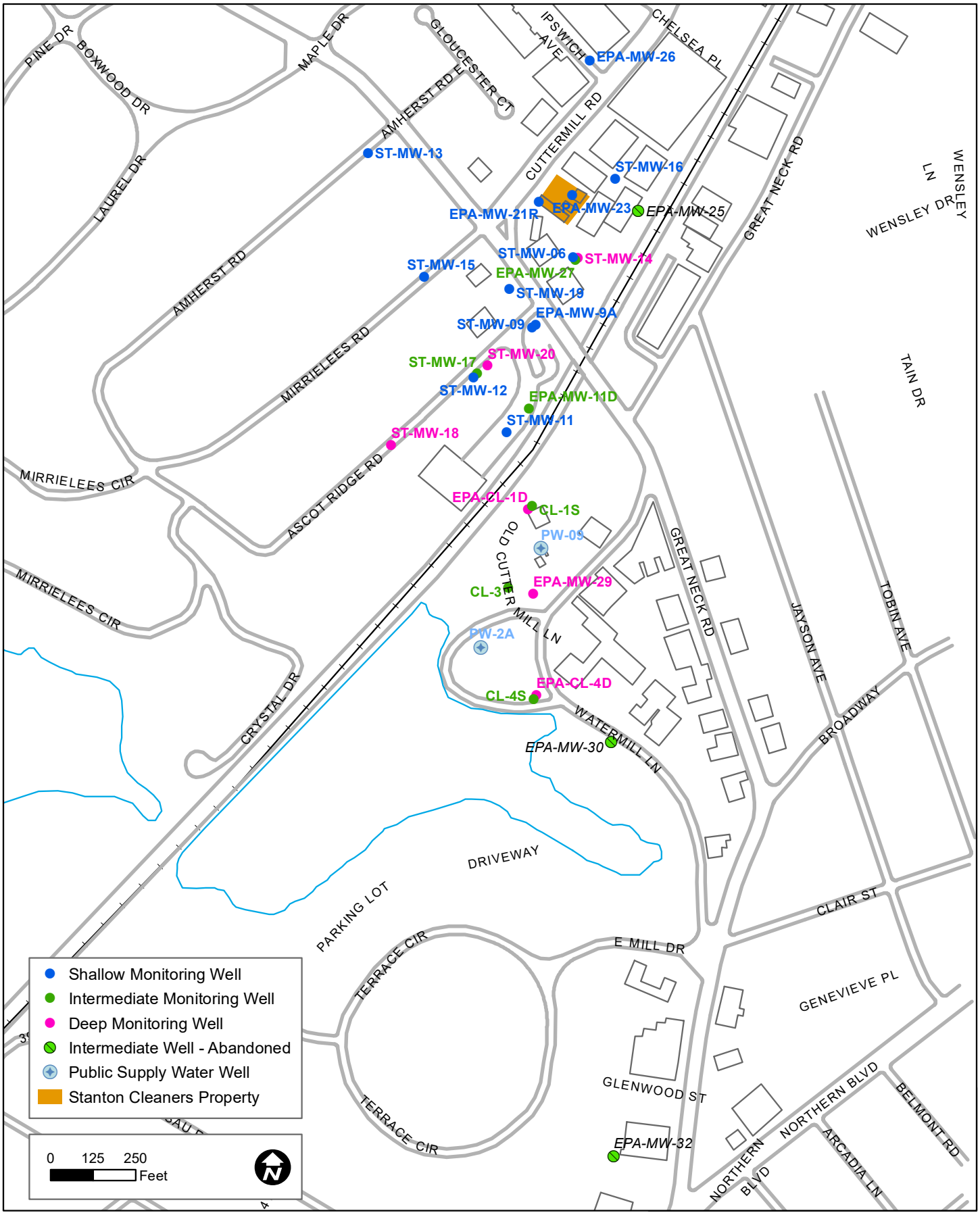


NYSDEC Site No: 130072
Standby Contract: D007625-06

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



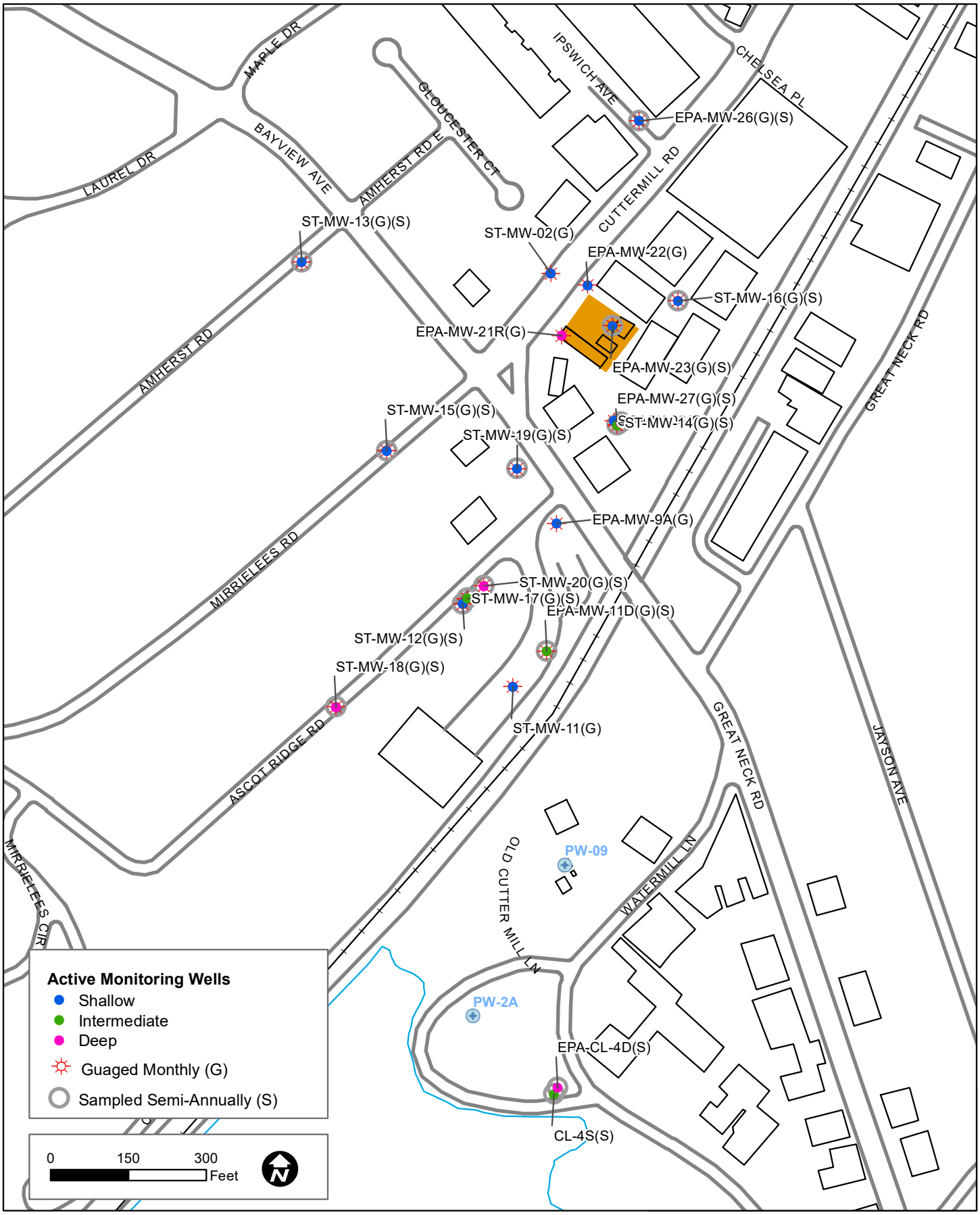
NYSDEC Site No: 130072
Standby Contract: D007625-06



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

Figure 6

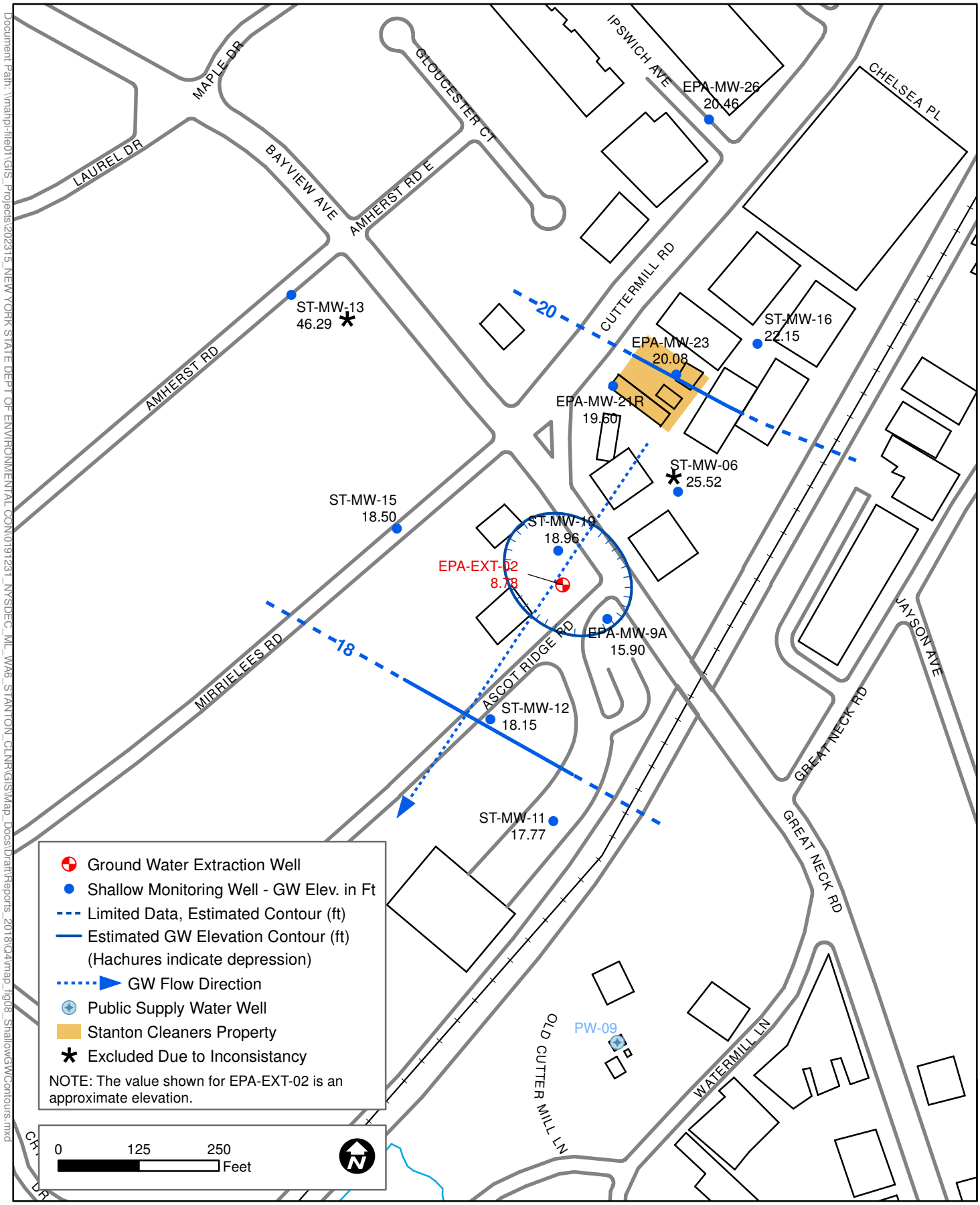
December 28, 2018



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

Figure 7

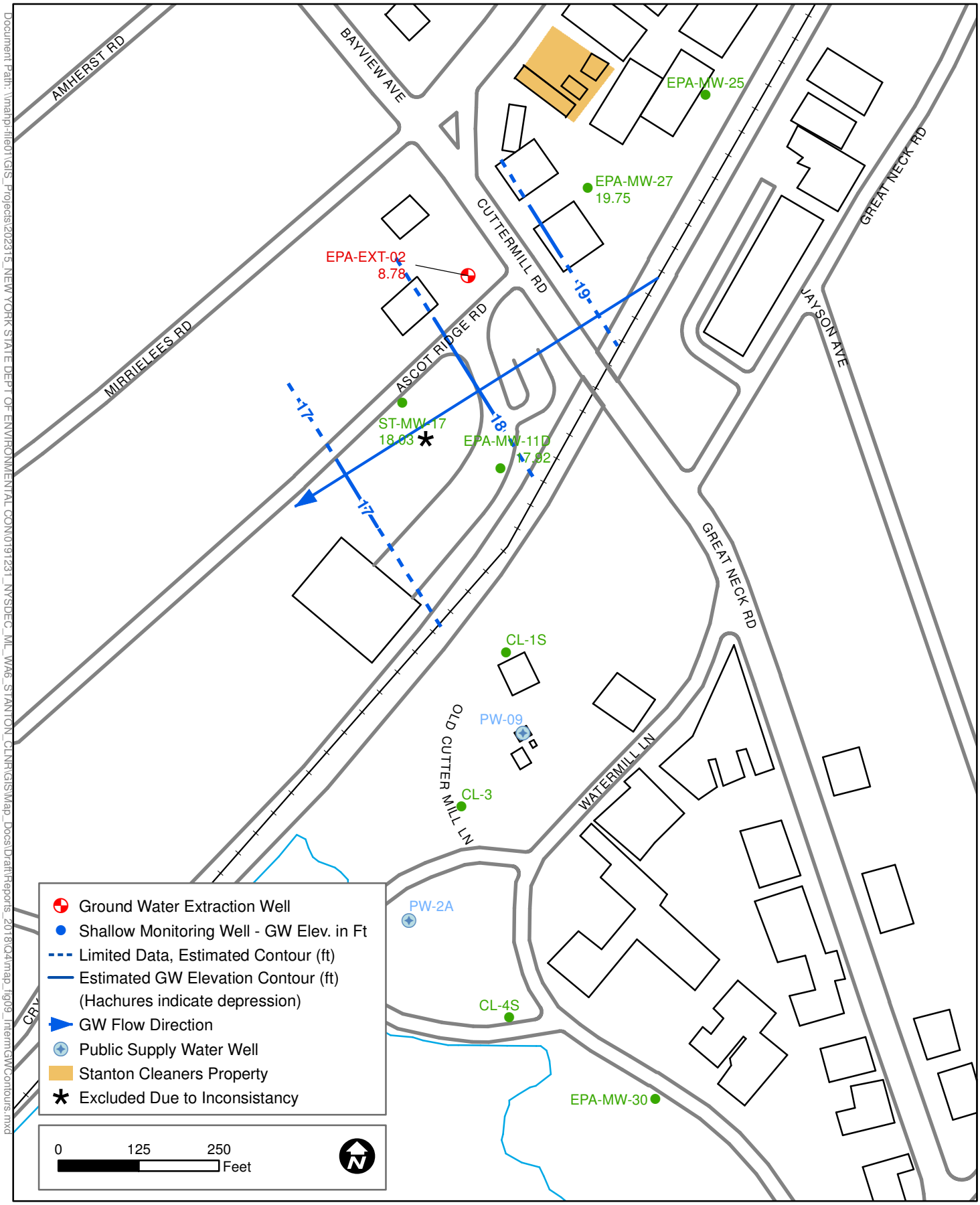
December 28, 2018



Shallow Ground Water Elevations (November 28, 2018)
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 8

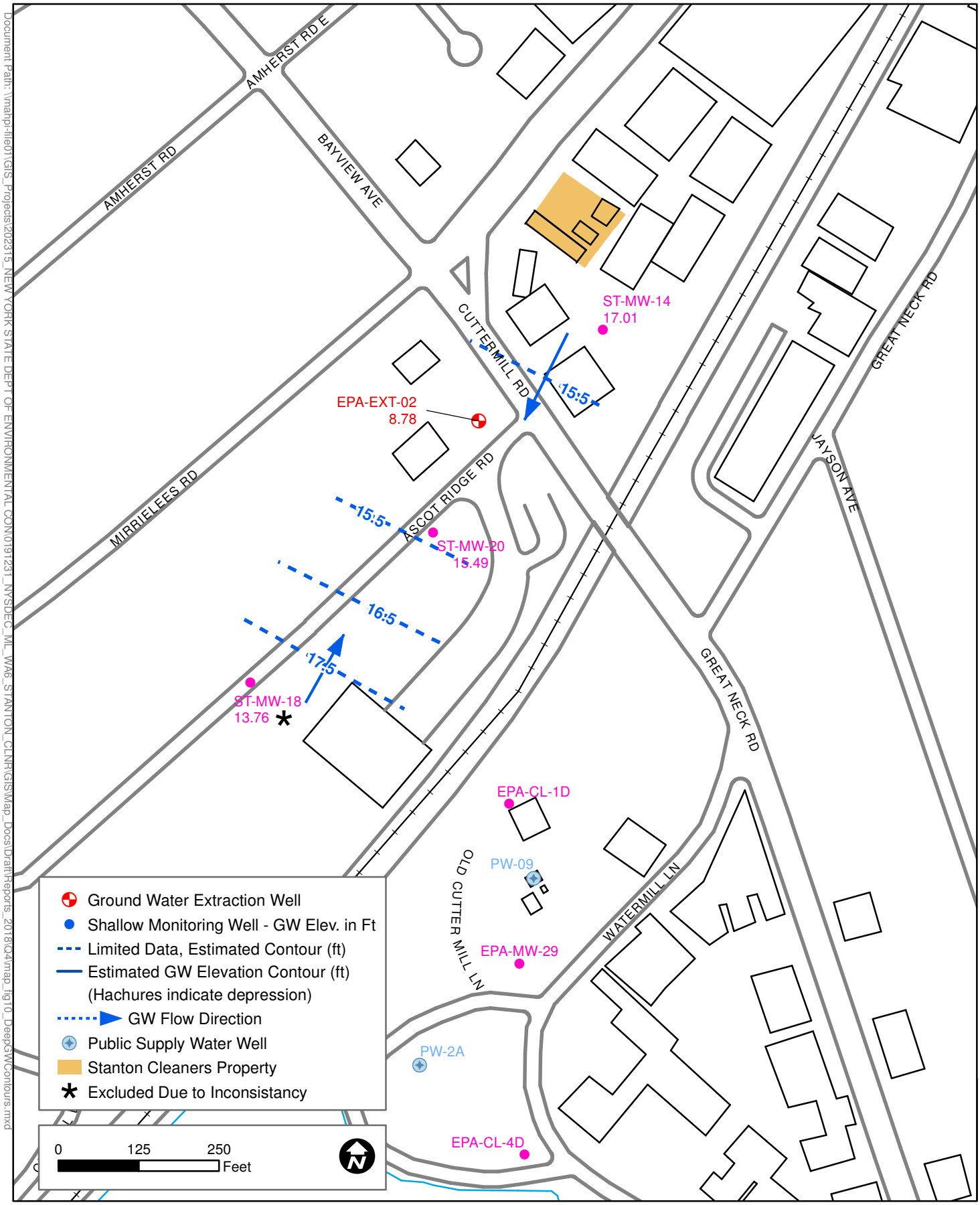
December 28, 2018



Intermediate Ground Water Elevations (November 28, 2018)
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 9

December 28, 2018

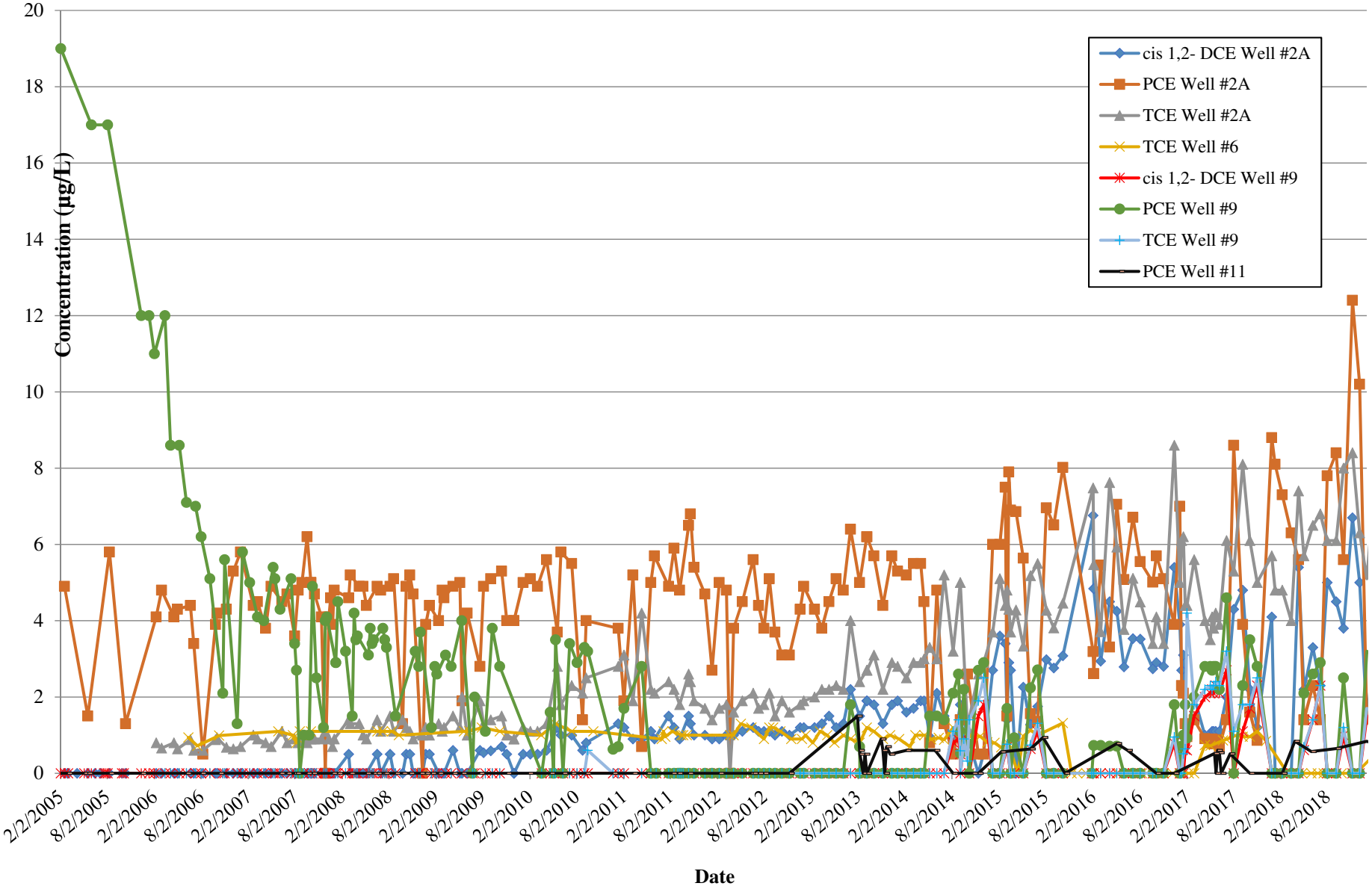


Deep Ground Water Elevations (November 28, 2018)
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 10

December 28, 2018

Figure 11
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: 1-Nov-18
REPORT No.
PAGE No. 1

PREPARED BY: Alexandra Keenan 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	8:15 - 16:30	Preferred
Alexandra Keenan	Technician	8:15 - 16:30	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
NA	NA	NA	NA

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W		
2. VelociCalc - TSI 8386 -W	4. 100-ft Solinst - W		

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs **-Preferred**

8:15 - Preferred (EC and AK) on site
8:20 - Sampled offsite wells at Great Neck Water Authority as part of Semi-Annual Groundwater Sampling Event
9:45 - EC started Monthly O&M Activities while AK continued semi-annual groundwater sampling
10:00 - SVE blower offline for maitenance, changed 6oz of oil and greased bearings
10:20 - SVE blower back online
10:25 - Collected system readings around treatment building
10:35 - Collect SVE port readings using Multi RAE 5 gas meter and velocicalc
11:25 - Performed MW gauging data under task 4
12:45 - Performed general housekeeping
13:00 - EC rejoined AK for semi-annual groundwater sampling
15:30 - Treatment building secured. EC and AK 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: 28-Nov-18
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
Daniel Prisco-Buxbaum	Technician	8:00-12:45	Preferred
Edward Combs	Technician	11:45-14:00	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
Justin King	9:45-12:30	HDR	Site Walk

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W	5. Diaphragm Sampling Pump - W	
2. VelociCalc - TSI 9565 - W	4. 300-ft Solinst - W	6. Tedlar Bag + Tubing - W	

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs - Preferred
8:00 - Preferred (DPB) on-site. SVE online upon arrival; GWTS remains offline .
8:05 - Started O&M Activities and Housekeeping.
9:00 - Collected system readings from computer and gauges and collected readings from SVE sample ports with instruments.
9:45 - Justin King (HDR) on-site.
11:15 - SVE Blower offline for maintenance. Changed 6 oz. of oil, and greased motor bearings .
11:40 - Attempted to bring SVE Blower back online; control contactor in MCP tripped. Reset control contactor and repeated startup protocol, but the contactor continued to trip, and SVE Blower could not be brough back online. Additional troubleshooting required.
11:45 - EC (Preferred) onsite.
12:30 - Justin King (HDR) off-site.
12:45 - DPB (Preferred) off-site.
12:45-13:45 - Performed routine monitoring well gauging under Task 4.
14:00 - Treatment building secured. Preferred (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-Dec-18
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	9:30-11:15	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
Vito Cudia	9:45-11:00	VSC Electric, Inc.	Electrical Troubleshooting

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W			

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs -Preferred

9:30 - Preferred (EC) on-site. SVE offline upon arrival; GWTS remains offline
9:45 - Vito Cudia (VSC Electric, Inc.) on-site. Begin site walkthough.
10:00 - Began inspection and troubleshooting of electrical systems
11:00 - Troubleshooting complete. Vito Cudia off-site
11:15 - Treatment building secured. Preferred (EC) off-site.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Edward Combs (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: 27-Dec-18
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 - 15:00	Preferred
Matthew Hartman	Technician	10:30 - 12:45	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

1. Camera - W	3. Five Gas Meter - W	5. Diaphragm Sampling Pump - W	
2. VelociCalc - TSI 9565 - W	4. 300-ft Solinst - W	6. Tedlar Bag + Tubing - W	

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs - Preferred
9:00 - Preferred (EC) on-site. SVE and GWTS both offline.
9:05 - Site walkthrough
9:45 - Collected system readings and collected readings from SVE well headspace and sample ports with 5-gas meter.
10:30 - MH on-site. Performed monitoring well gauging under Task 4.
11:05 - Performed non-routine site inspection activities as requested by HDR (Justin King).
12:45 - Monitoring well gauging under Task 4 completed. MH off-site.
14:15 - Non-routine inspection items completed. General Housekeeping performed under Task 3.
15:00 - Treatment building secured. Preferred (EC) off-site

[x] - Designates report is continued on additional pages

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

Appendix B

GWE&T System O&M Reports

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

Date: 11/01/18

Data from Computer Display Screen:

Pump	Flow	Valve open
RW-2	85 GPM*	100%

Total Gallons Treated:	410,102,074	
Discharge Rate:	150 GPM	*
Discharge Conductivity:	0.29	*
Discharge pH:	5.6	*
SVE Air Flow Rate:	150 CFM	

Visual Digital Readouts from Catwalk:

Discharge pH:	5.20**
Discharge Temp:	22ºC**
Discharge Conductivity:	2.2**

Flow meter reading:

Flow Rate:	0 GPM**
Total gallons: 4,583,000 gallons	meter display in 100 of gallons

Weather:
63ºF Clear, humid, northwest wind

Notes:
1 - SVE air flow rate fluctuated between 454 and 976 CFM suggesting a possible water condensate issue within the extraction lines.
* Meter malfunctioning
** Pump is currently offline due to electrical issues, troubleshooting is required
Digital reading output for Discharge Rate and Total gallons on flow meter - appear to be malfunctioning.
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: 11/28/2018

Data from Computer Display Screen:

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

Total Gallons Treated:	414349995*	
Discharge Rate:	293 GPM*	
Discharge Conductivity:	0.15*	
Discharge pH:	5.6*	
SVE Air Flow Rate:	163 CFM*	(160 CFM at meter)

Visual Digital Readouts from Catwalk:

Discharge pH:	4.05**
Discharge Temp:	147ºC**
Discharge Conductivity:	1.1**

Flow meter reading:

Flow Rate:	0 GPM**
Total gallons: 4,583,000 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	0 GPH**
Total gallons:	5,771,975.9

Weather:
39ºF overcast, dry, moderate west wind

Notes:
* Meter Malfunctioning
** GWTS offline
GPM- Gallons Per Minute

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

Date: 12/27/2018

Data from Computer Display Screen:

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

Total Gallons Treated:	420,790,060*	
Discharge Rate:	293 GPM*	
Discharge Conductivity:	0.14*	
Discharge pH:	5.6*	
SVE Air Flow Rate:	113 CFM*	(0 CFM at meter)

Visual Digital Readouts from Catwalk:

Discharge pH:	3.65**
Discharge Temp:	12ºC**
Discharge Conductivity:	0.9**

Flow meter reading:

Flow Rate:	0 GPM**
Total gallons: 4,593,000 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	0 GPH**
Total gallons:	5,772,396.0

Weather:
44ºF clear, humid, light north wind

Notes:
* Meter Malfunctioning
** GWTS offline
GPM- Gallons Per Minute

Appendix C

Lookout Operational Data Logs

Stanton Cleaners Groundwater Contamination Site - October 2018 - Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/1/2018 0:00	11	410587552.1	201
10/1/2018 4:00	13	410590381.1	202
10/1/2018 8:00	12	410593409.2	206
10/1/2018 12:00	10	410596058.7	206
10/1/2018 16:00	10	410598425.4	206
10/1/2018 20:00	10	410600792.1	207
10/2/2018 0:00	11	410603196.2	203
10/2/2018 4:00	12	410605886.9	201
10/2/2018 8:00	12	410608727	205
10/2/2018 12:00	11	410611426	204
10/2/2018 16:00	11	410613852.6	204
10/2/2018 20:00	12	410616568.9	203
10/3/2018 0:00	12	410619409.4	198
10/3/2018 4:00	13	410622449.9	198
10/3/2018 8:00	13	410625527	202
10/3/2018 12:00	12	410628458.6	202
10/3/2018 16:00	13	410631336.6	203
10/3/2018 20:00	13	410634405.8	203
10/4/2018 0:00	12	410637264	202
10/4/2018 4:00	12	410640104.6	198
10/4/2018 8:00	11	410642931.8	200
10/4/2018 12:00	10	410645389.5	205
10/4/2018 16:00	10	410647756.8	205
10/4/2018 20:00	10	410650124.3	201
10/5/2018 0:00	11	410652584.8	203
10/5/2018 4:00	12	410655250.3	204
10/5/2018 8:00	12	410658090.9	201
10/5/2018 12:00	13	410660943.7	202
10/5/2018 16:00	13	410664019.7	204
10/5/2018 20:00	13	410667097.5	204
10/6/2018 0:00	13	410670175.4	202
10/6/2018 4:00	13	410673251.5	201
10/6/2018 8:00	12	410676098.3	202
10/6/2018 12:00	11	410678731	205
10/6/2018 16:00	11	410681335.6	205
10/6/2018 20:00	11	410683940.2	202
10/7/2018 0:00	12	410686748.5	199
10/7/2018 4:00	11	410689582.3	207
10/7/2018 8:00	10	410692059.3	204
10/7/2018 12:00	9	410694222.6	206
10/7/2018 16:00	10	410696465	205

Stanton Cleaners Groundwater Contamination Site - October 2018 - Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/7/2018 20:00	10	410698833.3	205
10/8/2018 0:00	11	410701359.6	201
10/8/2018 4:00	11	410703964.6	204
10/8/2018 8:00	11	410706569.7	206
10/8/2018 12:00	12	410709472.5	206
10/8/2018 16:00	12	410712314.7	205
10/8/2018 20:00	13	410715178.6	202
10/9/2018 0:00	15	410718359.1	200
10/9/2018 4:00	17	410722127	202
10/9/2018 8:00	14	410725842.4	200
10/9/2018 12:00	16	410729283.1	199
10/9/2018 16:00	21	410733753.1	199
10/9/2018 20:00	36	410739794.3	194
10/10/2018 0:00	51	410750847.9	196
10/10/2018 4:00	51	410762928.1	197
10/10/2018 8:00	25	410772579.6	193
10/10/2018 12:00	41	410779367.4	192
10/10/2018 16:00	52	410791284.9	197
10/10/2018 20:00	82	410805271.9	195
10/11/2018 0:00	85	410825367	199
10/11/2018 4:00	52	410841275.5	198
10/11/2018 8:00	41	410852781	199
10/11/2018 12:00	51	410863976.1	195
10/11/2018 16:00	52	410876126.5	197
10/11/2018 20:00	54	410888778.6	199
10/12/2018 0:00	51	410901144.5	197
10/12/2018 4:00	40	410912895.2	199
10/12/2018 8:00	24	410919498.2	198
10/12/2018 12:00	22	410924870.8	199
10/12/2018 16:00	21	410929856.8	198
10/12/2018 20:00	41	410936058.9	196
10/13/2018 0:00	55	410948350.9	197
10/13/2018 4:00	51	410960802.6	196
10/13/2018 8:00	30	410968440.3	196
10/13/2018 12:00	52	410979805.8	196
10/13/2018 16:00	83	410993800.1	192
10/13/2018 20:00	85	411013911.9	196
10/14/2018 0:00	85	411034052.7	192
10/14/2018 4:00	41	411048779.6	199
10/14/2018 8:00	41	411056622.5	196
10/14/2018 12:00	53	411068403.3	158

Stanton Cleaners Groundwater Contamination Site - October 2018 - Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/14/2018 16:00	85	411085126.7	171
10/14/2018 20:00	85	411105268.9	153
10/15/2018 0:00	85	411125412.5	152
10/15/2018 4:00	56	411144321.5	194
10/15/2018 8:00	61	411157262.9	158
10/15/2018 12:00	85	411176874.8	157
10/15/2018 16:00	85	411197019.8	157
10/15/2018 20:00	85	411217166.3	158
10/16/2018 0:00	85	411237311.3	194
10/16/2018 4:00	51	411253820.9	198
10/16/2018 8:00	52	411265933.2	193
10/16/2018 12:00	55	411278453.4	195
10/16/2018 16:00	56	411291474.1	192
10/16/2018 20:00	56	411304727.9	196
10/17/2018 0:00	51	411317313.4	198
10/17/2018 4:00	22	411325800.8	198
10/17/2018 8:00	30	411331449.7	196
10/17/2018 12:00	52	411342455.2	198
10/17/2018 16:00	59	411355421.1	191
10/17/2018 20:00	85	411373632.8	195
10/18/2018 0:00	85	411393783.4	152
10/18/2018 4:00	84	411413769.5	157
10/18/2018 8:00	85	411433911	157
10/18/2018 12:00	85	411454063.1	157
10/18/2018 16:00	85	411474215.1	157
10/18/2018 20:00	85	411494367.2	156
10/19/2018 0:00	85	411514519.3	156
10/19/2018 4:00	85	411534672.8	178
10/19/2018 8:00	85	411554827.7	157
10/19/2018 12:00	85	411574982.6	154
10/19/2018 16:00	85	411595137.6	194
10/19/2018 20:00	85	411615293.9	193
10/20/2018 0:00	51	411632089.5	194
10/20/2018 4:00	30	411639527	197
10/20/2018 8:00	52	411650446	159
10/20/2018 12:00	85	411666530.2	157
10/20/2018 16:00	85	411686686.5	156
10/20/2018 20:00	85	411706842.8	157
10/21/2018 0:00	85	411726996.2	157
10/21/2018 4:00	84	411742311.9	190
10/21/2018 8:00	85	411762453.3	152

Stanton Cleaners Groundwater Contamination Site - October 2018 - Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/21/2018 12:00	85	411782612.5	155
10/21/2018 16:00	85	411802771.6	157
10/21/2018 20:00	85	411822932.2	158
10/22/2018 0:00	62	411842917	153
10/22/2018 4:00	85	411860318.8	154
10/22/2018 8:00	85	411880479.4	157
10/22/2018 12:00	85	411900641.4	154
10/22/2018 16:00	85	411920803.4	154
10/22/2018 20:00	85	411940965.4	157
10/23/2018 0:00	85	411961128.8	157
10/23/2018 4:00	85	411981290.8	156
10/23/2018 8:00	85	412001454.3	157
10/23/2018 12:00	85	412021617.7	155
10/23/2018 16:00	85	412041781.1	155
10/23/2018 20:00	85	412061945.9	156
10/24/2018 0:00	85	412082110.8	159
10/24/2018 4:00	85	412102275.6	157
10/24/2018 8:00	85	412122441.8	158
10/24/2018 12:00	85	412142606.7	158
10/24/2018 16:00	85	412162774.3	157
10/24/2018 20:00	85	412182940.6	156
10/25/2018 0:00	85	412203108.3	158
10/25/2018 4:00	85	412223275.9	157
10/25/2018 8:00	85	412243445	158
10/25/2018 12:00	85	412263614.1	160
10/25/2018 16:00	85	412283784.6	159
10/25/2018 20:00	85	412303955.1	158
10/26/2018 0:00	85	412324022.6	158
10/26/2018 4:00	85	412344193.1	155
10/26/2018 8:00	85	412364365	156
10/26/2018 12:00	85	412384538.3	159
10/26/2018 16:00	85	412404710.2	158
10/26/2018 20:00	85	412424883.6	158
10/27/2018 0:00	85	412443035.4	159
10/27/2018 4:00	85	412463208.7	158
10/27/2018 8:00	85	412483383.5	157
10/27/2018 12:00	85	412503556.8	158
10/27/2018 16:00	85	412523731.5	194
10/27/2018 20:00	60	412544049.4	197
10/28/2018 0:00	61	412557739.9	198
10/28/2018 4:00	84	412574345	192

Stanton Cleaners Groundwater Contamination Site - October 2018 - Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/28/2018 8:00	85	412594491.4	196
10/28/2018 12:00	85	412614669	197
10/28/2018 16:00	52	412632564	203
10/28/2018 20:00	23	412640142.6	201
10/29/2018 0:00	26	412645914.9	200
10/29/2018 4:00	40	412654131	197
10/29/2018 8:00	42	412664607.1	201
10/29/2018 12:00	41	412674383	197
10/29/2018 16:00	29	412682488.1	202
10/29/2018 20:00	25	412688595.9	195
10/30/2018 0:00	29	412694861.7	197
10/30/2018 4:00	36	412702159.9	200
10/30/2018 8:00	51	412712232	197
10/30/2018 12:00	51	412724355.3	194
10/30/2018 16:00	52	412736684.5	194
10/30/2018 20:00	52	412748902.2	197
10/31/2018 0:00	85	412765729.6	195
10/31/2018 4:00	85	412785911.5	156
10/31/2018 8:00	85	412806094.7	154
10/31/2018 12:00	85	412826276.5	195
10/31/2018 16:00	85	412846459.8	196
10/31/2018 20:00	85	412862768	194

Stanton Cleaners Groundwater Contamination Site - November 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/1/2018 0:00	85	412882952.7	157
11/1/2018 4:00	85	412903135.9	153
11/1/2018 8:00	85	412923320.6	157
11/1/2018 12:00	85	412943505.2	189
11/1/2018 16:00	85	412963689.9	195
11/1/2018 20:00	85	412983876	196
11/2/2018 0:00	85	413004062.1	167
11/2/2018 4:00	85	413024249.6	155
11/2/2018 8:00	85	413044435.7	157
11/2/2018 12:00	85	413064623.2	158
11/2/2018 16:00	85	413084810.7	197
11/2/2018 20:00	85	413104996.7	195
11/3/2018 0:00	85	413125185.7	197
11/3/2018 4:00	85	413145373.2	157
11/3/2018 8:00	85	413165562.1	154
11/3/2018 12:00	85	413185751	197
11/3/2018 16:00	53	413201090.7	197
11/3/2018 20:00	62	413214675.7	192
11/4/2018 0:00	85	413234097.6	195
11/4/2018 4:00	85	413259335.5	158
11/4/2018 8:00	85	413279525.8	157
11/4/2018 12:00	85	413299717.6	195
11/4/2018 16:00	85	413317766.5	159
11/4/2018 20:00	85	413337958.3	154
11/5/2018 0:00	85	413358151.4	158
11/5/2018 4:00	85	413378343.2	158
11/5/2018 8:00	85	413398536.4	156
11/5/2018 12:00	85	413418729.5	156
11/5/2018 16:00	85	413438921.3	155
11/5/2018 20:00	85	413459114.4	158
11/6/2018 0:00	85	413479309	156
11/6/2018 4:00	85	413499503.6	180
11/6/2018 8:00	85	413519699.6	164
11/6/2018 12:00	85	413539894.2	166
11/6/2018 16:00	85	413560090.2	161
11/6/2018 20:00	166	413580723.2	165
11/7/2018 0:00	166	413620164.8	164
11/7/2018 4:00	166	413659606.4	166
11/7/2018 8:00	166	413699050.7	162
11/7/2018 12:00	85	413721775.4	166
11/7/2018 16:00	85	413741974.2	167

Stanton Cleaners Groundwater Contamination Site - November 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/7/2018 20:00	166	413766286.9	165
11/8/2018 0:00	166	413805736.8	167
11/8/2018 4:00	166	413845186.7	166
11/8/2018 8:00	74	413883470.7	165
11/8/2018 12:00	85	413903649.7	165
11/8/2018 16:00	85	413923851.4	167
11/8/2018 20:00	85	413944053.1	166
11/9/2018 0:00	85	413964256.2	167
11/9/2018 4:00	85	413984459.3	195
11/9/2018 8:00	85	414004662.3	193
11/9/2018 12:00	85	414024866.8	189
11/9/2018 16:00	85	414045072.8	190
11/9/2018 20:00	85	414065277.3	178
11/10/2018 0:00	166	414093099.8	163
11/10/2018 4:00	166	414132563.6	162
11/10/2018 8:00	166	414172027.3	166
11/10/2018 12:00	166	414200194.5	166
11/10/2018 16:00	166	414239661	166
11/10/2018 20:00	166	414279127.5	165
11/11/2018 0:00	166	414318594	167
11/11/2018 4:00	166	414358063.3	167
11/11/2018 8:00	166	414397532.5	162
11/11/2018 12:00	166	414437004.6	167
11/11/2018 16:00	166	414476476.6	166
11/11/2018 20:00	166	414515948.6	191
11/12/2018 0:00	166	414555423.4	188
11/12/2018 4:00	166	414594901	190
11/12/2018 8:00	85	414629807.8	187
11/12/2018 12:00	166	414650854.4	186
11/12/2018 16:00	166	414690332	191
11/12/2018 20:00	166	414729809.5	189
11/13/2018 0:00	166	414769287.1	182
11/13/2018 4:00	166	414808767.4	165
11/13/2018 8:00	85	414829795.7	168
11/13/2018 12:00	85	414850013	165
11/13/2018 16:00	42	414869574.8	167
11/13/2018 20:00	166	414903857	162
11/14/2018 0:00	166	414943340.1	166
11/14/2018 4:00	166	414982823.2	166
11/14/2018 8:00	166	415022309.1	167
11/14/2018 12:00	166	415061794.9	163

Stanton Cleaners Groundwater Contamination Site - November 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/14/2018 16:00	166	415101280.8	166
11/14/2018 20:00	166	415140769.4	166
11/15/2018 0:00	166	415180258.1	166
11/15/2018 4:00	85	415208098.3	167
11/15/2018 8:00	85	415228318.4	162
11/15/2018 12:00	85	415248539.9	167
11/15/2018 16:00	85	415268761.4	163
11/15/2018 20:00	85	415288982.9	166
11/16/2018 0:00	85	415309205.8	165
11/16/2018 4:00	85	415329428.7	164
11/16/2018 8:00	85	415349651.6	163
11/16/2018 12:00	85	415369874.5	162
11/16/2018 16:00	166	415402599.8	165
11/16/2018 20:00	166	415442096.7	165
11/17/2018 0:00	166	415481593.7	167
11/17/2018 4:00	166	415521090.6	163
11/17/2018 8:00	166	415560590.3	167
11/17/2018 12:00	166	415600087.2	165
11/17/2018 16:00	166	415639586.9	162
11/17/2018 20:00	166	415679086.6	165
11/18/2018 0:00	166	415718583.6	164
11/18/2018 4:00	166	415758083.3	166
11/18/2018 8:00	166	415797583	165
11/18/2018 12:00	166	415837085.4	164
11/18/2018 16:00	166	415876585.1	205
11/18/2018 20:00	166	415916084.8	8
11/19/2018 0:00	166	415955587.3	6
11/19/2018 4:00	166	415995089.8	146
11/19/2018 8:00	166	416034592.2	141
11/19/2018 12:00	166	416074094.7	141
11/19/2018 16:00	166	416113597.2	141
11/19/2018 20:00	166	416153102.4	140
11/20/2018 0:00	166	416192604.9	138
11/20/2018 4:00	166	416232107.3	136
11/20/2018 8:00	166	416271612.6	137
11/20/2018 12:00	166	416311115	141
11/20/2018 16:00	166	416350620.3	178
11/20/2018 20:00	166	416390125.5	186
11/21/2018 0:00	85	416410556.9	179
11/21/2018 4:00	85	416430785.5	175
11/21/2018 8:00	85	416451014	179

Stanton Cleaners Groundwater Contamination Site - November 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/21/2018 12:00	85	416471244	166
11/21/2018 16:00	166	416490117.7	166
11/21/2018 20:00	85	416523829.7	165
11/22/2018 0:00	85	416544059.7	162
11/22/2018 4:00	85	416564291.1	188
11/22/2018 8:00	85	416584522.5	187
11/22/2018 12:00	85	416604753.9	191
11/22/2018 16:00	43	416624602	191
11/22/2018 20:00	166	416662090.1	180
11/23/2018 0:00	166	416701598.1	176
11/23/2018 4:00	166	416741114.4	178
11/23/2018 8:00	166	416780633.5	165
11/23/2018 12:00	166	416820152.5	166
11/23/2018 16:00	166	416859671.6	166
11/23/2018 20:00	166	416899190.7	127
11/24/2018 0:00	166	416938712.5	123
11/24/2018 4:00	166	416978237.1	126
11/24/2018 8:00	166	417017761.7	127
11/24/2018 12:00	166	417057286.3	128
11/24/2018 16:00	166	417096813.7	127
11/24/2018 20:00	166	417136341	127
11/25/2018 0:00	166	417175868.4	122
11/25/2018 4:00	166	417215398.5	123
11/25/2018 8:00	166	417254928.7	126
11/25/2018 12:00	166	417294458.8	126
11/25/2018 16:00	166	417333988.9	128
11/25/2018 20:00	166	417373521.8	127
11/26/2018 0:00	166	417413052	124
11/26/2018 4:00	166	417452584.9	123
11/26/2018 8:00	166	417492117.8	127
11/26/2018 12:00	166	417531653.4	128
11/26/2018 16:00	166	417571189.1	127
11/26/2018 20:00	166	417610727.5	129
11/27/2018 0:00	166	417650263.2	125
11/27/2018 4:00	166	417689801.6	123
11/27/2018 8:00	166	417729340.1	127
11/27/2018 12:00	166	417768881.3	129
11/27/2018 16:00	166	417808422.5	123
11/27/2018 20:00	166	417847963.7	128
11/28/2018 0:00	85	417871534.3	127
11/28/2018 4:00	85	417891784.1	126

Stanton Cleaners Groundwater Contamination Site - November 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/28/2018 8:00	85	417912034	128
11/28/2018 12:00	85	417932283.8	127
11/28/2018 16:00	85	417952535.1	126
11/28/2018 20:00	85	417972786.3	127
11/29/2018 0:00	85	417993037.6	128
11/29/2018 4:00	166	418019326.3	128
11/29/2018 8:00	166	418058878.6	128
11/29/2018 12:00	166	418098430.9	128
11/29/2018 16:00	166	418137985.9	124
11/29/2018 20:00	166	418177540.9	128
11/30/2018 0:00	166	418217096	124
11/30/2018 4:00	166	418256651	127
11/30/2018 8:00	166	418296208.8	126
11/30/2018 12:00	166	418335766.6	127
11/30/2018 16:00	166	418375327.2	123
11/30/2018 20:00	166	418414885	126

Stanton Cleaners Groundwater Contamination Site - December 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/1/2018 0:00	166	418454448.3	126
12/1/2018 4:00	166	418494008.9	127
12/1/2018 8:00	166	418533572.2	122
12/1/2018 12:00	166	418573135.5	125
12/1/2018 16:00	166	418612701.6	109
12/1/2018 20:00	166	418652265	113
12/2/2018 0:00	166	418691831.1	111
12/2/2018 4:00	166	418731394.4	111
12/2/2018 8:00	166	418770957.7	112
12/2/2018 12:00	166	418810523.8	110
12/2/2018 16:00	166	418850089.9	111
12/2/2018 20:00	166	418889656	108
12/3/2018 0:00	166	418929224.9	110
12/3/2018 4:00	166	418968793.8	109
12/3/2018 8:00	166	419008362.6	112
12/3/2018 12:00	166	419047931.5	110
12/3/2018 16:00	166	419087503.1	111
12/3/2018 20:00	166	419127074.8	108
12/4/2018 0:00	166	419166649.2	112
12/4/2018 4:00	166	419206223.6	112
12/4/2018 8:00	166	419245800.7	112
12/4/2018 12:00	166	419285377.9	112
12/4/2018 16:00	166	419324957.8	113
12/4/2018 20:00	166	419364535	114
12/5/2018 0:00	166	419404114.9	111
12/5/2018 4:00	166	419443697.6	109
12/5/2018 8:00	166	419483277.5	110
12/5/2018 12:00	166	419522857.5	112
12/5/2018 16:00	166	419562440.2	112
12/5/2018 20:00	166	419602022.9	113
12/6/2018 0:00	166	419641602.8	110
12/6/2018 4:00	166	419681185.5	111
12/6/2018 8:00	166	419720768.2	112
12/6/2018 12:00	166	419760350.9	109
12/6/2018 16:00	166	419799933.6	113
12/6/2018 20:00	166	419839519.1	112
12/7/2018 0:00	166	419879096.2	112
12/7/2018 4:00	166	419918659.6	114
12/7/2018 8:00	166	419958217.4	113
12/7/2018 12:00	166	419997761.3	111
12/7/2018 16:00	166	420037280.4	113

Stanton Cleaners Groundwater Contamination Site - December 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/7/2018 20:00	166	420076661.1	112
12/8/2018 0:00	166	420116100	111
12/8/2018 4:00	166	420155536	113
12/8/2018 8:00	166	420194997	114
12/8/2018 12:00	166	420234549.3	112
12/8/2018 16:00	166	420274071.1	112
12/8/2018 20:00	166	420313579.1	113
12/9/2018 0:00	166	420353120.3	111
12/9/2018 4:00	166	420392567.4	112
12/9/2018 8:00	166	420431942.6	112
12/9/2018 12:00	166	420471340	114
12/9/2018 16:00	166	420510776	113
12/9/2018 20:00	166	420550214.9	112
12/10/2018 0:00	166	420589662	113
12/10/2018 4:00	166	420629128.5	110
12/10/2018 8:00	166	420668614.4	113
12/10/2018 12:00	166	420708116.8	111
12/10/2018 16:00	166	420747641.4	112
12/10/2018 20:00	166	420787185.4	109
12/11/2018 0:00	166	420826746	110
12/11/2018 4:00	166	420866292.7	110
12/11/2018 8:00	166	420905861.6	111
12/11/2018 12:00	166	420945433.2	113
12/11/2018 16:00	166	420984896.9	110
12/11/2018 20:00	166	421024355.1	113
12/12/2018 0:00	166	421063799.5	110
12/12/2018 4:00	166	421103249.4	114
12/12/2018 8:00	166	421142630.1	113
12/12/2018 12:00	166	421182063.4	114
12/12/2018 16:00	166	421221518.9	113
12/12/2018 20:00	166	421260988.1	112
12/13/2018 0:00	166	421300443.6	110
12/13/2018 4:00	166	421339849.2	107
12/13/2018 8:00	166	421379254.8	110
12/13/2018 12:00	166	421418663.2	110
12/13/2018 16:00	166	421458046.7	111
12/13/2018 20:00	166	421497413.6	112
12/14/2018 0:00	166	421536777.8	112
12/14/2018 4:00	166	421576147.4	109
12/14/2018 8:00	166	421615492.2	108
12/14/2018 12:00	166	421654828.7	111

Stanton Cleaners Groundwater Contamination Site - December 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/14/2018 16:00	166	421694154.1	113
12/14/2018 20:00	166	421733476.7	112
12/15/2018 0:00	166	421772802.1	112
12/15/2018 4:00	166	421812119.2	110
12/15/2018 8:00	166	421851439.1	108
12/15/2018 12:00	166	421890753.4	111
12/15/2018 16:00	166	421930051.1	111
12/15/2018 20:00	166	421969348.9	113
12/16/2018 0:00	166	422008638.3	111
12/16/2018 4:00	85	422036920.6	113
12/16/2018 8:00	85	422057034.4	111
12/16/2018 12:00	85	422077144	109
12/16/2018 16:00	166	422098832.5	112
12/16/2018 20:00	166	422138097	107
12/17/2018 0:00	166	422177353.2	113
12/17/2018 4:00	166	422216603.9	111
12/17/2018 8:00	166	422255857.4	114
12/17/2018 12:00	166	422295110.9	109
12/17/2018 16:00	166	422334367.1	113
12/17/2018 20:00	166	422373623.3	112
12/18/2018 0:00	166	422412879.5	112
12/18/2018 4:00	166	422452135.8	112
12/18/2018 8:00	166	422491397.5	113
12/18/2018 12:00	166	422530656.5	108
12/18/2018 16:00	166	422569915.5	112
12/18/2018 20:00	166	422609177.3	108
12/19/2018 0:00	166	422648439.1	111
12/19/2018 4:00	166	422687700.8	107
12/19/2018 8:00	166	422726962.6	112
12/19/2018 12:00	166	422766227.1	112
12/19/2018 16:00	166	422805491.7	110
12/19/2018 20:00	166	422844753.4	111
12/20/2018 0:00	166	422884018	111
12/20/2018 4:00	166	422923282.5	108
12/20/2018 8:00	166	422962549.8	111
12/20/2018 12:00	166	423001817.1	109
12/20/2018 16:00	166	423041084.4	112
12/20/2018 20:00	166	423080351.7	111
12/21/2018 0:00	166	423119621.8	109
12/21/2018 4:00	166	423158891.8	112
12/21/2018 8:00	166	423198161.9	112

Stanton Cleaners Groundwater Contamination Site - December 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/21/2018 12:00	166	423237434.7	111
12/21/2018 16:00	166	423276704.8	108
12/21/2018 20:00	166	423315980.4	112
12/22/2018 0:00	166	423355253.2	112
12/22/2018 4:00	166	423394526.1	112
12/22/2018 8:00	166	423433801.7	111
12/22/2018 12:00	166	423473074.5	112
12/22/2018 16:00	166	423512352.9	109
12/22/2018 20:00	166	423551631.2	111
12/23/2018 0:00	166	423590909.6	109
12/23/2018 4:00	166	423630190.7	112
12/23/2018 8:00	166	423669471.9	113
12/23/2018 12:00	166	423708753	111
12/23/2018 16:00	166	423748036.9	111
12/23/2018 20:00	166	423787323.6	112
12/24/2018 0:00	166	423826607.5	111
12/24/2018 4:00	166	423865894.1	113
12/24/2018 8:00	166	423905183.6	111
12/24/2018 12:00	166	423944473	112
12/24/2018 16:00	166	423983762.4	111
12/24/2018 20:00	166	424023051.9	110
12/25/2018 0:00	166	424062341.3	110
12/25/2018 4:00	166	424101633.5	111
12/25/2018 8:00	166	424140925.7	110
12/25/2018 12:00	166	424180220.7	112
12/25/2018 16:00	166	424219515.6	110
12/25/2018 20:00	166	424258810.6	109
12/26/2018 0:00	166	424298105.6	111
12/26/2018 4:00	166	424337403.3	112
12/26/2018 8:00	166	424376698.3	111
12/26/2018 12:00	166	424415993.2	112
12/26/2018 16:00	166	424455288.2	113
12/26/2018 20:00	166	424494585.9	112
12/27/2018 0:00	166	424533880.9	111
12/27/2018 4:00	166	424573178.6	106
12/27/2018 8:00	166	424612479.1	111
12/27/2018 12:00	166	424651776.9	110
12/27/2018 16:00	166	424691077.4	108
12/27/2018 20:00	166	424730377.9	112
12/28/2018 0:00	166	424769678.4	110
12/28/2018 4:00	166	424808981.6	113

Stanton Cleaners Groundwater Contamination Site - December 2018 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/28/2018 8:00	166	424848284.9	113
12/28/2018 12:00	166	424887588.2	109
12/28/2018 16:00	166	424926891.4	112
12/28/2018 20:00	166	424966194.7	111
12/29/2018 0:00	166	425005500.7	106
12/29/2018 4:00	166	425044806.8	109
12/29/2018 8:00	166	425084112.8	110
12/29/2018 12:00	166	425123421.6	108
12/29/2018 16:00	166	425162730.4	109
12/29/2018 20:00	166	425202039.2	113
12/30/2018 0:00	166	425241345.2	111
12/30/2018 4:00	166	425280654	112
12/30/2018 8:00	166	425319962.8	111
12/30/2018 12:00	166	425359274.4	112
12/30/2018 16:00	166	425398586	113
12/30/2018 20:00	166	425437897.5	111
12/31/2018 0:00	166	425477209.1	111
12/31/2018 4:00	166	425516523.4	111
12/31/2018 8:00	166	425555837.8	112
12/31/2018 12:00	166	425595152.1	112
12/31/2018 16:00	166	425634469.2	112
12/31/2018 20:00	166	425673783.5	112

Appendix D

AS System O&M Reports

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

Date: 11/01/18

Readings at Well	
Near Well Head	0 PSI
Bladder	N/A

Treatment Room Readings	
SCFM	5 PSI
psi-1	0 PSI
psi-2	0 PSI
psi-3	0 PSI

System Readings	
Temp.	46ºF
EN-37-1	0 bar
K/O Tank	0 PSI

Notes:

* Air sparge system was left off as per HDR until a Gardner Denver technician replaces the oil hose.
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 " "
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: 12/27/2018

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	16 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: 11/28/2018

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	16 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: 11/1/2018
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	20.9%	0	0	75.6	**	38.0	48.1	**
Post Blower Pre-Carbon*	**5.706**	N/A	1.1	0	20.9%	0	0	98.5	1.290	29.3	60.3	57.57
EPA-SVE-1 (shallow)	**1.913**	N/A	0.1	0	20.9%	0	0	65.6	**	64.0	53.0	24.50
EPA-SVE-1 (medium)	**1.913**	N/A	0.0	0	20.9%	0	0	68.6	**	60.2	54.4	9.08
EPA-SVE-2 (shallow)	**1.913**	N/A	0.0	0	20.9%	0	0	70.6	-0.323	55.2	53.6	3.57
EPA-SVE-2 (medium)	**1.913**	N/A	0.0	0	20.9%	0	0	69.5	-0.320	55.1	53.0	2.58
SS-A	**1.913**	N/A	0.0	0	20.9%	0	0	69.5	-12.945	53.6	52.6	100.45
SVE-3A	**1.913**	N/A	0.3	0	20.9%	0	0	71.7	**	57.1	52.5	**
SVE-3B	**1.913**	N/A	0.0	0	20.9%	0	0	69.0	**	57.5	53.3	47.61
SVE-1 Combined	**1.913**	N/A	0.0	0	20.9%	0	0	73.8	**	53.8	55.3	62.93
SVE-2 Combined	**1.913**	N/A	0.0	0	20.9%	0	0	69.1	-13.170	59.8	54.5	122.15
Background		N/A	0.0	0	20.9%	0	0	74.6		44.9	51.7	

Notes:

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

Notes:
**** Maxed out reading on**
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S:Hydrogen Sulfide
temperature: measured in degrees Fahrenheit
Vaccum 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)

	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 sub0slab system was removed by the EPA from service in the Fall of 2012.
N/A -Not Availible

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

Date: 11/28/2018
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***	**51.7**	***	**28.8**	**23.7**	***
Post- Blower Pre-Carbon**	**5.706**	N/A	**0.7***	**0.0***	**20.9***	**0.0***	**0.0***	**86.3**	**1.361**	**17.9**	**38.7**	**273.58**
EPA-SVE-1 (shallow)	**1.913**	N/A	**0.0***	**0.0***	**20.9***	**0.0***	**0.0***	**42.1**	***	**30.7**	**22.1**	**31.21**
EPA-SVE-1 (medium)	**1.913**	N/A	**0.0***	**0.0***	**20.9***	**0.0***	**0.0***	**42.3**	***	**30.9**	**22.7**	**11.71**
EPA-SVE-2 (shallow)	**1.913**	N/A	**7.0***	**0.0***	**20.9***	**0.0***	**0.0***	**41.7**	**-0.324**	**31.1**	**23.1**	**3.78**
EPA-SVE-2 (medium)	**1.913**	N/A	**4.6***	**0.0***	**20.9***	**0.0***	**0.0***	**41.8**	**-0.328**	**31.2**	**23.4**	**2.77**
SS-A	**1.913**	N/A	**0.0***	**0.0***	**20.9***	**0.0***	**0.0***	**42.8**	***	**30.6**	**22.0**	**77.36**
SVE-3A	**1.913**	N/A	**0.0***	**0.0***	**20.9***	**0.0***	**0.0***	**41.7**	***	**31.7**	**24.3**	***
SVE-3B	**1.913**	N/A	**0.1***	**0.0***	**20.9***	**0.0***	**0.0***	**41.6**	***	**30.9**	**23.7**	**48.21**
SVE-1 Combined	**1.913**	N/A	**0.0***	**0.0***	**20.9***	**0.0***	**0.0***	**42.2**	***	**30.8**	**22.6**	**67.46**
SVE-2 Combined	**1.913**	N/A	**0.1***	**0.0***	**20.9***	**0.0***	**0.0***	**41.7**	**-13.859**	**31.1**	**24.1**	**102.83**
Background		N/A	**0.0***	**0.0***	**20.9***	**0.0***	**0.0***	**41.2**	**N/A**	**29.4**	**22.9**	**N/A**

Notes:
MultiRAE Plus PGM-50 readings taken with SVE Offline
VelociCalc Plus readings taken with SVE Online

Equipment calibrated by: Edward Combs
Air readings collected by: Daniel Prisco-Buxbaum and Edward Combs

Notes:
***Indicates Reading was Collected while the SVE System was Offline**
****SVE-Effluent relabeled as "Post-Blower Pre-Carbon" Sampling Location**
*****Maxed out reading on meter**
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

Date: 12/27/2018
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	0.0*	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	0.0*	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	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background		N/A	0.0*	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

Notes:
MultiRAE Plus PGM-50 readings taken with SVE Offline
VelociCalc Plus readings taken with SVE Online

Equipment calibrated by: Edward Combs
Air readings collected by: Daniel Prisco-Buxbaum and Edward Combs

Notes:
***Indicates Reading was Collected while the SVE System was Offline**
****SVE-Effluent relabeled as "Post-Blower Pre-Carbon" Sampling Location**
*****Maxed out reading on meter**
NR- Indicates No Reading Was Collected
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

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: 11/1/2018
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	12:25	57.30	17.33	4" well in p-lot by med sports bldg
EPA-MW-21-R	ft BTOC	84.13	12:45	65.00	19.13	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20		N/A	N/A	74.63+G15:J32
EPA-MW-23	ft BTOC	82.83	11:30	63.20	19.63	In front of treatment bldg
EPA-MW-27	ft BTOC	69.32	12:42	50.10	19.22	LIHA PL
ST-MW-06	ft BTOC	69.83	12:35	45.74	24.09	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	12:20	62.25	15.88	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	12:31	58.07	17.18	p-lot by entrance to med sports bldg
ST-MW-12	ft BTOC	87.20	12:10	69.25	17.95	In front of apartment bldg
ST-MW-14	ft BTOC	69.73	12:40	54.12	15.61	LIHA PL
ST-MW-16	ft BTOC	75.78	11:34	53.87	21.91	Other side treatment bldg near fence
ST-MW-17	ft BTOC	86.53	12:13	69.69	16.84	In front of apartment bldg
ST-MW-19	ft BTOC	82.50	12:01	64.00	18.50	Triangle park well
ST-MW-20	ft BTOC	84.53	12:15	69.40	15.13	Near apartment bldg
EPA-MW-26	ft BTOC	78.37	11:43	58.33	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:57	72.02	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	11:47	85.07	45.88	Amherst Rd
ST-MW-18	ft BTOC	84.40	12:06	66.30	18.10	Ascot Ridge (past apt bldg)

Notes:

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: 11/28/2018
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	13:20	56.71	17.92	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	13:37	64.53	19.60	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	_____	____	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	12:59	62.75	20.08	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	13:33	49.57	19.75	LIHA PL
ST-MW-06	ft BTOC	69.83	13:30	44.31	25.52	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	13:25	62.23	15.90	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	13:21	57.48	17.77	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	13:15	69.05	18.15	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	13:31	52.72	17.01	LIHA PL
ST-MW-16	ft BTOC	75.78	12:56	53.63	22.15	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	13:17	68.50	18.03	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	13:27	63.54	18.96	Triangle park well
ST-MW-20	ft BTOC	84.53	13:18	69.04	15.49	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	12:53	57.91	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	13:07	71.63	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	13:03	84.66	46.29	Amherst Rd
ST-MW-18	ft BTOC	84.40	13:12	70.64	13.76	Ascot Ridge (past apt bldg)

Notes:

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: 12/27/2018
MEASURED BY: MH

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:35	57.26	17.37	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	10:58	79.83	4.30	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	_____	____	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	10:40	73.11	9.72	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:10	75.82	-6.50	LIHA PL
ST-MW-06	ft BTOC	69.83	11:03	44.98	24.85	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	13:20	61.21	16.92	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:36	57.69	17.56	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	11:50	68.98	18.22	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	11:21	73.26	-3.53	LIHA PL
ST-MW-16	ft BTOC	75.78	10:52	54.34	21.44	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	11:47	69.95	16.58	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	11:27	75.70	6.80	Triangle park well
ST-MW-20	ft BTOC	84.53	11:45	69.52	15.01	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	12:22	57.71	N/A	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	12:12	72.24	N/A	Mirreless Rd
ST-MW-13	ft BTOC	130.95	12:17	84.46	46.49	Amherst Rd
ST-MW-18	ft BTOC	84.40	12:01	71.07	13.33	Ascot Ridge (past apt bldg)

Notes:

Appendix G

Groundwater Sampling Parameters Logs

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Event Report November 2018

Field Analysis													
MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
EPA-CL-4S	11-1-18	9:31	0.00	5.39	0.044	16.12	5.9	3.81	287	0.029	3.00	0.5	9:56
		9:36	2.50	5.47	0.043	15.90	4.1	2.91	270	0.028	3.00	0.5	
		9:41	3.50	5.45	0.043	15.52	2.2	2.28	253	0.028	3.00	0.5	
		9:46	5.50	5.47	0.043	15.16	1.9	1.87	241	0.028	3.00	0.5	
		9:51	7.50	5.48	0.043	14.83	1.8	1.62	234	0.028	3.00	0.5	
		9:56	9.50	5.49	0.043	14.77	1.7	1.59	232	0.021	3.00	0.5	
EPA-CL-4D	11-1-18	9:20	0.00	6.34	0.152	14.35	4.0	8.81	278	0.096	16.43	0.5	9:45
		9:25	2.50	6.70	0.148	13.94	1.6	6.85	264	0.096	16.43	0.5	
		9:30	3.50	6.70	0.148	13.86	0.9	6.70	263	0.096	16.43	0.5	
		9:35	5.50	6.71	0.147	13.68	0.9	6.29	264	0.096	16.43	0.5	
		9:40	7.50	6.71	0.147	13.56	1.3	6.01	265	0.096	16.43	0.5	
		9:45	9.50	6.66	0.147	14.05	1.3	5.97	272	0.096	16.43	0.5	
EPA-MW 11 D	11-1-18	15:25	0.00	7.24	0.395	14.82	1.6	8.07	139	0.257	57.30	0.5	15:50
		15:30	2.50	6.50	0.397	15.00	0.1	7.57	172	0.258	57.30	0.5	
		15:35	3.50	6.14	0.397	15.05	0.1	7.49	184	0.258	57.30	0.5	
		15:40	5.50	5.92	0.397	15.07	0.4	7.47	197	0.258	57.30	0.5	
		15:45	7.50	5.97	0.396	15.07	0.0	7.43	202	0.258	57.30	0.5	
		15:50	9.50	5.82	0.396	15.06	0.0	7.40	208	0.258	57.30	0.5	
EPA- MW 26	11-1-18	9:20	0.00	6.96	0.245	15.72	10.1	6.81	256	0.167	58.33	0.5	9:45
		9:25	2.50	6.58	0.292	16.40	5.5	5.96	252	0.191	58.33	0.5	
		9:30	3.50	6.46	0.811	16.48	30.6	5.89	244	0.523	58.33	0.5	
		9:35	5.50	6.49	0.826	16.75	30.8	6.07	241	0.529	58.33	0.5	
		9:40	7.50	6.52	0.776	18.36	18.4	5.75	220	0.494	58.33	0.5	
		9:45	9.50	6.53	0.751	18.83	14.0	5.28	216	0.480	58.33	0.5	

Notes:

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

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

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

Temperature is measured in degrees Celsius

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

Turbidity is measured in nephelometric turbidity units (NTU). 1000* = Turbidity greater than 1000 NTU.

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

Oxidation Reduction Potential (ORP)

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

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Event Report November 2018

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
ST- MW 12	11-1-18	13:00	0.00	6.12	0.833	15.46	600	9.89	271	0.534	69.05	0.5	13:30
		13:05	2.50	6.06	0.837	15.46	200	9.56	266	0.552	69.05	0.5	
		13:10	3.50	6.05	0.835	15.70	61.2	9.18	261	0.534	69.05	0.5	
		13:15	5.50	6.06	0.830	15.71	48.2	9.20	262	0.534	69.05	0.5	
		13:20	7.50	6.05	0.831	15.70	44.1	9.20	260	0.555	69.05	0.5	
		13:25	9.50	6.05	0.830	15.71	37.3	9.17	259	0.558	69.05	0.5	
ST- MW 13	11-2-18	7:35	0.00	6.83	0.966	16.28	400	7.16	220	0.617	85.07	0.5	8:00
		7:40	2.50	6.80	0.960	16.14	200	6.49	217	0.607	85.07	0.5	
		7:45	3.50	6.79	0.921	16.14	981	6.89	217	0.580	85.07	0.5	
		7:50	5.50	6.78	0.917	16.15	428	6.81	218	0.581	85.07	0.5	
		7:55	8.00	6.78	0.906	16.25	39.7	6.79	218	0.581	85.07	0.5	
ST- MW 14	11-2-18	8:25	0.00	7.88	0.327	15.36	17.4	7.93	232	0.211	54.12	0.5	8:50
		8:30	2.50	6.71	0.321	16.28	3.5	7.12	240	0.209	54.12	0.5	
		8:35	3.50	6.71	0.321	16.28	3.2	7.15	240	0.208	54.12	0.5	
		8:40	5.50	6.65	0.320	16.54	3.2	7.00	240	0.208	54.12	0.5	
		8:45	8.00	6.61	0.320	16.50	2.9	7.00	241	0.208	54.12	0.5	
ST- MW 15	11-2-18	7:25	0.00	6.80	0.304	16.44	130	12.15	118	0.213	72.02	0.5	7:55
		7:30	2.50	6.64	0.421	17.21	75.6	6.13	128	0.245	72.02	0.5	
		7:35	3.50	6.59	0.444	17.45	49.6	5.10	131	0.289	72.02	0.5	
		7:40	5.50	6.58	0.456	17.51	38.6	4.87	138	0.297	72.02	0.5	
		7:45	7.50	6.56	0.474	17.56	29.4	4.83	142	0.309	72.02	0.5	
		7:50	9.50	6.57	0.486	17.54	25.4	4.70	143	0.317	72.02	0.5	
		7:55	12.00	6.56	0.492	17.66	23.4	4.67	141	0.320	72.02	0.5	

Notes:

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

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

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

Temperature is measured in degrees Celsius

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

Turbidity is measured in nephelometric turbidity units (NTU). 1000* = Turbidity greater than 1000 NTU.

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

Oxidation Reduction Potential (ORP)

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

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Event Report November 2018

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
ST- MW 16	11-2-18	9:40	0.00	6.78	0.509	17.51	630	6.65	123	0.328	53.87	0.5	10:05
		9:45	2.50	6.78	0.516	17.35	320	6.34	113	0.330	53.87	0.5	
		9:50	3.50	6.76	0.510	17.84	198	6.20	142	0.325	53.87	0.5	
		9:55	5.50	6.77	0.577	17.24	53.2	6.40	125	0.331	53.87	0.5	
		10:00	7.50	6.77	0.518	17.29	41.2	6.44	133	0.332	53.87	0.5	
		10:05	10.00	6.78	0.518	17.24	37.1	6.50	121	0.332	53.87	0.5	
ST- MW 17	11-1-18	13:50	0.00	6.55	0.368	14.58	4.2	3.62	210	0.240	69.64	0.5	14:10
		13:55	2.50	6.54	0.370	14.62	2.7	3.10	210	0.241	69.64	0.5	
		14:00	3.50	6.51	0.375	15.07	1.9	3.18	206	0.246	69.64	0.5	
		14:05	5.50	6.49	0.371	15.83	1.3	3.17	204	0.255	69.64	0.5	
		14:10	7.50	6.48	0.370	15.86	1.3	3.18	205	0.252	69.64	0.5	
ST- MW 18	11-1-18	13:50	0.00	9.52	0.093	20.47	101	5.42	87	0.061	66.30	0.5	14:20
		13:55	2.50	9.37	0.093	16.02	4.4	5.00	88	0.061	66.30	0.5	
		14:00	3.50	9.29	0.093	15.90	3.3	4.98	92	0.061	66.30	0.5	
		14:05	5.50	9.27	0.093	15.86	4.0	4.95	93	0.061	66.30	0.5	
		14:10	7.50	9.22	0.092	15.78	5.7	4.99	96	0.060	66.30	0.5	
		14:15	10.00	9.84	0.107	17.08	20.1	5.26	64	0.072	66.30	0.5	
		14:20	12.50	9.57	0.105	17.24	17.2	4.75	73	0.065	66.30	0.5	
ST- MW 19	11-1-18	15:40	0.00	6.60	0.277	14.79	269	4.14	201	0.180	64.00	0.5	16:05
		15:45	2.50	6.54	0.276	14.82	206	3.60	200	0.179	64.00	0.5	
		15:50	3.50	6.55	0.275	15.10	96	3.05	197	0.179	64.00	0.5	
		15:55	5.50	6.58	0.285	15.11	23.2	0.77	195	0.186	64.00	0.5	
		16:00	7.50	6.58	0.287	15.11	22.8	0.72	195	0.186	64.00	0.5	
		16:05	10.00	6.58	0.288	15.12	21.3	0.71	194	0.187	64.00	0.5	

Notes:

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

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

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

Temperature is measured in degrees Celsius

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

Turbidity is measured in nephelometric turbidity units (NTU). 1000* = Turbidity greater than 1000 NTU.

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

Oxidation Reduction Potential (ORP)

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

Stanton Cleaners Area Groundwater Contamination Site
Great Neck, New York
Semi-Annual Monitoring Well Sampling Event Report November 2018

MW #	Date	Time	Volume Purged	pH	Conductivity	Water Temperature	Turbidity	DO	ORP	TDS	Water Level	Flow Rate	Sample Time
EPA- MW 23	11-2-18	10:30	0.00	7.77	0.097	16.55	24.5	114.2	213	0.063	63.20	0.5	10:55
		10:35	2.50	6.85	0.237	16.78	2.3	8.56	210	0.165	63.20	0.5	
		10:40	3.50	6.63	0.542	16.86	2.1	7.46	218	0.361	63.20	0.5	
		10:45	5.50	6.62	0.635	16.91	3.7	7.93	215	0.369	63.20	0.5	
		10:50	8.00	6.62	0.638	16.86	3.2	7.87	213	0.375	63.20	0.5	
ST- MW 20	11-1-18	14:45	0.00	6.47	0.498	15.05	22.8	9.74	223	0.324	69.40	0.5	15:10
		14:50	2.50	6.36	0.498	15.37	16.7	9.47	222	0.323	69.40	0.5	
		14:55	3.50	6.28	0.496	15.28	16.4	9.27	224	0.304	69.40	0.5	
		15:00	5.50	6.22	0.498	15.33	16.0	9.18	223	0.305	69.40	0.5	
		15:05	8.00	6.20	0.497	15.35	13.8	9.19	220	0.323	69.40	0.5	
EPA- MW 27	11-2-18	8:30	0.00	10.68	0.179	16.58	6.6	7.66	50	0419	50.10	0.5	9:00
		8:35	2.50	10.52	0.186	16.40	22.2	6.80	45	0.121	50.10	0.5	
		8:40	3.50	10.34	0.187	16.36	9.6	6.45	45	0.123	50.10	0.5	
		8:45	5.50	6.41	0.339	15.45	2.8	6.48	166	0.220	50.10	0.5	
		8:50	8.00	6.40	0.338	15.95	2.7	6.51	167	0.220	50.10	0.5	
		8:55	10.50	6.40	0.339	15.95	1.4	6.52	167	0.220	50.10	0.5	

Notes:

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

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

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

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

Oxidation Reduction Potential (ORP)

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

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Stanton Cleaners Site Code: Operable Unit:

Building Code: Building Name: Long Island Hebrew Academy

Address: 122 Cutter Mill Road Apt/Suite No: 3A

City: Great Neck State: NY Zip: 11021 County: Nassau

Contact Information

Preparer's Name: Alexandra Keenan Phone No: 516-564-1100

Preparer's Affiliation: Preferred Environmental Services Company Code:

Purpose of Investigation: Indoor Air Sampling Date of Inspection: Nov 1, 2018

Contact Name: Sharyn Blaustein Affiliation: TENANT

Phone No: 516-466-3656 Alt. Phone No: rosel@LIHAGH.org Email: morahsorae@LIHAGH.org

Number of Occupants (total): 180 Number of Children: 160

☐ Occupant Interviewed? ☐ Owner Occupied? ☐ Owner Interviewed?

Owner Name (if different): North Shore Sephardic Synagogue Owner Phone: 516-482-4228

Owner Mailing Address: 130 Cutter Mill Road, Great neck NY

Building Details

Bldg Type (Res/Com/Ind/Mixed): COMMERCIAL/MIXED Bldg Size (S/M/L): MEDIUM

If Commercial or Industrial Facility, Select Operations: SCHOOL

If Residential Select Structure Type:

Number of Floors: 3 Approx. Year Construction: 1960 ☒ Building Insulated? ☐ Attached Garage?

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

Foundation Description

Foundation Type: BASEMENT Foundation Depth (bgs): Unit: FEET

Foundation Floor Material: POURED CONCRETE

Foundation Wall Material: POURED CONCRETE

Foundation Floor Thickness: Foundation Wall Thickness: Unit: INCHES

☐ Floor penetrations? Describe Floor Penetrations: NA

☐ Wall penetrations? Describe Wall Penetrations: NA

Basement is: FINISHED Basement is: DRY ☐ Sumps/Drains? Water In Sump?:

Describe Foundation Condition (cracks, seepage, etc.) :

☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating/Cooling/Ventilation Systems

Heating System: FORCED AIR Heat Fuel Type: OIL ☒ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: OIL Clothes Dryer Fuel Type:

Water Htr Vent Location: Dryer Vent Location:

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Long Island Hebrew Academy Bldg Code: _____ Date: _____

Bldg Address: 122 Cutter Mill Road Apt/Suite No: 3A

Bldg City/State/Zip: Great Neck NY, 11021

Make and Model of PID: MiniRae 2000 Date of Calibration: Nov 1, 2018

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
Maintenance (	Fabuloso Cleaner w/ Bleach	1 Gal (2)	U	Propylene Glycol, Propylene Ether, Sodium Dodacylbenzene sulfate	0.0	☐
Maintenance (	Spray Nine	32 oz. (6)	U/UO	Dimethyl benzyl ammonium chloride, Dimethyl benzyl ethylbenzyl ammonium chloride	0.0	☐
Maintenance (	Rust-oleum	32 oz. (6)	U/UO		0.0	☐
Maintenance (	Miniwax Wood Finish	32 oz. (8)	UO	Alliphatic hydrocarbons	0.0	☐
Maintenance (	Goo-Gone	32 oz. (2)	U	Petroleum Distillates, citrus terpenes	0.0	☐
Maintenance (	E.C.P Floor Finish	5-Gal (6)	UO	Potassium Hydroxide	0.0	☐
Maintenance (	East Coast Paper Fabulous	1-2 Gal (2	U/UO	Tall oil, nonionic surfactant, isopropyl alcohol, Potassium hydroxide	0.0	☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

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

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

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

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Stanton Cleaners Site Code: Operable Unit:

Building Code: Building Name: Long Island Hebrew Academy

Address: 122 Cutter Mill Road Apt/Suite No: 3A

City: Great Neck State: NY Zip: 11021 County: Nassau

Factors Affecting Indoor Air Quailty

Frequency Basement/Lowest Level is Occupied?: FULL TIME Floor Material: LINOLEUM/VINYL

☒ Inhabited? ☐ HVAC System On? ☒ Bathroom Exhaust Fan? ☐ Kitchen Exhaust Fan?

Alternate Heat Source: NONE ☐ Is there smoking in the building?

☐ Air Fresheners? Description/Location of Air Freshener:

☒ Cleaning Products Used Recently?: Description of Cleaning Products: Bleach Fabuloso

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products:

☐ New Carpet or Furniture? Location of New Carpet/Furniture:

☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics:

☐ Recent Painting/Staining? Location of New Painting:

☐ Solvent or Chemical Odors? Describe Odors (if any):

☐ Do Any Occupants Use Solvents At Work? If So, List Solvents Used:

☐ Recent Pesticide/Rodenticide? Description of Last Use:

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

Cleaning products used daily to clean the floor. Custodian used East coast Paper Fabulous on two tables during sampling period (lavender multipurpose cleaner and deodorizer).

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

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

Sampling Conditions

Weather Conditions: PARTLY CLOUDY Outdoor Temperature: 50 °F

Current Building Use: SCHOOL Barometric Pressure: in(hg)

Product Inventory Complete? Yes ☐ Building Questionnaire Completed?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: _____ Address: 122 Cutter Mill Road 3A Great Neck , NY 11021

Sampling Information

Sampler Name(s): Alexandra Keenan

Sampler Company Code: _____

Sample Collection Date: Nov 1, 2018

Date Samples Sent To Lab: Nov 5, 2018

Sample Chain of Custody Number: _____

Outdoor Air Sample Location ID: _____

SUMMA Canister Information

Sample ID:	LIHA-IA-1-110118	LIHA-IA-1-11			
Location Code:					
Location Type:	BASEMENT	BASEMENT			
Canister ID:	10155	10320			
Regulator ID:	10207	10544			
Matrix:	Indoor Air	Indoor Air			
Sampling Method:	SUMMA AIR SAMPLI	SUMMA AIR SA			

Sampling Area Info

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

Sample Times and Vacuum Readings

Sample Start Date/Time:	11/1/18 10:25	11/1/18 10:2			
Vacuum Gauge Start:	-30	-30			
Sample End Date/Time:	11/2/18 8:15	11/2/18 8:15			
Vacuum Gauge End:	-5	0			
Sample Duration (hrs):	22	22			
Vacuum Gauge Unit:	in(hg)	in(hg)			

Sample QA/QC Readings

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

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

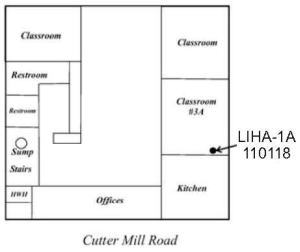
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

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

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbology

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

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

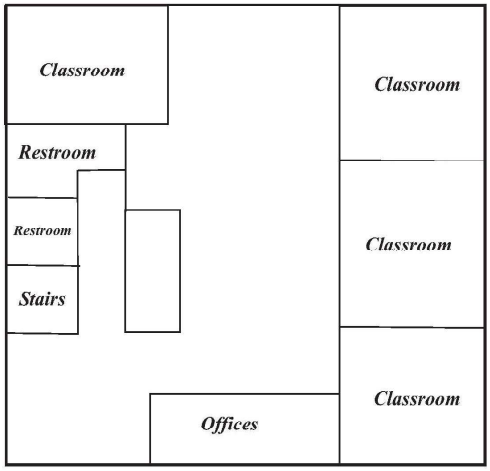
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

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

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbology

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

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

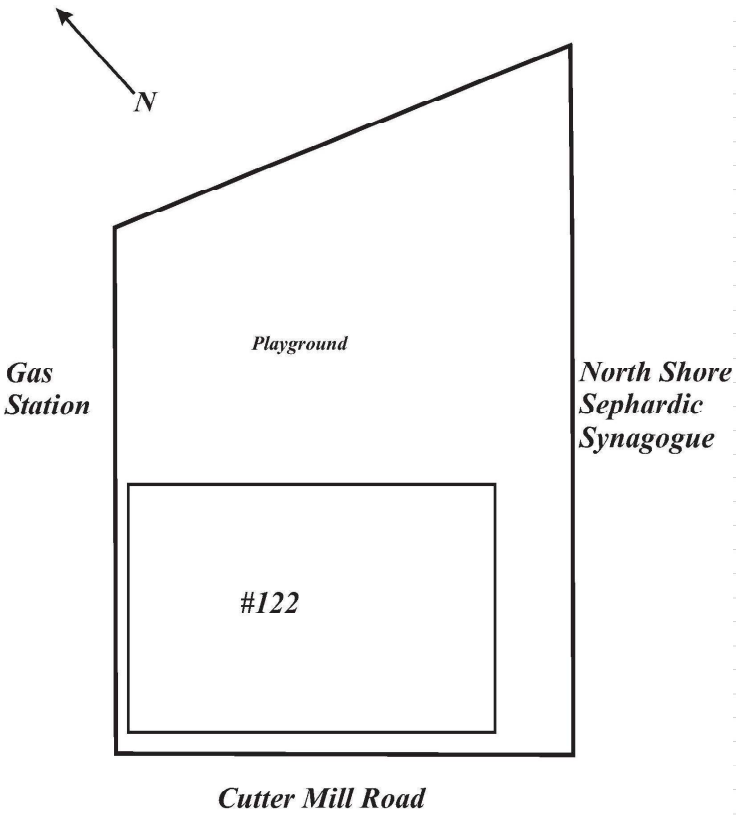
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

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

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbology

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

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S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Data Validation Services

120 Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone (518) 251-4429
harry@frontiernet.net

December 5, 2019

Carol Zurlo
HDR
1 International Blvd
Mahwah, NJ 07495

RE: Validation of the Stanton Cleaners Site Analytical Laboratory Data
Data Usability Summary Report (DUSR)
Chemtech SDG No. J5809

Dear Ms. Zurlo:

Review has been completed for the data packages generated by Chemtech Laboratories that pertain to air samples collected between 11/01/18 at the Stanton Cleaners site. One 6 L summa canister and its field duplicate were processed for volatiles analytes by USEPA method TO-15.

The data package submitted by the laboratory contains full deliverables for validation. This usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents, and in consideration for the specific requirements of the analytical methodology. The following items were reviewed:

* Data Completeness
* Case Narrative
* Custody Documentation
* Holding Times
* Internal Standard Recoveries
* Method and Canister Blanks
* Blind Field Duplicate Correlation
* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Initial and Continuing Calibration Standards
* Method Compliance
* Sample Result Verification

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedures, and as applicable for the methodology. Unless noted specifically in the following text, reported results are substantiated by the raw data, and generated in compliance with project requirements.

In summary, all sample results are usable either as reported or with minor qualification.

Accuracy, precision, data completeness, representativeness, comparability, and sensitivity are acceptable.

Validation qualifier definitions and sample identifications are attached to this text, and should be reviewed in conjunction with this report. Also attached are the laboratory sample results forms with validation qualifiers applied in red.

Volatile Analyses by EPA TO-15

The field duplicate of LIHA-IA-1-110118 shows the following correlations that fall outside validation guidelines, results for which have been qualified as estimated in that parent sample t-butyl alcohol, acetone, and toluene

The detected results for hexane in the sample and field duplicate are qualified as tentative in identification and estimated in value due to poor mass spectral quality.

The detections of methylene chloride in the sample and field duplicate are considered external contamination and edited to reflect non-detection due to presence in the associated method blank.

The detected values of dichlorodifluoromethane are qualified as estimated, with a high bias, due to outlying linearity (36%RSD) in the initial calibration standards. It is noted that numerous instrument responses for detected analytes were manually integrated, with no subsequent fit value.

Holding times and instrument tunes meet requirements. LCS recoveries are compliant.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

Judy Harry

Att: Validation Qualifier Definitions
Sample Identifications
Qualified Client EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Sample Summaries

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Cover Page

Order ID : J5809

Project ID : Stanton Air

Client : HDR, Inc.

Lab Sample Number	Client Sample Number
J5809-01	LIHA-IA-DUP-110118
J5809-02	LIHA-IA1-110118

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

Signature : REVIEWED
By Nimisha Pandya, Data Reviewer at 4:20 pm, Nov 26, 2018

Date: 11/15/2018

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012