Quarterly Operation and Maintenance Report – 4Q2019

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

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Albany, New York 12233

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

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ACRONYMS AND ABBREVIATIONS

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

ACRONYMS AND ABBREVIATIONS (CONT.)

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

1.0 INTRODUCTION

As part of on-going remediation system operations and maintenance (O&M) and monitoring at the Stanton Cleaners groundwater contamination site located in Great Neck, New York (NYSDEC Site#130072), the New York State Department of Environmental Conservation (NYSDEC) has assigned site management tasks to Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) under Standby Engineering Contract D007625. The site is currently listed on the New York State Registry of Inactive Hazardous Waste Sites as a Class 4. This designation is for properly closed sites but requires continued management until remedial objectives are achieved. From 2001 to 2012, the United States Environmental Protection Agency (USEPA) oversaw the O&M and site management, with the NYSDEC resuming responsibility in 2012.

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

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

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

2.0 BACKGROUND

2.1 Site Location and Current Use

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

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

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

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

2.1 Site Geology

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

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

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

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

2.2 Remedial History

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

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

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

2.3 Site Cleanup Objectives

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

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

3.0 OPERATIONS AND MAINTENANCE PROGRAM

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

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

This report is a summary of all fourth quarter 2019 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.

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

From October 1 through December 31, 2019 the GWE&T system treated and discharged a total of 21,585,273 gallons with an average flow rate of 60 gallons per minute (gpm). Since initial startup in November 2001, the GWE&T system has treated an approximate total of 499,213,516 gallons. Monthly flow rates and cumulative discharge amounts are calculated utilizing the continuous four-hour data logging software, Lookout®, located on the site computer and accessed remotely.

As a result of fourth quarter 2019 operations, approximately 0.91 pounds (lbs) of PCE have been removed in the liquid phase, totaling 10.79 lbs. since the NYSDEC assumed O&M in 2013. To calculate monthly PCE mass removed, the average flow rate is multiplied by the number of operational days and the PCE concentration (from monthly O&M samples).

3.1.1 Groundwater Extraction and Treatment System Influent/Effluent Sampling

Sampling of the GWE&T system INF and EFF is performed monthly to monitor plant efficiency and determine whether liquid GAC (LGAC) breakthrough has occurred. All collected samples are submitted to Hampton Clarke Analytical and Field Services of Fairfield, New Jersey (HC) for the analysis of target compound list (TCL) VOCs and tentatively identified compounds (TICs) by USEPA Method 624. As a result of the laboratory analysis, PCE was detected in each of the three monthly INF samples and ranged in concentration from 4.75 (November) to 5.63 micrograms per liter (µg/L) (October). Detected PCE concentrations in the three monthly INF samples exceeded the NYSDEC GWQS of 5 µg/L in October. No VOCs were detected in any monthly EFF sample collected for analysis. A summary of the fourth quarter 2019 GWE&T system INF/EFF analytical results is provided in Table 2. A graph showing the GWE&T system influent PCE concentrations from 2003 through the fourth quarter of 2019 is provided on Figure 3.

3.1.2 Groundwater Extraction and Treatment System Annual SPDES Sampling

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

3.2 Soil Vapor Extraction System Operations and Maintenance

Air monitoring of the SVE system is performed on a monthly basis. In accordance with the *2012 O&M Manual*, monthly SVE system performance monitoring includes the collection of the following parameters: VOCs, carbon monoxide, oxygen, lower explosive limit (LEL), hydrogen sulfide, air velocity in cubic feet per minute (cfm), temperature, relative humidity, dew point, and vacuum pressure. Air monitoring is performed at the following locations:

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

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

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

Quarterly, 1-liter SUMMA canister influent and effluent samples are collected. During this quarter, samples were not collected from the influent and effluent ports.

4.0 MONITORING PROGRAM

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

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

4.1 Plume Perimeter Monitoring

Groundwater level measurements are obtained from both onsite and offsite wells once a month in order to evaluate capture zones(s) around groundwater extractions well EPA-EXT-02. The monitoring well network and well monitoring schedule are provided as Figures 6 and 7, respectively.

Water level measurements were collected during the fourth quarter 2019 monthly O&M visits at 16 of the18 on and off-site monitoring wells (two were not accessible). The location and number of monitoring wells was previously determined by the USEPA based on the 2014 *Final Capture Zone Analysis Report*. Groundwater level measurements for this quarter are provided in Appendix F. During the February 2017 RSO aquifer test, it was found that the entire site falls within the capture zones of the public water supply wells, which strongly influence flow.

4.2 Groundwater Sampling

Routine semi-annual groundwater samples were not collected during this quarter. The next routine semi-annual groundwater sampling event is scheduled for the first quarter of 2020.

4.3 Indoor Air Quality Sampling

On December 10-11, 2019, three indoor air samples (two basement; one first floor), and one outdoor air sample 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 from the samples collected on December 11, 2019, 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 all of the indoor (and outdoor air) samples at concentrations within concentration range 2 of the decision matrix (0.2 to less than 1 µg/m^3). The compound dichloromethane was detected in the indoor air sample collected at location IA2 within concentration range 2 of the decision matrix (3 to less than 10 µg/m^3). 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-11) and submits for the analysis of various compounds, including site specific chlorinated VOCs. It should be noted that PW-11 was permanently removed from service on October 19, 2016 and abandoned in March 2017. A new location, PW-11A, was installed during that time and began operation in April 2017. In September 2019, PW-2A was taken out-of-service in order to raise the wellhead above the flood zone.

In the analytical data provided by WAGNN for this quarter, the highest PCE concentration in any pre-treatment sample occurred on December 4, 2019 in PW-9 at a concentration of 3.0 µg/L. All post-treatment samples were non-detect (ND) for PCE. A graph showing the contaminants of concern (COCs) concentrations in the WAGNN wells over time can be found on Figure 8.

5.0 MAINTENANCE ISSUES AND RECOMMENDED SOLUTIONS

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

- SVE remains offline.
- Slip cap for MW-9A was replaced by Preferred Environmental Services on 10/28/19.

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

5.1 Downtime Summary

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

- SVE not operating

6.0 FUTURE ACTIVITIES

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

- Routine monthly O&M activities will continue.
- Semi-annual groundwater sampling is scheduled to be completed during the first quarter of 2020.

7.0 PROGRESS TOWARD CLEANUP OBJECTIVES

As a result of ongoing GWE&T and SVE system operations during the fourth quarter of 2019, a total of 0.91 and 0.2 lbs. of VOCs have been removed in liquid and vapor phases, respectively. The total cost incurred in association with operation of these remedial system operations and subsequent site monitoring during this past quarter was $26,884.55 (see quarterly cost summary below). During this quarter, the cost of both liquid and vapor phase VOC removal was $24,220.32 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
10/1/2019 - 11/23/2019	$ 26,884.55	0	0.91	$ 26,884.55		0.9	$ 29,543.46

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

Quarter No.	Date	Average Monthly Flow Rate (GPM)	Total Flow (gal/month)	Cumulative Flow (gal)	INF PCE Concentration (µg/L)	PCE Mass Removal Rate (lbs/Month)	Cumulative PCE Mass Removed (lbs)
4	October-19	60	7.280E+06	4.848E+08	5.63	0.34	10.22
	November-19	60	7.03E+06	4.92E+08	4.75	0.28	10.50
	December-19	60	7.27E+06	4.99E+08	4.79	0.29	10.79
					Quarter Total	**0.91**	NA

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

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

	Sample Location:	INF-GW	EFF-GW	INF-GW	EFF-GW	INF-GW	EFF-GW
	Sample Date:	10/28/2019	10/28/2019	11/27/2019	11/27/2019	12/11/2019	12/11/2019
Analyte	**GWQS (µg/L)**	**Results (µg/L)**					
Total TICs	NS	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2,2-Tetrachloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloroethane	1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2,3-Trichlorobenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2,4-Trichlorobenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dibromo-3-chloropropane	0.04	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dibromoethane	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethane	0.6	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2-Dichloropropane	1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,3-Dichlorobenzene	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,4-Dichlorobenzene	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,4-Dioxane	NA	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
2-Butanone	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
2-Hexanone	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
4-Methyl-2-pentanone	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Acetone	50*	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	1	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Bromochloromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromodichloromethane	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromoform	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromomethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon disulfide	60*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon tetrachloride	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chlorobenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroform	7	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,2-Dichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,3-Dichloropropene	0.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Cyclohexane	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dibromochloromethane	50*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dichlorodifluoromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Ethylbenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Isopropylbenzene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
m&p-Xylenes	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (2.0)	ND (2.0)
Methyl Acetate	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methylcyclohexane	NS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methylene chloride	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methyl-t-butyl ether	10*	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)

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

	Sample Location:	INF-GW	EFF-GW	INF-GW	EFF-GW	INF-GW	EFF-GW
	Sample Date:	10/28/2019	10/28/2019	11/27/2019	11/27/2019	12/11/2019	12/11/2019
Analyte	**GWQS (µg/L)**	**Results (µg/L)**					
o-Xylene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Tetrachloroethene	5	**5.63**	ND (1.0)	4.75	ND (1.0)	**4.79**	ND (1.0)
Toluene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,2-Dichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,3-Dichloropropene	0.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichloroethene	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichlorofluoromethane	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vinyl chloride	2	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Xylenes (Total)	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)

Notes:

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

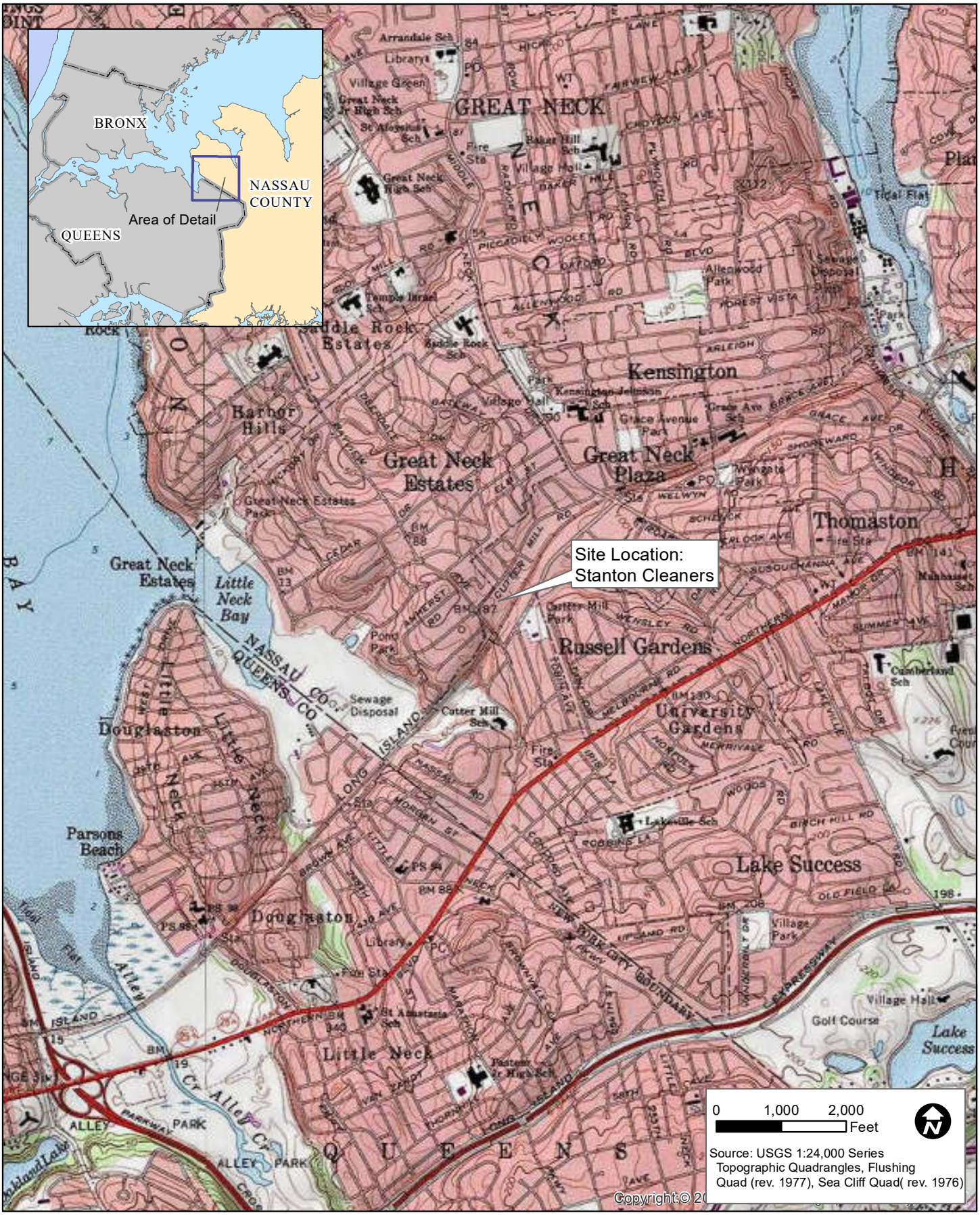
Table 4
Summary of LIHA Indoor Air Sampling Analytical Results
Stanton Cleaners - NYSDEC Site# 130072
110 Cuttermill Road, Great Neck, NY

					Sample ID	LIHA-IAH-20191211		LIHA-IAH-DUP-20191211		LIHA-IA2-20191211		LIHA-IA3-20191211		LIHA-OA1-20191211	
					Sample Location	LIHA-IA1		LIHA-IA1		LIHA-IA2		LIHA-IA3		LIHA-OA	
					Date	12/11/2019		12/11/2019		12/11/2019		12/11/2019		12/11/2019	
Analyte	CAS Number	NYSDOH Decision Matrices A, B, C Indoor Air Concentration				Result	Q	Result	Q	Result	Q	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*	*0.16*	*U*	*0.16*	*U*	*0.16*	*U*
1,1,2,2-Tetrachloroethane	79-34-5	-	-	-		*0.21*	*U*	*0.21*	*U*	*0.21*	*U*	*0.21*	*U*	*0.21*	*U*
1,1,2-Trichloroethane	79-00-5	-	-	-		*2.73*	*U*	*2.73*	*U*	*2.73*	*U*	*2.73*	*U*	*2.73*	*U*
1,1-Dichloroethane	75-34-3	-	-	-		*2.02*	*U*	*2.02*	*U*	*2.02*	*U*	*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*	*1.98*	*U*	*1.98*	*U*	*1.98*	*U*
1,2,4-Trichlorobenzene	120-82-1	-	-	-		*3.71*	*U*	*3.71*	*U*	*3.71*	*U*	*3.71*	*U*	*3.71*	*U*
1,2,4-Trimethylbenzene	95-63-6	-	-	-		*2.46*	*U*	*2.46*	*U*	*2.46*	*U*	0.74	J	*2.46*	*U*
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	-	-	-		*3.84*	*U*	*3.84*	*U*	*3.84*	*U*	*3.84*	*U*	*3.84*	*U*
1,2-Dichlorobenzene	95-50-1	-	-	-		*3.01*	*U*	*3.01*	*U*	*3.01*	*U*	*3.01*	*U*	*3.01*	*U*
1,2-Dichloroethane	107-06-2	-	-	-		*2.02*	*U*	*2.02*	*U*	*2.02*	*U*	*2.02*	*U*	*2.02*	*U*
1,2-Dichloropropane	78-87-5	-	-	-		*2.31*	*U*	*2.31*	*U*	*2.31*	*U*	*2.31*	*U*	*2.31*	*U*
1,2-Dichlorotetrafluoroethane	76-14-2	-	-	-		*3.49*	*U*	*3.49*	*U*	*3.49*	*U*	*3.49*	*U*	*3.49*	*U*
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	-	-	-		*2.46*	*U*	*2.46*	*U*	*2.46*	*U*	*2.46*	*U*	*2.46*	*U*
1,3-Butadiene	106-99-0	-	-	-		*1.11*	*U*	*1.11*	*U*	*1.11*	*U*	*1.11*	*U*	*1.11*	*U*
1,3-Dichlorobenzene	541-73-1	-	-	-		*3.01*	*U*	*3.01*	*U*	*3.01*	*U*	*3.01*	*U*	*3.01*	*U*
1,4-Dichlorobenzene	106-46-7	-	-	-		*3.01*	*U*	*3.01*	*U*	*3.01*	*U*	*3.01*	*U*	*3.01*	*U*
1,4-Dioxane	123-91-1	-	-	-		*1.8*	*U*	*1.8*	*U*	*1.8*	*U*	*1.8*	*U*	*1.8*	*U*
2,2,4-Trimethylpentane	540-84-1	-	-	-		*2.34*	*U*	*2.34*	*U*	*2.34*	*U*	*2.34*	*U*	*2.34*	*U*
2-Butanone (MEK)	78-93-3	-	-	-		0.68	J	0.68	J	0.71	J	1.12	J	0.5	J
2-Chlorotoluene	95-49-8	-	-	-		*2.59*	*U*	*2.59*	*U*	*2.59*	*U*	*2.59*	*U*	*2.59*	*U*
4-Ethyltoluene	622-96-8	-	-	-		*2.46*	*U*	*2.46*	*U*	*2.46*	*U*	*2.46*	*U*	*2.46*	*U*
4-Methyl-2-Pentanone	108-10-1	-	-	-		*2.05*	*U*	*2.05*	*U*	*2.05*	*U*	*2.05*	*U*	*2.05*	*U*
Acetone	67-64-1	-	-	-		15.9	B	16.9	B	18.5	B	32.3	B	*4.28*	*U*
Allyl Chloride (3-Chloropropene)	107-05-1	-	-	-		*1.57*	*U*	*1.57*	*U*	*1.57*	*U*	*1.57*	*U*	*1.57*	*U*
Benzene	71-43-2	-	-	-		0.61	J	0.61	J	0.61	J	0.83	J	0.42	J
Bromodichloromethane	75-27-4	-	-	-		*3.35*	*U*	*3.35*	*U*	*3.35*	*U*	*3.35*	*U*	*3.35*	*U*
Bromoform	75-25-2	-	-	-		*5.17*	*U*	*5.17*	*U*	*5.17*	*U*	*5.17*	*U*	*5.17*	*U*
Bromomethane	74-83-9	-	-	-		*1.94*	*U*	*1.94*	*U*	*1.94*	*U*	*1.94*	*U*	*1.94*	*U*
Carbon Disulfide	75-15-0	-	-	-		*1.56*	*U*	*1.56*	*U*	*1.56*	*U*	*1.56*	*U*	*1.56*	*U*
Carbon Tetrachloride	56-23-5	<0.2	0.2 to <1	1 and above		**0.5**		**0.5**		**0.5**		**0.44**		**0.44**	
Chlorobenzene	108-90-7	-	-	-		*2.3*	*U*	*2.3*	*U*	*2.3*	*U*	*2.3*	*U*	*2.3*	*U*
Chlorodibromomethane	124-48-1	-	-	-		*4.26*	*U*	*4.26*	*U*	*4.26*	*U*	*4.26*	*U*	*4.26*	*U*
Chloroethane	75-00-3	-	-	-		*1.32*	*U*	*1.32*	*U*	*1.32*	*U*	*1.32*	*U*	*1.32*	*U*
Chloroform	67-66-3	-	-	-		3.37		3.22		4.69		3.66		*2.44*	*U*
Chloromethane	74-87-3	-	-	-		0.89	J	0.87	J	0.89	J	1.16		0.85	J
Cis-1,2-Dichloroethene (c12-DCE)	156-59-2	<0.2	0.2 to <1	1 and above		*1.98*	*U*	*1.98*	*U*	*1.98*	*U*	*1.98*	*U*	*1.98*	*U*
Cis-1,3-Dichloropropene	10061-01-5	-	-	-		*2.27*	*U*	*2.27*	*U*	*2.27*	*U*	*2.27*	*U*	*2.27*	*U*
Cyclohexane	110-82-7	-	-	-		*1.72*	*U*	*1.72*	*U*	*1.72*	*U*	*1.72*	*U*	*1.72*	*U*
Dichlorodifluoromethane	75-71-8	-	-	-		2.52		1.09	J	2.67		2.77		2.72	

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

					Sample ID	LIHA-IAH-20191211		LIHA-IAH-DUP-20191211		LIHA-IA2-20191211		LIHA-IA3-20191211		LIHA-OA1-20191211	
					Sample Location	LIHA-IA1		LIHA-IA1		LIHA-IA2		LIHA-IA3		LIHA-OA	
					Date	12/11/2019		12/11/2019		12/11/2019		12/11/2019		12/11/2019	
Analyte	CAS Number	NYSDOH Decision Matrices A, B, C Indoor Air Concentration				Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichloromethane	75-09-2	<3	3 to <10	10 and above		*4.17*	*U*	*3.06*	*U*	**8.69**	B	*2.61*	*U*	*2.36*	*U*
Ethylbenzene	100-41-4	-	-	-		*2.17*	*U*	*2.17*	*U*	*2.17*	*U*	*2.17*	*U*	*2.17*	*U*
Freon 113	76-13-1	-	-	-		*3.83*	*U*	*3.83*	*U*	*3.83*	*U*	*3.83*	*U*	*3.83*	*U*
Hexachlorobutadiene	87-68-3	-	-	-		*5.33*	*U*	*5.33*	*U*	*5.33*	*U*	*5.33*	*U*	*5.33*	*U*
m,p-Xylene	179601-23-1	-	-	-		0.65	J	0.74	J	0.83	J	1.04	J	*4.34*	*U*
Methyl Methacrylate	80-62-6	-	-	-		*2.05*	*U*	*2.05*	*U*	*2.05*	*U*	*2.05*	*U*	*2.05*	*U*
Methyl T-Butyl Ether (MTBE)	1634-04-4	-	-	-		*1.8*	*U*	*1.8*	*U*	*1.8*	*U*	*1.8*	*U*	*1.8*	*U*
Naphthalene	91-20-3	-	-	-		*2.62*	*U*	*2.62*	*U*	*2.62*	*U*	*2.62*	*U*	*2.62*	*U*
N-Heptane	142-82-5	-	-	-		1.19	J	1.31	J	2.09		16		*2.05*	*U*
N-Hexane	110-54-3	-	-	-		1.16	J	1.16	J	3		1.34	J	0.88	J
O-Xylene	95-47-6	-	-	-		*2.17*	*U*	*2.17*	*U*	*2.17*	*U*	0.52	J	*2.17*	*U*
Styrene	100-42-5	-	-	-		*2.13*	*U*	*2.13*	*U*	*2.13*	*U*	*2.13*	*U*	*2.13*	*U*
Tert-Butyl Alcohol	75-65-0	-	-	-		0.79	J	0.97	J	*1.52*	*U*	0.85	J	*1.52*	*U*
Tetrachloroethene (PCE)	127-18-4	<3	3 to <10	10 and above		0.61		0.54		0.68		0.61		*0.2*	*U*
Tetrahydrofuran	109-99-9	-	-	-		*1.47*	*U*	*1.47*	*U*	*1.47*	*U*	*1.47*	*U*	*1.47*	*U*
Toluene	108-88-3	-	-	-		3.17		3.73		3.5		4.15		0.6	J
Trans-1,2-Dichloroethene	156-60-5	-	-	-		*1.98*	*U*	*1.98*	*U*	*1.98*	*U*	*1.98*	*U*	*1.98*	*U*
Trans-1,3-Dichloropropene	10061-02-6	-	-	-		*2.27*	*U*	*2.27*	*U*	*2.27*	*U*	*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*	*0.16*	*U*	*0.16*	*U*	*0.16*	*U*
Trichlorofluoromethane	75-69-4	-	-	-		1.46	J	1.24	J	1.35	J	1.35	J	1.29	J
Vinyl Chloride	75-01-4	<0.2	-	0.2 and above		*0.08*	*U*	*0.08*	*U*	*0.08*	*U*	*0.08*	*U*	*0.08*	*U*

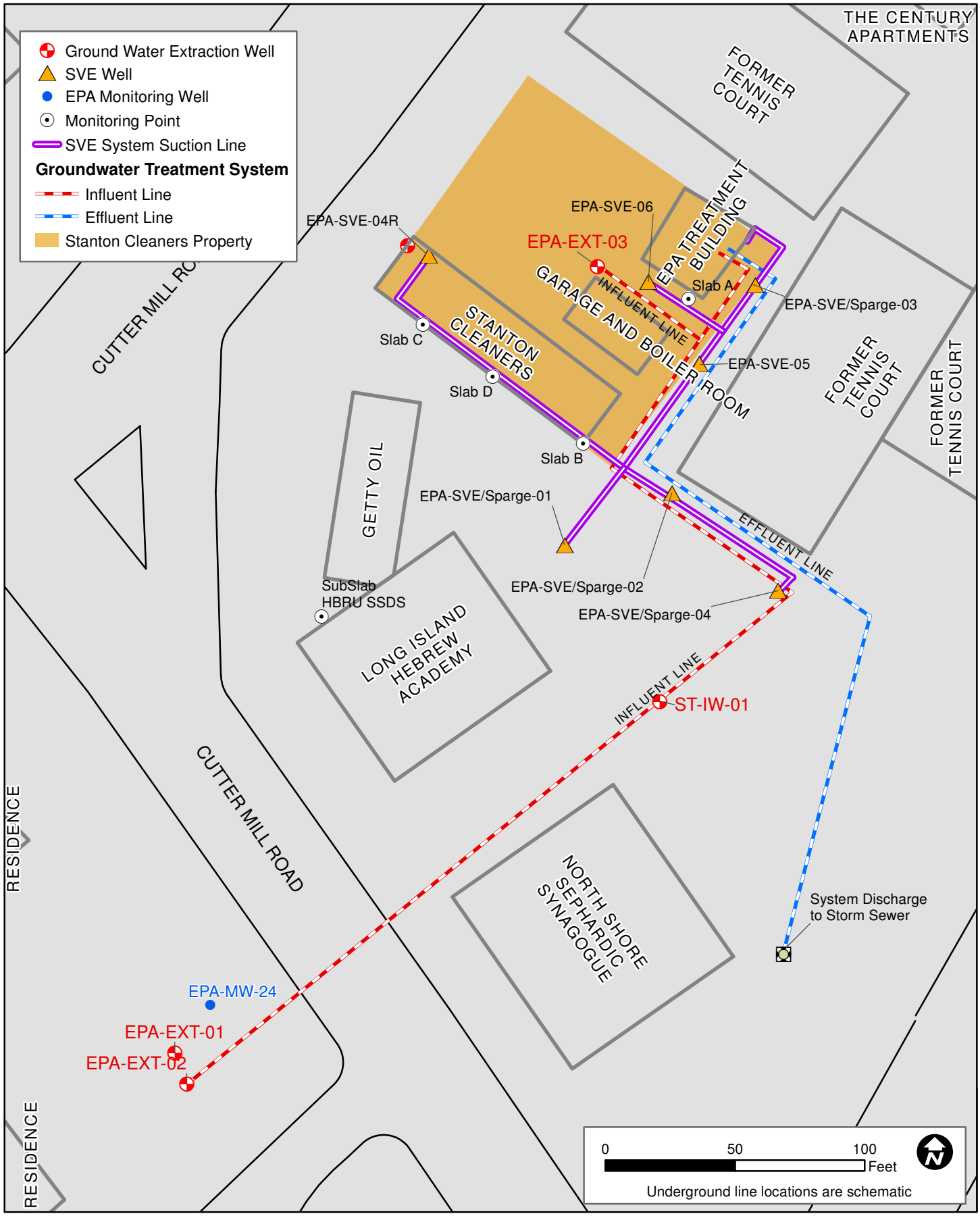
Notes:
All sample results and NYSDOH guidance values are reported in µg/m3
All sample analytical results are compared to October 2006 and May 2017 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Matrices A, B, and C
Outdoor air sample results from OA-1 are not compared to the NYSDOH Decision Matrices
µg/m3: : micrograms per cubic meter
NYSDOH: : New York State Department of Health
Q : Qualifier
J : indicates an estimated value, (-) biased low
D : indicates the sample was diluted
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 27, 2019

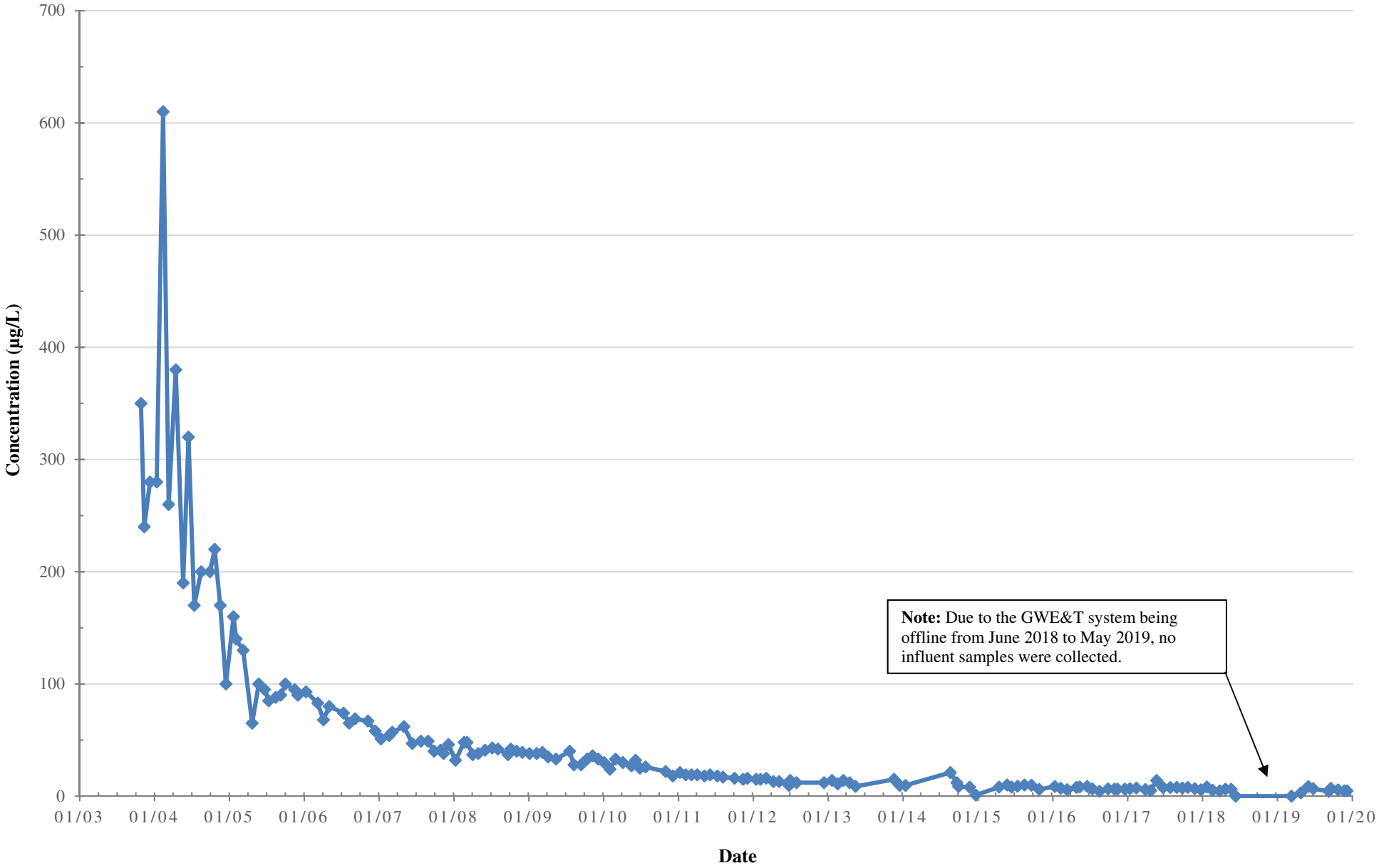


Site Layout
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 2

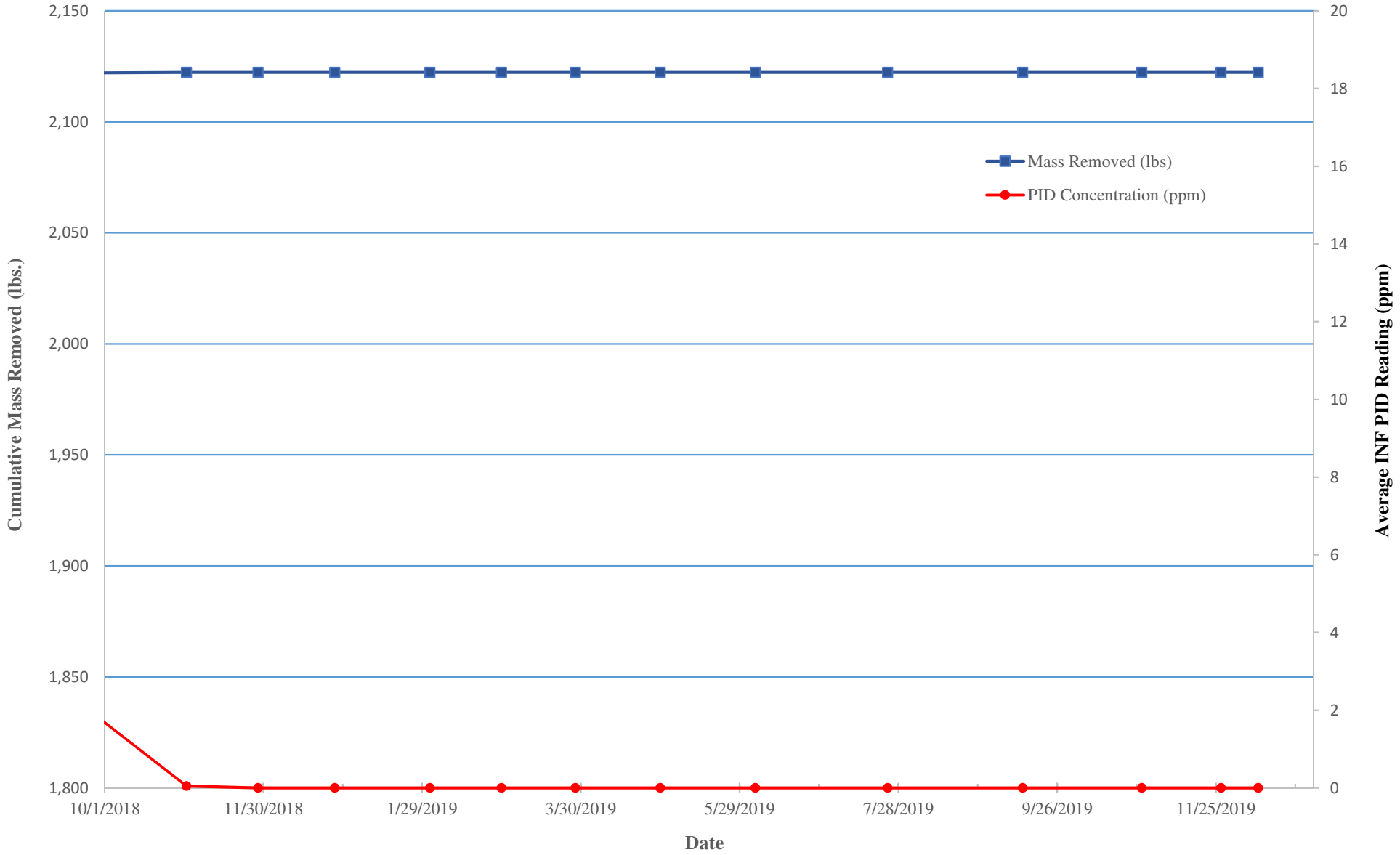
December 27, 2019

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



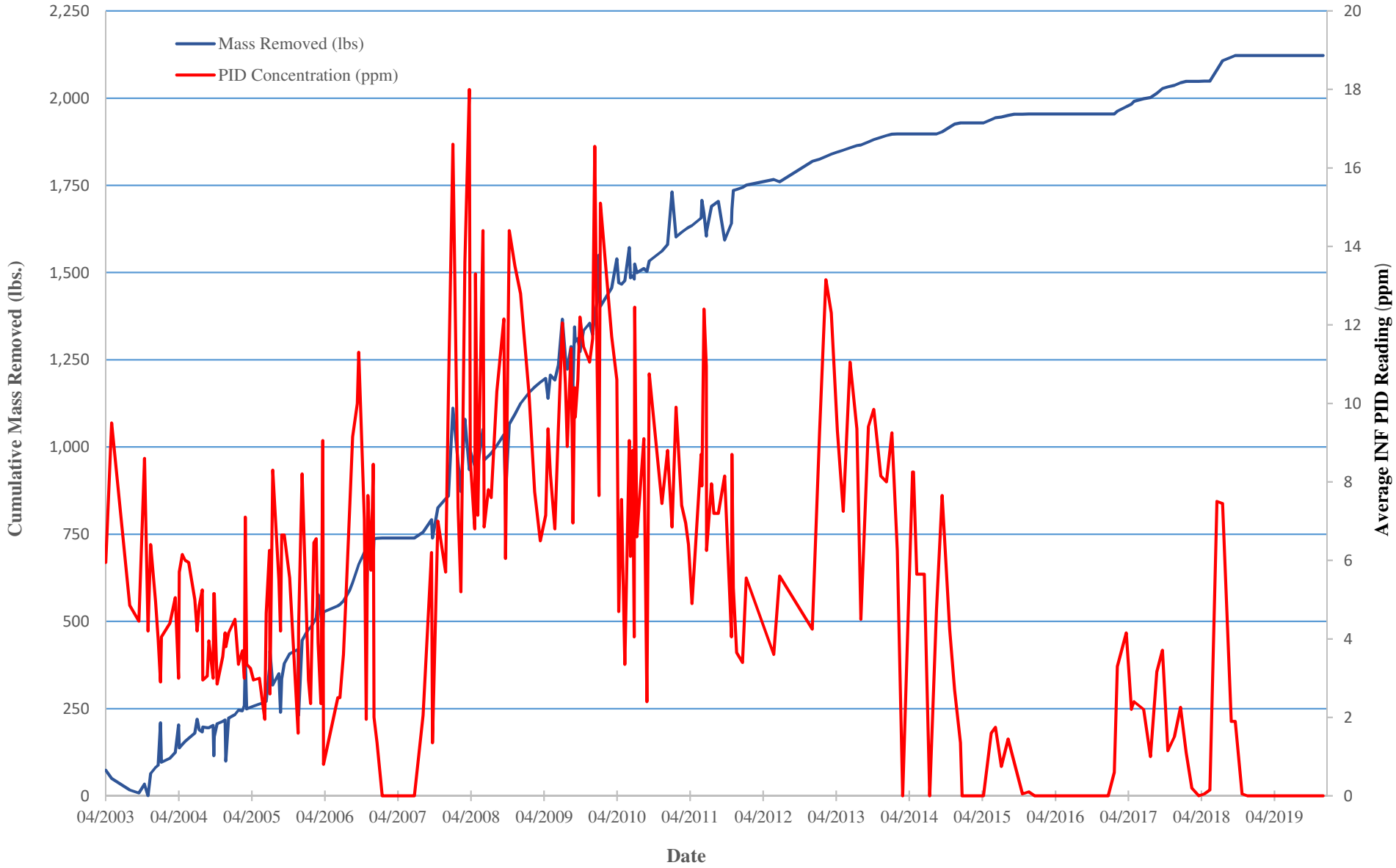
NYSDEC Site No: 130072
Standby Contract: D007625-06

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

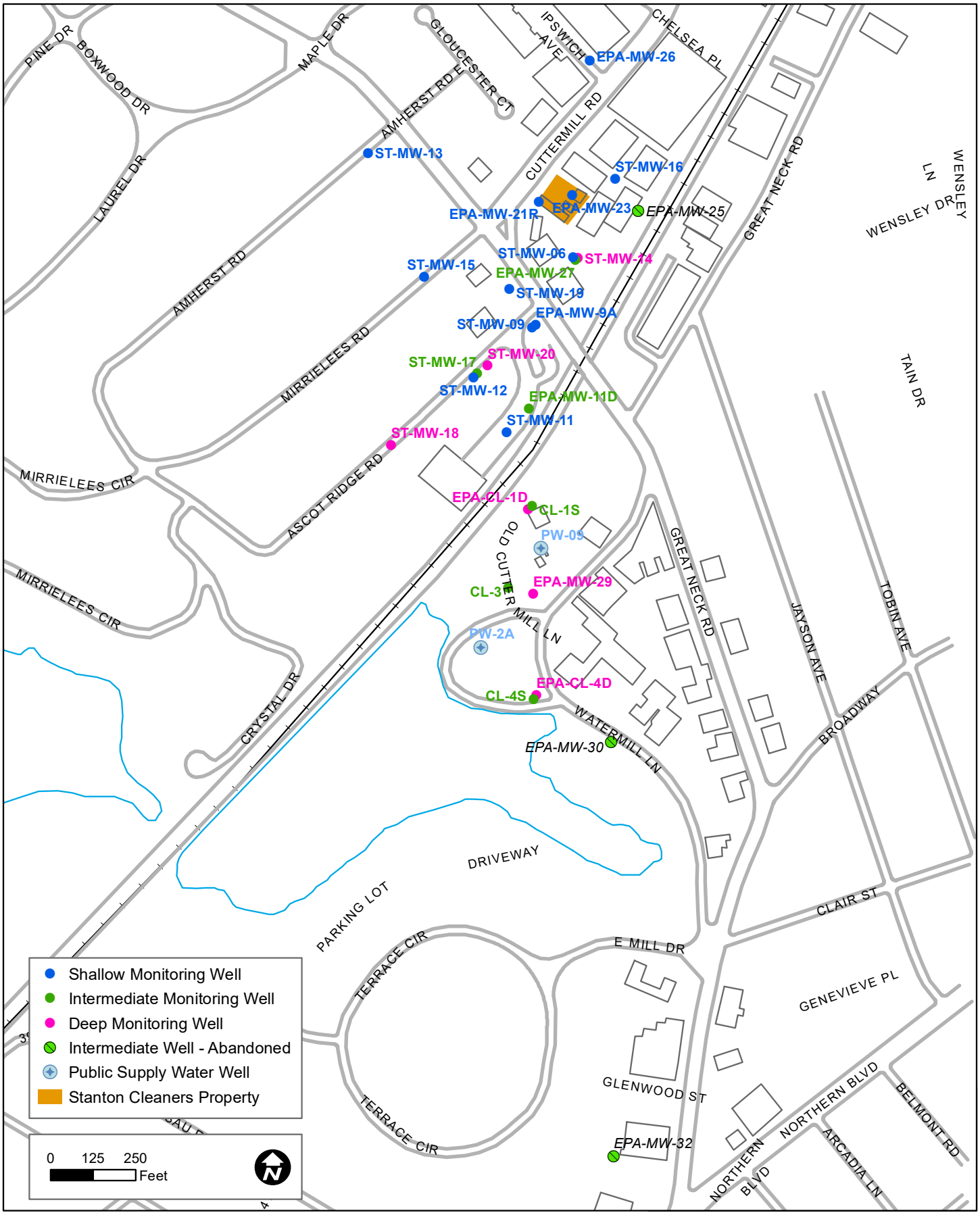


NYSDEC Site No: 130072
Standby Contract: D007625-06

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



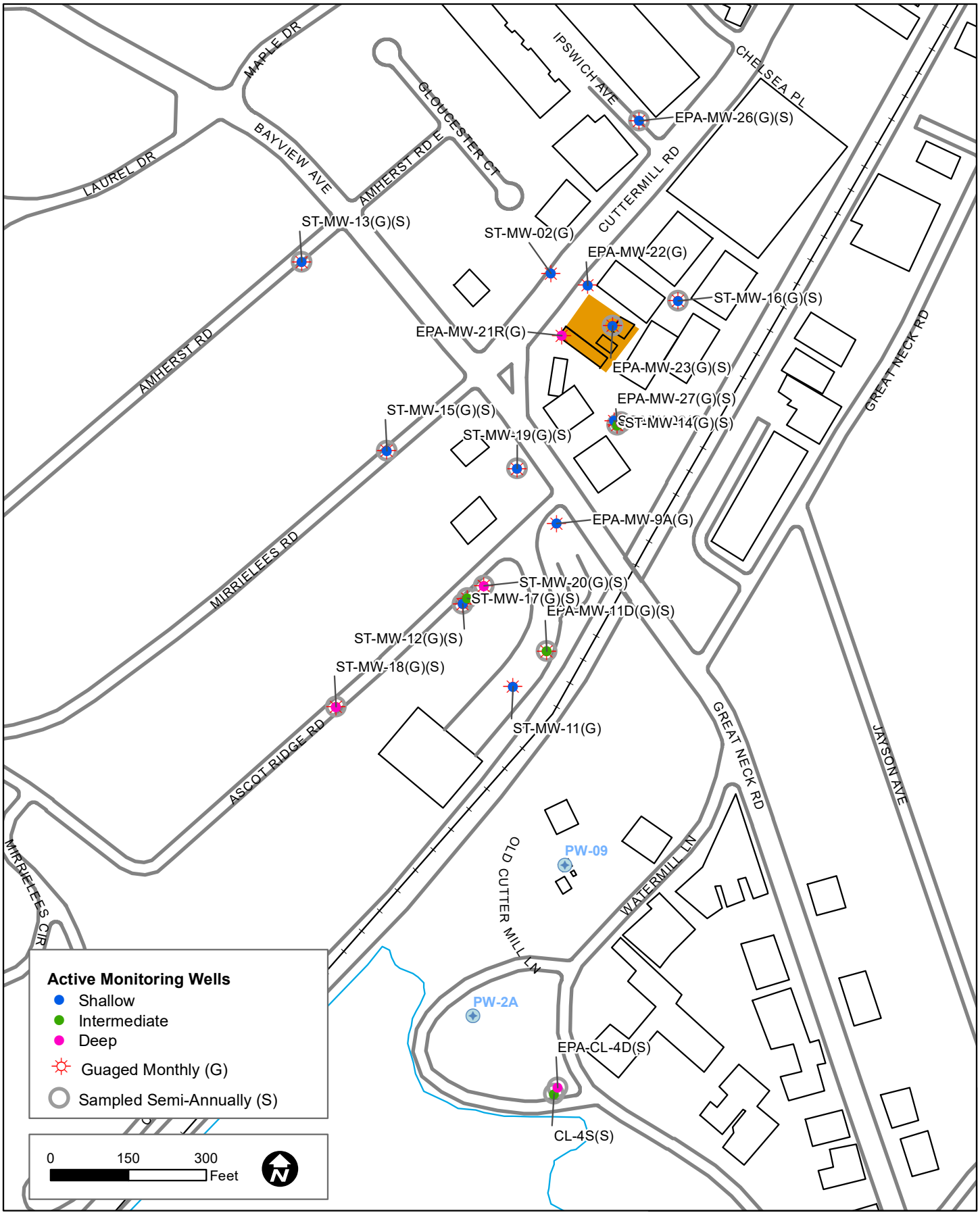
NYSDEC Site No: 130072
Standby Contract: D007625-06



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

Figure 6

June 28, 2019

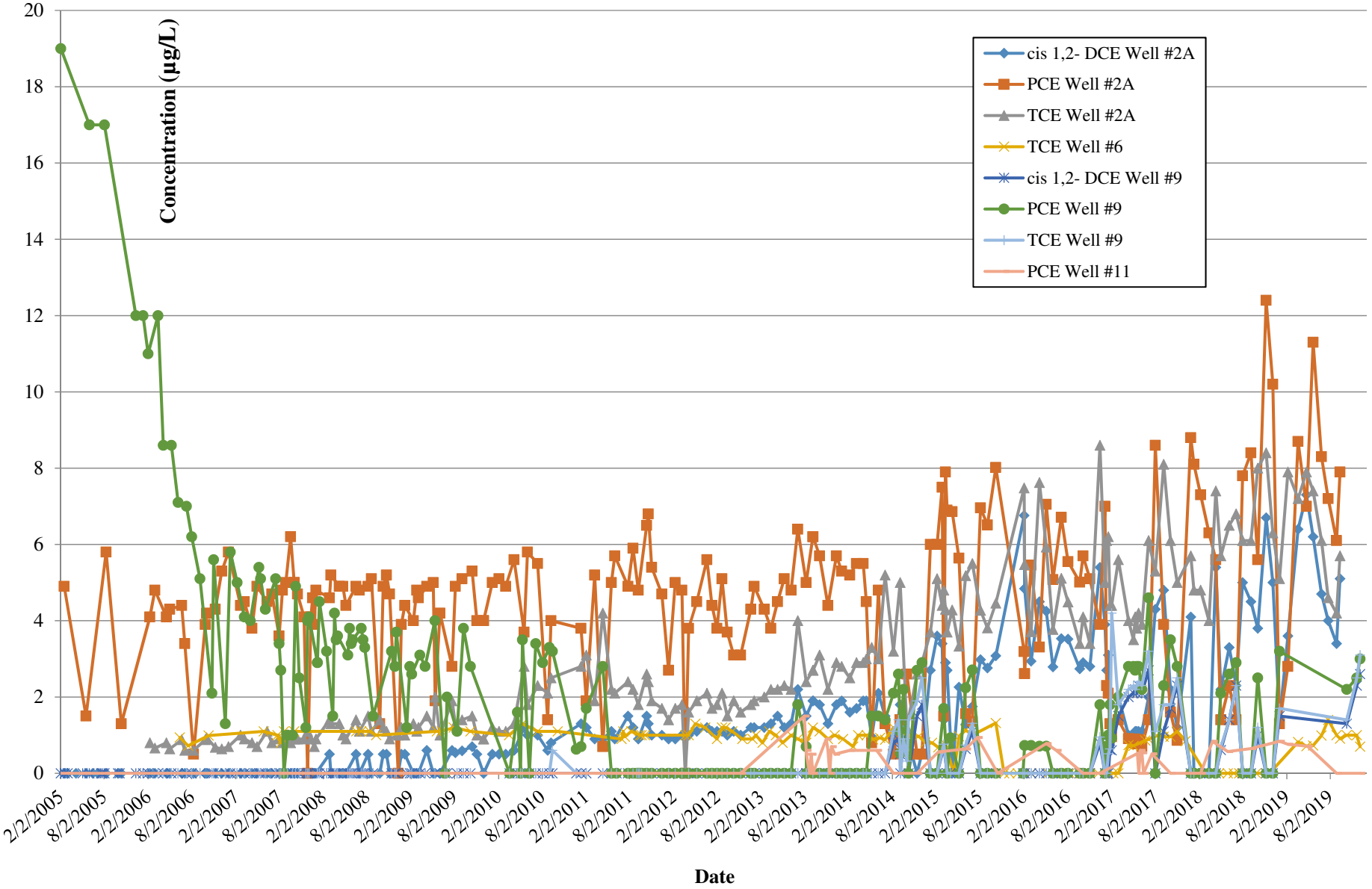


Well Monitoring Schedule
Stanton Cleaners
NYSDEC Site # 130072
Great Neck-North Hempstead, New York

Figure 7

June 28, 2019

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



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: 10/28/2019
REPORT No.
PAGE No. 1

PREPARED BY: Michael Otton 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
Michael Otton	Technician	9:30-14:45	Preferred
Ed Combs	Technician	9:30-14:45	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
Todd Daniel	11:15-12:00	Intex Environmental	Electrical troubleshooting

EQUIPMENT AT THE SITE

I = Idle W = Working

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

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs - Preferred

9:30 - EC & MO (Preferred) on-site. SVE offline and GWTS online upon arrival. Review extra O&M items this month.

9:50 - Collect system readings in treatment building.

- Collect GWTS Influent and Effluent Samples **(**extra items: test smoke detectors, patch leak, clean filter **)**

11:00 - Collect readings from SVE well headspaces and sample ports with 5-gas meter.

12:45 - Perform Task 4 monitoring well gauging activities; Replaced PVC slip cap for MW-09A. (Todd Daniel onsite for electrical troubleshoooting- will provide price for new heater)

14:15 - Perform general housekeeping around property.

14:45 - Treatment building secured, EC/MO (Preferred) offsite.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Ed Combs (Preferred)**

Project Manager: **M. Lehtinen**

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

Date: 10/28/2019

Data from Computer Display Screen:

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

Total Gallons Treated:	477,141,047
Discharge Rate:	293*
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	11 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.05
Discharge Temp:	17ºC
Discharge Conductivity:	-1.5

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 3,631,208.3 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2586 GPH
Total gallons: 8,207,281.3 gallons	

Weather:
60ºF, overcast

Notes:
* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter
GPM- Gallons Per Minute
CFM- Cubic Feet Per Minute

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

Date: 10/28/2019

Readings at Well	
Near Well Head	N/A*
Bladder	

Treatment Room Readings	
SCFM	N/A* PSI
psi-1	N/A* PSI
psi-2	N/A* PSI
psi-3	N/A* PSI
P_1	N/A* PSI
P_2	N/A* PSI
P_3	N/A* PSI

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

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

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

Locations:
Near Well Head- psi gauge at corner of New Stanton Cleaners Building
Bladder- psi gauge at well head
SCFM- gauge in treatment room (first gauge when looking at wall from left to right)
psi-1 - 2nd gauge attached to line on wall when looking left to right
psi-2 - 3rd gauge
psi-3- 4th gauge
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- on top of carbon tank
Temp.- from compressor screen display
EN-37-1- gauge on compressor
K/O Tank- gauge on knockout tank

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

Date: 10/28/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.1	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.9	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.4	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	0.2	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	0.3	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.5	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.2	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	0.1	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	1.0	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

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

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

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

STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

Air Sparge System Monitoring Log

Date: 10/28/2019

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

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

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

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

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

WATER LEVEL DATA SUMMARY

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

JOB NUMBER:
DATE: 10/28/2019
MEASURED BY: EC

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	13:50	57.50	17.13	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	14:15	68.33	15.80	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	13:05	62.63	20.20	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	14:02	49.98	19.34	LIHA PL
ST-MW-06	ft BTOC	69.83	14:00	45.48	24.35	LIHA PL 4"
ST-MW-09A*	ft BTOC	78.13	13:55	62.21	15.92	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	13:50	58.23	17.02	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	13:40	69.67	17.53	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	14:07	54.49	15.24	LIHA PL
ST-MW-16	ft BTOC	75.78	13:10	52.86	22.92	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	13:43	69.13	17.40	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	13:35	65.14	17.36	Triangle park well
ST-MW-20	ft BTOC	84.53	13:45	70.45	14.08	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	13:15	57.41	20.96	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	13:30	72.57	17.56	Mirreless Rd
ST-MW-13	ft BTOC	130.95	13:20	84.65	46.30	Amherst Rd
ST-MW-18	ft BTOC	84.40	13:23	71.06	13.34	Ascot Ridge (past apt bldg)

Notes:

PHOTOGRAPHIC LOG
Date: 10/28/19
HDR Job No.
Stanton Cleaners Site

PHOTO	DATE	TIME	DESCRIPTION	COMMENTS
Photo Oct 28, 9:38:02 AM	10/28/2019	9:38	As part of the October 2019 O&M event, punch-list items from the NYSDEC were addressed including inspection of cross threaded piping of the SVE exhaust.	
Photo Oct 28, 10:26:17 AM	10/28/2019	10:26	GWTS Samples were collected from both the Influent and Effluent sample ports during this month's O&M event.	

Photos

10/28/2019

Photo Oct 28, 9:38:02 AM

As part of the October 2019 O&M event, punch-list items from the NYSDEC were addressed including inspection of cross threaded piping of the SVE exhaust.

Photo Oct 28, 10:26:17 AM

GWTS Samples were collected from both the Influent and Effluent sample ports during this month's O&M event.

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: 11/27/2019
REPORT No.
PAGE No. 1

PREPARED BY: Michael Otton 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
Michael Otton	Technician	8:00-12:30	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks
Todd Daniel			

EQUIPMENT AT THE SITE

I = Idle W = Working

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

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Edward Combs - Preferred

8:00 - MO (Preferred) on-site. SVE offline and GWTS online upon arrival. Review extra O&M items this month.
8:15 - Collect system readings in treatment building.
- Collect GWTS Influent and Effluent Samples **(**extra items: Replace Fire Extinguisher**)**
9:30 - Collect readings from SVE well headspaces and sample ports with 5-gas meter.
10:30 - Perform Task 4 monitoring well gauging activities
12:00 - Perform general housekeeping around property.
12:30 - Treatment building secured, MO (Preferred) offsite.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Michael Otton (Preferred)**

Project Manager: **M. Lehtinen**

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

Date: 11/27/2019

Data from Computer Display Screen:

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

Total Gallons Treated:	483,914,469
Discharge Rate:	293*
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	12 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.04
Discharge Temp:	17ºC
Discharge Conductivity:	-1.6

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 29,560,159.9 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2591 GPH
Total gallons: 271,197.4 gallons	

Weather:
48ºF, overcast

Notes:
* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter
GPM- Gallons Per Minute
CFM- Cubic Feet Per Minute

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

Date: 11/27/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.9	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	0.4	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.3	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	2.7	0.0	20.4	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	4.2	0.0	20.5	0.0	0.0	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	2.3	0.0	20.5	0.0	0.0	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	1.2	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.5	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	1.9	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	2.1	0.0	20.5	0.0	0.0	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Michael Otton**
Air readings collected by: **Michael Otton**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

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

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: 11/27/2019
MEASURED BY: MO

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:36	54.10	20.53	4" well in p-lot by med sports bldg.
EPA-MW-21-R *	ft BTOC	84.13	N/A	NA	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	10:30	62.23	20.60	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:45	49.17	20.15	LIHA PL
ST-MW-06	ft BTOC	69.83	11:48	48.70	21.13	LIHA PL 4"
ST-MW-09A*	ft BTOC	78.13	11:40	65.59	12.54	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:32	56.22	19.03	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	11:22	67.89	19.31	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	11:50	51.81	17.92	LIHA PL
ST-MW-16	ft BTOC	75.78	10:35	50.96	24.82	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	11:18	67.33	19.20	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	11:10	65.78	16.72	Triangle park well
ST-MW-20	ft BTOC	84.53	11:15	69.24	15.29	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	10:40	57.30	21.07	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:00	68.62	21.51	Mirreless Rd
ST-MW-13	ft BTOC	130.95	10:50	81.19	49.76	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:27	65.88	18.52	Ascot Ridge (past apt bldg)

Notes: * EPA-MW-21-R was not accessable. The gas sation was fenced off. No access to site.

PHOTOGRAPHIC LOG
Date: 11/27/19
HDR Job No.
Stanton Cleaners Site

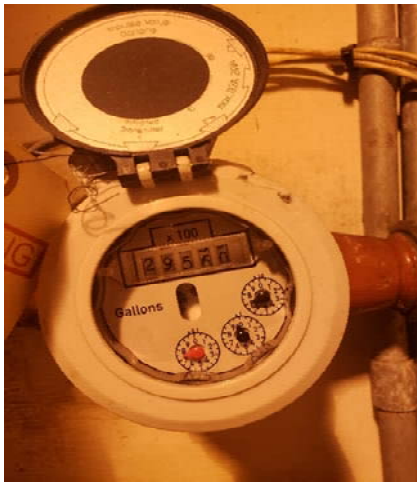
PHOTO	DATE	TIME	DESCRIPTION	COMMENTS
20191127_102518	11/27/2019	13:51	Readings were taken from SVE sample ports and well headspaces utilizing a MultiRae 5-Gas Meter during this month's O&M event.	
20191127_095819	11/27/2019	13:15	GWTS readings were taken from the gauges located within the treatment room.	

Photos

11/27/2019

20191127_102518

Readings were taken from SVE sample ports and well headspaces utilizing a MultiRae 5-Gas Meter during this month's O&M event.



20191127_095819

GWTS readings were taken from the gauges located within the treatment room.

Stanton Cleaners – November 2019 O&M (11/27/19) – Additional SVE Monitoring

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

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

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	8.40	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.0	0	20.9	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

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: 12/11/2019
REPORT No.
PAGE No. 1

PREPARED BY: Edward Combs TITLE: Site Rep.

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

AVERAGE FIELD FORCE

Name of Contractor	Title	Hours Worked	Remarks
Michael Otton	Technician	11:00-14:30	Preferred

VISITORS

Name	Time (From - To)	Representing	Remarks

EQUIPMENT AT THE SITE

I = Idle W = Working

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

OPERATION & MAINTENANCE ACTIVITIES

HDR/Preferred Site Representative: Michael Otton - Preferred

11:00 - MO (Preferred) on-site. SVE offline and GWTS online upon arrival.
11:15 - Collected system readings in treatment building. Replaced Fire Extinguishers.
11:20 - Collected GWTS Influent and Effluent Samples.
12:00 - Returned to LIHA to check on Summa Canister regulators. One of the canisters was losing vacuum too quickly, and was subsequently replaced with an available spare.
12:45 - Collected readings from SVE well headspaces.
13:20 - Performed Task 4 monitoring well gauging activities.
14:25 - Performed general housekeeping around treatment building.
14:30 - Treatment building secured, MO (Preferred) offsite.

[x] - Designates report is continued on additional pages

HDR/Preferred Site Representative: **Michael Otton (Preferred)**

Project Manager: **M. Lehtinen**

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

Date: 12/11/2019

Data from Computer Display Screen:

Pump	Flow	Valve open	
RW-2	166 GPM*	100%	
Total Gallons Treated:			487,086,519
Discharge Rate:			*
Discharge Conductivity:			*
Discharge pH:			*
SVE Air Flow Rate:			*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.07
Discharge Temp:	15ºC
Discharge Conductivity:	-1.8

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 4,167,642.3 gallons	

meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2580 GPH
Total gallons: 2,660,941.1 gallons	

Weather:
32ºF, overcast

Notes:
* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter
GPM- Gallons Per Minute
CFM- Cubic Feet Per Minute

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

Date: 12/11/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.6	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	1.2	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.3	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.4	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.7	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	5.5	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	2.1	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.9	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.1	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	0.2	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	3.0	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Michael Otton**
Air readings collected by: **Michael Otton**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

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

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: 12/11/2019
MEASURED BY: MO

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	14:09	59.23	15.40	4" well in p-lot by med sports bldg.
EPA-MW-21-R *	ft BTOC	84.13	N/A	NA	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	13:25	63.15	19.68	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	14:19	50.78	18.54	LIHA PL
ST-MW-06*	ft BTOC	69.83	N/A	N/A	N/A	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	14:12	63.89	14.24	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	14:07	59.44	15.81	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	13:55	68.51	18.69	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	14:17	53.92	15.81	LIHA PL
ST-MW-16	ft BTOC	75.78	13:30	52.77	23.01	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	13:57	68.63	17.90	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	14:04	64.74	17.76	Triangle park well
ST-MW-20	ft BTOC	84.53	14:00	68.99	15.54	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	13:35	57.25	21.12	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	13:47	71.83	18.30	Mirreless Rd
ST-MW-13	ft BTOC	130.95	13:41	85.96	44.99	Amherst Rd
ST-MW-18	ft BTOC	84.40	13:50	70.80	13.60	Ascot Ridge (past apt bldg)

Notes: * EPA-MW-21-R was not accessable. The gas sation was fenced off. No access to site.
ST-MW-06 - Well was obstructed by a vehicle while onsite for gauging.

PHOTOGRAPHIC LOG
Date: 12/11/19
HDR Job No.
Stanton Cleaners Site

PHOTO	DATE	TIME	DESCRIPTION	COMMENTS
20191211_113227	12/11/2019	11:45	View of the influent flow meter for the GWTS	
20191211_113233	12/11/2019	11:50	View of the effluent flow meter for the GWTS.	

Photos

12/11/2019

20191211_113227

View of the influent flow meter for the GWTS

20191211_113233

View of the effluent flow meter for the GWTS.

Appendix B

GWE&TS O&M Reports

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

Date: 10/28/2019

Data from Computer Display Screen:

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

Total Gallons Treated:	477,141,047
Discharge Rate:	293*
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	11 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.05
Discharge Temp:	17ºC
Discharge Conductivity:	-1.5

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 3,631,208.3 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2586 GPH
Total gallons: 8,207,281.3 gallons	

Weather:
60ºF, overcast

Notes:
* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter
GPM- Gallons Per Minute
CFM- Cubic Feet Per Minute

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

Date: 11/27/2019

Data from Computer Display Screen:

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

Total Gallons Treated:	483,914,469
Discharge Rate:	293*
Discharge Conductivity:	0*
Discharge pH:	5.6*
SVE Air Flow Rate:	12 CFM*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.04
Discharge Temp:	17ºC
Discharge Conductivity:	-1.6

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 29,560,159.9 gallons	meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2591 GPH
Total gallons: 271,197.4 gallons	

Weather:
48ºF, overcast

Notes:
* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter
GPM- Gallons Per Minute
CFM- Cubic Feet Per Minute

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

Date: 12/11/2019

Data from Computer Display Screen:

Pump	Flow	Valve open	
RW-2	166 GPM*	100%	
Total Gallons Treated:			487,086,519
Discharge Rate:			*
Discharge Conductivity:			*
Discharge pH:			*
SVE Air Flow Rate:			*

Visual Digital Readouts from Catwalk:

Discharge pH:	5.07
Discharge Temp:	15ºC
Discharge Conductivity:	-1.8

Flow meter reading:

Flow Rate:	60 GPM
Total gallons: 4,167,642.3 gallons	

meter display in 100 of gallons

Effluent flow meter reading:

Flow Rate:	2580 GPH
Total gallons: 2,660,941.1 gallons	

Weather:
32ºF, overcast

Notes:
* Meter malfunctioning

Digital reading output for Discharge Rate and Total gallons on flow meter
GPM- Gallons Per Minute
CFM- Cubic Feet Per Minute

Appendix C

Lookout Operational Data Logs

Stanton Cleaners Groundwater Contamination Site - October 2019 Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/1/2019 0:00	166	477549642.2	11
10/1/2019 4:00	166	477588942.7	10
10/1/2019 8:00	166	477628240.4	11
10/1/2019 12:00	166	477667540.9	8
10/1/2019 16:00	166	477706841.4	11
10/1/2019 20:00	166	477746139.2	12
10/2/2019 0:00	166	477785439.7	11
10/2/2019 4:00	166	477824740.2	11
10/2/2019 8:00	166	477864037.9	9
10/2/2019 12:00	166	477903338.4	11
10/2/2019 16:00	166	477942636.1	12
10/2/2019 20:00	166	477981936.6	8
10/3/2019 0:00	166	478021237.1	8
10/3/2019 4:00	166	478060534.9	12
10/3/2019 8:00	166	478099835.4	8
10/3/2019 12:00	166	478139135.9	11
10/3/2019 16:00	166	478178433.6	11
10/3/2019 20:00	166	478217734.1	12
10/4/2019 0:00	166	478257034.6	11
10/4/2019 4:00	166	478296332.3	12
10/4/2019 8:00	166	478335632.8	10
10/4/2019 12:00	166	478374933.3	11
10/4/2019 16:00	166	478414231.1	11
10/4/2019 20:00	166	478453531.6	7
10/5/2019 0:00	166	478492832.1	12
10/5/2019 4:00	166	478532129.8	9
10/5/2019 8:00	166	478571430.3	11
10/5/2019 12:00	166	478610730.8	11
10/5/2019 16:00	166	478650028.5	11
10/5/2019 20:00	166	478689329	12
10/6/2019 0:00	166	478728629.5	7
10/6/2019 4:00	166	478767927.3	12
10/6/2019 8:00	166	478807227.8	11
10/6/2019 12:00	166	478846528.3	10
10/6/2019 16:00	166	478885826	12
10/6/2019 20:00	166	478925126.5	9
10/7/2019 0:00	166	478964427	8
10/7/2019 4:00	166	479003724.7	12
10/7/2019 8:00	166	479043025.2	11
10/7/2019 12:00	166	479082325.7	12
10/7/2019 16:00	166	479121623.5	12

Stanton Cleaners Groundwater Contamination Site - October 2019 Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/7/2019 20:00	166	479160924	11
10/8/2019 0:00	166	479200221.7	12
10/8/2019 4:00	166	479239522.2	7
10/8/2019 8:00	166	479278822.7	11
10/8/2019 12:00	166	479318120.4	7
10/8/2019 16:00	166	479357420.9	11
10/8/2019 20:00	166	479396721.4	7
10/9/2019 0:00	166	479436019.2	12
10/9/2019 4:00	166	479475319.7	8
10/9/2019 8:00	166	479514620.2	11
10/9/2019 12:00	166	479553917.9	10
10/9/2019 16:00	166	479593218.4	11
10/9/2019 20:00	166	479632518.9	10
10/10/2019 0:00	166	479671816.6	11
10/10/2019 4:00	166	479711117.1	10
10/10/2019 8:00	166	479750417.6	12
10/10/2019 12:00	166	479789715.4	10
10/10/2019 16:00	166	479829015.9	12
10/10/2019 20:00	166	479868316.4	9
10/11/2019 0:00	166	479907614.1	9
10/11/2019 4:00	166	479946914.6	12
10/11/2019 8:00	166	479986215.1	12
10/11/2019 12:00	166	480025512.8	9
10/11/2019 16:00	166	480064813.3	8
10/11/2019 20:00	166	480104113.8	11
10/12/2019 0:00	166	480143411.6	11
10/12/2019 4:00	166	480182712.1	12
10/12/2019 8:00	166	480222012.6	10
10/12/2019 12:00	166	480261310.3	11
10/12/2019 16:00	166	480300610.8	8
10/12/2019 20:00	166	480339911.3	11
10/13/2019 0:00	166	480379209	9
10/13/2019 4:00	166	480418509.5	11
10/13/2019 8:00	166	480457807.3	12
10/13/2019 12:00	166	480497107.8	12
10/13/2019 16:00	166	480536408.3	11
10/13/2019 20:00	166	480575706	6
10/14/2019 0:00	166	480615006.5	9
10/14/2019 4:00	166	480654307	11
10/14/2019 8:00	166	480693604.7	11
10/14/2019 12:00	166	480732905.2	10

Stanton Cleaners Groundwater Contamination Site - October 2019 Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/14/2019 16:00	166	480772205.7	11
10/14/2019 20:00	166	480811503.5	11
10/15/2019 0:00	166	480850804	9
10/15/2019 4:00	166	480890104.5	12
10/15/2019 8:00	166	480929402.2	9
10/15/2019 12:00	166	480968702.7	11
10/15/2019 16:00	166	481008003.2	11
10/15/2019 20:00	166	481047300.9	11
10/16/2019 0:00	166	481086601.4	8
10/16/2019 4:00	166	481125901.9	11
10/16/2019 8:00	166	481165199.7	8
10/16/2019 12:00	166	481204500.1	9
10/16/2019 16:00	166	481243800.6	9
10/16/2019 20:00	166	481283098.4	8
10/17/2019 0:00	166	481322398.9	11
10/17/2019 4:00	166	481361699.4	11
10/17/2019 8:00	166	481400997.1	12
10/17/2019 12:00	166	481440297.6	11
10/17/2019 16:00	166	481479598.1	12
10/17/2019 20:00	166	481518895.8	12
10/18/2019 0:00	166	481558196.3	11
10/18/2019 4:00	166	481597496.8	10
10/18/2019 8:00	166	481636794.6	11
10/18/2019 12:00	166	481676095.1	10
10/18/2019 16:00	166	481715392.8	11
10/18/2019 20:00	166	481754693.3	11
10/19/2019 0:00	166	481793993.8	11
10/19/2019 4:00	166	481833291.5	10
10/19/2019 8:00	166	481872592	10
10/19/2019 12:00	166	481911892.5	10
10/19/2019 16:00	166	481951190.3	9
10/19/2019 20:00	166	481990490.8	11
10/20/2019 0:00	166	482029791.3	12
10/20/2019 4:00	166	482069089	11
10/20/2019 8:00	166	482108389.5	9
10/20/2019 12:00	166	482147690	10
10/20/2019 16:00	166	482186987.7	12
10/20/2019 20:00	166	482226288.2	12
10/21/2019 0:00	166	482265588.7	12
10/21/2019 4:00	166	482304886.5	10
10/21/2019 8:00	166	482344187	11

Stanton Cleaners Groundwater Contamination Site - October 2019 Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/21/2019 12:00	166	482383487.5	11
10/21/2019 16:00	166	482422785.2	10
10/21/2019 20:00	166	482462085.7	12
10/22/2019 0:00	166	482501386.2	11
10/22/2019 4:00	166	482540683.9	8
10/22/2019 8:00	166	482579984.4	8
10/22/2019 12:00	166	482619284.9	11
10/22/2019 16:00	166	482658582.7	11
10/22/2019 20:00	166	482697883.2	8
10/23/2019 0:00	166	482737183.7	9
10/23/2019 4:00	166	482776481.4	11
10/23/2019 8:00	166	482815781.9	12
10/23/2019 12:00	166	482855082.4	10
10/23/2019 16:00	166	482894380.1	12
10/23/2019 20:00	166	482933680.6	10
10/24/2019 0:00	166	482972978.4	10
10/24/2019 4:00	166	483012278.9	7
10/24/2019 8:00	166	483051579.4	12
10/24/2019 12:00	166	483100701.5	10
10/24/2019 16:00	166	483140002	12
10/24/2019 20:00	166	483179302.5	11
10/25/2019 0:00	166	483218600.3	11
10/25/2019 4:00	166	483257900.8	12
10/25/2019 8:00	166	483297201.3	11
10/25/2019 12:00	166	483336499	10
10/25/2019 16:00	166	483375799.5	8
10/25/2019 20:00	166	483415100	11
10/26/2019 0:00	166	483454397.7	10
10/26/2019 4:00	166	483493698.2	11
10/26/2019 8:00	166	483532998.7	11
10/26/2019 12:00	166	483572296.5	12
10/26/2019 16:00	166	483611597	9
10/26/2019 20:00	166	483650897.5	7
10/27/2019 0:00	166	483690195.2	11
10/27/2019 4:00	166	483729495.7	11
10/27/2019 8:00	166	483768796.2	12
10/27/2019 12:00	166	483808093.9	9
10/27/2019 16:00	166	483847394.4	10
10/27/2019 20:00	166	483886694.9	8
10/28/2019 0:00	166	483925992.7	12
10/28/2019 4:00	166	483965293.2	11

Stanton Cleaners Groundwater Contamination Site - October 2019 Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
10/28/2019 8:00	166	484004593.7	12
10/28/2019 12:00	166	484043891.4	9
10/28/2019 16:00	166	484083191.9	12
10/28/2019 20:00	166	484122492.4	8
10/29/2019 0:00	166	484161790.1	11
10/29/2019 4:00	166	484201090.6	11
10/29/2019 8:00	166	484240388.4	12
10/29/2019 12:00	166	484279688.9	8
10/29/2019 16:00	166	484318989.4	12
10/29/2019 20:00	166	484358287.1	8
10/30/2019 0:00	166	484397587.6	11
10/30/2019 4:00	166	484436888.1	11
10/30/2019 8:00	166	484476185.8	11
10/30/2019 12:00	166	484515486.3	13
10/30/2019 16:00	166	484554786.8	12
10/30/2019 20:00	166	484594084.6	10
10/31/2019 0:00	166	484633385.1	11
10/31/2019 4:00	166	484672685.6	8
10/31/2019 8:00	166	484711983.3	13
10/31/2019 12:00	166	484751283.8	12
10/31/2019 16:00	166	484790584.3	12
10/31/2019 20:00	166	484829882	9

Stanton Cleaners Groundwater Contamination Site - November 2019 - Site Operational Data			
.	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/1/2019 0:00	166	484869182.5	9
11/1/2019 4:00	166	484908483	11
11/1/2019 8:00	166	484947780.8	10
11/1/2019 12:00	166	484987081.3	10
11/1/2019 16:00	166	485026381.8	11
11/1/2019 20:00	166	485065679.5	11
11/2/2019 0:00	166	485104980	7
11/2/2019 4:00	166	485144280.5	11
11/2/2019 8:00	166	485183578.2	12
11/2/2019 12:00	166	485222878.7	11
11/2/2019 16:00	166	485262179.2	12
11/2/2019 20:00	166	485301477	8
11/3/2019 0:00	166	485340777.5	11
11/3/2019 4:00	166	485380078	12
11/3/2019 8:00	166	485419375.7	12
11/3/2019 12:00	166	485458676.2	12
11/3/2019 16:00	166	485497976.7	11
11/3/2019 20:00	166	485537274.4	12
11/4/2019 0:00	166	485576574.9	9
11/4/2019 4:00	166	485615872.7	11
11/4/2019 8:00	166	485655173.2	8
11/4/2019 12:00	166	485694473.7	7
11/4/2019 16:00	166	485733771.4	11
11/4/2019 20:00	166	485773071.9	12
11/5/2019 0:00	166	485812372.4	11
11/5/2019 4:00	166	485851670.1	12
11/5/2019 8:00	166	485890970.6	8
11/5/2019 12:00	166	485930271.1	12
11/5/2019 16:00	166	485969568.9	11
11/5/2019 20:00	166	486008869.4	12
11/6/2019 0:00	166	486048169.9	11
11/6/2019 4:00	166	486087467.6	7
11/6/2019 8:00	166	486126768.1	7
11/6/2019 12:00	166	486166068.6	7
11/6/2019 16:00	166	486205366.3	9
11/6/2019 20:00	166	486244666.8	11
11/7/2019 0:00	166	486283967.3	12
11/7/2019 4:00	166	486323265.1	8
11/7/2019 8:00	166	486362565.6	10
11/7/2019 12:00	166	486401866.1	9
11/7/2019 16:00	166	486441163.8	12

Stanton Cleaners Groundwater Contamination Site - November 2019 - Site Operational Data			
.	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/7/2019 20:00	166	486480464.3	8
11/8/2019 0:00	166	486519762	8
11/8/2019 4:00	166	486559062.5	10
11/8/2019 8:00	166	486598363	12
11/8/2019 12:00	166	486637660.8	8
11/8/2019 16:00	166	486676961.3	12
11/8/2019 20:00	166	486716261.8	11
11/9/2019 0:00	166	486755559.5	13
11/9/2019 4:00	166	486794860	11
11/9/2019 8:00	166	486834160.5	12
11/9/2019 12:00	166	486873458.2	12
11/9/2019 16:00	166	486912758.7	9
11/9/2019 20:00	166	486952059.2	9
11/10/2019 0:00	166	486991356.9	10
11/10/2019 4:00	166	487030657.4	6
11/10/2019 8:00	166	487069957.9	10
11/10/2019 12:00	166	487109255.7	11
11/10/2019 16:00	166	487148556.2	9
11/10/2019 20:00	166	487187856.7	12
11/11/2019 0:00	166	487227154.4	11
11/11/2019 4:00	166	487266454.9	11
11/11/2019 8:00	166	487305752.6	12
11/11/2019 12:00	166	487345053.1	11
11/11/2019 16:00	166	487384353.6	9
11/11/2019 20:00	166	487423651.4	13
11/12/2019 0:00	166	487462951.9	12
11/12/2019 4:00	166	487502252.4	12
11/12/2019 8:00	166	487541550.1	10
11/12/2019 12:00	166	487580850.6	12
11/12/2019 16:00	166	487620151.1	12
11/12/2019 20:00	166	487659448.8	12
11/13/2019 0:00	166	487698749.3	9
11/13/2019 4:00	166	487738049.8	11
11/13/2019 8:00	166	487777347.6	10
11/13/2019 12:00	166	487816648.1	9
11/13/2019 16:00	166	487855948.6	11
11/13/2019 20:00	166	487895246.3	11
11/14/2019 0:00	166	487934546.8	10
11/14/2019 4:00	166	487973847.3	12
11/14/2019 8:00	166	488013145	10
11/14/2019 12:00	166	488052445.5	12

Stanton Cleaners Groundwater Contamination Site - November 2019 - Site Operational Data			
.	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/14/2019 16:00	166	488091746	12
11/14/2019 20:00	166	488131043.8	12
11/15/2019 0:00	166	488170344.3	12
11/15/2019 4:00	166	488209644.8	10
11/15/2019 8:00	166	488248942.5	11
11/15/2019 12:00	166	488288243	8
11/15/2019 16:00	166	488327543.5	12
11/15/2019 20:00	166	488366841.2	13
11/16/2019 0:00	166	488406141.7	12
11/16/2019 4:00	166	488445439.5	10
11/16/2019 8:00	166	488484740	10
11/16/2019 12:00	166	488524040.5	11
11/16/2019 16:00	166	488563338.2	10
11/16/2019 20:00	166	488602638.7	10
11/17/2019 0:00	166	488641939.2	12
11/17/2019 4:00	166	488681236.9	12
11/17/2019 8:00	166	488720537.4	11
11/17/2019 12:00	166	488759837.9	8
11/17/2019 16:00	166	488799135.7	10
11/17/2019 20:00	166	488838436.2	11
11/18/2019 0:00	166	488877736.7	10
11/18/2019 4:00	166	488917034.4	12
11/18/2019 8:00	166	488956334.9	10
11/18/2019 12:00	166	488995635.4	12
11/18/2019 16:00	166	489034933.1	9
11/18/2019 20:00	166	489074233.6	9
11/19/2019 0:00	166	489113534.1	11
11/19/2019 4:00	166	489152831.9	13
11/19/2019 8:00	166	489192132.4	12
11/19/2019 12:00	166	489231430.1	12
11/19/2019 16:00	166	489270730.6	11
11/19/2019 20:00	166	489310031.1	12
11/20/2019 0:00	166	489349328.8	10
11/20/2019 4:00	166	489388629.3	10
11/20/2019 8:00	166	489427929.8	12
11/20/2019 12:00	166	489467227.6	12
11/20/2019 16:00	166	489506528.1	12
11/20/2019 20:00	166	489545828.6	12
11/21/2019 0:00	166	489585126.3	10
11/21/2019 4:00	166	489624426.8	12
11/21/2019 8:00	166	489663727.3	12

Stanton Cleaners Groundwater Contamination Site - November 2019 - Site Operational Data			
.	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/21/2019 12:00	166	489703025	9
11/21/2019 16:00	166	489742325.5	10
11/21/2019 20:00	166	489781626	10
11/22/2019 0:00	166	489820923.8	12
11/22/2019 4:00	166	489860224.3	10
11/22/2019 8:00	166	489899524.8	11
11/22/2019 12:00	166	489938822.5	11
11/22/2019 16:00	166	489978123	12
11/22/2019 20:00	166	490017423.5	12
11/23/2019 0:00	166	490056721.2	8
11/23/2019 4:00	166	490096021.7	12
11/23/2019 8:00	166	490135322.2	9
11/23/2019 12:00	166	490174620	12
11/23/2019 16:00	166	490213920.5	8
11/23/2019 20:00	166	490253221	12
11/24/2019 0:00	166	490292518.7	12
11/24/2019 4:00	166	490331819.2	13
11/24/2019 8:00	166	490371119.7	13
11/24/2019 12:00	166	490410417.4	13
11/24/2019 16:00	166	490449717.9	12
11/24/2019 20:00	166	490489015.7	12
11/25/2019 0:00	166	490528316.2	12
11/25/2019 4:00	166	490567616.7	12
11/25/2019 8:00	166	490606914.4	13
11/25/2019 12:00	166	490646214.9	12
11/25/2019 16:00	166	490685515.4	13
11/25/2019 20:00	166	490724813.1	9
11/26/2019 0:00	166	490764113.6	11
11/26/2019 4:00	166	490803414.1	12
11/26/2019 8:00	166	490842711.9	10
11/26/2019 12:00	166	490882012.4	13
11/26/2019 16:00	166	490921312.9	12
11/26/2019 20:00	166	490960610.6	8
11/27/2019 0:00	166	490999911.1	13
11/27/2019 4:00	166	491039211.6	13
11/27/2019 8:00	166	491078509.3	12
11/27/2019 12:00	166	491117809.8	10
11/27/2019 16:00	166	491157110.3	12
11/27/2019 20:00	166	491196408.1	12
11/28/2019 0:00	166	491235708.6	9
11/28/2019 4:00	166	491275009.1	9

Stanton Cleaners Groundwater Contamination Site - November 2019 - Site Operational Data			
.	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
11/28/2019 8:00	166	491314306.8	11
11/28/2019 12:00	166	491353607.3	13
11/28/2019 16:00	166	491392907.8	9
11/28/2019 20:00	166	491432205.5	11
11/29/2019 0:00	166	491471506	11
11/29/2019 4:00	166	491510806.5	11
11/29/2019 8:00	166	491550104.3	10
11/29/2019 12:00	166	491589404.8	10
11/29/2019 16:00	166	491628705.3	11
11/29/2019 20:00	166	491668003	10
11/30/2019 0:00	166	491707303.5	7
11/30/2019 4:00	166	491746604	8
11/30/2019 8:00	166	491785901.7	10
11/30/2019 12:00	166	491825202.2	10
11/30/2019 16:00	166	491864500	10
11/30/2019 20:00	166	491903800.5	11

Stanton Cleaners Groundwater Contamination Site - December 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/1/2019 0:00	166	491943101	6
12/1/2019 4:00	166	491982398.7	9
12/1/2019 8:00	166	492021699.2	10
12/1/2019 12:00	166	492060999.7	11
12/1/2019 16:00	166	492100297.4	7
12/1/2019 20:00	166	492139597.9	7
12/2/2019 0:00	166	492178898.4	10
12/2/2019 4:00	166	492218196.2	10
12/2/2019 8:00	166	492257496.7	8
12/2/2019 12:00	166	492296797.2	6
12/2/2019 16:00	166	492336094.9	11
12/2/2019 20:00	166	492375395.4	10
12/3/2019 0:00	166	492414695.9	10
12/3/2019 4:00	166	492453993.6	9
12/3/2019 8:00	166	492493294.1	10
12/3/2019 12:00	166	492532594.6	7
12/3/2019 16:00	166	492571892.4	10
12/3/2019 20:00	166	492611192.9	11
12/4/2019 0:00	166	492650493.4	10
12/4/2019 4:00	166	492689791.1	11
12/4/2019 8:00	166	492729091.6	6
12/4/2019 12:00	166	492768392.1	5
12/4/2019 16:00	166	492807689.8	10
12/4/2019 20:00	166	492846990.3	7
12/5/2019 0:00	166	492886290.8	10
12/5/2019 4:00	166	492925588.5	11
12/5/2019 8:00	166	492964889	10
12/5/2019 12:00	166	493004186.8	11
12/5/2019 16:00	166	493043487.3	10
12/5/2019 20:00	166	493082787.8	10
12/6/2019 0:00	166	493122085.5	10
12/6/2019 4:00	166	493161386	6
12/6/2019 8:00	166	493200686.5	10
12/6/2019 12:00	166	493239984.2	11
12/6/2019 16:00	166	493279284.7	9
12/6/2019 20:00	166	493318585.2	7
12/7/2019 0:00	166	493357883	7
12/7/2019 4:00	166	493397183.5	11
12/7/2019 8:00	166	493436484	10
12/7/2019 12:00	166	493475781.7	8
12/7/2019 16:00	166	493515082.2	7

Stanton Cleaners Groundwater Contamination Site - December 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/7/2019 20:00	166	493554382.7	10
12/8/2019 0:00	166	493593680.4	10
12/8/2019 4:00	166	493632980.9	9
12/8/2019 8:00	166	493672281.4	9
12/8/2019 12:00	166	493711579.2	7
12/8/2019 16:00	166	493750879.7	10
12/8/2019 20:00	166	493790180.2	7
12/9/2019 0:00	166	493829477.9	10
12/9/2019 4:00	166	493868778.4	11
12/9/2019 8:00	166	493908078.9	10
12/9/2019 12:00	166	493947376.6	11
12/9/2019 16:00	166	493986677.1	11
12/9/2019 20:00	166	494025977.6	11
12/10/2019 0:00	166	494065275.4	9
12/10/2019 4:00	166	494104575.9	7
12/10/2019 8:00	166	494143876.4	10
12/10/2019 12:00	166	494183174.1	11
12/10/2019 16:00	166	494222474.6	11
12/10/2019 20:00	166	494261775.1	10
12/11/2019 0:00	166	494301072.8	8
12/11/2019 4:00	166	494340373.3	6
12/11/2019 8:00	166	494379671.1	11
12/11/2019 12:00	166	494418971.6	11
12/11/2019 16:00	166	494458272.1	11
12/11/2019 20:00	166	494497569.8	10
12/12/2019 0:00	166	494536870.3	10
12/12/2019 4:00	166	494576170.8	10
12/12/2019 8:00	166	494615468.5	6
12/12/2019 12:00	166	494654769	10
12/12/2019 16:00	166	494694069.5	6
12/12/2019 20:00	166	494733367.3	6
12/13/2019 0:00	166	494772667.8	9
12/13/2019 4:00	166	494811968.3	11
12/13/2019 8:00	166	494851266	10
12/13/2019 12:00	166	494890566.5	11
12/13/2019 16:00	166	494929867	10
12/13/2019 20:00	166	494969164.7	10
12/14/2019 0:00	166	495008465.2	11
12/14/2019 4:00	166	495047765.7	10
12/14/2019 8:00	166	495087063.5	6
12/14/2019 12:00	166	495126364	6

Stanton Cleaners Groundwater Contamination Site - December 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/14/2019 16:00	166	495165664.5	11
12/14/2019 20:00	166	495204962.2	9
12/15/2019 0:00	166	495244262.7	11
12/15/2019 4:00	166	495283563.2	9
12/15/2019 8:00	166	495322860.9	6
12/15/2019 12:00	166	495362161.4	6
12/15/2019 16:00	166	495401461.9	6
12/15/2019 20:00	166	495440759.7	9
12/16/2019 0:00	166	495480060.2	11
12/16/2019 4:00	166	495519360.7	10
12/16/2019 8:00	166	495558658.4	10
12/16/2019 12:00	166	495597958.9	11
12/16/2019 16:00	166	495637259.4	11
12/16/2019 20:00	166	495676557.1	9
12/17/2019 0:00	166	495715857.6	8
12/17/2019 4:00	166	495755155.4	12
12/17/2019 8:00	166	495794455.9	10
12/17/2019 12:00	166	495833756.4	10
12/17/2019 16:00	166	495873054.1	11
12/17/2019 20:00	166	495912354.6	7
12/18/2019 0:00	166	495951655.1	10
12/18/2019 4:00	166	495990952.8	8
12/18/2019 8:00	166	496030253.3	11
12/18/2019 12:00	166	496069553.8	11
12/18/2019 16:00	166	496108851.6	9
12/18/2019 20:00	166	496148152.1	10
12/19/2019 0:00	166	496187452.6	10
12/19/2019 4:00	166	496226750.3	11
12/19/2019 8:00	166	496266050.8	11
12/19/2019 12:00	166	496305351.3	11
12/19/2019 16:00	166	496344649	10
12/19/2019 20:00	166	496383949.5	10
12/20/2019 0:00	166	496423250	11
12/20/2019 4:00	166	496462547.8	7
12/20/2019 8:00	166	496501848.3	12
12/20/2019 12:00	166	496541148.8	11
12/20/2019 16:00	166	496580446.5	10
12/20/2019 20:00	166	496619747	11
12/21/2019 0:00	166	496659047.5	9
12/21/2019 4:00	166	496698345.2	7
12/21/2019 8:00	166	496737645.7	11

Stanton Cleaners Groundwater Contamination Site - December 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/21/2019 12:00	166	496776946.2	12
12/21/2019 16:00	166	496816244	10
12/21/2019 20:00	166	496855544.5	10
12/22/2019 0:00	166	496894845	10
12/22/2019 4:00	166	496934142.7	8
12/22/2019 8:00	166	496973443.2	10
12/22/2019 12:00	166	497012743.7	11
12/22/2019 16:00	166	497052041.4	12
12/22/2019 20:00	166	497091341.9	11
12/23/2019 0:00	166	497130639.7	11
12/23/2019 4:00	166	497169940.2	10
12/23/2019 8:00	166	497209240.7	12
12/23/2019 12:00	166	497248538.4	8
12/23/2019 16:00	166	497287838.9	11
12/23/2019 20:00	166	497327139.4	10
12/24/2019 0:00	166	497366437.1	11
12/24/2019 4:00	166	497405737.6	8
12/24/2019 8:00	166	497445038.1	10
12/24/2019 12:00	166	497484335.9	10
12/24/2019 16:00	166	497523636.4	10
12/24/2019 20:00	166	497562936.9	6
12/25/2019 0:00	166	497602234.6	10
12/25/2019 4:00	166	497641535.1	10
12/25/2019 8:00	166	497680835.6	11
12/25/2019 12:00	166	497720133.3	10
12/25/2019 16:00	166	497759433.8	6
12/25/2019 20:00	166	497798734.3	10
12/26/2019 0:00	166	497838032.1	11
12/26/2019 4:00	166	497877332.6	11
12/26/2019 8:00	166	497916633.1	11
12/26/2019 12:00	166	497955930.8	11
12/26/2019 16:00	166	497995231.3	11
12/26/2019 20:00	166	498034531.8	11
12/27/2019 0:00	166	498073829.5	11
12/27/2019 4:00	166	498113130	10
12/27/2019 8:00	166	498152430.5	9
12/27/2019 12:00	166	498191728.3	10
12/27/2019 16:00	166	498231028.8	10
12/27/2019 20:00	166	498270326.5	10
12/28/2019 0:00	166	498309627	10
12/28/2019 4:00	166	498348927.5	6

Stanton Cleaners Groundwater Contamination Site - December 2019 - Site Operational Data			
Time	Recovery Well 3 Flow (GPM)	Total Gallons Discharged	SVE Air Flow
12/28/2019 8:00	166	498388225.2	8
12/28/2019 12:00	166	498427525.7	12
12/28/2019 16:00	166	498466826.2	9
12/28/2019 20:00	166	498506124	11
12/29/2019 0:00	166	498545424.5	9
12/29/2019 4:00	166	498584725	10
12/29/2019 8:00	166	498624022.7	12
12/29/2019 12:00	166	498663323.2	12
12/29/2019 16:00	166	498702623.7	9
12/29/2019 20:00	166	498741921.4	7
12/30/2019 0:00	166	498781221.9	11
12/30/2019 4:00	166	498820522.4	7
12/30/2019 8:00	166	498859820.1	11
12/30/2019 12:00	166	498899120.6	10
12/30/2019 16:00	166	498938421.1	10
12/30/2019 20:00	166	498977718.9	10
12/31/2019 0:00	166	499017019.4	9
12/31/2019 4:00	166	499056319.9	10
12/31/2019 8:00	166	499095617.6	11
12/31/2019 12:00	166	499134918.1	12
12/31/2019 16:00	166	499174218.6	12
12/31/2019 20:00	166	499213516.3	11

Appendix D

AS System O&M

Reports

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

Date: 10/28/2019

Readings at Well	
Near Well Head	N/A*
Bladder	

Treatment Room Readings	
SCFM	N/A* PSI
psi-1	N/A* PSI
psi-2	N/A* PSI
psi-3	N/A* PSI
P_1	N/A* PSI
P_2	N/A* PSI
P_3	N/A* PSI

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

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

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

Locations:
Near Well Head- psi gauge at corner of New Stanton Cleaners Building
Bladder- psi gauge at well head
SCFM- gauge in treatment room (first gauge when looking at wall from left to right)
psi-1 - 2nd gauge attached to line on wall when looking left to right
psi-2 - 3rd gauge
psi-3- 4th gauge
P_1- influent relief valve
P_2- adjacent to catwalk
P_3- on top of carbon tank
Temp.- from compressor screen display
EN-37-1- gauge on compressor
K/O Tank- gauge on knockout tank

Appendix E

SVE System O&M Reports

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

Date: 10/28/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.1	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	0.9	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.4	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	0.2	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	0.3	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.5	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.2	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	0.1	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR
Background	**N/A**	N/A	1.0	0.0*	20.9*	0.0*	0.0*	NR	NR	NR	NR	NR

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

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

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

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

Stanton Cleaners – October 2019 O&M (10/28/19) – Additional SVE Monitoring

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

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

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	8.40	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.2	0	20.9	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

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

Date: 11/27/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.9	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	0.4	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.3	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	2.7	0.0	20.4	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	4.2	0.0	20.5	0.0	0.0	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	2.3	0.0	20.5	0.0	0.0	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	1.2	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.5	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	1.9	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	2.1	0.0	20.5	0.0	0.0	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Michael Otton**
Air readings collected by: **Michael Otton**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

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

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

Date: 12/11/2019
Project #

		FID	MultiRAE PGM-6228					VelociCalc Plus				
	Pipe ID	VOC	VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	**5.709**	N/A	0.6	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
Post- Blower Pre-Carbon*	**5.706**	N/A	1.2	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-1 (shallow)	**1.913**	N/A	0.3	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-1 (medium)	**1.913**	N/A	0.4	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (shallow)	**1.913**	N/A	0.7	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
EPA-SVE-2 (medium)	**1.913**	N/A	5.5	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SS-A	**1.913**	N/A	2.1	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-3A	**1.913**	N/A	0.9	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-3B	**1.913**	N/A	0.1	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-1 Combined	**1.913**	N/A	0.2	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
SVE-2 Combined	**1.913**	N/A	3.0	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR
Background	**N/A**	N/A	0.0	0.0	20.9	0.0	0.0	NR	NR	NR	NR	NR

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

Equipment calibrated by: **Michael Otton**
Air readings collected by: **Michael Otton**

Notes:
***Reading was collected while SVE system was offline**
****Maxed out reading on meter**
NR- No reading collected due to SVE system being offline
FID: Flame Ionization Detector
VOC: Volatile Organic Compounds (in parts per million)
CO: Carbon Monoxide
LEL: Lower Explosive Limit
H2S: Hydrogen Sulfide
Temperature: Measured in Degrees Fahrenheit
Vacuum Pressure: measured in inches of water (in/H2O)
%RH: relative humidity
Dew Pt.: dew point in degrees Fahrenheit
Flow: measured in cubic feet per minute (CFM)

AS: Air Stripper
SVE: Soil Vapor Extraction System

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

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

Stanton Cleaners – December 2019 O&M (12/11/19) – Additional SVE Monitoring

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

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

- Collect headspace readings on Sub-Slab Ports

Well ID	DTW (ft)	Total Depth (ft)	VOC	CO	Oxygen	LEL	H_2S
SS-A	8.40	16.30	0.0	0	20.9	0	0
SS-B	Could Not Measure		0.0	0	20.9	0	0
SS-C	N/A	2.8	0.0	0	20.9	0	0
SS-D *	Could Not Measure		0.0	0	20.9	0	0

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: 10/28/2019
MEASURED BY: EC

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	13:50	57.50	17.13	4" well in p-lot by med sports bldg.
EPA-MW-21-R	ft BTOC	84.13	14:15	68.33	15.80	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	13:05	62.63	20.20	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	14:02	49.98	19.34	LIHA PL
ST-MW-06	ft BTOC	69.83	14:00	45.48	24.35	LIHA PL 4"
ST-MW-09A*	ft BTOC	78.13	13:55	62.21	15.92	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	13:50	58.23	17.02	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	13:40	69.67	17.53	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	14:07	54.49	15.24	LIHA PL
ST-MW-16	ft BTOC	75.78	13:10	52.86	22.92	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	13:43	69.13	17.40	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	13:35	65.14	17.36	Triangle park well
ST-MW-20	ft BTOC	84.53	13:45	70.45	14.08	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	13:15	57.41	20.96	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	13:30	72.57	17.56	Mirreless Rd
ST-MW-13	ft BTOC	130.95	13:20	84.65	46.30	Amherst Rd
ST-MW-18	ft BTOC	84.40	13:23	71.06	13.34	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: 11/27/2019
MEASURED BY: MO

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	11:36	54.10	20.53	4" well in p-lot by med sports bldg.
EPA-MW-21-R *	ft BTOC	84.13	N/A	NA	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	10:30	62.23	20.60	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	11:45	49.17	20.15	LIHA PL
ST-MW-06	ft BTOC	69.83	11:48	48.70	21.13	LIHA PL 4"
ST-MW-09A*	ft BTOC	78.13	11:40	65.59	12.54	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	11:32	56.22	19.03	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	11:22	67.89	19.31	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	11:50	51.81	17.92	LIHA PL
ST-MW-16	ft BTOC	75.78	10:35	50.96	24.82	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	11:18	67.33	19.20	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	11:10	65.78	16.72	Triangle park well
ST-MW-20	ft BTOC	84.53	11:15	69.24	15.29	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	10:40	57.30	21.07	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	11:00	68.62	21.51	Mirreless Rd
ST-MW-13	ft BTOC	130.95	10:50	81.19	49.76	Amherst Rd
ST-MW-18	ft BTOC	84.40	11:27	65.88	18.52	Ascot Ridge (past apt bldg)

Notes: * EPA-MW-21-R was not accessable. The gas sation was fenced off. No access to site.

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: 12/11/2019
MEASURED BY: MO

WELL NUMBER	MEASURING POINT		Time	DEPTH TO WATER (FT)	ELEVATION OF WATER (FT)	COMMENTS
	Description	Elevation (FT)				
EPA-MW-11D	ft BTOC	74.63	14:09	59.23	15.40	4" well in p-lot by med sports bldg.
EPA-MW-21-R *	ft BTOC	84.13	N/A	NA	N/A	Getty Gas Station well
EPA-MW-22	ft BTOC	82.20	N/A	N/A	N/A	Under clothing bin- SC p-lot
EPA-MW-23	ft BTOC	82.83	13:25	63.15	19.68	In front of treatment bldg.
EPA-MW-27	ft BTOC	69.32	14:19	50.78	18.54	LIHA PL
ST-MW-06*	ft BTOC	69.83	N/A	N/A	N/A	LIHA PL 4"
ST-MW-09A	ft BTOC	78.13	14:12	63.89	14.24	P-lot across from triangle park
ST-MW-11	ft BTOC	75.25	14:07	59.44	15.81	p-lot by entrance to med sports bldg.
ST-MW-12	ft BTOC	87.20	13:55	68.51	18.69	In front of apartment bldg.
ST-MW-14	ft BTOC	69.73	14:17	53.92	15.81	LIHA PL
ST-MW-16	ft BTOC	75.78	13:30	52.77	23.01	Other side treatment bldg. near fence
ST-MW-17	ft BTOC	86.53	13:57	68.63	17.90	In front of apartment bldg.
ST-MW-19	ft BTOC	82.50	14:04	64.74	17.76	Triangle park well
ST-MW-20	ft BTOC	84.53	14:00	68.99	15.54	Near apartment bldg.
EPA-MW-26	ft BTOC	78.37	13:35	57.25	21.12	Ipswich Ave.
ST-MW-15	ft BTOC	90.13	13:47	71.83	18.30	Mirreless Rd
ST-MW-13	ft BTOC	130.95	13:41	85.96	44.99	Amherst Rd
ST-MW-18	ft BTOC	84.40	13:50	70.80	13.60	Ascot Ridge (past apt bldg)

Notes: * EPA-MW-21-R was not accessable. The gas sation was fenced off. No access to site.
ST-MW-06 - Well was obstructed by a vehicle while onsite for gauging.

Appendix H

LIHA Indoor Air Sampling Questionnaire

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Stanton Cleaners | Site Code: 130072 | 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: Michael Otton | Phone No: 516-564-1100

Preparer's Affiliation: Preferred Environmental Services | Company Code:

Purpose of Investigation: Indoor Air Sampling | Date of Inspection: Dec 11, 2019

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):

Building seems well sealed and insulated

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?: NO

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: GAS | ☒ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: GAS | 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: Mar 13, 2019

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

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

Make and Model of PID: MiniRae 3000 Date of Calibration: Mar 13, 2019

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
Maintenance (	ECP Clear View Glass Cleaner	1 Gal	U	Isopropyl Alcohol	0.0	☐
Maintenance (	DAP Acrylic Latex Caulk	10.1 fl oz	UO	Petroleum Distillates	0.0	☐
Maintenance (	Rust-oleum Painters Touch Pai	12 oz. (3)	U	Acetone, Xylene	0.0	☐
Maintenance (	Minwax Wood Finish	1 Gal	U	Aliphatic Hydrocarbons	0.0	☐
Maintenance (	ECP Heavy Duty Stripper	32 oz. (1)	UO	2-Butoxyethanol, 2-Aminoethanol	0.0	☐
Maintenance (	Hi-Valu Bleach	1 Gal	U	Sodium Hypochlorite	0.0	☐
Maintenance (	Windex Advanced Multi-Surfac	1.34 Gal	U	2-Hexoxyethanol, Isopropanolamine, Sodium Dodecylbenzene Sulfonate, Lauramine Oxide, Ammonium Hydroxide	0.0	☐
Maintenance (	Ridgeway's Crystal Clear		U	Isopropyl Alcohol, Ammonium Hydroxide, Dodecylbenzene Sulfonic Acid	**0.0**	☐
Maintenance (	NCL Trigger	1 qt.	U	Sodium Hypochlorite	0.0	☐
Maintenance (	Lysol Disinfectant Spray	19 oz.	U	Alkyl Dimethyl Benzyl Ammonium Saccharinate, Ethanol	0.0	☐
Maintenance (	Resolve Carpet Cleaner	22oz	U	Acrylic Acid, Sodium Salts, METHYLCHLOROISOTHIAZOLINONE, METHYLISOTHIAZOLINONE, SODIUM LAURYL	0.0	☐
Maintenance (	Citrus Engine Bright	17oz	U		0.0	☐
Maintenance (	East Coast Orange Citrus Clean	1 Gal	U	Nonionic Surfactant; CAS# 68647-72-3	0.0	☐
Maintenance (	Goo Gone	24 oz.	U		0.0	☐
						☐
						☐

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

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

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

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Stanton Cleaners Site Code: 130072 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: N/A

☒ Cleaning Products Used Recently?: Description of Cleaning Products: Windex, Lysol

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products: N/A

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

☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics: N/A

☐ Recent Painting/Staining? Location of New Painting: N/A

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

☒ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: N/A

☒ Recent Pesticide/Rodenticide? Description of Last Use: 1 every 3 months

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

Cleaning products used daily to clean floors, tables, and desks.

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

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

Sampling Conditions

Weather Conditions: SNOW Outdoor Temperature: 32 °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): Michael Otton

Sampler Company Code: _____

Sample Collection Date: Dec 11, 2019

Date Samples Sent To Lab: _____

Sample Chain of Custody Number: _____

Outdoor Air Sample Location ID: _____

SUMMA Canister Information

Sample ID:	LIHA-IA1	LIHA-IA1-DUP	LIHA-IA2	LIHA-IA3	LIHA-OA1
Location Code:	Classroom 3A	Classroom 3A	Playroom	Classroom 23	Outside
Location Type:	BASEMENT	BASEMENT	BASEMENT	FIRST FLOOR	OUTDOOR
Canister ID:	10281	10439	10280	10589	10054
Regulator ID:	10778	10201	10232	10713	10176
Matrix:	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Ambient Outd
Sampling Method:	SUMMA AIR SAMPLI	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA	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:	12/11/19 9:40	12/11/19 9:4	12/11/19 9:5	12/11/19 10	12/11/19 12
Vacuum Gauge Start:	-30	-30	-29	-30	-30
Sample End Date/Time:	12/12/19 9:00	12/12/19 9:0	12/12/19 9:1	12/12/19 9:0	12/12/19 9:4
Vacuum Gauge End:	-7	-4.5	-5.5	-5	-5
Sample Duration (hrs):	23.33	23.33	23.33	23.33	21.42
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)	in(hg)	in(hg)

Sample QA/QC Readings

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

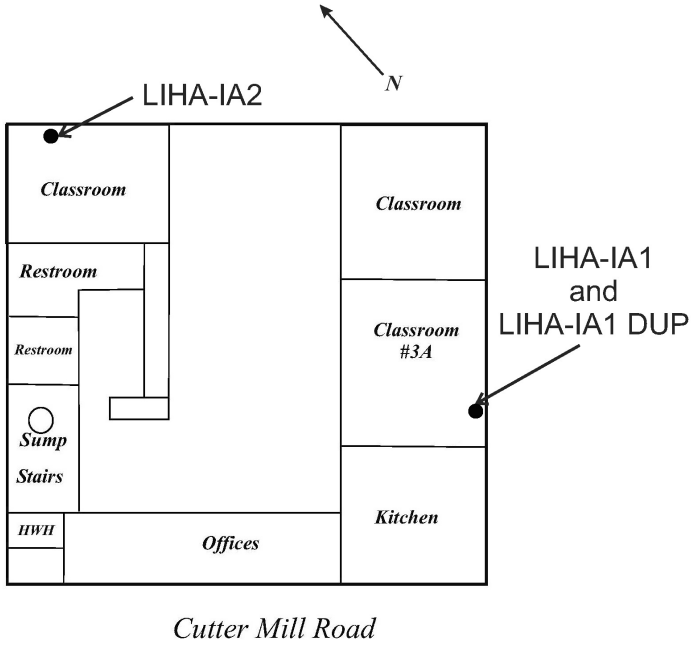
Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

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:

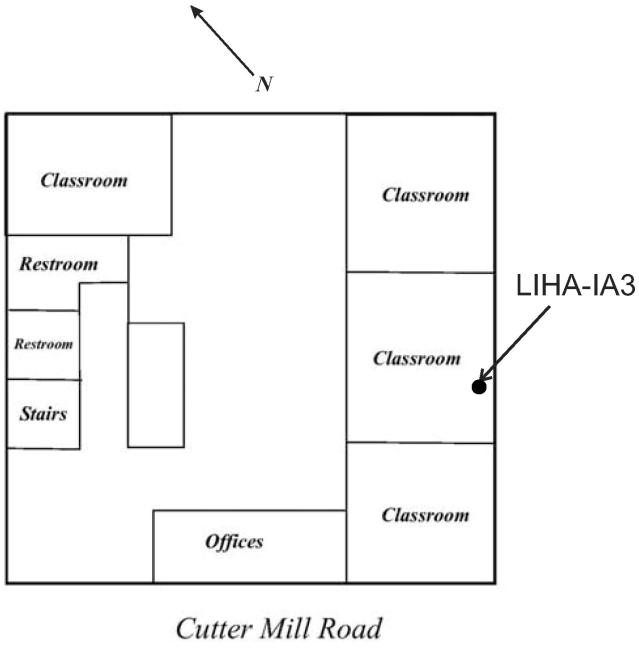
B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	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:

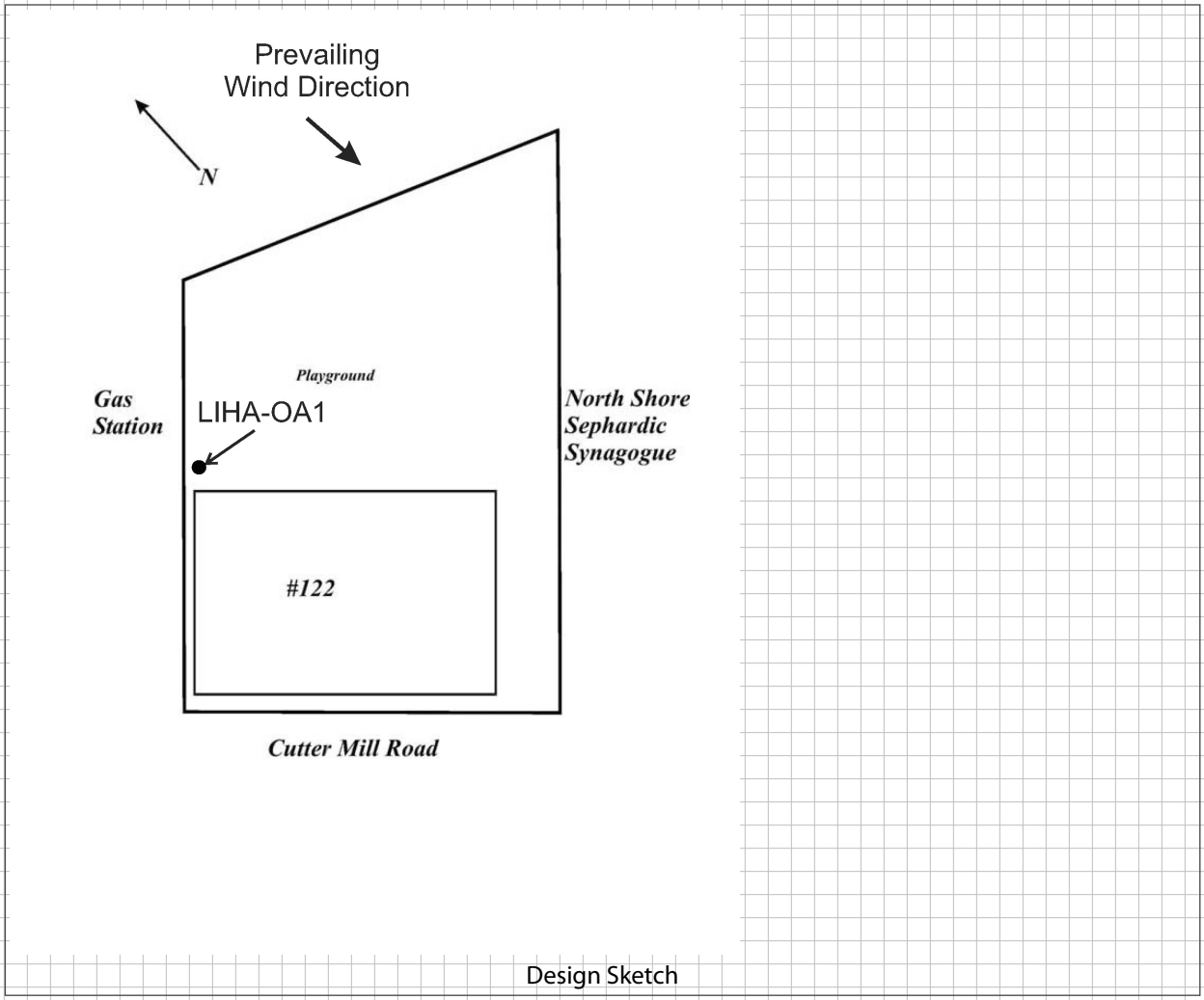
B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	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:

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.

Appendix I

DUSR, December 2019 LIHA Air Samples

Data Validation Services

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

January 30, 2020

Christine Weaver
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. K6319

Dear Ms. Weaver:

Review has been completed for the data package generated by Chemtech Laboratories that pertains to air samples collected 12/11/19 at the Stanton Cleaners site. Four 6 L summa canisters and one 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
* 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 edit.

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 is the laboratory EQuIS file, with validation qualifiers applied in red.

Volatile Analyses by EPA TO-15

The field duplicate and laboratory duplicate of LIHA-IAH show correlations within validation guidelines.

The following detections are considered external contamination and edited to reflect non-detection due to presence in the associated method blank:

- acetone in LIHA-OA1
- methylene chloride in all samples except LIHA-IA2

LCS recoveries are compliant, and calibration standards meet validation guidelines. Holding times and instrument tunes meet requirements.

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 : K6319

Project ID : Stanton Air

Client : HDR, Inc.

Lab Sample Number	Client Sample Number
K6319-01	LIHA-IAH
K6319-02	LIHA-IAH-DUP
K6319-03	LIHA-IA2
K6319-04	LIHA-IA3
K6319-05	LIHA-OA1

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 Aparana Soni at 1:17 pm, Dec 31, 2019

Date: 12/31/2019

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012