

# Monthly Operations and Monitoring Report November 1 - November 30, 2006

*Site:*  
Stanton Cleaners Area Groundwater Contamination Site  
Great Neck, New York

*Prepared for:*  
Environmental Chemical Corporation  
1293 Broad Street, Suite 400  
Bloomfield, New Jersey 07003

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Richmond, Virginia 23228

*December 1, 2006*

ET Project No. 70536-07-05

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Great Neck, NY

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*January 2007*

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## **1.0 INTRODUCTION**

This Monthly Operations and Monitoring Report, November 2006 (Monthly Report) has been prepared by Earth Tech, Inc., as a subcontractor to Environmental Chemical Corporation (ECC), under Contract No.5442-001-001.

The Stanton Cleaners Area Groundwater Contamination (Stanton) site is located at 110 Cutter Mill Road in Great Neck, Nassau County, New York. The Stanton Cleaner Property (SCP) is approximately ¼ acre in size and includes a two-story building in which a dry-cleaning business operates and an adjacent one-story boiler/storage building as well as a two-story treatment building. The site is bordered by an indoor tennis facility, a synagogue and school facility.

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

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

In 1989, a groundwater extraction and treatment system was installed by the original Site operator to address groundwater contamination which resulted from improper disposal of spent PCE behind the SCP building. This system is not currently operational.

In 1998, the New York State Department of Environmental Conservation (NYSDEC) funded the construction of a new air stripper treatment system for the Water Authority of Great Neck North (WAGNN) water supply wells, which are impacted by contamination from the Site. This treatment system is currently in operation. In October 1998, as an immediate response action, the United States Environmental protection Agency (USEPA) installed a temporary soil vapor interceptor system, adjacent to the tennis club, to mitigate impacts from PCE vapors to the indoor air of this facility.

In 2001, the USEPA completed the construction and installation of a soil vapor extraction (SVE) system and a ground water treatment (GWT) system on the SCP. Both the SVE and GWT systems are housed in the treatment building that was constructed on the SCP. The SVE system was installed to remediate the volatile organic compound (VOC) contaminated soils, thus reducing the indoor air contamination in the adjacent affected buildings to safe levels. The GWT system was installed to remediate the VOC-contaminated groundwater and to remove the threat of vapors through the Site soils. Both systems are currently operating at the Site. The collected VOC-contaminated vapors and groundwater from both systems are treated through separate granular activated carbon (GAC) systems.

The site is presently under the jurisdiction of the Remedial Branch of the USEPA, Region II; United States Army Corps of Engineers (USACE) provides oversight to USEPA for the remedial action and the long-term remedial action programs. ECC provides oversight to the USACE to perform long-term remediation actions. Earth Tech, as a subcontractor to ECC, provides support on the following tasks as described in the Work Plan:

- Operation and maintenance (O&M) of the GWT and SVE systems, including sampling and reporting;
- Sampling of monitoring wells associated with the site in order to track the migration of the contaminant plume, along with reporting; and,

- Sampling of indoor air quality of buildings adjacent to the site in order to identify all the adjacent buildings being impacted by site related contaminants and the effectiveness of the remedial actions being instituted at the site.

All work under this contract is performed in accordance with the following documents:

- Work Plan for Long-Term Remedial Action Support;
- Site-Specific Health and Safety Plan (HASP), dated July 23, 2001 (Revised February 3, 2003); and,
- Sampling Quality Assurance Project Plan (SQAPP) dated August 22, 2000.

As required by the Scope of Work for this project, monthly summary reports are prepared to document and summarize the activities taking place. These reports provide a concise description of work performed during the reporting period and include pertinent deliverables as appendices. This monthly summary report covers the period between November 1 and November 30, 2006.

## **2.0 SUMMARY OF ACTIVITIES DURING OCTOBER 2006**

The following list summarizes activities performed and milestone dates under this contract during the reporting period, November 1 and November 30, 2006:

- November 7 – O&M Inspection/System Monitoring;
- November 7 – Monthly System sampling;
- November 14 – O&M Inspection/System Monitoring;
- November 16 – Bi-weekly Air Monitoring;
- November 28 – O&M Inspection/System Monitoring;
- November 28 – Bi-weekly Air Monitoring; and,
- November 28 – Monthly calibration of pH and conductivity meters.

Details of system shutdowns and alarms during the month of November 2006 are discussed in section 3.1. Daily Quality Control Reports (DQCRs), which include projected work for the following two weeks, are completed for each day of site activities. Copies of these reports are included as Appendix A.

### **3.0 GROUNDWATER TREATMENT SYSTEM ACTIVITIES**

#### **3.1 Operation and Maintenance**

The GWTS treated and discharged 2,394,544.7 gallons during the month of November 2006. The system was operational (recovery well pumps running) for approximately 720 of the 720 hours during the month, for an average operating flow of 55.4 gallons per minute (gpm). The system has treated a total of 140,235,869.6 gallons since the plant startup in October 2001.

There are currently two recovery wells pumping water into the system (EPA-EXT-02 and EPA-MW-24). EPA-EXT-02 is located in the triangle, the corner of New Cutter Mill Road and Mirrielees Road. Extraction well MW-24 had been pumping from the triangle location until it was turned off and April 20, 2005. Extraction well EPA-EXT-4R was activated on April 20, 2005. EPA-EXT-4R is located in the parking lot directly in front of the Stanton Dry Cleaners building. The decision to turn off extraction well MW-24 and replace it with EPA-EXT-4R in April 2005 was made by the USEPA. Later, in early 2006, based on an evaluation of laboratory analytical results obtained from extraction well EPA-EXT-4R and monitoring well sampling results for monitoring wells located in the area of EPA-MW-24, the decision was made to shut down extraction well EPA-EXT-4R and re-activate EPA-MW-24. Therefore, EPA-EXT-4R was taken offline and EPA-MW-24 was activated on February 2, 2006.

The facility is equipped with a remote monitoring and control system that was accessed a minimum of three times per week, by the lead engineer, during the reporting period to ensure proper system operation and notify response personnel if a problem or abnormal condition was observed. The system also provides remote notification of alarm conditions via automatic e-mail and text messaging.

The Treatment System Operation and Maintenance Checklist were completed during each O&M inspection event and the checklists for November 7, 14, and 28 2006 are provided in Appendix B. When the system is operational, any abnormal conditions or parameters outside of the normal operating range are addressed by the lead operator and/or monitoring/environmental technician on site. If they require guidance or notes any serious conditions, the inspector notifies the project manager (Francisco Metcalf). The checklists are completed on site and sent to Francisco Metcalf for review and scheduling of additional work if needed. Abnormal conditions and/or parameters outside the operating range are addressed, including repairs, cleaning, and continued monitoring.

System operational and alarm conditions are automatically stored by the programmable logic controller (PLC). This data is downloaded every two weeks. The November 2006 operational data is included in Appendix C. While operational, the system data are within the normal ranges and are consistent with visual observations, with any exceptions as described above.

The effluent flow data table in Appendix C shows daily discharge flows from each day of system operation and cumulative treated water discharge for each day during the reporting period, as well as a summary of total monthly flow and average daily flow since the system was started up in October 2001.

A review of October 2005 Operations and Maintenance logs indicated there has been a slight reduction in discharge flow for the GWT system. In an effort to increase the discharge flow, it was determined that the GWT system aqueous phase carbon vessels needed to be placed in parallel in the system treatment train in an effort to reduce back pressure and increase effluent flow. The altering of the piping for the 2-400 pound aqueous phase carbon vessels from series to parallel was performed on November 1, and 2, 2005.



On November 30, 2005 the SVE systems was offline due to a faulty low level sensor in the SVE knockout tank. The sensor was reviewed during the December 19, 2005 O&M inspection and was deemed to be faulty. A new low-level float switch was installed on January 9, 2006.

On January 9, 2006, three drains were installed in the line of SVE 1 so that the line can be drained weekly and so adequate air flow can be obtained at the SVE 1 air sample ports for the bi-weekly air monitoring. On January 24, 2006 the drains were replaced with more permanent ball valve drains.

## **3.2 Sampling and Analysis**

### **3.2.1 Raw and Treated Groundwater**

In accordance with the SQAPP, GWT system sampling is conducted on a monthly basis to monitor plant efficiency, to determine whether liquid carbon breakthrough has occurred, and to verify that contract-specific discharge parameters do not exceed the National Pollutant Discharge Elimination System (NPDES) permit equivalency. The combined GWT system influent, along with the GWT system effluent (discharge), will be sampled by the 15th of each month. Collected samples will be shipped to a designated USEPA, contract laboratory program (CLP) lab for analysis of target compound list (TCL) volatile organic compounds.

Earth Tech personnel conducted the GWT system influent and effluent sampling for this report period on November 7, 2006. The samples were shipped to the USEP Region II Division of Environmental Science and Assessment (DESA) Laboratory, located in Edison, NJ for analysis of low concentration TCL volatile organic compounds. A copy of the full sampling trip report containing the chain of custody forms and FedEx air bill is included in Appendix D. Laboratory analytical results for the GWT system sampling event during this reporting period will be forwarded to ECC under separate cover from the laboratory.

Measurements of influent and effluent pH and turbidity, along with effluent conductivity, are automatically monitored and recorded by the GWT system PLC on a daily basis; this information is included with the downloaded data in Appendix C.

The next GWT system influent / effluent sampling event is scheduled for December 13, 2006.

### **3.2.2 Process Air Stream Monitoring and Air Sampling**

Air monitoring of the SVE and GWT System is performed on a bi-weekly basis. It includes monitoring for VOCs, carbon monoxide, oxygen, lower explosive limit (LEL), hydrogen sulfide, air velocity in cubic feet per minute (CFM), temperature, relative humidity, dew point, and vacuum pressure as specified in the O&M Manual. Air monitoring is performed at the following locations within the system:

- Combined SVE - Influent (pre-treatment),
- Post groundwater Air-Stripper (pre-treatment),
- Post vapor phase carbon vessel 1 – Air Stripper air discharge (post-treatment),
- Post vapor phase carbon vessel 2 – SVE air discharge (post-treatment),
- Sub-slab monitoring points (pre-treatment),
- SVE wells EPA-SVE-1 through EPA-SVE-4 (Shallow and Medium depth)

The bi-weekly air monitoring of the SVE and GWT System was performed on November 16 and 28, 2006. Copies of the bi-weekly air monitoring logs are included in Appendix F. The next bi-weekly air-monitoring event is scheduled for December 13, 2006. A summary of estimated PCE recovery rate based on air monitoring results is presented in table 3.

On October 3, 2005, following a review of the REAC SVE System Air Sampling Results for the event performed on July 7, 2005, the active SVE recovery wells were modified in an effort to maximize contaminant recovery rates. Details of the modifications to the active SVE wells prior to and post October 3, 2005 are included in the table below.

**Table 1 Modification to Active SVE Wells**

SVE Location	Prior to 10/3/05	After 10/3/05
SVE 1	Shallow On	Shallow and Intermediate On
SVE 2	Shallow On	Shallow On
SVE 3	Shallow On	Shallow On
SVE 4	Off	Off
EPA-SVE-4R	On	On
SSA	On	On
SSB-A	On	On
SSB-B	On	Off
SSB-C	On	On
L1	On	On
L2	On	Off

In addition to modifying the active SVE locations, the names of each location were altered in an effort to stay consistent with the USEPA Response Engineering and Analytical Contractor's (REAC) nomenclature. Future weekly monitoring logs will be consistent REACs sample numbers. The laboratory analytical results for REAC's sampling of the SVE locations, performed on July 7, 2005 are included in the Figure 1.

Additional evaluation/enhancement of the SVE recovery rates is ongoing and the installation of several SVE sample port locations was performed on November 1 and 2, 2005. On January 9, 2006, two more SVE sample port locations were installed in the line of SVE 3.

#### 4.0 MONITORING WELL SAMPLING

Initially, groundwater sampling from select monitoring wells, both on and off-site, were collected on a quarterly basis and shipped to a designated EPA, CLP lab for analysis. Groundwater sampling activities are performed in accordance with the USEPA Groundwater Sampling standard operating procedure (SOP) #2007 and the USEPA Low-Stress Purging and Sampling SOP provided in the SQAPP. Each quarterly sampling event is coordinated with the local water authority to schedule the event when local water supply drawdown conditions do not impact the measurements. The location and number of monitoring wells as well as analytical parameters will be determined before each event by the USEPA, USACE, and ECC.

In 2005 and at the direction of the USEPA, groundwater sampling frequency was revised. It was decided to switch the frequency to semi-annually. The first semi-annual groundwater sampling event of 2005 was conducted by Earth Tech personnel on February 7 through 11, 2005. A total of 25 groundwater monitoring wells were sampled for analysis of the presence of TCL volatiles only. A copy of the full sampling trip report containing the chain of custody forms and FedEx air bills is included in Appendix D.

The second semi-annual groundwater sampling event was performed the week of August 29, 2005. It included sampling 29 monitoring wells, 15 of which had natural attenuation parameter analyses. Laboratory analytical results for this semi-annual groundwater sampling event were sent directly to ECC under separate cover from the laboratory. The next groundwater monitoring well sampling event is scheduled for the week of May 22, 2006. Below is a list of monitoring wells that will be sampled (per the USEPA Remedial Response Manager selection/request). Also below is a list of monitored well samples that will be further analyzed for monitoring and natural attenuation parameters.

**Table 2 Monitored Well Samples for Further Analysis**

Well to be Sampled	Monitoring & Natural Attenuation Parameter Wells
ST-MW-02	CL-ID
EPA-MW-22	EPA-MW-29
EPA-ME-21	ST-MW-20
ST-MW-15	EPA-MW-26
ST-MW-19	EPA-MW-27
ST-MW-12	ST-MW-17
CL-ID	ST-MW-12
EPA-ME-26	ST-MW-19
SSB-C	EPA-MW-21
EPA-MW-23	EPA-MW-9A*
ST-MW-14	
EPA-MW-27	
EPA-MW-9A	
ST-MW-11	
EPA-MW-29	
CL-4D	
ST-MW-20 (back up)	
ST-MW-17(back up)	

## **5.0 PLUME PERIMETER MONITORING**

Groundwater level measurements are obtained from both on-site and offsite wells once a month in order to evaluate capture zone(s) around the groundwater extraction wells. The event is coordinated with the local water authority so the event can be scheduled when the local water supply drawdown conditions will have minimal impact to the measurements.

Water level measurements were not collected on November 2006. The location and number of monitoring wells was determined by the USEPA based on the site Capture Zone Analysis Plan. Historical groundwater level measurements are provided in Appendix H.

## **6.0 INDOOR AIR QUALITY SAMPLING**

Indoor air quality samples from select locations within the treatment building and buildings along the perimeter of the site are collected using summa canisters on a quarterly basis and shipped to a laboratory for analysis. The location and number of indoor air quality samples to be collected as well as analytical parameters are determined by the USEPA, USACE and ECC.

The last indoor air quality sampling event was conducted on May 31 and June 1, 2006 by Earth Tech personnel. This sampling event was conducted to address air quality issues within the Long Island Hebrew Academy.

## **7.0 FUTURE EVENTS PLANNED**

The following scheduled events are planned (or have since occurred) during the next three reporting periods:

- Continue to perform GWT system inspection and maintenance as required;
- Continue to perform bi-weekly system air monitoring;
- Collect system influent and effluent samples as directed by USACE/ECC/USEPA;
- Obtain groundwater level measurements as directed by USACE/ECC/USEPA;
- Revise O&M manual to reflect changes to GWT system carbon vessel set-up (April 2006)

## **8.0 PROBLEM AREAS AND RECOMMENDED SOLUTIONS (OUTSTANDING ISSUES)**

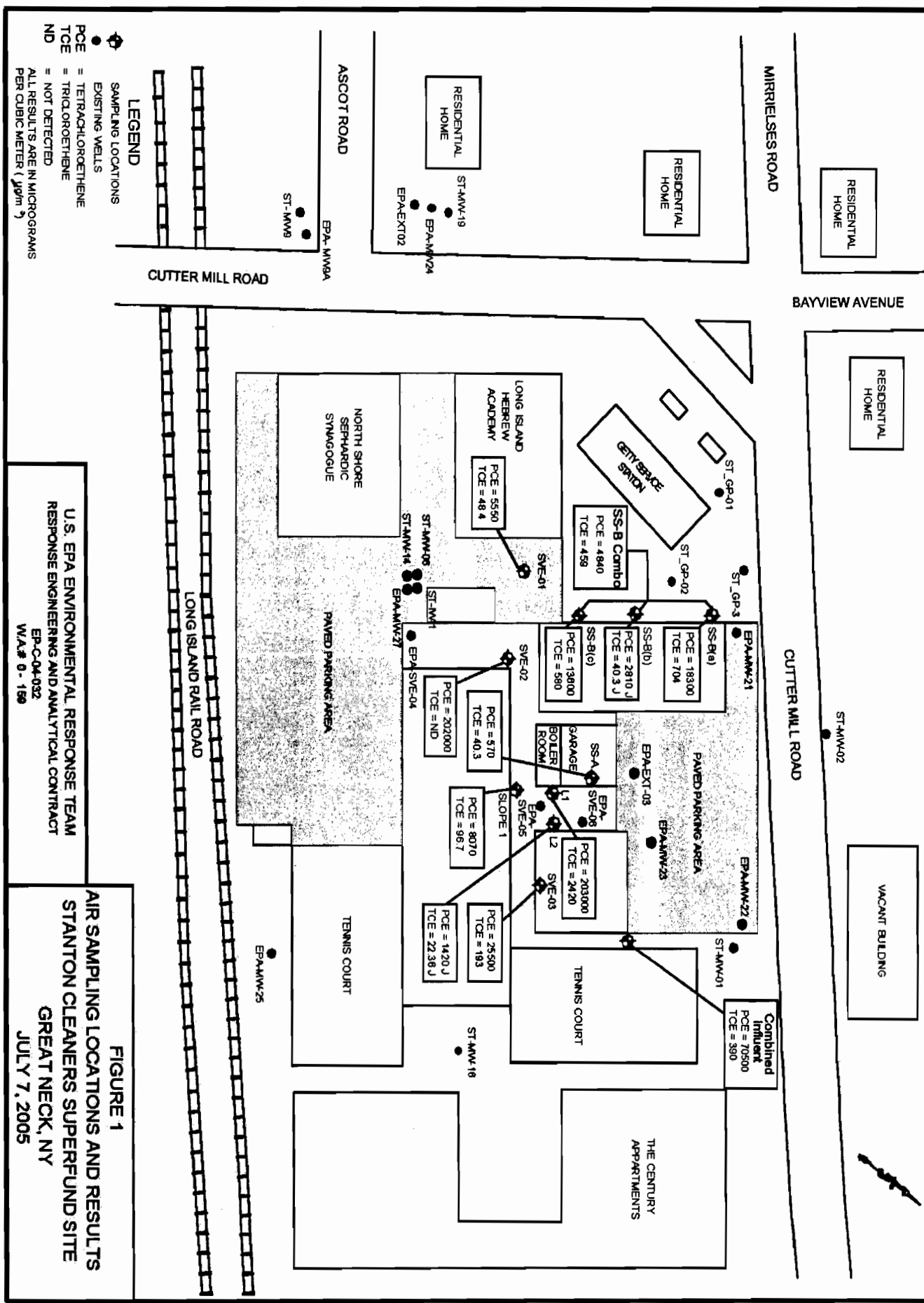
The altering of the piping for the two (2) 400-pound aqueous phase carbon vessels from series to parallel was performed in November 2005. A review of flow rates indicated the effluent flow has increased from approximately 60 gallons per minute (gpm) to 72 gpm following the change. An action list of ongoing and completed items is provided in Appendix J to track work tasks that have been targeted as issues to be addressed.

Monthly O&M performed on November 29, 2005 indicated the low level float switch for the SVE system knockout tank was not functioning. Further inspection performed in December 2005 indicated a replacement was required. A replacement low level float switch was installed on January 9, 2006.

Although water quality meters of the GWT System are reading accurately, they appear to have a faulty communication with the PLC resulting in an erroneous readout of the parameter at the PLC touch-screen. New PLC analog cards will be order to replace faulty ones and to have on hand for future replacements. It is anticipated that these analog cards will be replaced in one of December's O & M Inspection visits.

## Figures





## Tables

**Table 3 - Estimated PCE Recovery Rates**  
**Stanton Cleaners Area Groundwater Contamination Site**  
**250 CFM SVE SYSTEM**  
**September 2003 – November 2006**

Date	# of Days	Flow Rate		Concentration (ppm)	VOC		
		(cfm)	Avg (cfm)		Average (ppm)	Discharge Rate (lbs/day)	Total Discharge (lbs)
9/11/2003	1	225	225	4.2	4.20	0.6	0.6
9/25/2003	13	210	217.5	4.7	4.45	0.6	7.8
10/8/2003	13	213	211.5	5	4.85	0.6	8.2
10/23/2003	15	210	210	12.2	8.6	1.1	16.7
11/5/2003	13	215	212.5	6.8	9.5	1.2	16.2
11/22/2003	17	211	213	6	6.4	0.8	14.3
12/4/2003	12	205	208	5.9	5.95	0.8	9.2
12/17/2003	13	200	202.5	4	4.95	0.6	8.0
12/30/2003	13	210	205	4	4.95	0.6	8.1
1/15/2004	16	205	207.5	4.1	4.05	0.5	8.3
2/5/2004	SVE System Manually Shutdown Since 1/16/04						
2/12/2004	8	200	200	3.5	3.5	0.4	3.5
2/26/2004	14	205	202.5	5.3	4.4	0.6	7.7
3/10/2004	12	200	202.5	5	5.15	0.6	7.7
3/25/2004	15	199	199.5	5.1	5.05	0.6	9.3
4/13/2004	19	175	187	6.3	5.7	0.7	12.5
4/29/2004	16	170	172.5	6	6.15	0.7	10.5
						<b>Total</b>	<b>148.7</b>

**Notes:**

SVE system turned off from 8/24/2004 through 8/31/2004 during tennis court demolition activities.

New SVE well EPA-EXT-04 on-line 11/04/2004

VOC readings taken before vapor phase carbon off-gas treatment.

Deep SVE Wells Closed on 12/10/03 Per OSC's Request

Formula provided by EPA in the "Elements for Effective Management of Operating Pump and Treatment Systems" publication.

$$M_{air} = Q_{air} \times C_{air} \times 0.0283 \frac{m^3}{ft^3} \times 1440 \frac{min}{day} \times 2.2 \frac{lbs}{mg}$$

$$\frac{ft^3}{day} \times 1000000 \frac{mg}{m^3}$$

$$C_{air} (mg/m^3) = \frac{Conc (ppmv) \times 1 \text{ mole air} \times 1000 \text{ L} \times 1000 \text{ mg}}{1E+06 \times 24.1 \text{ L} \times m^3 \times g} \times MW_x$$

**Notes:**

$M_{air}$  = mass loading, removal rate in air (lbs/day)

$Q_{air}$  = flow rate in air (cfm)

$C_{air}$  = contaminant concentration (mg/m<sup>3</sup>)

$MW_x$  = molecular weight in grams/mole, for PCE is 166

*Note: The conversion factor (1 mole air)/(24.1 L) varies with both temperature and pressure. At a pressure of 1 atmosphere and a temperature of 32 degrees Fahrenheit (0 degrees Celcius), the conversion is (1 mole air)/(22.4 L).*

### Estimated PCE Recovery Rates (continued)

Date	# of Days	Flow Rate		VOC			
		(cfm)	Avg (cfm)	Concentration (ppm)	Average (ppm)	Discharge Rate (lbs/day)	Total Discharge (lbs)
5/13/2004	14	150	160	6	6	0.6	8.3
5/30/2004	17	147	148.5	5.9	5.95	0.5	9.3
6/10/2004	11	150	148.5	4.4	5.15	0.5	5.2
6/30/2004	20	145	147.5	5.6	5	0.5	9.1
7/8/2004	8	140	142.5	4.9	5.25	0.5	3.7
7/22/2004	14	139	139.5	4.8	4.85	0.4	5.8
8/9/2004	18	140	139.5	3.1	3.95	0.3	6.1
8/31/2004	1	135	137.5	3	3.05	0.3	0.3
9/8/2004	8	120	127.5	2.9	2.95	0.2	1.9
9/30/2004	22	121	120.5	3.1	3	0.2	4.9
10/4/2004	5	121	121	2.9	3	0.2	1.1
10/20/2004	15	120	120.5	2.8	2.85	0.2	3.2
11/1/2004	12	121	120.5	3	2.9	0.2	2.6
11/17/2004	16	125	123	4.1	3.55	0.3	4.3
11/29/2004	12	120	122.5	4.2	4.15	0.3	3.8
12/7/2004	8	121	120.5	4.2	4.2	0.3	2.5
12/16/2004	9	120	120.5	4.1	4.15	0.3	2.8
						<b>Total</b>	<b>223.5</b>

**Notes:**

SVE system turned off from 8/24/2004 through 8/31/2004 during tennis court demolition activities.

New SVE well EPA-EXT-04 on-line 11/04/2004

VOC readings taken before vapor phase carbon off-gas treatment.

Deep SVE Wells Closed on 12/10/03 Per OSC's Request

Formula provided by EPA in the "Elements for Effective Management of Operating Pump and Treatment Systems" publication.

$$M_{air} = Q_{air} \times C_{air} \times 0.0283 \frac{m^3}{ft^3} \times 1440 \frac{min}{day} \times 2.2 \frac{lbs}{1000000 \text{ mg}}$$

$$C_{air} (mg/m^3) = \frac{Conc (ppmv) \times 1 \text{ mole air} \times 1000 \text{ L} \times 1000 \text{ mg}}{1E+06 \times 24.1 \text{ L} \times m^3 \times g}$$

**Notes:**

$M_{air}$  = mass loading, removal rate in air (lbs/day)

$Q_{air}$  = flow rate in air (cfm)

$C_{air}$  = contaminant concentration (mg/m<sup>3</sup>)

$MW_x$  = molecular weight in grams/mole, for PCE is 166

*Note: The conversion factor (1 mole air)/(24.1 L) varies with both temperature and pressure. At a pressure of 1 atmosphere and a temperature of 32 degrees Fahrenheit (0 degrees Celcius), the conversion is (1 mole air)/(22.4 L).*

**Estimated PCE Recovery Rates (continued)**

Date	# of Days	Flow Rate		VOC			
			Avg	Concentration	Average	Discharge Rate	Total Discharge
		(cfm)	(cfm)	(ppm)	(ppm)	(lbs/day)	(lbs)
1/12/2005	27	120	120	4.5	4.3	0.3	8.6
1/17/2005	5	120	120	4.5	4.5	0.3	1.7
2/9/2005	23	120	120	3.9	4.2	0.3	7.2
2/23/2005	14	120	120	3.5	3.7	0.3	3.8
3/2/2005	7	120	120	3.2	3.35	0.2	1.7
3/16/2005	14	120	120	3.5	3.35	0.2	3.5
4/4/2005	19	120	120	3	3.25	0.2	4.6
4/20/2005	16	120	120	2.9	2.95	0.2	3.5
5/3/2005	13	120	120	3.1	3.00	0.2	2.9
5/19/2005	16	120	120	2.9	3.00	0.2	3.6
6/15/2005	26	120	120	1	1.95	0.1	3.8
6/22/2005	7	270	120	8.3	4.65	0.3	2.4
7/25/2005	33	280	275	8.3	8.30	1.4	46.5
8/9/2005	15	290	285	5	6.65	1.2	17.6
8/24/2005	15	290	290	6	5.50	1.0	14.8
9/7/2005	14	260	275	6.5	6.25	1.1	14.9
9/20/2005	13	260	260	6.8	6.65	1.1	13.9
						<b>Total</b>	<b>378.3</b>

**Notes:**

SVE system turned off from 8/24/2004 through 8/31/2004 during tennis court demolition activities.

New SVE well EPA-EXT-04 on-line 11/04/2004

VOC readings taken before vapor phase carbon off-gas treatment.

Deep SVE Wells Closed on 12/10/03 Per OSC's Request

Formula provided by EPA in the "Elements for Effective Management of Operating Pump and Treatment Systems" publication.

$$M_{air} = Q_{air} \times C_{air} \times 0.0283 \frac{m^3}{ft^3} \times 1440 \frac{min}{day} \times 2.2 \frac{lbs}{1000000 \text{ mg}}$$

$$C_{air} (mg/m^3) = \frac{Conc (ppmv) \times 1 \text{ mole air} \times 1000 \text{ L} \times 1000 \text{ mg}}{1E+06 \times 24.1 \text{ L} \times m^3 \times g} \times MW_x$$

**Notes:**

$M_{air}$  = mass loading, removal rate in air (lbs/day)

$Q_{air}$  = flow rate in air (cfm)

$C_{air}$  = contaminant concentration (mg/m<sup>3</sup>)

$MW_x$  = molecular weight in grams/mole, for PCE is 166

Note: The conversion factor (1 mole air)/(24.1 L) varies with both temperature and pressure. At a pressure of 1 atmosphere and a temperature of 32 degrees Fahrenheit (0 degrees Celcius), the conversion is (1 mole air)/(22.4 L).

**Estimated PCE Recovery Rates (continued)**

Date	# of Days	Flow Rate		VOC			
			Avg	Concentration	Average	Discharge Rate	Total Discharge
		(cfm)	(cfm)	(ppm)	(ppm)	(lbs/day)	(lbs)
10/3/2005	13	270	265	7.4	7.10	1.2	15.1
10/18/2005	15	240	255	3.7	5.55	0.9	13.1
11/7/2005	20	250	245	1.5	2.60	0.4	7.9
11/29/2005	22	200	225	1.7	1.60	0.2	4.9
12/19/2005	20	305	252.5	14.7	8.20	1.3	25.6
1/4/2006	16	260	282.5	3.4	9.05	1.6	25.3
1/19/2006	15	285	272.5	2.5	2.95	0.5	7.4
1/30/2006	10	275	280	2.2	2.35	0.4	4.1
2/16/2006	17	210	242.5	10.7	6.45	1.0	16.4
2/27/2006	11	275	242.5	2.4	6.55	1.0	10.8
3/23/2006	24	245	260	2.3	2.35	0.4	9.1
4/11/2006	19	245	245	1.6	1.95	0.3	5.6
5/4/2006	23	265	255	0	0.80	0.1	2.9
6/15/2006	42	270	267.5	5	2.50	0.4	17.3
6/26/2006	11	260	265	0	2.50	0.4	4.5
7/13/2006	17	275	267.5	7.2	3.60	0.6	10.1
7/27/2006	14	305	290	3.3	5.25	0.9	13.2
8/3/2006	7	265	285	4.5	3.90	0.7	4.8
8/14/2006	11	270	267.5	10.3	7.40	1.2	13.4
8/28/2006	14	255	262.5	8	9.15	1.5	20.8
						<b>Total</b>	<b>610.5</b>

**Notes:**

SVE system turned off from 8/24/2004 through 8/31/2004 during tennis court demolition activities.

New SVE well EPA-EXT-04 on-line 11/04/2004

VOC readings taken before vapor phase carbon off-gas treatment.

Deep SVE Wells Closed on 12/10/03 Per OSC's Request

Formula provided by EPA in the "Elements for Effective Management of Operating Pump and Treatment Systems" publication.

$$M_{air} = Q_{air} \times C_{air} \times 0.0283 \frac{m^3}{ft^3} \times 1440 \frac{min}{day} \times 2.2 \frac{lbs}{1000000 mg}$$

$$C_{air} (mg/m^3) = \frac{Conc (ppmv)}{1E+06} \times \frac{1 \text{ mole air}}{24.1 L} \times \frac{1000 L}{m^3} \times \frac{1000 mg}{g} \times MW_x$$

**Notes:**

$M_{air}$  = mass loading, removal rate in air (lbs/day)

$Q_{air}$  = flow rate in air (cfm)

$C_{air}$  = contaminant concentration (mg/m<sup>3</sup>)

$MW_x$  = molecular weight in grams/mole, for PCE is 166

*Note: The conversion factor (1 mole air)/(24.1 L) varies with both temperature and pressure. At a pressure of 1 atmosphere and a temperature of 32 degrees Fahrenheit (0 degrees Celcius), the conversion is (1 mole air)/(22.4 L).*

### Estimated PCE Recovery Rates (continued)

Date	# of Days	Flow Rate		VOC			
			Avg	Concentration	Average	Discharge Rate	Total Discharge
		(cfm)	(cfm)	(ppm)	(ppm)	(lbs/day)	(lbs)
9/21/2006	24	280	267.5	12	10.00	1.7	39.6
9/28/2006	7	252	266	10.6	11.30	1.9	13.0
10/12/2006	14	260	256	6.3	8.45	1.3	18.7
10/26/2006	14	250	255	7.8	7.05	1.1	15.5
11/13/2006	18	265	257.5	7.5	7.65	1.2	21.9
11/28/2006	15	265	265	4	5.75	0.9	14.1
						<b>Total</b>	<b>733.4</b>

**Notes:**

SVE system turned off from 8/24/2004 through 8/31/2004 during tennis court demolition activities.

New SVE well EPA-EXT-04 on-line 11/04/2004

VOC readings taken before vapor phase carbon off-gas treatment.

Deep SVE Wells Closed on 12/10/03 Per OSC's Request

Formula provided by EPA in the "Elements for Effective Management of Operating Pump and Treatment Systems" publication.

$$M_{air} = Q_{air} \times C_{air} \times 0.0283 \frac{m^3}{ft^3} \times 1440 \frac{min}{day} \times 2.2 \frac{lbs}{1000000 mg}$$

$$C_{air} (mg/m^3) = \frac{Conc (ppmv)}{1E+06} \times \frac{1 \text{ mole air}}{24.1 L} \times \frac{1000 L}{m^3} \times \frac{1000 mg}{g} \times MW_x$$

**Notes:**

$M_{air}$  = mass loading, removal rate in air (lbs/day)

$Q_{air}$  = flow rate in air (cfm)

$C_{air}$  = contaminant concentration (mg/m<sup>3</sup>)

$MW_x$  = molecular weight in grams/mole, for PCE is 166

*Note: The conversion factor (1 mole air)/(24.1 L) varies with both temperature and pressure. At a pressure of 1 atmosphere and a temperature of 32 degrees Fahrenheit (0 degrees Celcius), the conversion is (1 mole air)/(22.4 L).*

## **Appendices**



## **Appendix A**

### **Daily Quality Control Reports (DQCRs)**

# DAILY QUALITY CONTROL REPORT

Site Name and Location: Stanton Cleaners Site (LTRA) – Great Neck, NY

Client: ECC

Contract No: 5442-001-001

Contractor: Earth Tech, Inc

Address: 7870 Villa Park Drive, Suite 400

Richmond, Virginia 23228

Phone No.: (804) 515-8300

Date: 11/7/06

Earth Tech Project No.: 70536

Day	S	M	T	W	T	F	S
Weather			SUNNY				
Temp.			65 F				
Wind			NONE				
Humidity			60%				

Earth Tech Personnel On-Site: **Robert Derrick**

Subcontractor (include names & responsibilities): **N/A**

Contract Materials and Equipment on site: **Kia Spectra, general sampling equipment, Horiba U 22, General hand tools**

Work Performed (include sampling; list by NAS number if applicable):

**Weekly O&M inspection**

**Monthly System Sampling**

**Troubleshooting of Air Stripper high level switch (see Special notes)**

Quality Control Activities (including field calibrations):

Health and Safety Levels and Activities: **Level D**

Problems Encountered/Correction Action Taken: **N/A**

Explain Developments Leading to Change in SOW or Finding of Fact: **N/A**

Preparatory Inspection (list all inspections by subject and specification location; attach minutes of meeting and list of all attendees): **N/A**

Have all required submittals and samples of construction been approved? **Yes**

Do the materials and equipment to be used conform to the submittals? **Yes**

Has all preliminary work been inspected, tested, and completed? **Yes**

Test required and inspection techniques to be executed to prove contract compliance (include both expected and actual results): **N/A**

Has a phase hazard analysis been performed? **Included in the Site Specific Health & Safety Plan**

Comments and deficiencies noted and corrective actions taken: <b>Explained in work performed section.</b>	
Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.	
<b>Explained in work performed section.</b>	
Follow-up Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.	
Special Notes:	
<p><b>On 11/6/2006, upon arrival at site the air stripper pump was found to be turning off and on at approximate 1-2 minute intervals. It was determined that the high level switch in the air stripper was malfunctioning. The system was turned off and the pump was ran by hand for approximately a minute. The system was then turned back on. This appeared to have joggled the switch, which may have just slightly been stuck, loose. The air stripper/switch are now running normal. This will be watched to ensure that it doesn't happen again. If it does, the system will be turned off and the switch will be taken out and inspected and cleaned.</b></p>	
Tomorrow's Expectations:	
<b>Weekly O&amp;M Inspection</b>	
<b>Change out of grease/oil for system</b> <b>Change out of carbon in indoor air filters at the site</b>	
By: Robert Derrick Title: Environmental Scientist	
Signature: <i>Robert Derrick</i> (Quality Control Representative/Manager)	
The above report is complete and correct. All materials and equipment used and all work performed during this reporting period are in compliance with the contract specifications and submittals, except as noted above.	
Signature: (Contractor's Authorized Representative)	

<b>DAILY QUALITY CONTROL REPORT</b>							
<b>SITE NAME AND LOCATION: STANTON CLEANERS SITE (LTRA) – GREAT NECK, NY</b>							
Client: ECC				Contract No: 5442-001-001			
Contractor: Earth Tech, Inc							
Address: 7870 Villa Park Drive, Suite 400							
Richmond, Virginia 23228							
Phone No: (804) 515-8300							
Date: 11/14/06				Earth Tech Project No.: 70536			
Day	S	M	T	W	T	F	S
Weather			SUNNY				
Temp.			65 F				
Wind			NONE				
Humidity			50%				
Earth Tech Personnel On-Site: <b>Robert Derrick, Chuck Fernald, Russ K</b>							
Subcontractor (include names & responsibilities): <b>N/A</b>							
Contract Materials and Equipment on site: <b>Kia Spectra, general hand tools</b>							
Work Performed (include sampling; list by NAS number if applicable):							
<b>Weekly O&amp;M inspection</b> <b>Conference call with Francisco to let Chuck and Russ know of all of the responsibilities (monthly, weekly, etc) of Stanton and to ensure smooth transition</b> <b>Showed Chuck and Russ the SVE wells</b>							
Quality Control Activities (including field calibrations):							
Health and Safety Levels and Activities: <b>Level D</b>							
Problems Encountered/Correction Action Taken: <b>N/A</b>							
Explain Developments Leading to Change in SOW or Finding of Fact: <b>N/A</b>							
Preparatory Inspection (list all inspections by subject and specification location; attach minutes of meeting and list of all attendees): <b>N/A</b>							
Have all required submittals and samples of construction been approved? <b>Yes</b>							
Do the materials and equipment to be used conform to the submittals? <b>Yes</b>							
Has all preliminary work been inspected, tested, and completed? <b>Yes</b>							

<b>DAILY QUALITY CONTROL REPORT</b>	
<b>SITE NAME AND LOCATION: STANTON CLEANERS SITE (LTRA) – GREAT NECK, NY</b>	
Client: ECC	Contract No: 5442-001-001
Contractor: Earth Tech, Inc.	
Address: 7870 Villa Park Drive, Suite 400	
Richmond, Virginia 23228	
Phone No: (804) 515-8300	
Date: 11/14/06	Earth Tech Project No.: 70536
Test required and inspection techniques to be executed to prove contract compliance (include both expected and actual results): N/A	
Has a phase hazard analysis been performed? <b>Included in the Site Specific Health &amp; Safety Plan</b>	
Comments and deficiencies noted and corrective actions taken: <b>Explained in work performed section.</b>	
Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken. <b>Explained in work performed section.</b>	
Follow-up Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.	
Special Notes:	
Tomorrow's Expectations:	
<b>Weekly O&amp;M Inspection</b>	
<b>Bi weekly air monitoring</b>	
<b>Change out of grease/oil for system</b>	
<b>Change out of carbon in indoor air filters at the site</b>	
By: Robert Derrick Title: Environmental Scientist	
Signature: <i>Robert Derrick</i> (Quality Control Representative/Manager)	
The above report is complete and correct. All materials and equipment used and all work performed during this reporting period are in compliance with the contract specifications and submittals, except as noted above.	
Signature: (Contractor's Authorized Representative)	

**DAILY QUALITY CONTROL REPORT****SITE NAME AND LOCATION: STANTON CLEANERS SITE (LTRA) – GREAT NECK, NY**Client: **ECC**Contract No: **5442-001-001**Contractor: **Earth Tech, Inc.**Address: **7870 Villa Park Drive, Suite 400****Richmond, Virginia 23228**Phone No.: **(804) 515-8300**Date: **11/16/06**Earth Tech Project No.: **70536**

Day	S	M	T	W	T	F	S
Weather					<b>CLOUDY</b>		
Temp.					<b>70 F</b>		
Wind					<b>none</b>		
Humidity					<b>45%</b>		

Earth Tech Personnel On-Site: **Robert Derrick**Subcontractor (include names & responsibilities): **N/A**Contract Materials and Equipment on site: **Kia Spectra, multiRae PID, VelociCalc, air pump, air sample bag, pressure gauge, general hand tools**

Work Performed (include sampling; list by NAS number if applicable):

**Bi weekly air monitoring**

Quality Control Activities (including field calibrations):

**Calibrated PID**Health and Safety Levels and Activities: **Level D**Problems Encountered/Correction Action Taken: **N/A**Explain Developments Leading to Change in SOW or Finding of Fact: **N/A**Preparatory Inspection (list all inspections by subject and specification location; attach minutes of meeting and list of all attendees): **N/A**Have all required submittals and samples of construction been approved? **Yes**Do the materials and equipment to be used conform to the submittals? **Yes**Has all preliminary work been inspected, tested, and completed? **Yes**Test required and inspection techniques to be executed to prove contract compliance (include both expected and actual results): **N/A**

<b>DAILY QUALITY CONTROL REPORT</b>	
<b>SITE NAME AND LOCATION: STANTON CLEANERS SITE (LTRA) – GREAT NECK, NY</b>	
Client: ECC	Contract No: 5442-001-001
Contractor: Earth Tech, Inc.	
Address: 7870 Villa Park Drive, Suite 400	
Richmond, Virginia 23228	
Phone No.: (804) 515-8300	
Date: 11/16/06	Earth Tech Project No.: 70536
Has a phase hazard analysis been performed? <b>Included in the Site Specific Health &amp; Safety Plan</b>	
Comments and deficiencies noted and corrective actions taken: <b>Explained in work performed section.</b>	
Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken. <b>Explained in work performed section.</b>	
Follow-up Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.	
Special Notes:	
Tomorrow's Expectations:	
<b>Weekly O&amp;M Inspection</b>	
<b>Change out of grease/oil for system</b>	
<b>Change out of carbon in indoor air filters at the site</b>	
By: Robert Derrick Title: Environmental Scientist	
Signature: <i>Robert Derrick</i>	(Quality Control Representative/Manager)
The above report is complete and correct. All materials and equipment used and all work performed during this reporting period are in compliance with the contract specifications and submittals, except as noted above.	
Signature:	(Contractor's Authorized Representative)

# DAILY QUALITY CONTROL REPORT

Site Name and Location: Stanton Cleaners Site (LTRA) – Great Neck, NY

Client: ECC	Contract No: 5442-001-001
Contractor: Earth Tech, Inc.	
Address: 7870 Villa Park Drive, Suite 400	
Richmond, Virginia 23228	
Phone No.: (804) 515-8300	

Date: 11/28/06	Earth Tech Project No.: 70536
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Day	S	M	T	W	T	F	S
Weather			CLOUDY				
Temp.			53° F				
Wind			SLIGHT				
Humidity			60%				

Earth Tech Personnel On-Site: **Chuck Fernald, Russ Kolacek**

Subcontractor (include names & responsibilities): **N/A**

Contract Materials and Equipment on site: **Chevy 1500 pick-up, general sampling equipment, Horiba U 22, General hand tools**

Work Performed (include sampling; list by NAS number if applicable):  
**Bi weekly O&M inspection; Bi weekly air monitoring.**  
**Drained water from SVE piping.**  
**Performed 2 point calibration on Effluent pH meter (see special notes).**  
 Quality Control Activities (including field calibrations): **Calibrated MultiRae.**

Health and Safety Levels and Activities: **Level D**  
 Problems Encountered/Correction Action Taken: **N/A**

Explain Developments Leading to Change in SOW or Finding of Fact: **N/A**  
 Preparatory Inspection (list all inspections by subject and specification location; attach minutes of meeting and list of all attendees): **N/A**

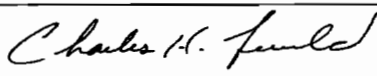
Have all required submittals and samples of construction been approved? **Yes**

Do the materials and equipment to be used conform to the submittals? **Yes**

Has all preliminary work been inspected, tested, and completed? **Yes**

Test required and inspection techniques to be executed to prove contract compliance (include both expected and actual results): **N/A**



Has a phase hazard analysis been performed? <b>Included in the Site Specific Health &amp; Safety Plan.</b>	
Comments and deficiencies noted and corrective actions taken: <b>Explained in work performed section.</b>	
Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken. <b>Explained in work performed section.</b>	
Follow-up Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.	
Special Notes: <b>Vacuum gauge not operating; will fix or replace.</b> <b>Calibrated effluent pH meter; fault message cleared.</b>	
Tomorrow's Expectations: <b>Bi weekly O&amp;M Inspection; bi weekly air monitoring; monthly system samples; monthly water levels.</b> <b>Change out of grease/oil for SVE blower.</b> <b>Change out of carbon in indoor air filters at the site.</b> <b>Fix/replace vacuum gauge</b>	
By: Charles H. Fernald	Title: Environmental Technician
Signature: 	(Quality Control Representative/Manager)
The above report is complete and correct. All materials and equipment used and all work performed during this reporting period are in compliance with the contract specifications and submittals, except as noted above.	
Signature: _____ (Contractor's Authorized Representative)	

## **Appendix B**

### **Groundwater Treatment System Operation & Maintenance Checklists**

11/7/06

**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE OPERATION AND  
MAINTENANCE WEEKLY CHECKLIST**

1. A. Is any part of the system leaking? YES X NO  
If so, list where:
- B. Is there water on the floor? YES X NO  
If so, list where:
- C. Are all three (3) floor sump level switches in place? X YES NO
- D. Is there any evidence of water in any of these floor sumps? YES X NO  
Note: If water is present, remove with shop vac or paper towels.
2. A. Display screen on computer will either show system or screen saver. If screen saver is on, tap screen with finger to show screen. If only the desktop is showing with no system screen, click the *Lookout – (Stanton)* icon on the taskbar at the bottom of the screen.

B. From the site display, monitor and record the following.

1. Recovery Well EPA-EXT-02 flow<sup>1</sup> \_\_\_\_\_ 48 \_\_\_\_\_ GPM
2. Recovery Well EPA-EXT-02 valve open \_\_\_\_\_ 100 \_\_\_\_\_ %
3. Recovery Well EPA-EXT-4R flow \_\_\_\_\_ GPM
4. Recovery Well EPA-EXT-4R valve open \_\_\_\_\_ %
5. Recovery Well pH \_\_\_\_\_ 14.0 \_\_\_\_\_ pH
6. Recovery Well conductivity \_\_\_\_\_ cond
7. Air Stripper pH \_\_\_\_\_ 11.8 \_\_\_\_\_ pH
8. Air Stripper temperature \_\_\_\_\_ 212 \_\_\_\_\_ deg.
9. Air Stripper air flow \_\_\_\_\_ 447 \_\_\_\_\_ CFM
10. Pre-vapor carbon pressure \_\_\_\_\_ 1 \_\_\_\_\_ "wc
11. Post carbon air flow \_\_\_\_\_ 2553 \_\_\_\_\_ CFM
12. Discharge conductivity \_\_\_\_\_ 373 \_\_\_\_\_ cond
13. Discharge pH \_\_\_\_\_ 12.3 \_\_\_\_\_ pH
14. Discharge flow \_\_\_\_\_ 66 \_\_\_\_\_ GPM
15. Discharge total gallons \_\_\_\_\_ 138383999 \_\_\_\_\_ Gal
16. SVE inlet vacuum \_\_\_\_\_ 8 \_\_\_\_\_ "Hg

<sup>1</sup> Wells EPA-EXT-02 and MW-24 wells are manifold together in the field and are piped into the treatment building together. The EPA-EXT-02 water flow meter is therefore actually displaying and totalizing the output of both wells.

17. SVE air flow \_\_\_\_\_ 500 \_\_\_\_\_ CFM

C. From the treatment room, monitor and record the following.

1. Recovery Well EPA-EXT-02 total flow \_\_\_\_\_ 1701300 \_\_\_\_\_ Gal
2. Recovery Well EPA-EXT-03 total flow \_\_\_\_\_ Gal
3. Recovery Well pH \_\_\_\_\_ 6.03 \_\_\_\_\_ pH
4. Recovery Well conductivity \_\_\_\_\_ 0.72 \_\_\_\_\_ cond
5. Air Stripper pH \_\_\_\_\_ 6.88 \_\_\_\_\_ pH
6. Air Stripper temperature \_\_\_\_\_ 15.3 \_\_\_\_\_ deg. C
7. Air Stripper Pump water flow \_\_\_\_\_ 80 \_\_\_\_\_ GPM
8. Air Stripper Pump pressure \_\_\_\_\_ 22 \_\_\_\_\_ PSI
9. Discharge conductivity \_\_\_\_\_ 0.73 \_\_\_\_\_ cond
10. Discharge pH \_\_\_\_\_ 7.16 \_\_\_\_\_ pH
11. SVE inlet vacuum (digital readout) \_\_\_\_\_ 01.6 \_\_\_\_\_ "Hg
12. SVE inlet vacuum \_\_\_\_\_ 2.5 \_\_\_\_\_ "Hg
13. SVE post knockout vacuum \_\_\_\_\_ 3.0 \_\_\_\_\_ "Hg

3. A. If time allows, check to see that the treatment system is cycling properly as described in STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE O&M MANUAL

11/14/06

**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE OPERATION AND  
MAINTENANCE WEEKLY CHECKLIST**

1. A. Is any part of the system leaking? YES X NO

If so, list where:

- B. Is there water on the floor? XYES NO

If so, list where:

Base of door--rain

- C. Are all three (3) floor sump level switches in place? X YES NO

- D. Is there any evidence of water in any of these floor sumps? YES X NO

Note: If water is present, remove with shop vac or paper towels.

2. A. Display screen on computer will either show system or screen saver. If screen saver is on, tap screen with finger to show screen. If only the desktop is showing with no system screen, click the *Lookout – (Stanton)* icon on the taskbar at the bottom of the screen.

- B. From the site display, monitor and record the following.

1. Recovery Well EPA-EXT-02 flow<sup>1</sup> \_\_\_\_\_ 51 \_\_\_\_\_ GPM
2. Recovery Well EPA-EXT-02 valve open \_\_\_\_\_ 100 \_\_\_\_\_ %
3. Recovery Well EPA-EXT-4R flow \_\_\_\_\_ GPM
4. Recovery Well EPA-EXT-4R valve open \_\_\_\_\_ %
5. Recovery Well pH \_\_\_\_\_ 14.0 \_\_\_\_\_ pH
6. Recovery Well conductivity \_\_\_\_\_ cond
7. Air Stripper pH \_\_\_\_\_ 14.0 \_\_\_\_\_ pH
8. Air Stripper temperature \_\_\_\_\_ 212 \_\_\_\_\_ deg.
9. Air Stripper air flow \_\_\_\_\_ 373 \_\_\_\_\_ CFM
10. Pre-vapor carbon pressure \_\_\_\_\_ 2 \_\_\_\_\_ "wc
11. Post carbon air flow \_\_\_\_\_ 2548 \_\_\_\_\_ CFM
12. Discharge conductivity \_\_\_\_\_ 2000 \_\_\_\_\_ cond
13. Discharge pH \_\_\_\_\_ 14.0 \_\_\_\_\_ pH
14. Discharge flow \_\_\_\_\_ 68 \_\_\_\_\_ GPM
15. Discharge total gallons \_\_\_\_\_ 138930462 \_\_\_\_\_ Gal

<sup>1</sup> Wells EPA-EXT-02 and MW-24 wells are manifold together in the field and are piped into the treatment building together. The EPA-EXT-02 water flow meter is therefore actually displaying and totalizing the output of both wells.

16. SVE inlet vacuum \_\_\_\_\_ 8 \_\_\_\_\_ "Hg
17. SVE air flow \_\_\_\_\_ 500 \_\_\_\_\_ CFM

C. From the treatment room, monitor and record the following.

1. Recovery Well EPA-EXT-02 total flow \_\_\_\_\_ 2186300 \_\_\_\_\_ Gal
2. Recovery Well EPA-EXT-03 total flow \_\_\_\_\_ \_\_\_\_\_ Gal
3. Recovery Well pH \_\_\_\_\_ 6.00 \_\_\_\_\_ pH
4. Recovery Well conductivity \_\_\_\_\_ 0.72 \_\_\_\_\_ cond
5. Air Stripper pH \_\_\_\_\_ 6.85 \_\_\_\_\_ pH
6. Air Stripper temperature \_\_\_\_\_ 15.3 \_\_\_\_\_ deg. C
7. Air Stripper Pump water flow \_\_\_\_\_ 85 \_\_\_\_\_ GPM
8. Air Stripper Pump pressure \_\_\_\_\_ 24 \_\_\_\_\_ PSI
9. Discharge conductivity \_\_\_\_\_ 0.73 \_\_\_\_\_ cond
10. Discharge pH \_\_\_\_\_ 7.17 \_\_\_\_\_ pH
11. SVE inlet vacuum (digital readout) \_\_\_\_\_ 01.7 \_\_\_\_\_ "Hg
12. SVE inlet vacuum \_\_\_\_\_ 3.0 \_\_\_\_\_ "Hg
13. SVE post knockout vacuum \_\_\_\_\_ 3.0 \_\_\_\_\_ "Hg

3. A. If time allows, check to see that the treatment system is cycling properly as described in  
STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE O&M MANUAL

11/28/06

**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE OPERATION AND  
MAINTENANCE WEEKLY CHECKLIST**

1. A. Is any part of the system leaking? YES NO  
If so, list where:
- B. Is there water on the floor? YES NO  
If so, list where: *Base of roll-up door—from rain*
- C. Are all three (3) floor sump level switches in place? YES NO
- D. Is there any evidence of water in any of these floor sumps? YES NO  
Note: If water is present, remove with shop vac or paper towels.
2. A. Display screen on computer will either show system or screen saver. If screen saver is on, tap screen with finger to show screen. If only the desktop is showing with no system screen, click the *Lookout – (Stanton)* icon on the taskbar at the bottom of the screen.

B. From the site display, monitor and record the following.

1. Recovery Well EPA-EXT-02 flow<sup>1</sup> 51 GPM
2. Recovery Well EPA-EXT-02 valve open 100 %
3. Recovery Well EPA-EXT-4R flow 0 GPM
4. Recovery Well EPA-EXT-4R valve open 0 %
5. Recovery Well pH 14.0 pH
6. Recovery Well conductivity NA cond
7. Air Stripper pH 14.0 pH
8. Air Stripper temperature 212 deg.
9. Air Stripper air flow 448 CFM
10. Pre-vapor carbon pressure 3 "wc
11. Post carbon air flow 2705 CFM
12. Discharge conductivity 2000 cond
13. Discharge pH 14.0 pH
14. Discharge flow 66 GPM
15. Discharge total gallons 140055788 Gal
16. SVE inlet vacuum 10 "Hg

<sup>1</sup> Wells EPA-EXT-02 and MW-24 wells are manifold together in the field and are piped into the treatment building together. The EPA-EXT-02 water flow meter is therefore actually displaying and totalizing the output of both wells.

17. SVE air flow \_\_\_\_\_ 500 \_\_\_\_\_ CFM

C. From the treatment room, monitor and record the following.

1. Recovery Well EPA-EXT-02 total flow \_\_\_\_ 3197390 \_\_\_\_ Gal
2. Recovery Well EPA-EXT-03 total flow \_\_\_\_ 51 \_\_\_\_ Gal
3. Recovery Well pH \_\_\_\_\_ 6.01 \_\_\_\_\_ pH
4. Recovery Well conductivity \_\_\_\_\_ 0.73 \_\_\_\_\_ cond
5. Air Stripper pH \_\_\_\_\_ 6.86 \_\_\_\_\_ pH
6. Air Stripper temperature \_\_\_\_\_ 15.2 \_\_\_\_\_ deg. C
7. Air Stripper Pump water flow \_\_\_\_\_ 85 \_\_\_\_\_ GPM
8. Air Stripper Pump pressure \_\_\_\_\_ 44 \_\_\_\_\_ PSI
9. Discharge conductivity \_\_\_\_\_ 0.72 \_\_\_\_\_ cond
10. Discharge pH \_\_\_\_\_ 7.12 \_\_\_\_\_ pH
11. SVE inlet vacuum (digital readout) \_\_\_\_\_ +1.7 \_\_\_\_\_ "Hg
12. SVE inlet vacuum \_\_\_\_\_ -3.0 \_\_\_\_\_ "Hg
13. SVE post knockout vacuum \_\_\_\_\_ -2.9 \_\_\_\_\_ "Hg

3. A. If time allows, check to see that the treatment system is cycling properly as described in  
STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE O&M MANUAL



## **Appendix C**

### **Groundwater Treatment System Downloaded Operational Data**



## Stanton Cleaners Groundwater Contamination Site - November 2006 - Site Operation Data

Recovery Well 1		Recovery Well 2		Recovery Well 3		Discharge Flow (GPM)	Discharge Flow (GPM)	Discharge Flow (GPM)	Municipal water Temperature (°F)	Inflow conductivity (µmhos/cm)	Inflow water pH	Air Stripper water		Discharge water pH	Total gallons discharged	Air Stripper Air Flow	Combined Discharge Air Flow	BVE Air Flow
Flow (GPM)	Pressure (PSI)	Flow (GPM)	Pressure (PSI)	Flow (GPM)	Pressure (PSI)							pH	pH					
11/1/2023 17:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:50	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 17:55	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:50	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 18:55	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:50	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 19:55	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:50	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 20:55	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:50	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 21:55	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:50	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 22:55	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:00	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:05	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:10	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:15	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:20	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:25	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:30	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:35	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:40	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375	2681	300	300	
11/1/2023 23:45	0	0	0	0	0	0	0	0	72	7800	7.80	7.80	7.80	375				



## **Appendix D**

### **Sampling Trip Reports**

### **SAMPLING TRIP REPORT**

**Site Name:** STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE

**CERCLIS ID Number:** NYD047650197

**Sampling Dates:** November 7, 2006

**CLP Case Number:** N/A

**Site Location:** 110 Cutter Mill Road, Great Neck, New York, 11021

**Sample Descriptions:** Groundwater Treatment System Influent / Effluent.

#### **Laboratories Receiving Samples (Table 1):**

<b>Case Number</b>	<b>Sample Type</b>	<b>Name and Address of Laboratory</b>
N/A	TCL-VOAs OLC03.2	John Birri USEPA Region II DESA LAB Building 209 MS-230 2890 Woodbridge Avenue Edison, N.J. 08837

#### **Sample Dispatch Data (Table 2):**

On November 7, 2006, a total of four (4) groundwater samples, including one (1) duplicate sample and one (1) trip blank were shipped to the U.S. Environmental Protection Agency Region II Lab (USEPA) for TCL-VOAs analysis.

<b>FedEx Air Bill No.</b>	<b>Number of Coolers</b>	<b>Number and Type of Samples</b>	<b>Time and Date of Shipping</b>
857762606058	1	Total of 4 Aqueous Samples to include 1 duplicate sample, and 1 Trip Blank for TCL-VOAs	11/7/06 @ 13:15 TO: USEPA

#### **Sampling Personnel (Table 3):**

<b>Name</b>	<b>Organization</b>	<b>Site Duties</b>
Francisco Metcalf	Earth Tech, Inc.	Earth Tech Project Manager
Robert Derrick	Earth Tech, Inc.	Sampler

**Sample Numbers and Collection Points (Table 4):**

Laboratory	Analysis	Sample Type	Sample #	Sample Collection Point(SCP)
USEPA Region II DESA LAB Building 209 MS-230 2890 Woodbridge Avenue Edison, N.J. 08837	TCL-VOAs	Aqueous Groundwater	Influent (MW-24 and EPA-EXT-02)	Influent (MW-24 and EPA-EXT-02)
			Effluent	Effluent
			Effluent A	Duplicate of Effluent
			TB	Trip Blank

**Additional Comments:**

The Influent, Effluent and Effluent-A samples were collected after a five gallon purge from the sample ports located within the treatment system. The influent sample includes MW-24 and EPA-EXT-02. These two wells combine before they reach the treatment room and therefore cannot be sampled individually. These samples were collected for the following analysis: Target Compound List (TCL) Volatile Organic Compounds. In addition, one duplicate sample (Effluent-A) was collected from the effluent of the groundwater treatment process and was a duplicate sample of sample Effluent. One trip blank (TB) was also included in the shipment. Copies of the Chain of Custody forms and a copy of the FedEx air bill are included in Appendix A and B, respectively.

Earth Tech personnel also collected real time water quality parameters from the raw water for all the following sampling locations: Influent and Effluent (Discharge) and the results are included in Appendix C.

**Chain of Custody**  
**(November 7, 2006 System Sampling Event)**





USEPA Contract Laboratory Program  
Organic Traffic Report & Chain of Custody Record

Case No:  
DAS No:  
SDG No:

L

Date Shipped: 11/7/2006	Carrier Name: FedEx	Altoit: 85778253129	Shipped to: USEPA REGION II DESA LAB 2890 Woodbridge Avenue Building 209, MS-230 Edison NJ 08837 (732) 906-5886	Chain of Custody Record	Relinquished By: (Date / Time)	Received By: (Date / Time)	For Lab Use Only
				1	11/7/06 13:15		Lab Contract No:
				2			Unit Price:
				3			Transfer To:
				4			Lab Contract No:
				Unit Price:			

ORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURBID/ROUND	TAG No./ PRESERVATIVE Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	FOR LAB USE ONLY Sample Condition On Receipt
EFFLUENT	Ground Water/ Robert Derrick	L/G	VOA (14)	(HCL) (3)	Effluent	S: 11/7/2006 12:03		
EFFLUENT A	Field QC/ Robert Derrick	L/G	VOA (14)	(HCL) (3)	Effluent A	S: 11/7/2006 12:06		
INFLUENT (MM-24 AND TB	Ground Water/ Robert Derrick	L/G	VOA (14)	(HCL) (3)	Influent (MM-24 and EPA-EXT-02)	S: 11/7/2006 11:57		
	Field QC/ Robert Derrick	L/G	VOA (14)	(HCL) (3)	Tripp Blank	S: 11/7/2006 12:10		

Shipment for Case Complete? <input type="checkbox"/>	Sample(s) to be used for laboratory QC:	Additional Sample Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		
VOA = CLP TCL Volatiles				

TR Number: 2-093821179-102406-0001  
PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA, 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY



USEPA Contract Laboratory Program  
Organic Traffic Report & Chain of Custody Record

L

Date Shipped: 11/7/2006	Carrier Name: FedEx	Chain of Custody Record	Requisitioned By: <i>PLT</i>	Signature: <i>PLT</i>	For Lab Use Only
Arrbill: 857762533129	USEPA REGION II DESA	(Date / Time)	11-7-06 15:15	(Date / Time)	Lab Contract No:
Shipped to: LAB	2890 Woodbridge Avenue				Unit Price:
	Building 209, MS-230				Transfer To:
	Edison NJ 08837				Lab Contract No:
	(732) 906-6886				Unit Price:

ORGANIC SAMPLE No.	MATRIX SAMPLER	CONC/ TYPE	ANALYSIS TURNDOWN	TAG No/ PRESERVATIVE Boils	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
EFFLUENT	Ground Water/ Robert Derrick	LG	VOA (14)	(HCL) (3)	Effluent	S: 11/7/2006		12.03
EFFLUENT A	Field OC/ Robert Derrick	LG	VOA (14)	(HCL) (3)	Effluent A	S: 11/7/2006		12.06
INFLUENT (MMW-24 AND TB)	Ground Water/ Robert Derrick	LG	VOA (14)	(HCL) (3)	Influent (MMW-24 and EPA-EXT-02)	S: 11/7/2006		11.57
	Field OC/ Robert Derrick	LG	VOA (14)	(HCL) (3)	Trip Blank	S: 11/7/2006		12.10

Shipment for Case Complete? <input checked="" type="checkbox"/>	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designator: Composite = C, Grab = G		
VOA = CLP TCL Volatiles				

TR Number: 2-093821179-102406-0001  
PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
Send Copy to: Sample Management Office, 2000 Edmund Hailey Dr., Reston, VA, 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY  
F2V3.1.045 Page 1 of 1

**FedEx Air Bill**  
**(November 7, 2006 System Sampling Event)**

**FedEx** US Airbill  
Express

FedEx Tracking Number 8577 6253 3129

1 From Please print and print large  
Date 11-7-06 Sender's FedEx Account Number 237442518  
Sender's Name Rob Derrick Phone 18041440-9611  
Company Earth Tech  
Address 110 Cattermill Road  
City Great Neck State NY ZIP 11021  
2 Your Internal Billing Reference 70536 07.03  
3 To  
Recipient's Name John Birri Phone ( )  
Company USEPA Region II Res Lab  
Address 2870 Woodbridge Avenue, Building 209, MS-230  
City Edison State NJ ZIP 08857



Store your address at [www.fedex.com](http://www.fedex.com)  
Simplify your shipping. Manage your account on the tools you need.

Sender's Copy

4a Express Package Service  
☒ FedEx Priority Overnight Next business morning\*  
☐ FedEx Standard Overnight Next business morning\*  
☐ FedEx 2Day Second business day\*  
☐ FedEx 3Day Freight Third business day\*  
☐ FedEx First Overnight Certified next business morning\*  
☐ FedEx Express Saver Third business day\*  
\* To most locations

4b Express Freight Service  
☒ FedEx 10Day Freight\*  
☐ FedEx 20Day Freight\*  
\* To most locations

5 Packaging  
☐ FedEx Envelope\*  
☐ FedEx Pak\*  
☐ FedEx Box  
☐ FedEx Tube  
☐ Other

6 Special Handling  
☐ SATURDAY Delivery NOT Available for FedEx Priority Overnight, FedEx 2Day, FedEx 3Day Freight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.  
☐ HOLD Weekday at FedEx Location NOT Available for FedEx Priority Overnight, FedEx 2Day, FedEx 3Day Freight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.  
☐ HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.  
Does this shipment contain dangerous goods?  
☒ No ☐ Yes (See instructions for dangerous goods)  
☐ Yes (See instructions for dangerous goods)  
Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.  
☐ Dry Ice ☐ Cargo Aircraft Only

7 Payment Bill for:  
☒ Sender's Bill (FedEx bill)  
☐ Recipient  
☐ Third Party  
☐ Credit Card  
☐ Cash/Check

8 NEW Residential Delivery Signature Options  
☐ No Signature Required  
☐ Direct Signature  
☐ Indirect Signature  
520

**Water Quality Parameters  
(November 7, 2006 System Sampling Event)**

# STANTON CLEANERS SITE LTRA

## Groundwater Pump and Treatment System Water Quality Parameters Log

Date: 11/7/06  
Project # 70536

	pH	COND.	TURB.	DO	TEMP.	SALINITY
Influent	5.80	0.802	0.0	8.8	15.08	0.0
Discharge	6.29	0.728	0.0	8.5	14.83	0.0

Total Gallons pumped:  
gallons 138383999 gallons  
Flow rate: 66 gpm

\* The influent consists of MW-24 and EPA-EXT-02. These wells combine before they reach the treatment room and therefore cannot be individually sampled for analysis.

Equipment Calibrated by:	Robert Derrick	Comments:
Water samples collected by:	Robert Derrick	
Water monitoring performed by:	Robert Derrick	

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.

## **Appendix E**

### **Groundwater Treatment System Raw and Treated Analytical Data**

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent	SC-01	B0001	10/27/2003	MTBE	2	J	
				cis-1,2-Dichloroethene	2	J	
				Trichloroethene (TCE)	3	J	5
				Toluene	3	J	5
				Tetrachloroethene	350	D	5
Effluent	SC-04	B0002	10/27/2003	None			
Trip Blank	SC-TB	B0003	10/27/2003	Acetone	61	J	5
				Methylene chloride	2	J	5
Influent	SC-01	B0177	11/12/2003	Tetrachloroethene (PCE)	240		5
				Chlorodifluoromethane	8.6	NJ	
				1,2-Dichloroethene	3.3	NJ	
Effluent	SC-04	B0178	11/12/2003	Chlorodifluoromethane	22	NJ	
Influent Dup	SC-60	B0179	11/12/2003	Tetrachloroethene	250		5
				Chlorodifluoromethane	29	NJ	
				1,2-Dichloroethene	3.4	NJ	
Trip Blank	SC-TB	B0180	11/12/2003	Tetrachloroethene	9.4		5
				Chlorodifluoromethane	4.3	NJ	
Influent	SC-01	B17J3	12/10/2003	Tetrachloroethene	290	D	5
				cis-1,2-Dichloroethene	2	J	
				Trichloroethene	3	J	
Effluent	SC-04	B17J4	12/10/2003	None			
Influent Dup	SC-61	B17J5	12/10/2003	Tetrachloroethene	280	D	5
				cis-1,2-Dichloroethene	2	J	
				Trichloroethene	3	J	
Trip Blank	SC-TB	B17J6	12/10/2003	MTBE	5	J	
				Toluene	2	J	
				Ethylbenzene	2	J	
Influent	SC-01	B1000	1/12/2004	MTBE	2.7		
				cis-1,2-Dichloroethene	1.5		
				Trichloroethene	2.5		
				Tetrachloroethene	280		5
Effluent	SC-04	B1001	1/12/2004	None			
Influent Dup	SC-62	B1002	1/12/2004	MTBE	2.6		
				cis-1,2-Dichloroethene	1.5		
				Trichloroethene	2.5		
				Tetrachloroethene	300		5
Trip Blank	SC-TB	B1003	1/12/2004	Methylene chloride	0.6	K	
				MTBE	3.7		
				Tetrachloroethene	7.9		5
				m&p-Xylene	0.7		
Influent	SC-01	B17Z0	2/12/2004	cis-1,2-Dichloroethene	1.7		
				Trichloroethene	3.0		
				Tetrachloroethene	610.0	D	5
				Unknown TIC	0.53	J	
Effluent	SC-04	B17Z1	2/12/2004	Acetone	3.8	J	5
Influent Dup	SC-63	B17Z2	2/12/2004	Acetone	25	J	5
				cis-1,2-Dichloroethene	1.7		
				Trichloroethene	2.8		
				Tetrachloroethene	440	D	5
Trip Blank	SC-TB	B17Z3	2/12/2004	Methylene chloride	0.16	J	
				MTBE	4.7		
				Chloroform	0.26	J	
				Tetrachloroethene	7.1		5
				Xylene (total)	0.56		
				1,3-Dichlorobenzene	0.40	J	
				1,4-Dichlorobenzene	0.38	J	
				Unknown TIC	0.58	J	
				Benzene, 1-ethyl-3-methyl-	0.72	NJ	



**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent	SC-01	B17Z6	3/10/2004	MTBE	2.7		
				cis-1,2-Dichloroethene	1.2		
				Trichloroethene	2.3		
				Tetrachloroethene	260		5
Effluent	SC-04	B17Z7	3/10/2004	Tetrachloroethene	0.70		5
Influent Dup	SC-64	B17Z8	3/10/2004	MTBE	2.8		
				cis-1,2-Dichloroethene	1.2		
				Trichloroethene	2.3		
				Tetrachloroethene	260		5
Trip Blank	SC-TB	B17Z9	3/10/2004	Acetone	1.8		5
				Toluene	0.50		
				Isobutane	41	NJ	
Influent	SC-01	B1BS2	4/14/2004	MTBE	1.9		
				cis-1,2-Dichloroethene	0.83		
				Trichloroethene	1.5		
				Tetrachloroethene	380	D	5
Effluent	SC-04	B1BS3	4/14/2004	Tetrachloroethene	1.9		5
Influent Dup	SC-65	B1BS4	4/14/2004	Acetone	1.2	J	5
				MTBE	1.5		
				cis-1,2-Dichloroethene	0.67	J	
				Trichloroethene	1.1		
Trip Blank	SC-TB	B1BS5	4/14/2004	Tetrachloroethene	260	D	5
				Methylene chloride	0.17	J	
				Chloroform	2.8		
				Bromodichloromethane	0.80		
Influent	SC-01	B1BS6	5/20/2004	MTBE	2.1		
				cis-1,2-Dichloroethene	1.0		
				Trichloroethene	1.8		
				Tetrachloroethene	190		5
Effluent	SC-04	B1BS7	5/20/2004	Acetone	1.2		5
Influent Dup	SC-66	B1BS8	5/20/2004	Acetone	0		5
				MTBE	2.1		
				cis-1,2-Dichloroethene	0.9		
				Trichloroethene	1.6		
Trip Blank	SC-TB	B1BS9	5/20/2004	Tetrachloroethene	200		5
				Acetone	1		5
				Chloroform	0		
				Bromodichloromethane	0		
Influent	SC-01	B1BS6	6/15/2004	Carbon Disulfide	1.1		
				MTBE	2.7		
				cis-1,2-Dichloroethene	1.3		
				Trichloroethene	2.4		
Effluent	SC-04	B1BS7	6/15/2004	Tetrachloroethene	320		5
				Tetrachloroethene	2.1	7	5
				MTBE	2.3		
				cis-1,2-Dichloroethene	1.2		
Influent Dup	SC-67	B1BS8	6/15/2004	Trichloroethene	2.2		
				Tetrachloroethene	330		5
				None			

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent	SC-01	B1FJ2	7/13/2004	Acetone	0.8		5
				MTBE	2.3		
				cis-1,2-Dichloroethene	1.1		
				Trichloroethene	1.7		
				Tetrachloroethene	170		5
Effluent	SC-04	B1FJ3	7/13/2004	Acetone	0.72		5
				Tetrachloroethene	2		5
Influent Dup	SC-67	B1FJ4	7/13/2004	MTBE	2.4		
				cis-1,2-Dichloroethene	1.1		
				Trichloroethene	1.8		
				Tetrachloroethene	160		5
Trip Blank	SC-TB	B1FJ5	7/13/2004	Acetone	0.73		5
				Acetic Acid, Ethyl Ester	2.5	NJ	
Influent	SC-01	B1GH2	8/16/2004	MTBE	1.9		
				cis-1,2-Dichloroethene	0.7		
				Trichloroethene	1.5		
				Tetrachloroethene	200		5
				Acetone	2		5
Effluent	SC-04	B1GH3	8/16/2004	Tetrachloroethene	5.4		5
				Acetone	1.6		5
Influent Dup	SC-69	B1GH4	8/16/2004	Acetone	1.2		5
				MTBE	2		
				cis-1,2-Dichloroethene	0.7		
				Trichloroethene	1.5		
				Tetrachloroethene	210		5
Influent	SC-01		9/28/2004	Chloromethane	0.80		
				Acetone	1.0		5
				MTBE	1.5		
				cis-1,2-Dichloroethene	0.70		
				Trichloroethene	1.4		
Effluent	SC-04		9/28/2004	Tetrachloroethene	200		5
				Chloromethane	0.80		
				Acetone	2.1		5
Influent Dup	SC-70		9/28/2004	Tetrachloroethene	1.7		5
				Acetone	1.0		5
				MTBE	1.3		
				cis-1,2-Dichloroethene	0.60		
				Trichloroethene	1.4		
Trip Blank	SC-TB		9/28/2004	Tetrachloroethene	210		5
				Acetone	2.2		5
Influent	SC-01	B1LZ2	10/21/2004	2-Butanone	1.5		
				Acetone	5	J	5
				Methylene chloride	0.2	J	
				MTBE	0.82		
				cis-1,2-Dichloroethene	0.5		
Effluent	SC-04	B1LZ3	10/21/2004	Trichloroethene	1.2		
				Tetrachloroethene	220		5
				Acetone	5	J	5
Influent Dup	SC-71	B1LZ4	10/21/2004	Methylene chloride	0.5	UJ	
				Tetrachloroethene	0.2	J	5
				Acetone	5	J	5
				Methylene chloride	1.1		
				MTBE	1.1		
Trip Blank	SC-TB	B1LZ5	10/21/2004	cis-1,2-Dichloroethene	0.64		
				Trichloroethene	1.1		
				Tetrachloroethene	210	D	5
Trip Blank	SC-TB	B1LZ5	10/21/2004	Acetone	5.7		5
				Methylene chloride	0.68		
				Toluene	0.39	J	

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent	SC-01	B1T22	11/17/2004	Acetone	3	J	5
				Methylene chloride	1.3	U	
				MTBE	1.3		
				cis-1,2-Dichloroethene	0.64		
				Trichloroethene	1.2		
				Tetrachloroethene	170	D	5
Effluent	SC-04	B1T23	11/17/2004	Methyl Acetate	0.5	UJ	
				Methylene chloride	0.5	U	
Influent Dup	SC-72	B1T24	11/17/2004	Methylene chloride	0.85	U	
				MTBE	1.3		
				cis-1,2-Dichloroethene	0.5		
				Trichloroethene	0.83		
				Tetrachloroethene	160	D	5
Trip Blank	SC-TB	B1T25	11/17/2004	Acetone	3	J	5
				Methyl Acetate	0.5	UJ	
				Methylene chloride	0.46	J	
				2-Butanone	2.4	J	
				Tetrachloroethene	9.6		5
				1,2,3-Trichlorobenzene	0.5	UJ	5
Influent	SC-01	B1T79	12/15/2004	MTBE	1.6		
				cis-1,2-Dichloroethene	0.45	J	
				Trichloroethene (TCE)	1.0	J	5
				Tetrachloroethene	100	D	5
				Methylcyclohexane	1	UJ	
				Bromomethane	1	UJ	
				Bromodichloromethane	1	UJ	
				Chloromethane	1	UJ	
				1,2-Dichloroethene	1	UJ	
				1,2-Dichloropropane	1	UJ	
				2-Hexanone	10	R	
Effluent	SC-04	B1T81	12/15/2004	4-Methyl-2-pentanone	10	R	
				Benzene	0.5	U	
				1,2,4-Trichlorobenzene	0.5	U	
				1,2,3-Trichlorobenzene	0.5	U	5
Influent Dup	SC-73	B1T80	12/15/2004	Methyl tert-Butyl Ether	1.6		
				cis-1,2-Dichloroethene	0.48	J	
				Trichloroethene	0.98	J	
				4-Methyl-2-pentanone	10	R	
				Tetrachloroethene	98	D	5
				2-Hexanone	10	R	
Trip Blank	SC-TB	B1T82	12/15/2004	Chloroform	0.1	J	
				Cyclohexane	0.15	J	
				Benzene	0.5	U	
				Toluene	0.21	J	

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent	SC-01	B1W00	1/21/2005	MTBE	1.5		
				cis-1,2-Dichloroethene	0.7		
				Trichloroethene (TCE)	1.4		5
				Tetrachloroethene	160		5
Effluent	SC-04	B1W02	1/21/2005	Acetone	1.8		5
Influent Dup	SC-74	B1W01	1/21/2005	Methyl tert-Butyl Ether	1.4		
				cis-1,2-Dichloroethene	0.7		
				Trichloroethene	1.4		
				Tetrachloroethene	150		5
Trip Blank	SC-TB	B1W03	1/21/2005	Acetone	10		5
				Acetone	3.5		5
Influent	SC-01	AG00197	2/3/2005	MTBE	1.4		
				cis-1,2-Dichloroethene	0.5		
				Trichloroethene (TCE)	1.1		5
				Tetrachloroethene	140		5
Effluent	SC-04	AG00198	2/3/2005	Acetone	1.2		5
Influent Dup	SC-75	AG00199	2/3/2005	Methyl tert-Butyl Ether	1.5		
				cis-1,2-Dichloroethene	0.54		
				Trichloroethene	1.1		
				Tetrachloroethene	140		5
Trip Blank	SC-TB	AG00200	2/3/2005	Acetone	1.1		5
				Acetone	4.3		5
Influent	SC-01	AG00468	3/9/2005	4-Methyl-2-pentanone	1.2		
				MTBE	1.4		
				Acetone	2.5		5
				Trichloroethene (TCE)	1.1		5
Effluent	SC-04	AG00469	3/9/2005	Tetrachloroethene	130		5
				Acetone	1.8		5
Influent Dup	SC-76	AG00470	3/9/2005	MTBE	1.4		
				Acetone	1.2		5
				Trichloroethene	1.1		
				Tetrachloroethene	130		5
Trip Blank	SC-TB	AG00471	3/9/2005	Acetone	1.7		5
				Chloroform	1.6		
Influent (EPA-EXT-02)	SC-01	AG00825	4/22/2005	MTBE	1.7		
				2-Butanone	2.2		
				Acetone	2.4		5
				Trichloroethene (TCE)	1.1		5
Influent (EPA-EXT-4R)	SC-02	AG00826	4/22/2005	Tetrachloroethene	65		5
				2-Butanone	2.5		
				Acetone	5.1		5
				Trichloroethene (TCE)	1.3		5
Effluent	SC-04	AG00827	4/22/2005	Tetrachloroethene	9.5		5
				None			
Influent Dup (EPA-EXT-02) (EPA-EXT-4R)	SC-77	AG00828	4/22/2005	2-Butanone	2.8		
				Acetone	4.9		5
				Trichloroethene	1.3		
				Tetrachloroethene	9		5

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Trip Blank	SC-TB	AG00829	4/22/2005	Acetone	1		5
				Chloroform	1.7		
				Trichloroethene (TCE)	0.84		5
Influent (EPA-EXT-02)	SC-01	AG01320	5/24/2005	MTBE	1.1		
				Trichloroethene (TCE)	1.0		5
				Tetrachloroethene	100		5
Influent (EPA-EXT-4R)	SC-02	AG01321	5/24/2005	Tetrachloroethene	8.8		5
Effluent	SC-04	AG01322	5/24/2005	Acetone	1.3		5
Influent Dup (EPA-EXT-02) (EPA-EXT-4R)	SC-78	AG01323	5/24/2005	Tetrachloroethene	8.6		5
Trip Blank	SC-TB	AG01324	5/24/2005	Acetone	1.3		5
				Chloroform	13		
				Bromodichloromethane	2.5		
Influent (EPA-EXT-02)	SC-01	AG02074	6/22/2005	MTBE	0.98		
				Trichloroethene (TCE)	0.8		5
				Tetrachloroethene	95		5
				Acetone	2.7	K	5
				Ethyl Acetate	10	NJ	
Influent (EPA-EXT-4R)	SC-02	AG02075	6/22/2005	Tetrachloroethene	9.1		5
				Acetone	1.9	K	5
				Ethyl Acetate	3.6	NJ	
				Propane, 2-Isothiocyanato-2	0.8	NJ	
Influent		AG02076	6/22/2005	MTBE	0.64		
				Tetrachloroethene	50		5
				Acetone	2	K	5
				Trichloroethene (TCE)	0.56		5
				Ethyl Acetate	8.8	NJ	
Effluent	SC-04	AG02072	6/22/2005	Acetone	2.6	K	5
				Ethyl Acetate	6.2	NJ	
EffluentDup	SC-04	AG02073	6/22/2005	Acetone	2.6	K	5
				Ethyl Acetate	3.3	NJ	
Trip Blank	SC-TB	AG02077	6/22/2005	Acetone	2.4	K	5
				Chloroform	13		
				Bromodichloromethane	2.7		
				Ethyl Acetate	3.1	NJ	
Influent (EPA-EXT-02)	SC-01	AG02780	7/12/2005	MTBE	0.9		
				Trichloroethene (TCE)	0.8		5
				Tetrachloroethene	85		5
				Acetone	1	K	5
Influent (EPA-EXT-4R)	SC-02	AG02781	7/12/2005	Tetrachloroethene	7.4		
				Acetone	2.1	K	5
				Ethyl Acetate	4.1	NJ	
				Propane, 2-Isothiocyanato-2	1.4	NJ	
Influent		AG02782	7/12/2005	MTBE	0.52		
				Tetrachloroethene	43		5
Effluent	SC-04	AG02778	7/12/2005	Acetone	2.8	K	5
				Ethyl Acetate	11	NJ	
EffluentDup	SC-04	AG02779	7/12/2005	Acetone	1.9	K	5
				Ethyl Acetate	5.2	NJ	
Trip Blank	SC-TB		7/12/2005	Acetone	1.5	K	5
				Chloroform	12		
				Bromodichloromethane	2.6		

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent (EPA-EXT-02)	SC-01	AG03721	8/15/2005	MTBE	0.68		
				Trichloroethene (TCE)	0.73		5
				Tetrachloroethene	88		5
Influent (EPA-EXT-4R)	SC-02	AG03722	8/15/2005	Tetrachloroethene	9.7		5
				Propane, 2-Isothiocyanato-2	0.53	NJ	
Influent		AG03723	8/15/2005	Tetrachloroethene	43		5
Effluent	SC-04	AG03725	8/15/2005	Acetone	ND (5.0)		5
EffluentDup	SC-04	AG03720	8/15/2005	Acetone	ND (5.0)		5
Trip Blank	SC-TB	AG03724	8/15/2005	Chloroform	13		
				Bromodichloromethane	2.6		
Influent (EPA-EXT-02)	SC-01	AG04086	9/8/2005	MTBE	0.76		
				Trichloroethene (TCE)	0.74		5
				Tetrachloroethene	90		5
Influent (EPA-EXT-4R)	SC-02	AG04087	9/8/2005	Tetrachloroethene	9.8		5
Influent		AG04088	9/8/2005	MTBE	0.63		
				Tetrachloroethene	44		5
Effluent	SC-04	AG04084	9/8/2005	Acetone	ND (1.0)		5
EffluentDup	SC-04	AG04085	9/8/2005	Acetone	1.0		5
Trip Blank	SC-TB	AG04089	9/8/2005	Chloroform	11		
				Bromodichloromethane	2.2		
Influent (EPA-EXT-02)	SC-01	AG07649	10/5/2005	MTBE	0.82		
				Trichloroethene (TCE)	0.78		5
				Tetrachloroethene	100		5
Influent (EPA-EXT-4R)	SC-02	AG07650	10/5/2005	Tetrachloroethene	9.3		5
Influent		AG07651	10/5/2005	MTBE	0.6		
				Acetone	1		5
				Tetrachloroethene	52		5
Effluent	SC-04	AG07647	10/5/2005	Acetone	1.1		
EffluentDup	SC-04	AG07648	10/5/2005	Acetone	1.4		
Trip Blank	SC-TB	AG07652	10/5/2005	Chloroform	ND		
Influent (EPA-EXT-02)	SC-01	AG08530	11/14/2005	Acetone	1.4	K	
				MTBE	0.92		
				Trichloroethene (TCE)	0.81		5
				Tetrachloroethene	95		5
Influent (EPA-EXT-4R)	SC-02	AG08531	11/14/2005	Acetone	1.0	K	5
				Tetrachloroethene	10		5
Influent		AG08532	11/14/2005	MTBE	0.9		
				Acetone	1.4	K	5
				Trichloroethene (TCE)	0.74		5
				Tetrachloroethene	91		5
Effluent	SC-04	AG08528	11/14/2005	Acetone	ND		5
EffluentDup	SC-04	AG08529	11/14/2005	Acetone	ND		5
Trip Blank	SC-TB	AG08533	11/14/2005	Acetone	2.0	K	5

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent (EPA-EXT-02)	SC-01	AG08953	12/6/2005	Acetone	4.1		
				MTBE	0.85		
				Trichloroethene (TCE)	0.67		5
				Tetrachloroethene	90		5
				1-Butanol	0.63	NJ	
Influent (EPA-EXT-4R)	SC-02	AG08954	12/6/2005	Acetone	1.4	K	5
				Tetrachloroethene	9.5		5
Influent		AG08955	12/6/2005	MTBE	0.9		
				Acetone	1.4	K	5
				Trichloroethene (TCE)	0.77		5
				Tetrachloroethene	89		5
Effluent	SC-04	AG08951	12/6/2005	Acetone	1.5	K	5
EffluentDup	SC-04	AG08952	12/6/2005	Acetone	3.0	K	5
Trip Blank	SC-TB		12/6/2005	Acetone	ND		5
Influent (EPA-EXT-02)	SC-01	AH00216	1/10/2006	Acetone	ND		5
				MTBE	0.98		
				Trichloroethene (TCE)	0.79		5
				Tetrachloroethene	93		5
Influent (EPA-EXT-4R)	SC-02	AH00217	1/10/2006	Acetone	ND (1.0)		5
				Tetrachloroethene	8.2		5
Influent		AH00218	1/10/2006	MTBE	0.94		
				Acetone	ND (1.0)		5
				Trichloroethene (TCE)	0.85		5
				Tetrachloroethene	90		5
Effluent	SC-04	AH00214	1/10/2006	Acetone	ND (1.0)		5
EffluentDup	SC-04	AH00215	1/10/2006	Furan, Tetrahydro	0.52	NJ	
Trip Blank	SC-TB	AH00219		Acetone	ND (1.0)		5
Influent	SC-01	AH01177	2/15/2006	MTBE	1.2		
				Trichloroethene (TCE)	0.72		5
				Tetrachloroethene	80		5
MW-19		AH01178	2/15/2006	Acetone	1.2		5
				Trichloroethene (TCE)	1.2		5
				Tetrachloroethene	85		5
MW-21		AH01179	2/15/2006	Trichloroethene (TCE)	2.6		5
				Tetrachloroethene	27		5
Effluent		AH01175	2/15/2006	None			
Effluent Duplicate		AH01176	2/15/2006	None			
Trip Blank	SC-TB	AH00219	2/15/2006	Chloroform	10		
				Bromodichloromethane	2.3		
Influent	SC-01	AH01256	3/8/2006	MTBE	1.4		
				Trichloroethene (TCE)	0.71		5
				Tetrachloroethene	83		5
				Acetone	2		5
Effluent	SC-04	AH01254	3/8/2006	Acetone	2		5
Effluent Duplicate	SC-04	AH01255	3/8/2006	Acetone	2.4		5
				Acetone	2		5
Trip Blank	SC-TB	AH01257	3/8/2006	Bromodichloromethane	5		
				Chloroform	14		
				MTBE	1.5		
Influent	SC-01	AH01641	4/5/2006	TRICHLOROETHENE	0.57		
				TETRACHLOROETHENE	68		5
				ACETONE	1.7		5
				ETHYL ACETATE	1.5	NJ	5
Effluent	SC-04	AH01639	4/5/2006	ACETONE	1.7	NJ	5
				EHHYL ACETATE	1.7	NJ	5
Effluent A	SC-04	AH01640	4/5/2006	ACETONE	4.6		5
				EHHYL ACETATE	5.3	NJ	5
Trip Blank	SC-TB	AH01642	4/5/2006	ACETONE	1.7		5

**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
Influent (MW-24 & EPA-EXT-02)	SC-01	AH02078	5/3/2006	ACETONE	2.3		5
				MTBE	1.7		
				TRICHLOROETHENE	0.72		
				TETRACHLOROETHENE	80		5
Effluent	SC-04	AH02076	5/3/2006	CHLOROMETHANE	0.51		
				ACETONE	1.6		5
Effluent-A	SC-04	AH02077	5/3/2006	ACETONE	2.2		5
Trip Blank	SC-TB	AH02079	5/3/2006	ACETONE	1.8		5
Influent	SC-01	AH02645	6/8/2006	ACETONE	1.8	K	5
				MTBE	1.6		
				TRICHLOROETHENE	70		
				ETHYL ACETATE	0.7	NJ	5
Effluent	SC-04	AH02643	6/8/2006	ACETONE	1.2	K	5
Effluent-A	SC-04	AH02644	6/8/2006	ACETONE	1.5	K	
			6/8/2006	ETHYL ACETATE	1	NJ	5
Trip Blank	SC-TB	AH02646	6/8/2006		ND		
Influent (MW-24 & EPA-EXT-02)	SC-01	AH03367	7/12/2006	ACETONE	1.8		5
				MTBE	1.6		
				TETRACHLOROETHENE	74		5
Effluent	SC-04	AH03367	7/12/2006	None	ND		
Effluent A	SC-04	AH03368	7/12/2006	None	ND		
Trip Blank	SC-TB	AH03370	7/12/2006	None	ND		
Influent (MW-24 & EPA-EXT-02)	SC-01	AH04373	8/9/2006	ACETONE	1.3	J	5
				MTBE	1.6		
				TRICHLOROETHENE	0.55		
				TETRACHLOROETHENE	65		5
Effluent	SC-04	AH04371	8/9/2006	ACETONE	1.3	J	5
Effluent A	SC-04	AH04372	8/9/2006	ACETONE	2	J	5
Trip Blank	SC-TB	AH04374	8/9/2006	ACETONE	0.78	J	5
Influent (MW-24 & EPA-EXT-02)	SC-01	AH05500	9/6/2006	MTBE	1.7		
				TRICHLOROETHENE	0.68		
				TETRACHLOROETHENE	69		5
Effluent	SC-04	AH05498	9/6/2006		ND		
Effluent A	SC-04	AH05499	9/6/2006	CHLOROMETHANE	0.64		5
Trip Blank	SC-TB	AH05501	9/6/2006		ND		
Influent (MW-24 & EPA-EXT-02)	SC-01	AH05962	10/4/2006	MTBE	1		
				TRICHLOROETHENE	0.54		
				TETRACHLOROETHENE	68		5
Effluent	SC-04	AH05960	10/4/2006	None			
Effluent A	SC-04	AH05961	10/4/2006	None			5
Trip Blank	SC-TB	AH05963	10/4/2006	None			
Influent (MW-24 & EPA-EXT-02)	SC-01	AH06624	11/8/2006	MTBE	1.4		
				TETRACHLOROETHENE	67		5
Effluent	SC-04	AH06622	11/8/2006	None			
Effluent A	SC-04	AH06623	11/8/2006	None			5
Trip Blank	SC-TB	AH06625	11/8/2006	MTBE	0.6		



**Stanton Cleaners Analytical Tracking Table**  
**Influent and Effluent Groundwater Data**

Sample Location	ECC ID*	EPA ID	Date Collected	Compounds Detected	Result (µg/L)	Qualifier**	Discharge Criteria
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**Notes:**

- \* = Unless otherwise noted, samples collected from ECC ID SC-04 were used as the matrix spike / matrix spike duplicate sample.
- \*\* = Data validation was performed by EPA Region II. ECC carried over assigned qualifiers and did not perform a separate review or validation of the data.
- (D) = Detection from a dilution of the sample.
- J = qualified as estimated
- NJ = Presumptive evidence for the presence of the material at an estimated value.
- K = The reported value may be biased high.
- µg/L = micrograms per liter
- MTBE = methyl tertiary - butyl ether
- TIC = Tentatively Identified Compound.

## **Appendix F**

### **Soil Vapor Extraction and Pump and Treat System Bi-weekly Air Monitoring Logs**

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

Date: 11-13-06  
Project # 70536

	Pipe ID	MultiRAE Plus PGM-50					VelociCalc Plus			
		VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.
SVE-Influent	5.709	7.5			0%	0%	102.5	N/A	28.3%	65.1
Post Air Stripper	11.294	0.0			0%	0%	61.2	N/A	96.1%	57.9
SVE-Effluent <sup>1</sup>	5.706	0.0			0%	0%	91.0	N/A	42.0%	64.4
GW Post Vapor Effluent <sup>2</sup>	11.294	0.0			0%	0%	61.9	N/A	72.9%	53.0
EPA-SVE-1 (shallow)	1.913	0.1			0%	0%	76.0	4.75	63.0%	63.3
EPA-SVE-1 (medium)	1.913	0.1			0%	0%	66.5	4.00	85.0%	62.1
EPA-SVE-2 (shallow)	1.913	0.0			0%	0%	73.0	0.25	72.1%	63.3
EPA-SVE-2 (medium)	1.913	0.0			0%	0%	71.9	0.25	72.1%	62.5
SS-A	1.913	0.0			0%	0%	65.7	4.25	84.3%	60.7
EPA-SVE-04R/SS-B(A)	1.913	0.0			0%	0%	65.4	3.25	82.9%	61.2
SS-B-C	1.913									
SS-C	1.913	1.1			0%	0%	66.1	4.00	87.5%	63.0
L1	1.913	0.1			0%	0%	66.0	4.50	86.5%	61.5
L2	1.913									
SS-B(B)	1.913	0.7			0%	0%	66.2	3.00	85.2%	61.8
SS Vent-LIHA	3.786	0.1			0%	0%	69.4	1.75	74.4%	61.3
Vapor Point-1/Slope 1		0.0			0%	0%				
SVE-3A	1.913	0.1			0%	0%				
SVE-3B	1.913	1.0			0%	0%	67	9.00	83.0	61.3
Background		0.0			0%	0%	72.0	N/A	46.0%	54.2
										N/A

Equipment calibrated by: Rob Derrick

**Air readings collected by: Rob Derrick**

Comments:

VOC: Volatile Organic Compounds  
CO: Carbon Monoxide  
LEL: Lower Explosive Limit  
ppm: parts per million  
temperature: measured in degrees Fahrenheit  
pressure: measured in inches of water (in/H2O), inches of mercury (in/Hg), or  
pounds per square inch (psi).  
Flow: measured in cubic feet per minute (cfm)  
%RH: relative humidity  
Dew Pt.: dew point in degrees Fahrenheit  
AS: Air Stripper  
SVE: Soil Vapor Extraction System

- <sup>1</sup>Formerly Post SVE Carbon
- <sup>2</sup>Formerly Post Air Stripper Carbon
- <sup>3</sup>Formerly Sub-Slab A, B, and C
- <sup>4</sup>Formerly Sub-Slab
- D
- <sup>5</sup>Formerly Sub-Slab
- B
- NA- Not Available

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

**Comments:**  
New SVE well EPA-EXT-04 online since 11/4/04  
Sub-slab sample ports online since 3/22/05  
L2 is offline

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

Date: 11/28/06  
Project # 70536

	Pipe ID	MultiRAE Plus PGM-50					VelociCalc Plus				
		VOC	CO	Oxygen	LEL	H2S	Temp.	Vac. Pre.	%RH	Dew pt.	Flow
SVE-Influent	5.709	4.0	0	20.2%	0%	0%	68.9	NA	50.0%	61.2	265
Post Air Stripper	11.294	0.0	0	20.9%	0%	0%	58.2	NA	98.8%	58.0	2790
SVE-Effluent'	5.706	0.0	0	20.1%	0%	0%	62.2	NA	76.2%	55.4	280
GW Post Vapor Effluent <sup>2</sup>	11.294	NM	NM	NM	NM	NM	62.6	NA	92.3%	59.3	2745
EPA-SVE-1 (shallow)	1.913	0.0	0	20.9%	0%	0%	55.9	NA	70.0%	46.5	260
EPA-SVE-1 (medium)	1.913	0.0	0	20.9%	0%	0%	53.9	NA	73.7%	45.7	198
EPA-SVE-2 (shallow)	1.913	0.2	0	19.6%	0%	0%	NA	NA	NA	NA	NA
EPA-SVE-2 (medium)	1.913	0.0	0	20.9%	0%	0%	52.7	NA	79.4%	46.5	25
SS-A	1.913	0.0	0	20.9%	0%	0%	69.1	NA	49.2%	46.9	1485
EPA-SVE-04R/SS-B(A)	1.913	0.0	0	20.9%	0%	0%	54.8	NA	74.2%	47.1	207
SS-B-C	1.913	0.0	0	20.9%	0%	0%	55.6	NA	81.8%	50.1	93
SS-C	1.913	0.0	0	20.9%	0%	0%	56.1	NA	74.4%	48.4	1650
L1	1.913	0.0	0	20.9%	0%	0%	55.4	NA	70.3%	45.7	4035
L2	1.913	Not measured - offline									
SS-B(B)	1.913	0.0	0	20.9%	0%	0%	57.0	NA	71.5%	47.8	1070
SS Vent-LIHA	3.786	0.0	0	20.9%	0%	0%	55.9	NA	61.5%	46.4	790
Vapor Point-1/Slope 1		NF	NF	NF	NF	NF	NF	NA	NF	NF	NF
SVE-3A	1.913	0.0	0	20.9%	0%	0%	52.6	NA	84.0%	47.3	over
SVE-3B	1.913	1.3	0	20.9%	0%	0%	56.9	NA	66.1%	45.8	4390
Background		0.0	0	20.9%	0%	0%	NA	NA	NA	NA	NA

Equipment calibrated by: Chuck Fernald, Russ Kolacek

**Air readings collected by: Chuck Fernald, Russ Kolacek**

VOC: Volatile Organic Compounds  
CO: Carbon Monoxide  
LEL: Lower Explosive Limit  
ppm: parts per million  
temperature: measured in degrees Fahrenheit  
pressure: measured in inches of water (in/H<sub>2</sub>O), inches of mercury (in/Hg), or  
pounds per square inch (psi).  
Flow: measured in feet per minute (fm)  
%RH: relative humidity

Dew Pt.: dew point in degrees Fahrenheit

AS: Air Stripper

SVE: Soil Vapor Extraction System

SVE 1

SVE 2

SVE 3

SVE 4

EPA-SVE-04R/SSB(A)

SS-A

SS-B(B)

SS-B(C)

L1

L2

**Comments:**

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

Sub-slab sample ports online since 3/22/05

L2 is offline

Flow on velocalc accidentally measured in ft/min.

**Table Comments:**

NM=Not Measured, batteries dead on MultiRae

NF=Not Found, could not locate

Vacuum pressure not measured, gauge not working

Flow on velocalc accidentally measured in ft/min.

<sup>1</sup>Formerly Post SVE Carbon

<sup>2</sup>Formerly Post Air Stripper Carbon

<sup>3</sup>Formerly Sub-Slab A, B, and C

<sup>4</sup>Formerly Sub-Slab

D

<sup>5</sup>Formerly Sub-Slab

B

NA- Not Available

**Prior to 10/3/05**

shallow on

shallow on

shallow on

off

on

on

on

on

on

on

**After 10/3/05**

shallow and medium on

shallow on

shallow on

off

on

on

off

on

on

off

## **Appendix G**

### **Semi-Annual Groundwater Sampling Analytical Data**

**No Groundwater Sampling Event this Month**



## **Appendix H**

### **Historical Groundwater Level Monitoring Results (Ongoing)**

**HISTORICAL GROUNDWATER ELEVATIONS  
STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE  
GREAT NECK, NASSAU COUNTY, NEW YORK**

Well ID	Top of PVC Elevation (ft msl)	10/29/2003		10/31/2003		11/22/03 - 11/23/03	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	57.74	16.89	57.94	16.69	60.07	14.56
EPA-MW-21	84.13	66.70	17.43	66.14	17.99	66.86	17.27
EPA-MW-22	82.20	64.51	17.69	64.08	18.12	65.09	17.11
EPA-MW-23	82.83	64.97	17.86	64.54	18.29	78.61	4.22
EPA-MW-27	69.32	51.74	17.58	51.12	18.20	52.85	16.47
ST-MW-02	82.03	64.19	17.84	63.78	18.25	64.40	17.63
ST-MW-06	69.83	63.43	6.40	44.82	25.01	44.92	24.91
ST-MW-09	78.13	61.39	16.74	60.67	17.46	62.52	15.61
ST-MW-11	75.25	58.67	16.58	58.06	17.19	60.59	14.66
ST-MW-12	87.20	73.84	13.36	70.18	17.02	72.01	15.19
ST-MW-14	69.73	50.94	18.79	50.76	18.97	56.40	13.33
ST-MW-16	75.78	55.51	20.27	55.53	20.25	65.51	10
ST-MW-17	86.53	69.95	16.58	69.27	17.26	71.55	14.98
ST-MW-19	82.50	67.01	15.49	64.93	17.57	68.04	14.46
ST-MW-20	84.53	65.99	18.54	65.83	18.70	73.45	11.08

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	12/17/03 - 12/18/03		1/12/2004		2/26/2004	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	59.00	15.63	57.52	17.11	56.50	18.13
EPA-MW-21	84.13	64.99	19.14	66.17	17.96	64.30	19.83
EPA-MW-22	82.20	63.03	19.17	63.99	18.21	61.90	20.30
EPA-MW-23	82.83	77.05	5.78	64.45	18.38	63.00	19.83
EPA-MW-27	69.32	51.75	17.57	51.22	18.10	50.50	18.82
ST-MW-02	82.03	63.25	18.78	64.03	18.00	62.03	20.00
ST-MW-06	69.83	43.10	26.73	45.74	24.09	44.40	25.43
ST-MW-09	78.13	61.50	16.63	--	--	60.00	18.13
ST-MW-11	75.25	59.23	16.02	62.10	13.15	60.90	14.35
ST-MW-12	87.20	72.00	15.20	70.27	16.93	60.50	26.70
ST-MW-14	69.73	55.05	14.68	NA	NA	48.70	21.03
ST-MW-16	75.78	64.18	11.60	54.99	20.79	53.00	22.78
ST-MW-17	86.53	69.99	16.54	69.40	17.13	67.25	19.28
ST-MW-19	82.50	67.21	15.29	--	--	65.25	17.25
ST-MW-20	84.53	71.56	12.97	63.51	21.02	61.75	22.78

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	3/29/2004		4/5/2004		5/19/2004	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	60.00	14.63	60.36	14.27	60.30	14.33
EPA-MW-21	84.13	66.99	17.14	67.38	16.75	67.10	17.03
EPA-MW-22	82.20	61.90	20.30	65.00	17.20	64.98	17.22
EPA-MW-23	82.83	65.10	17.73	65.59	17.24	65.25	17.58
EPA-MW-27	69.32	52.08	17.24	52.84	16.48	53.10	16.22
ST-MW-02	82.03	63.99	18.04	64.90	17.13	64.87	17.16
ST-MW-06	69.83	45.60	24.23	46.24	23.59	46.25	23.58
ST-MW-09	78.13	62.80	15.33	--	--	62.00	16.13
ST-MW-11	75.25	60.00	15.25	60.85	14.40	60.46	14.79
ST-MW-12	87.20	72.22	14.98	72.22	14.98	72.12	15.08
ST-MW-14	69.73	56.99	12.74	57.87	11.86	58.13	11.60
ST-MW-16	75.78	54.68	21.10	55.48	20.30	55.09	20.69
ST-MW-17	86.53	70.25	16.28	71.76	14.77	71.80	14.73
ST-MW-19	82.50	66.00	16.50	--	--	65.78	16.72
ST-MW-20	84.53	71.45	13.08	73.78	10.75	73.65	10.88

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- Not measured

Well ID	Top of PVC Elevation (ft msl)	6/14/2004		7/21/04 - 7/22/04		8/2/2004	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	59.97	14.66	59.75	14.88	59.75	14.88
EPA-MW-21	84.13	67.00	17.13	66.99	17.14	66.11	18.02
EPA-MW-22	82.20	64.78	17.42	64.50	17.70	64.33	17.87
EPA-MW-23	82.83	66.21	16.62	66.10	16.73	65.16	17.67
EPA-MW-27	69.32	53.05	16.27	52.98	16.34	54.86	14.46
ST-MW-02	82.03	65.11	16.92	65.00	17.03	59.85	22.18
ST-MW-06	69.83	45.99	23.84	45.66	24.17	44.11	25.72
ST-MW-09	78.13	62.00	16.13	61.79	16.34	--	--
ST-MW-11	75.25	60.40	14.85	60.39	14.86	60.50	14.75
ST-MW-12	87.20	72.29	14.91	72.20	15.00	71.36	15.84
ST-MW-14	69.73	58.55	11.18	58.34	11.39	55.56	14.17
ST-MW-16	75.78	55.09	20.69	55.01	20.77	54.85	20.93
ST-MW-17	86.53	71.52	15.01	71.46	15.07	70.80	15.73
ST-MW-19	82.50	65.00	17.50	64.77	17.73	--	--
ST-MW-20	84.53	73.44	11.09	73.25	11.28	71.66	12.87

**Notes:**

ft msl - feet mean sea level  
ft BTOC - feet below top of casing  
-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	9/28/04 - 9/29/04		10/12/04 - 10/13/04		11/3/2004	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	59.70	14.93	58.97	15.66	58.95	15.68
EPA-MW-21	84.13	66.75	17.38	66.50	17.63	66.41	17.72
EPA-MW-22	82.20	64.41	17.79	64.34	17.86	64.32	17.88
EPA-MW-23	82.83	65.11	17.72	65.00	17.83	64.87	17.96
EPA-MW-27	69.32	52.31	17.01	52.25	17.07	52.26	17.06
ST-MW-02	82.03	65.00	17.03	65.03	17.00	65.00	17.03
ST-MW-06	69.83	44.55	25.28	55.34	14.49	55.29	14.54
ST-MW-09	78.13	62.00	16.13	62.12	16.01	62.15	15.98
ST-MW-11	75.25	60.41	14.84	60.50	14.75	60.34	14.91
ST-MW-12	87.20	72.00	15.20	72.21	14.99	72.22	14.98
ST-MW-14	69.73	56.71	13.02	56.50	13.23	56.49	13.24
ST-MW-16	75.78	55.10	20.68	57.00	18.78	57.01	18.77
ST-MW-17	86.53	70.99	15.54	70.98	15.55	70.95	15.58
ST-MW-19	82.50	64.84	17.66	64.80	17.70	64.79	17.71
ST-MW-20	84.53	71.97	12.56	72.00	12.53	72.55	11.98

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	12/8/2004		1/3/2005		2/7/2005	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	59.75	14.88	59.10	15.53	57.63	17.00
EPA-MW-21	84.13	66.61	17.52	65.67	18.46	65.80	18.33
EPA-MW-22	82.20	64.33	17.87	64.44	17.76	65.32	16.88
EPA-MW-23	82.83	65.16	17.67	65.10	17.73	64.44	18.39
EPA-MW-27	69.32	52.24	17.08	51.87	17.45	50.85	18.47
ST-MW-02	82.03	64.54	17.49	64.78	17.25	63.90	18.13
ST-MW-06	69.83	44.11	25.72	55.41	14.42	47.32	22.51
ST-MW-09	78.13	59.98	18.15	62.31	15.82	63.44	14.69
ST-MW-11	75.25	60.50	14.75	59.99	15.26	58.64	16.61
ST-MW-12	87.20	71.36	15.84	71.98	15.22	70.45	16.75
ST-MW-14	69.73	55.56	14.17	56.51	13.22	50.15	19.58
ST-MW-16	75.78	54.85	20.93	57.08	18.70	55.15	20.63
ST-MW-17	86.53	70.80	15.73	71.03	15.50	70.75	15.78
ST-MW-19	82.50	64.32	18.18	64.76	17.74	65.01	17.49
ST-MW-20	84.53	71.66	12.87	72.43	12.10	65.09	19.44

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	3/22/2005		4/11/2005		5/19/2005	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	60.00	14.63	60.99	13.64	61.00	13.63
EPA-MW-21	84.13	64.50	19.63	64.00	20.13	63.21	20.92
EPA-MW-22	82.20	64.55	17.65	65.12	17.08	65.43	16.77
EPA-MW-23	82.83	65.00	17.83	65.10	17.73	65.00	17.83
EPA-MW-27	69.32	51.67	17.65	51.60	17.72	51.33	17.99
ST-MW-02	82.03	63.99	18.04	63.89	18.14	63.40	18.63
ST-MW-06	69.83	55.40	14.43	55.42	14.41	55.32	14.51
ST-MW-09	78.13	61.20	16.93	61.78	16.35	61.72	16.41
ST-MW-11	75.25	60.10	15.15	60.00	15.25	59.99	15.26
ST-MW-12	87.20	72.00	15.20	71.21	15.99	71.12	16.08
ST-MW-14	69.73	56.20	13.53	56.33	13.40	56.34	13.39
ST-MW-16	75.78	57.00	18.78	57.10	18.68	57.30	18.48
ST-MW-17	86.53	70.78	15.75	70.00	16.53	59.90	26.63
ST-MW-19	82.50	63.23	19.27	63.00	19.50	63.00	19.50
ST-MW-20	84.53	71.32	13.21	71.21	13.32	71.71	12.82

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured



Well ID	Top of PVC Elevation (ft msl)	6/15/2005		7/7/2005		8/4/2005	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	58.70	15.93	58.51	16.12	59.07	15.56
EPA-MW-21	84.13	66.35	17.78	66.27	17.83	66.85	17.28
EPA-MW-22	82.20	63.83	18.37	63.78	18.42	64.38	17.82
EPA-MW-23	82.83	64.32	18.51	64.29	18.54	64.88	17.95
EPA-MW-27	69.32	51.45	17.87	51.35	17.97	51.84	17.48
ST-MW-02	82.03	--	--	--	--	--	--
ST-MW-06	69.83	45.70	24.13	45.90	23.93	45.80	24.03
ST-MW-09	78.13	63.45	14.68	63.29	14.84	63.94	14.19
ST-MW-11	75.25	--	--	--	--	--	--
ST-MW-12	87.20	71.02	16.18	70.71	16.49	71.42	15.78
ST-MW-14	69.73	55.08	14.65	54.99	14.74	55.45	14.28
ST-MW-16	75.78	54.54	21.24	54.71	21.07	54.82	20.96
ST-MW-17	86.53	70.35	16.18	70.17	16.36	70.78	15.75
ST-MW-19	82.50	66.82	15.68	66.89	15.61	66.53	15.97
ST-MW-20	84.53	71.20	13.33	71.07	13.46	71.59	12.94

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	8/30/2005		10/11/2005		11/6/2005	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63			59.28	15.35	60.09	
EPA-MW-21	84.13	67.03	17.10	67.35	16.78	67.14	16.99
EPA-MW-22	82.20	64.52	17.68	64.93	17.27	64.67	17.53
EPA-MW-23	82.83	65.03	17.80	65.43	17.40	65.17	17.66
EPA-MW-27	69.32	55.11	14.21	52.38	16.94	52.27	17.05
ST-MW-02	82.03	64.42	17.61				
ST-MW-06	69.83	46.25	23.58	45.99	23.84	43.69	26.14
ST-MW-09	78.13			64.28	13.85	64.40	13.73
ST-MW-11	75.25		--				--
ST-MW-12	87.20	71.61	15.59	71.68	15.52	71.76	15.44
ST-MW-14	69.73	55.71	14.02	55.71	14.02	57.16	12.57
ST-MW-16	75.78	55.21	20.57	55.78	20.00	54.55	21.23
ST-MW-17	86.53	70.99	15.54	71.09	15.44	71.36	15.17
ST-MW-19	82.50	66.71	15.79	66.90	15.60	66.86	15.64
ST-MW-20	84.53	71.83	12.70	71.78	12.75	74.56	9.97

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	12/19/2005		1/24/2006		2/22/2006	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	59.19	15.44	59.22	15.41	58.37	16.26
EPA-MW-21	84.13	66.84	17.29	66.55	17.58	65.72	18.41
EPA-MW-22	82.20	64.39	17.81	64.09	18.11	63.38	18.82
EPA-MW-23	82.83	64.89	17.94	64.61	18.22	63.91	18.92
EPA-MW-27	69.32	51.96	17.36	51.72	17.60	51.10	18.22
ST-MW-02	82.03	--	--				
ST-MW-06	69.83	44.43	25.40	44.08	25.75	44.88	24.95
ST-MW-09	78.13	63.96	14.17	63.77	14.36	63.24	14.89
ST-MW-11	75.25	--	--				
ST-MW-12	87.20	71.43	15.77	71.17	16.03	70.58	16.62
ST-MW-14	69.73	55.58	14.15	56.09	13.64	54.86	14.87
ST-MW-16	75.78	54.77	21.01	54.43	21.35	54.17	21.61
ST-MW-17	86.53	70.82	15.71	70.62	15.91	70.03	16.50
ST-MW-19	82.50	66.94	15.56	66.66	15.84	66.46	16.04
ST-MW-20	84.53	71.64	12.89	72.13	12.40	70.81	13.72

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	4/11/2006		5/2/2006		6/26/2006	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	59.30	15.33	64.90	9.73		
EPA-MW-21	84.13	66.23	17.90	63.84	20.29	65.44	18.69
EPA-MW-22	82.20	63.89	18.31	63.59	18.61	63.10	19.10
EPA-MW-23	82.83	64.44	18.39	68.99	13.84	63.70	19.13
EPA-MW-27	69.32	51.72	17.60	51.28	18.04	51.78	17.54
ST-MW-02	82.03						
ST-MW-06	69.83	46.54	23.29	44.58	25.25	43.81	26.02
ST-MW-09	78.13	63.96	14.17	63.50	14.63	62.92	15.21
ST-MW-11	75.25						
ST-MW-12	87.20	71.35	15.85	73.87	13.33	70.24	16.96
ST-MW-14	69.73	56.10	13.63	55.71	14.02	54.38	15.35
ST-MW-16	75.78	54.58	21.20	54.63	21.15	53.85	21.93
ST-MW-17	86.53	70.76	15.77	70.35	16.18	69.74	16.79
ST-MW-19	82.50	67.13	15.37	66.69	15.81	65.70	16.80
ST-MW-20	84.53	72.13	12.40	71.80	12.73	73.45	11.08

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	7/20/2006		8/31/2006		9/27/2006	
		DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)	DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	58.62	16.01	58.12	16.51	58.17	16.46
EPA-MW-21	84.13	65.57	18.56	65.42	18.71	65.43	18.70
EPA-MW-22	82.20	63.23	18.97	63.13	19.07	63.11	19.09
EPA-MW-23	82.83	63.77	19.06	63.64	19.19	63.68	19.15
EPA-MW-27	69.32	51.00	18.32	50.80	18.52	50.81	18.51
ST-MW-02	82.03	64.11					
ST-MW-06	69.83	43.43	26.40	43.61	26.22	45.00	24.83
ST-MW-09	78.13	63.18	14.95	62.92	15.21	63.97	14.16
ST-MW-11	75.25						
ST-MW-12	87.20	70.56	16.64	70.21	16.99	70.42	16.78
ST-MW-14	69.73	55.57	14.16	54.82	14.91	54.69	15.04
ST-MW-16	75.78	53.54	22.24	53.75	22.03	54.57	21.21
ST-MW-17	86.53	70.05	16.48	69.71	16.82	69.85	16.68
ST-MW-19	82.50	64.97	17.53	65.69	16.81	65.79	16.71
ST-MW-20	84.53	71.54	12.99	70.86	13.67	73.83	10.70

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not measured

Well ID	Top of PVC Elevation (ft msl)	10/25/2006	
		DTW (ft BTOC)	Elevation (ft msl)
EPA-MW-11D	74.63	58.92	15.71
EPA-MW-21	84.13	65.80	18.33
EPA-MW-22	82.20	63.48	18.72
EPA-MW-23	82.83	64.04	18.79
EPA-MW-27	69.32	51.29	18.03
ST-MW-02	82.03		
ST-MW-06	69.83	45.18	24.65
ST-MW-09	78.13	63.45	14.68
ST-MW-11	75.25		
ST-MW-12	87.20	70.87	16.33
ST-MW-14	69.73	56.69	13.04
ST-MW-16	75.78	54.90	20.88
ST-MW-17	86.53	70.35	16.18
ST-MW-19	82.50	66.22	16.28
ST-MW-20	84.53	71.71	12.82

**Notes:**

ft msl - feet mean sea level

ft BTOC - feet below top of casing

-- - Not  
measured

Well ID	Top of PVC Elevation (ft msl)	5/22/2006	
		DTW (ft BTOC)	Elevation (ft msl)
ST-MW-02	82.03	63.36	18.67
ST-MW-16	75.78	54.52	21.26
EPA-MW-25	73.24	54.03	19.21
EPA-MW-26	78.37	58.64	19.73
ST-MW-15	90.13	72.78	17.35
ST-MW-18	84.4	71.9	12.50
ST-MW-12	87.2	70.4	16.80
ST-MW-17	86.53	69.96	16.57
ST-MW-20	84.53	71.37	13.16
ST-MW-19	N/A	66.3	
ST-MW-09	N/A		
EPA-MW-9A	80.24	65.18	15.06
ST-MW-06	69.83	44.5	25.33
EPA-MW-27	69.32	51.03	18.29
ST-MW-14	69.73	55.35	14.38

**Notes:**

ft msl - feet mean sea level  
ft BTOC - feet below top of casing  
-- - Not measured

## **Appendix I**

### **Indoor Air Quality Analytical Data**



**Appendix J**

**Action List Dated November 2006**



A **tyco** International Ltd. Company

### **NOVEMBER 2006 ACTION LIST SUMMARY**

**PROJECT:** Stanton Cleaners  
**LOCATION:** Great Neck, NY  
**CLIENT:** USACE / USEPA

**JOB NUMBER:** 70536  
**DATE:** January 4, 2007

<b><u>COMPLETED ITEMS</u></b>	<b><u>DATE PERFORMED</u></b>
O&M Inspection/System Monitoring	11/7/2006
Monthly System sampling	11/7/2006
O&M Inspection/System Monitoring	11/14/2006
Bi-weekly Air Monitoring	11/16/2006
O&M Inspection/System Monitoring	11/28/2006
Bi-weekly Air Monitoring	11/28/2006
Monthly calibration of pH and conductivity meters	11/28/2006

<b><u>OUTSTANDING ITEMS</u></b>	<b><u>RECOMMENDED SOLUTION</u></b>
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