# Monthly Operations and Monitoring Report

## April 2006

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

*Prepared for:*
Environmental Chemical Corporation
1293 Broad Street, Suite 200
Bloomfield, New Jersey 07003

*Prepared by:*
Earth Tech, Inc.
7870 Villa Park Drive, Suite 400
Richmond, Virginia 23228

*May26 , 2006*

ET Project No. 70536.02.01.02

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*Prepared by:* *Robert Derrick*

*Title:* *Environmental Technician*

ET Project No. 70536.02.01.02

*Date:* *May 16, 2006*

*Reviewer:* *James Kearns*

*Title:* *Environmental Scientist*

*Date:* May 26, 2006

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## 1.0 INTRODUCTION

This Monthly Operations and Monitoring Report, April 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 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 EPA 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 EPA 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 was installed to remediate the 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; 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 GWTS and SVE, 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.

- 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 April 1 and April 30, 2006.

## 2.0 SUMMARY OF ACTIVITIES DURING APRIL 2006

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

- April 4 – O&M Inspection/System Monitoring
- April 4 – Monthly System Sampling
- April 4 – Flex hose at the sub slab at the Long Island Hebrew Academy was replaced with permanent hard piping. The outside piping to the blower was also replaced with hard piping and the blower itself was stabilized
- April 11 – O&M Inspection/System Monitoring
- April 11 – Bi-weekly air monitoring
- April 11 – Change out of carbon filters on the rooftop of the LIHA
- April 18 – O&M Inspection/System Monitoring
- April 18 – The broken actuator for well EPA-EXT-02 was replaced with a working one

Details of system shutdowns and alarms during the month of April 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 2,799,342.7 gallons during the month of April 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 64.8 gallons per minute (gpm). The system has treated a total of 124,682,647 gallons since the plant startup in November 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 April 4, 11 and 18, 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 (Jim Simmonds or James Kearns). If they require guidance or notes any serious conditions, the inspector notifies the response manager (Tom Williams). The checklists are completed on site and sent to James Kearns 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 PLC. This data is downloaded every two weeks. The March 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's Operations and maintenance logs indicated there has been a slight reduction in discharge flow for the P&T system. In an effort to increase the discharge flow, it was determined that the P&T 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, GWTS 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 (in accordance with National Pollutant Discharge Elimination System (NPDES) permit equivalency) are met. The combined GWTS influent, along with the GWTS effluent (discharge), will be sampled by the 15th of each month. Collected samples will be shipped to a designated EPA, CLP lab for analysis of TCL volatile organic compounds.

Earth Tech personnel conducted the GWTS influent and effluent sampling for this report period on April 4, 2006. The samples were shipped to the USEP Region II 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 GWTS 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 GWTS PLC on a daily basis; this information is included with the downloaded data in Appendix C.

The next GWTS influent / effluent sampling event is scheduled for May 2, 2006.

#### 3.2.2 Process Air Stream Monitoring

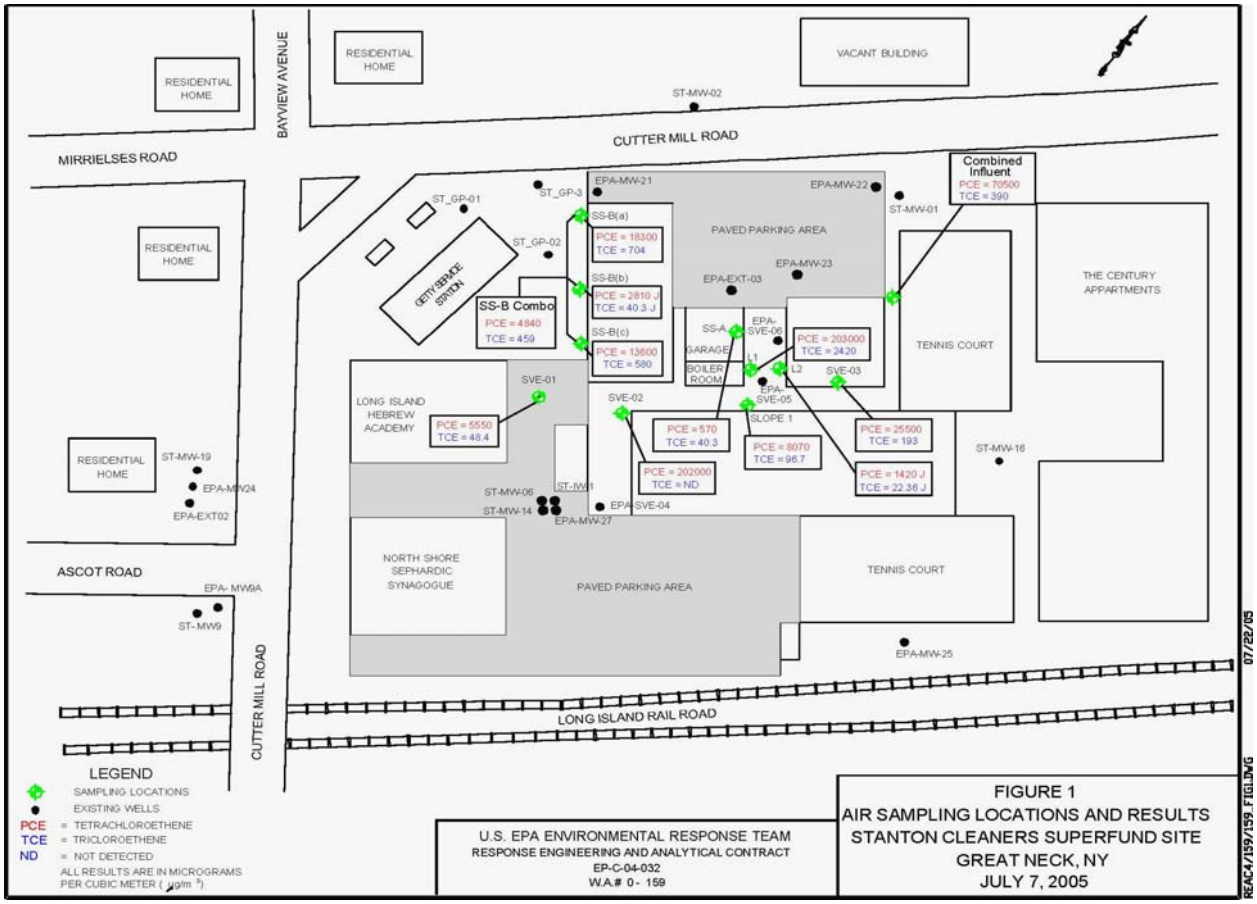
Air monitoring of the SVE and Pump and Treat System is performed on a bi-weekly basis. It includes monitoring for VOCs, air velocity, temperature, humidity, dew point, vacuum pressure and other parameters, as specified in the O&M manual. Air monitoring is performed at the following locations within the 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)

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.

| 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 REAC's 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 below (please note the results in the figure are reported in micrograms per cubic meter).




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. The bi-weekly air monitoring logs are included in Appendix F. Estimated PCE removal rates for the SVE system are presented in Table 1. A Graph showing the estimated PCE removal rate trend over time is presented in Figure 2. The next bi-weekly air-monitoring event is scheduled for May 4, 2006.

## 4.0 MONITORING WELL SAMPLING

Groundwater samples from select monitoring wells both on and off-site are 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 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 USPEA, USACE, and ECC.

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 RPM selection/request). Also below is a list of monitored well samples that will be further analyzed for monitoring and natural attenuation parameters.

**Well to be Sampled**

1) ST-MW-02,
2) EPA-MW-22,
3) EPA-MW-21,
4) ST-MW-15,
5) ST-MW19,
6) ST-MW-12,
7) CL-1D
8) EPA-MW-26
9) EPA-MW-23
10) ST-MW-14
11) EPA-MW-27
12) EPA-MW-9A
13) ST-MW11
14) EPA-MW29
15) CL-4D
16) ST-MW-20 (as a back-up only in the event another well cannot be sampled)
17) ST-MW-17 (as a back-up only in the event another well cannot be sampled)

**Monitoring & Natural Attenuation Parameter Wells**

1) CL-1D
2) EPA-MW-29

3) STMW-20
4) EPA-MW-26
5) EPA-MW-27
6) STMW-17
7) STMW-12
8) ST-MW-19
9) EPA-MW-21
10) And EPA-MW-9A (as a back-up only in the event another well cannot be sampled)

## 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 collected on May 2, 2006. The location and number of monitoring wells was determined by the USEPA based on the site Capture Zone Analysis Plan. Groundwater level measurements for May 2, 2006 and 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 September 20 and 21, 2005 by Earth Tech personnel. This sampling event was conducted to address air quality issues within the Long Island Hebrew Academy. The next indoor air sampling event is planned for May 2006.

## 7.0 FUTURE EVENTS PLANNED

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

- Continue to perform GWTS 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;
- Collect groundwater samples from monitoring wells as directed by USACE/ECC/USEPA (Planned for week of May 22, 2006);
- Collect indoor air quality samples as directed by USACE/ECC/USEPA (Planned for May 2006);
- Revise O&M manual to reflect changes to GWP&T carbon vessel set-up (April 2006);
- Review aqueous and SVE vapor phase carbon change out schedule (review performed in December 2005, to be changed out in June 2006)

- Change out of carbon in indoor air filters inside the Stanton treatment building

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

The altering of the piping for the 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 gpm to 72 gpm following the change. 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.

# Tables

**TABLE 1**
**ESTIMATED PCE RECOVERY RATES**
**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE**
**250 CFM SVE SYSTEM**
**September 2003 - April 2006**

| Date | # of Days | Flow Rate (cfm) | Flow Rate Avg (cfm) | VOC Concentration (ppm) | VOC Average (ppm) | VOC Discharge Rate (lbs/day) | VOC 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 |
| | | | | | | **Total** | **148.7** |

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.

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

$$C_{air\ (mg/m3)} = \frac{Conc\ (ppmv)}{1E+06} \times \frac{1\ mole\ air}{24.1\ L} \times \frac{1000\ L}{m3} \times \frac{1000\ mg}{g} \times MW_x$$

Notes:
Mair = mass loading, removal rate in air (lbs/day)
Qair = flow rate in air (cfm)
Cair = contaminant concentration (mg/m3)
MWx = 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 Celsius), the conversion is (1 mole air)/(22.4 L).*

**TABLE 1 (continued)**
**ESTIMATED PCE RECOVERY RATES**
**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE**
**250 CFM SVE SYSTEM**
**September 2003 - April 2006**

| 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 |
| | | | | | | **Total** | **223.5** |

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.

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

$$C_{air\ (mg/m3)} = \frac{Conc\ (ppmv)}{1E+06} \times \frac{1\ mole\ air}{24.1\ L} \times \frac{1000\ L}{m3} \times \frac{1000\ mg}{g} \times MW_x$$

Notes:
Mair = mass loading, removal rate in air (lbs/day)
Qair = flow rate in air (cfm)
Cair = contaminant concentration (mg/m3)
MWx = 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 Celsius), the conversion is (1 mole air)/(22.4 L).*

**TABLE 1**
**ESTIMATED PCE RECOVERY RATES**
**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE**
**250 CFM SVE SYSTEM**
**September 2003 – April 2006**

| Date | # of Days | Flow Rate | | VOC | | | |
|---|---|---|---|---|---|---|---|
| | | (cfm) | Avg (cfm) | Concentration (ppm) | Average (ppm) | Discharge Rate (lbs/day) | Total Discharge (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 |
| | | | | | | **Total** | **378.3** |

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
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Notes:
Mair = mass loading, removal rate in air (lbs/day)
Qair = flow rate in air (cfm)
Cair = contaminant concentration (mg/m3)
MWx = 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 Celsius), the conversion is (1 mole air)/(22.4 L).*

**TABLE 1**
**ESTIMATED PCE RECOVERY RATES**
**STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE**
**250 CFM SVE SYSTEM**
**September 2003 - April 2006**

| Date | # of Days | Flow Rate | | VOC | | | |
|---|---|---|---|---|---|---|---|
| | | (cfm) | Avg (cfm) | Concentration (ppm) | Average (ppm) | Discharge Rate (lbs/day) | Total Discharge (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 |
| | | | | | | **Total** | **523.5** |

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.

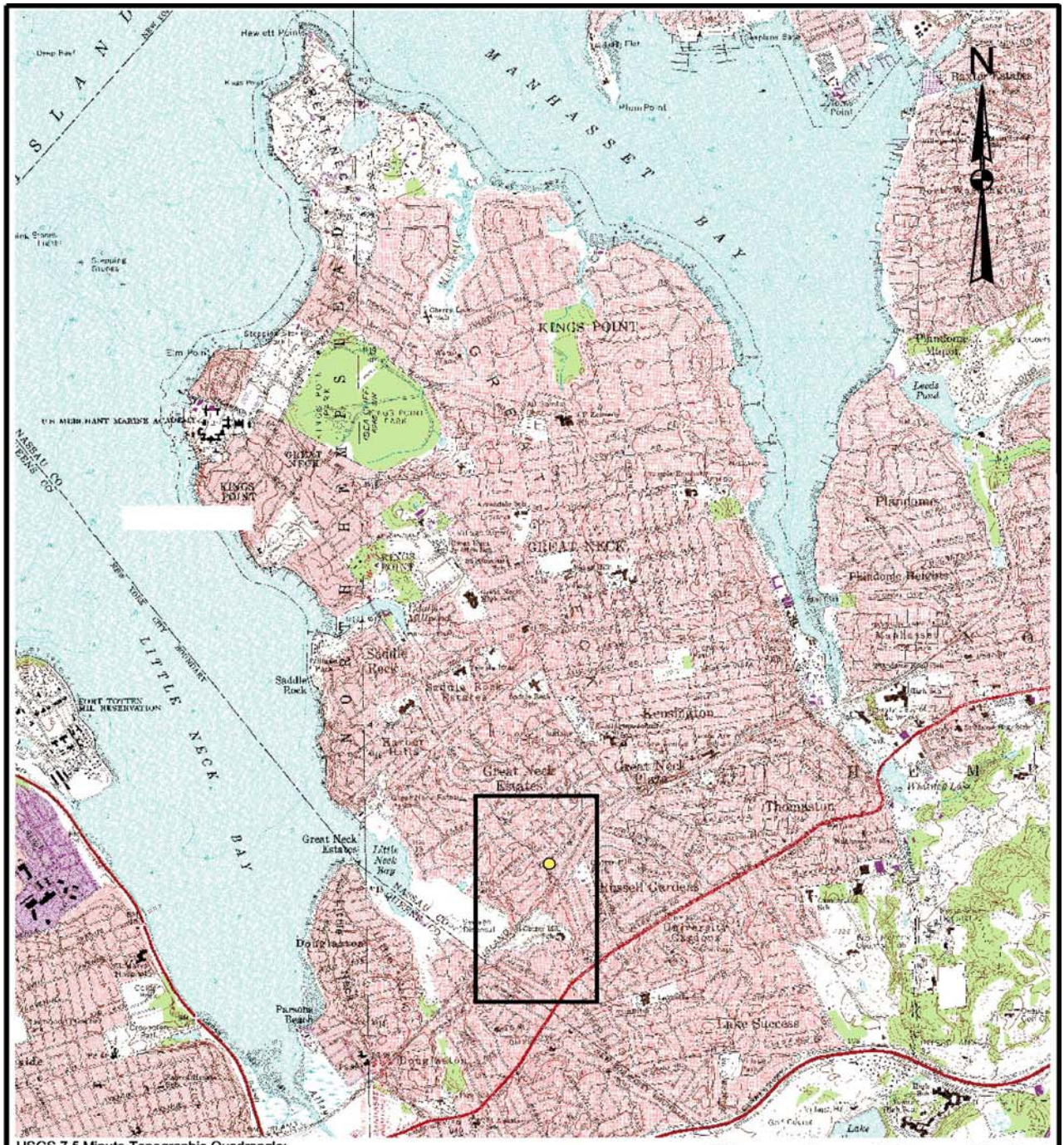
$$M_{air} = Q_{air} \times C_{air} \times \frac{0.0283\ m3}{ft.3} \times \frac{1440\ min.}{day} \times \frac{2.2\ lbs.}{1000000\ mg}$$

$$C_{air\ (mg/m3)} = \frac{Conc\ (ppmv)}{1E+06} \times \frac{1\ mole\ air}{24.1\ L} \times \frac{1000\ L}{m3} \times \frac{1000\ mg}{g} \times MW_x$$

Notes:
Mair = mass loading, removal rate in air (lbs/day)
Qair = flow rate in air (cfm)
Cair = contaminant concentration (mg/m3)
MWx = 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 Celsius), the conversion is (1 mole air)/(22.4 L).*

# Figures



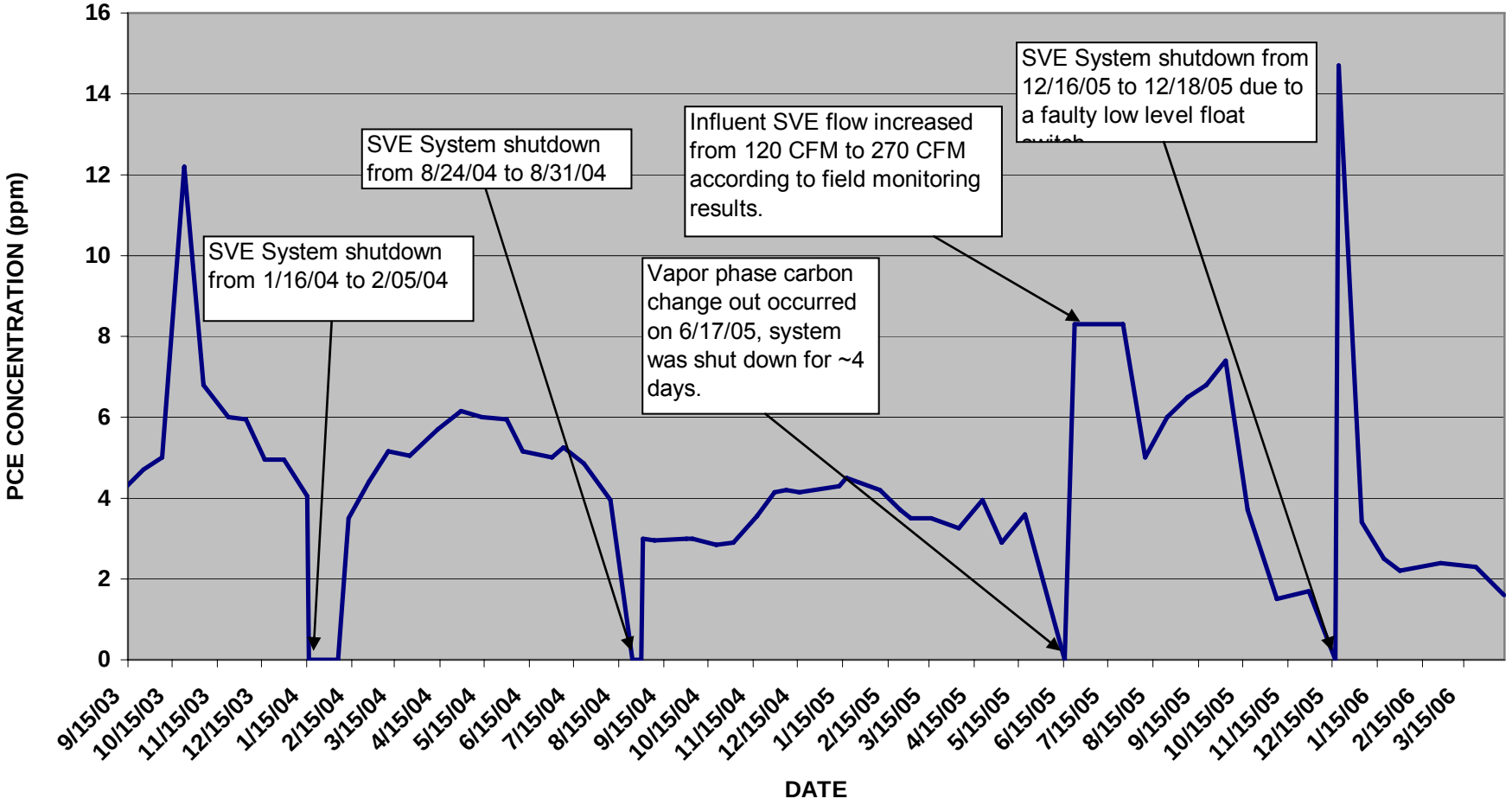

EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

Figure 1
Site Location Map
Stanton Cleaners Area
Groundwater Contamination Site

Stanton Cleaners Area
Groundwater Contamination Site
Great Neck, Nassau County, New York

**Figure 2**
**STANTON CLEANERS AREA GOUNDWATER CONTAMINATION SITE**
**AVERAGE PCE CONCENTRATIONS (ppm)**
**250 CFM FINAL SVE SYSTEM**
**September 2003 - April 2006**



# 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: 4/4/06 | **Earth Tech Project No.: 70536**

| Day | S | **M** | **T** | **W** | **T** | **F** | **S** |
|---|---|---|---|---|---|---|---|
| Weather | | | **CLOUDY** | | | | |
| Temp. | | | **40°F** | | | | |
| Wind | | | **10-15 MPH GUSTS** | | | | |
| Humidity | | | **50%** | | | | |

Earth Tech Personnel On-Site: **Robert Derrick, Chuck Fernald**

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

Contract Materials and Equipment on site: **Ford F 150, F-150, bottle ware, general sampling equipment, piping, general hand tools and piping materials**

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

**Monthly System Sampling**
**O and M Inspection**
**Hard piped the sub slab over at the LIHA from the well to where it goes inside the wall as well as the outside portion (from where it comes out of the wall to where it connects with the blower)**
**Stabilized the blower**

Quality Control Activities (including field calibrations): **Calibration of Horiba**

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**

# 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.<br>Address: 7870 Villa Park Drive, Suite 400<br>Richmond, Virginia 23228<br>Phone No.: (804) 515-8300 | |
| Date: 4/4/06 | **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? **Included in the Site Specific Health & Safety Plan**

Comments and deficiencies noted and corrective actions taken: **Explained in work performed section.**

Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.

**Explained in work performed section.**

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:

**Monthly well gauging**

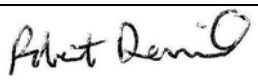
**Bi-weekly air monitoring**

**Weekly O and M inspection**

**Rooftop filter change out at LIHA**

**In door air filter carbon change out at Stanton (end of month)**

By: Robert Derrick Title: Environmental Scientist

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)

# 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: 4/11/06 | **Earth Tech Project No.: 70536**

| Day | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| Weather | | | **SUNNY** | | | | |
| Temp. | | | **65°F** | | | | |
| Wind | | | **5-10 MPH** | | | | |
| Humidity | | | **35%** | | | | |

Earth Tech Personnel On-Site: **Robert Derrick, Frank Mahalski, William Pollard**

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

Contract Materials and Equipment on site: **Ford F 150, F-150, MultiRae PID, VelociCalc, air pump, air sample bag, carbon filters, water level meter, general hand tools**

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

**O and M Inspection/System monitoring**
**Bi weekly air monitoring**
**Change out of the roof-top filters at the Long Island Hebrew Academy**
**Water level gauging**

Quality Control Activities (including field calibrations): **Calibration of 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

# 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: 4/11/06 | **Earth Tech Project No.: 70536**

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: **Explained in work performed section.**

Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.

**Explained in work performed section.**

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:

**Bi-weekly air monitoring**

**Weekly O and M inspection**

**Change out of carbon in indoor air filters inside Stanton**

**Well sampling (week of May 1)**

By: Robert Derrick Title: Environmental Scientist

Signature: Robert Derrick (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: 4/18/06 | **Earth Tech Project No.: 70536**

| Day | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| Weather | | | **SUNNY** | | | | |
| Temp. | | | **65°F** | | | | |
| Wind | | | **SLIGHT** | | | | |
| Humidity | | | **LOW** | | | | |

Earth Tech Personnel On-Site: **Robert Derrick, Chuck Fernald**

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

Contract Materials and Equipment on site: **F 150, replacement actuator, general hand tools**

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

**Weekly system monitoring and O and M inspection**
**The broken actuator for EPA-EXT-02 was replaced and it was inspected to make sure it was properly working**

Quality Control Activities (including field calibrations): N/A

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**

# 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.<br>Address: 7870 Villa Park Drive, Suite 400<br>Richmond, Virginia 23228<br>Phone No.: (804) 515-8300 | |
| Date: 4/18/06 | **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? **Included in the Site Specific Health & Safety Plan**

Comments and deficiencies noted and corrective actions taken: **Explained in work performed section.**

Initial Inspection: List all inspections by subject and specification location. Comment and/or deficiencies noted and corrective actions taken.

**Explained in work performed section.**

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:

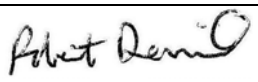
**Weekly O and M inspection**

**Bi weekly air monitoring**

**Monthly system sampling (May 2)**

**Quarterly well sampling (week of May 15)**

By: Robert Derrick Title: Environmental Scientist

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

4/4/05

***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._____

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.

**Currently MW-24 and EPA-EXT-02 are on**

1. Recovery Well EPA-EXT-02 flow[1] ____61_____ 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 _____7.2_____ pH
6. Recovery Well conductivity _____91_____ cond
7. Air Stripper pH ___8.5____ pH
8. Air Stripper temperature _____153_____ deg.
9. Air Stripper air flow _____413_____ CFM
10. Pre-vapor carbon pressure _____0_____ "wc
11. Post carbon air flow _____2774_____ CFM
12. Discharge conductivity _____155_____ cond
13. Discharge pH _____8.7_____ pH
14. Discharge flow _____70_____ GPM
15. Discharge total gallons _____ 122,216,237_____ Gal
16. SVE inlet vacuum _____2_____ "Hg
17. SVE air flow _____ CFM

[1] *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.*

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

1. Recovery Well EPA-EXT-02 total flow _____ 5,238,047 ____ Gal
2. Recovery Well EPA-EXT-03 total flow _____ ___ Gal
3. Recovery Well pH _____6.72_____ pH
4. Recovery Well conductivity _____0.64____ cond
5. Air Stripper pH _____7.98_____ pH
6. Air Stripper temperature _____15.0_____ deg. F
7. Air Stripper Pump water flow _____72_____ GPM
8. Air Stripper Pump pressure _____30_____ PSI
9. Discharge conductivity __1.17___ cond
10. Discharge pH _____8.20____ pH
11. SVE inlet vacuum (digital readout) _____1.6_____ "Hg
12. SVE inlet vacuum _____2.6_____ "Hg
13. SVE post knockout vacuum _____2.4_____ "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

4/11/05

***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._____

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.

**Currently MW-24 and EPA-EXT-02 are on**

1. Recovery Well EPA-EXT-02 flow[1] _____60_____ 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 _____6.9_____ pH
6. Recovery Well conductivity _____69_____ cond
7. Air Stripper pH ___8.1____ pH
8. Air Stripper temperature _____154_____ deg.
9. Air Stripper air flow _____366_____ CFM
10. Pre-vapor carbon pressure _____0_____ “wc
11. Post carbon air flow _____2691_____ CFM
12. Discharge conductivity _____133_____ cond
13. Discharge pH _____8.1_____ pH
14. Discharge flow _____69_____ GPM
15. Discharge total gallons ___122,887,325__ _____ Gal
16. SVE inlet vacuum _____2_____ “Hg

[1] *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 ____5854800_____ Gal
2. Recovery Well EPA-EXT-03 total flow _____ ___ Gal
3. Recovery Well pH _____6.78_____ pH
4. Recovery Well conductivity _____0.64_____ cond
5. Air Stripper pH _____8.03_____ pH
6. Air Stripper temperature _____15.2_____ deg. F
7. Air Stripper Pump water flow _____~72_____ GPM
8. Air Stripper Pump pressure _____30_____ PSI
9. Discharge conductivity ___1.19__ cond
10. Discharge pH _____ 8.23____ pH
11. SVE inlet vacuum (digital readout) _____01.6_____ “Hg
12. SVE inlet vacuum _____2.5_____ “Hg
13. SVE post knockout vacuum _____~3.25_____ “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

4/18/05

***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.

**Currently MW-24 and EPA-EXT-02 are on**

1. Recovery Well EPA-EXT-02 flow[1] _____60_____ 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 _____7.1_____ pH
6. Recovery Well conductivity _____84_____ cond
7. Air Stripper pH ___8.4____ pH
8. Air Stripper temperature _____154_____ deg.
9. Air Stripper air flow _____388_____ CFM
10. Pre-vapor carbon pressure _____0_____ "wc
11. Post carbon air flow _____2732_____ CFM
12. Discharge conductivity _____150_____ cond
13. Discharge pH _____8.6_____ pH
14. Discharge flow _____68_____ GPM
15. Discharge total gallons _____ 123,511,960_____ Gal
16. SVE inlet vacuum _____2_____ "Hg
17. SVE air flow _____256_____ CFM

[1] *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.*

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

1. Recovery Well EPA-EXT-02 total flow _____ 6,432,900 ____ Gal
2. Recovery Well EPA-EXT-03 total flow _____ ___ Gal
3. Recovery Well pH _____6.74_____ pH
4. Recovery Well conductivity _____0.64_____ cond
5. Air Stripper pH _____8.00_____ pH
6. Air Stripper temperature _____15.2_____ deg. F
7. Air Stripper Pump water flow _____70_____ GPM
8. Air Stripper Pump pressure _____30_____ PSI
9. Discharge conductivity ___1.20__ cond
10. Discharge pH _____8.20 ____ pH
11. SVE inlet vacuum (digital readout) _____01.5_____ "Hg
12. SVE inlet vacuum _____2.60_____ "Hg
13. SVE post knockout vacuum _____3.5_____ "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 - April 2006 - Site Operation Data

| | Recovery Well 1 | Recovery Well 2 | Recovery Well 3 | Discharge | Discharge | Influent water | Influent conductivity | Effluent conductivity | Influent water | Air Stripper water | Discharge water | Total gallons discharged | Air Stripper Air Flow | Combined Discharge Air Flow | SVE Air Flow |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flow (GPM) | Flow (GPM) | Flow (GPM) | Flow (GPM) | Flow (CFM) | Temperature (deg F) | | | pH | pH | pH | | | | |
| 4/1/2006 0:00 | 0 | 0 | 62 | 67 | 2774 | 154 | 68 | 132 | 6.9 | 8.1 | 8.3 | 121898990.3 | 412 | 2774 | 500 |
| 4/1/2006 4:00 | 0 | 0 | 60 | 66 | 2691 | 154 | 71 | 134 | 6.9 | 8.1 | 8.3 | 121914400.1 | 361 | 2691 | 500 |
| 4/1/2006 8:00 | 0 | 0 | 60 | 66 | 2693 | 155 | 72 | 138 | 7 | 8.2 | 8.4 | 121929814.7 | 338 | 2693 | 500 |
| 4/1/2006 12:00 | 0 | 0 | 61 | 66 | 2449 | 155 | 68 | 136 | 6.9 | 8.1 | 8.3 | 121945444.3 | 318 | 2449 | 500 |
| 4/1/2006 16:00 | 0 | 0 | 62 | 70 | 2541 | 155 | 66 | 132 | 6.9 | 8.1 | 8.3 | 121960835.2 | 389 | 2541 | 500 |
| 4/1/2006 20:00 | 0 | 0 | 59 | 68 | 2449 | 154 | 67 | 131 | 6.9 | 8.1 | 8.3 | 121976214 | 357 | 2449 | 500 |
| 4/2/2006 0:00 | 0 | 0 | 59 | 65 | 2551 | 154 | 68 | 132 | 6.9 | 8.1 | 8.3 | 121991828.7 | 406 | 2551 | 500 |
| 4/2/2006 4:00 | 0 | 0 | 61 | 68 | 2546 | 154 | 69 | 132 | 6.9 | 8.1 | 8.3 | 122003424.2 | 449 | 2546 | 500 |
| 4/2/2006 8:00 | 0 | 0 | 62 | 65 | 2599 | 153 | 73 | 135 | 6.9 | 8.2 | 8.4 | 122018862.9 | 468 | 2599 | 500 |
| 4/2/2006 12:00 | 0 | 0 | 62 | 66 | 2742 | 153 | 74 | 137 | 7 | 8.2 | 8.4 | 122034255.9 | 406 | 2742 | 500 |
| 4/2/2006 16:00 | 0 | 0 | 60 | 68 | 2546 | 153 | 68 | 131 | 6.9 | 8.1 | 8.3 | 122049908.9 | 388 | 2546 | 500 |
| 4/2/2006 20:00 | 0 | 0 | 60 | 67 | 2771 | 153 | 66 | 129 | 6.9 | 8.1 | 8.3 | 122065327.2 | 376 | 2771 | 500 |
| 4/3/2006 0:00 | 0 | 0 | 59 | 67 | 2691 | 152 | 69 | 130 | 6.9 | 8.1 | 8.3 | 122080694.5 | 401 | 2691 | 500 |
| 4/3/2006 4:00 | 0 | 0 | 60 | 67 | 2909 | 153 | 76 | 139 | 7 | 8.2 | 8.5 | 122096133.5 | 424 | 2909 | 500 |
| 4/3/2006 8:00 | 0 | 0 | 62 | 67 | 2774 | 153 | 85 | 148 | 7.2 | 8.4 | 8.6 | 122111758.9 | 413 | 2774 | 500 |
| 4/3/2006 12:00 | 0 | 0 | 62 | 66 | 2866 | 154 | 82 | 146 | 7.1 | 8.4 | 8.6 | 122127200.3 | 389 | 2866 | 500 |
| 4/3/2006 16:00 | 0 | 0 | 62 | 68 | 2774 | 154 | 77 | 141 | 7 | 8.3 | 8.5 | 122142580 | 465 | 2774 | 500 |
| 4/3/2006 20:00 | 0 | 0 | 60 | 70 | 2691 | 154 | 84 | 148 | 7.1 | 8.4 | 8.6 | 122158281.6 | 422 | 2691 | 500 |
| 4/4/2006 0:00 | 0 | 0 | 61 | 69 | 2866 | 155 | 87 | 155 | 7.2 | 8.5 | 8.7 | 122173708.9 | 457 | 2866 | 500 |
| 4/4/2006 4:00 | 0 | 0 | 59 | 66 | 2544 | 154 | 87 | 154 | 7.2 | 8.5 | 8.7 | 122189137.9 | 427 | 2544 | 500 |
| 4/4/2006 8:00 | 0 | 0 | 58 | 68 | 2815 | 153 | 90 | 154 | 7.3 | 8.5 | 8.8 | 122204811.5 | 401 | 2815 | 500 |
| 4/4/2006 12:00 | 0 | 0 | 61 | 66 | 2601 | 153 | 87 | 150 | 7.2 | 8.5 | 8.7 | 122220245.7 | 489 | 2601 | 500 |
| 4/4/2006 16:00 | 0 | 0 | 60 | 65 | 2909 | 153 | 81 | 144 | 7.1 | 8.3 | 8.6 | 122235634.6 | 333 | 2909 | 500 |
| 4/4/2006 20:00 | 0 | 0 | 59 | 68 | 2785 | 153 | 77 | 139 | 7 | 8.3 | 8.5 | 122251074.9 | 383 | 2785 | 500 |
| 4/5/2006 0:00 | 0 | 0 | 59 | 4 | 2691 | 153 | 91 | 154 | 7.3 | 8.5 | 8.8 | 122266661.3 | 396 | 2691 | 500 |
| 4/5/2006 4:00 | 0 | 0 | 60 | 70 | 2691 | 156 | 99 | 164 | 7.4 | 8.7 | 8.9 | 122282168.3 | 539 | 2691 | 344 |
| 4/5/2006 8:00 | 0 | 0 | 59 | 66 | 2863 | 157 | 102 | 166 | 7.5 | 8.7 | 9 | 122297624.3 | 493 | 2863 | 500 |
| 4/5/2006 12:00 | 0 | 0 | 58 | 68 | 2546 | 156 | 99 | 163 | 7.4 | 8.7 | 8.9 | 122313047.4 | 463 | 2546 | 500 |
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| 4/5/2006 20:00 | 0 | 0 | 60 | 67 | 2739 | 152 | 89 | 152 | 7.2 | 8.5 | 8.7 | 122344208.7 | 414 | 2739 | 500 |
| 4/6/2006 0:00 | 0 | 0 | 59 | 66 | 2774 | 156 | 100 | 164 | 7.4 | 8.7 | 8.9 | 122359657.6 | 457 | 2774 | 500 |
| 4/6/2006 4:00 | 0 | 0 | 61 | 66 | 2928 | 157 | 106 | 170 | 7.5 | 8.8 | 9.1 | 122375065.8 | 372 | 2928 | 500 |
| 4/6/2006 8:00 | 0 | 0 | 60 | 67 | 2601 | 159 | 107 | 172 | 7.6 | 8.8 | 9.1 | 122390768.6 | 500 | 2601 | 500 |
| 4/6/2006 12:00 | 0 | 0 | 58 | 67 | 2546 | 157 | 101 | 167 | 7.5 | 8.7 | 9 | 12240617 5.9 | 480 | 2546 | 500 |
| 4/6/2006 16:00 | 0 | 0 | 61 | 66 | 2739 | 153 | 88 | 152 | 7.2 | 8.5 | 8.7 | 122421591.9 | 539 | 2739 | 500 |
| 4/6/2006 20:00 | 0 | 0 | 60 | 69 | 2601 | 153 | 81 | 145 | 7.1 | 8.3 | 8.6 | 122436983.3 | 427 | 2601 | 239 |
| 4/7/2006 0:00 | 0 | 0 | 61 | 66 | 2921 | 153 | 91 | 156 | 7.3 | 8.5 | 8.8 | 122452379.4 | 444 | 2921 | 500 |
| 4/7/2006 4:00 | 0 | 0 | 60 | 68 | 2691 | 157 | 99 | 166 | 7.4 | 8.7 | 8.9 | 122467989.6 | 435 | 2691 | 500 |
| 4/7/2006 8:00 | 0 | 0 | 59 | 66 | 2739 | 158 | 105 | 170 | 7.5 | 8.8 | 9 | 122483388.2 | 409 | 2739 | 500 |
| 4/7/2006 12:00 | 0 | 0 | 62 | 69 | 2728 | 157 | 96 | 163 | 7.4 | 8.6 | 8.9 | 122498804.2 | 399 | 2728 | 500 |
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| 4/7/2006 20:00 | 0 | 0 | 61 | 67 | 2551 | 155 | 73 | 139 | 7 | 8.2 | 8.4 | 122529934 | 388 | 2551 | 500 |
| 4/8/2006 0:00 | 0 | 0 | 58 | 68 | 2548 | 155 | 74 | 141 | 7 | 8.2 | 8.4 | 122545319.1 | 392 | 2548 | 500 |
| 4/8/2006 4:00 | 0 | 0 | 59 | 68 | 2546 | 155 | 76 | 142 | 7 | 8.2 | 8.4 | 122560740.8 | 332 | 2546 | 500 |
| 4/8/2006 8:00 | 0 | 0 | 60 | 70 | 2774 | 154 | 76 | 140 | 7 | 8.2 | 8.4 | 122576403.5 | 393 | 2774 | 500 |
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| 4/8/2006 16:00 | 0 | 0 | 58 | 67 | 2863 | 153 | 87 | 151 | 7.2 | 8.5 | 8.7 | 122607253.2 | 367 | 2863 | 500 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/8/2006 20:00 | 0 | 0 | 60 | 69 | 2771 | 154 | 91 | 155 | 7.3 | 8.5 | 8.8 | 122622650.8 | 407 | 2771 | 500 |
| 4/9/2006 0:00 | 0 | 0 | 60 | 67 | 2691 | 155 | 97 | 162 | 7.4 | 8.6 | 8.9 | 122638313.6 | 414 | 2691 | 500 |
| 4/9/2006 4:00 | 0 | 0 | 59 | 66 | 2774 | 156 | 101 | 165 | 7.4 | 8.7 | 9 | 122653761.6 | 394 | 2774 | 500 |
| 4/9/2006 8:00 | 0 | 0 | 59 | 67 | 2863 | 156 | 103 | 167 | 7.5 | 8.8 | 9 | 122669250.8 | 403 | 2863 | 500 |
| 4/9/2006 12:00 | 0 | 0 | 60 | 69 | 2907 | 156 | 101 | 166 | 7.4 | 8.7 | 9 | 122684760.5 | 409 | 2907 | 500 |
| 4/9/2006 16:00 | 0 | 0 | 59 | 69 | 2866 | 153 | 83 | 147 | 7.1 | 8.4 | 8.6 | 122700277.4 | 406 | 2866 | 500 |
| 4/9/2006 20:00 | 0 | 0 | 59 | 66 | 2698 | 153 | 69 | 132 | 6.9 | 8.1 | 8.3 | 122715527.8 | 434 | 2698 | 500 |
| 4/10/2006 0:00 | 0 | 0 | 61 | 67 | 2774 | 153 | 82 | 146 | 7.1 | 8.3 | 8.6 | 122731028.3 | 450 | 2774 | 500 |
| 4/10/2006 4:00 | 0 | 0 | 59 | 67 | 2900 | 154 | 94 | 159 | 7.3 | 8.6 | 8.8 | 122746525.9 | 407 | 2900 | 500 |
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| 4/10/2006 16:00 | 0 | 0 | 59 | 66 | 2725 | 153 | 69 | 132 | 6.9 | 8.1 | 8.3 | 122793046.9 | 358 | 2725 | 500 |
| 4/10/2006 20:00 | 0 | 0 | 61 | 68 | 2909 | 152 | 69 | 130 | 6.9 | 8.1 | 8.3 | 122808553.3 | 406 | 2909 | 500 |
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| 4/11/2006 4:00 | 0 | 0 | 59 | 67 | 2866 | 155 | 95 | 160 | 7.4 | 8.6 | 8.8 | 122839565.6 | 432 | 2866 | 500 |
| 4/11/2006 8:00 | 0 | 0 | 60 | 0 | 2774 | 157 | 103 | 169 | 7.5 | 8.7 | 9 | 122854884.2 | 402 | 2774 | 500 |
| 4/11/2006 12:00 | 0 | 0 | 59 | 65 | 2742 | 155 | 89 | 156 | 7.3 | 8.5 | 8.7 | 122870286.7 | 382 | 2742 | 500 |
| 4/11/2006 16:00 | 0 | 0 | 60 | 66 | 2746 | 154 | 70 | 136 | 6.9 | 8.1 | 8.3 | 122885731.7 | 320 | 2746 | 500 |
| 4/11/2006 20:00 | 0 | 0 | 60 | 68 | 2691 | 153 | 69 | 132 | 6.9 | 8.1 | 8.3 | 122901178.4 | 389 | 2691 | 500 |
| 4/12/2006 0:00 | 0 | 0 | 62 | 70 | 2909 | 154 | 81 | 146 | 7.1 | 8.3 | 8.5 | 122916619.7 | 396 | 2909 | 500 |
| 4/12/2006 4:00 | 0 | 0 | 59 | 67 | 2739 | 153 | 90 | 155 | 7.3 | 8.5 | 8.7 | 122932099.3 | 485 | 2739 | 500 |
| 4/12/2006 8:00 | 0 | 0 | 58 | 0 | 2601 | 155 | 93 | 160 | 7.3 | 8.6 | 8.8 | 122947612.5 | 406 | 2601 | 500 |
| 4/12/2006 12:00 | 0 | 0 | 58 | 5 | 2691 | 155 | 81 | 148 | 7.1 | 8.3 | 8.6 | 122963251.2 | 430 | 2691 | 500 |
| 4/12/2006 16:00 | 0 | 0 | 60 | 66 | 2753 | 155 | 71 | 137 | 6.9 | 8.2 | 8.4 | 122978726.2 | 402 | 2753 | 500 |
| 4/12/2006 20:00 | 0 | 0 | 60 | 71 | 2744 | 154 | 73 | 137 | 7 | 8.2 | 8.4 | 122994181.3 | 359 | 2744 | 500 |
| 4/13/2006 0:00 | 0 | 0 | 60 | 71 | 2601 | 154 | 81 | 147 | 7.1 | 8.4 | 8.6 | 123009622.3 | 407 | 2601 | 500 |
| 4/13/2006 4:00 | 0 | 0 | 59 | 66 | 2691 | 154 | 86 | 152 | 7.2 | 8.5 | 8.7 | 123025065.1 | 462 | 2691 | 500 |
| 4/13/2006 8:00 | 0 | 0 | 58 | 67 | 2909 | 155 | 89 | 156 | 7.2 | 8.5 | 8.7 | 123040517.5 | 338 | 2909 | 500 |
| 4/13/2006 12:00 | 0 | 0 | 61 | 72 | 2691 | 156 | 81 | 149 | 7.1 | 8.4 | 8.6 | 123055954.5 | 440 | 2691 | 500 |
| 4/13/2006 16:00 | 0 | 0 | 62 | 65 | 2774 | 155 | 68 | 135 | 6.9 | 8.1 | 8.3 | 123071594.5 | 343 | 2774 | 500 |
| 4/13/2006 20:00 | 0 | 0 | 60 | 68 | 2870 | 154 | 66 | 132 | 6.9 | 8.1 | 8.3 | 123087035.1 | 343 | 2870 | 500 |
| 4/14/2006 0:00 | 0 | 0 | 61 | 68 | 2861 | 154 | 68 | 133 | 6.9 | 8.1 | 8.3 | 123102586.3 | 361 | 2861 | 500 |
| 4/14/2006 4:00 | 0 | 0 | 60 | 67 | 2744 | 154 | 71 | 135 | 6.9 | 8.1 | 8.3 | 123117905.7 | 352 | 2744 | 500 |
| 4/14/2006 8:00 | 0 | 0 | 59 | 67 | 2546 | 155 | 81 | 147 | 7.1 | 8.3 | 8.5 | 123133447.1 | 406 | 2546 | 500 |
| 4/14/2006 12:00 | 0 | 0 | 59 | 69 | 2912 | 155 | 76 | 143 | 7 | 8.2 | 8.4 | 123149021.1 | 397 | 2912 | 500 |
| 4/14/2006 16:00 | 0 | 0 | 58 | 67 | 2551 | 155 | 74 | 140 | 7 | 8.2 | 8.4 | 123164380.4 | 322 | 2551 | 500 |
| 4/14/2006 20:00 | 0 | 0 | 58 | 66 | 2744 | 155 | 74 | 142 | 7 | 8.2 | 8.4 | 123179984.5 | 351 | 2744 | 500 |
| 4/15/2006 0:00 | 0 | 0 | 61 | 68 | 2601 | 155 | 78 | 146 | 7.1 | 8.3 | 8.5 | 123195359.5 | 388 | 2601 | 500 |
| 4/15/2006 4:00 | 0 | 0 | 59 | 65 | 2691 | 155 | 81 | 147 | 7.1 | 8.3 | 8.5 | 123209353.9 | 399 | 2691 | 500 |
| 4/15/2006 8:00 | 0 | 0 | 59 | 66 | 2599 | 155 | 83 | 150 | 7.1 | 8.4 | 8.6 | 123224967.6 | 389 | 2599 | 500 |
| 4/15/2006 12:00 | 0 | 0 | 63 | 67 | 2551 | 156 | 75 | 144 | 7 | 8.2 | 8.4 | 123240312.7 | 429 | 2551 | 500 |
| 4/15/2006 16:00 | 0 | 0 | 61 | 67 | 2447 | 156 | 68 | 136 | 6.9 | 8.1 | 8.3 | 123255920.8 | 393 | 2447 | 500 |
| 4/15/2006 20:00 | 0 | 0 | 61 | 65 | 2604 | 154 | 66 | 130 | 6.9 | 8.1 | 8.3 | 123271491.2 | 331 | 2604 | 500 |
| 4/16/2006 0:00 | 0 | 0 | 59 | 69 | 2746 | 154 | 68 | 132 | 6.9 | 8.1 | 8.3 | 123286811.9 | 423 | 2746 | 500 |
| 4/16/2006 4:00 | 0 | 0 | 62 | 66 | 2693 | 153 | 69 | 133 | 6.9 | 8.1 | 8.3 | 123302410.7 | 383 | 2693 | 500 |
| 4/16/2006 8:00 | 0 | 0 | 59 | 67 | 2551 | 154 | 79 | 144 | 7 | 8.3 | 8.5 | 123317755 | 361 | 2551 | 500 |
| 4/16/2006 12:00 | 0 | 0 | 58 | 69 | 2739 | 154 | 78 | 143 | 7 | 8.3 | 8.5 | 123333333.5 | 348 | 2739 | 500 |
| 4/16/2006 16:00 | 0 | 0 | 59 | 66 | 2691 | 154 | 69 | 134 | 6.9 | 8.1 | 8.3 | 123348681.3 | 338 | 2691 | 292 |
| 4/16/2006 20:00 | 0 | 0 | 60 | 68 | 2691 | 153 | 68 | 132 | 6.9 | 8.1 | 8.3 | 123364256.7 | 398 | 2691 | 500 |
| 4/17/2006 0:00 | 0 | 0 | 59 | 68 | 2601 | 153 | 70 | 134 | 6.9 | 8.1 | 8.4 | 123379609.6 | 424 | 2601 | 500 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/17/2006 4:00 | 0 | 0 | 62 | 67 | 2742 | 153 | 82 | 146 | 7.1 | 8.4 | 8.6 | 123392079 | 413 | 2742 | 500 |
| 4/17/2006 8:00 | 0 | 0 | 58 | 69 | 2546 | 154 | 91 | 156 | 7.3 | 8.5 | 8.8 | 123407466.1 | 381 | 2546 | 500 |
| 4/17/2006 12:00 | 0 | 0 | 58 | 65 | 2744 | 154 | 80 | 146 | 7.1 | 8.3 | 8.5 | 123423092.1 | 437 | 2744 | 500 |
| 4/17/2006 16:00 | 0 | 0 | 60 | 66 | 2746 | 154 | 69 | 134 | 6.9 | 8.1 | 8.3 | 123438419.9 | 428 | 2746 | 500 |
| 4/17/2006 20:00 | 0 | 0 | 61 | 65 | 2447 | 154 | 68 | 132 | 6.9 | 8.1 | 8.3 | 123454061.3 | 386 | 2447 | 500 |
| 4/18/2006 0:00 | 0 | 0 | 60 | 66 | 2771 | 153 | 75 | 138 | 7 | 8.2 | 8.4 | 123469463.2 | 452 | 2771 | 500 |
| 4/18/2006 4:00 | 0 | 0 | 62 | 67 | 2691 | 154 | 86 | 151 | 7.2 | 8.4 | 8.7 | 123485063.2 | 434 | 2691 | 500 |
| 4/18/2006 8:00 | 0 | 0 | 59 | 69 | 2546 | 156 | 97 | 162 | 7.4 | 8.6 | 8.9 | 123500448.8 | 424 | 2546 | 500 |
| 4/18/2006 12:00 | 39 | 39 | 166 | 253 | 18 | 154 | 91 | 159 | 7.2 | 8.4 | 8.7 | 123524920 | 17 | 18 | 88 |
| 4/18/2006 16:00 | 0 | 0 | 61 | 70 | 2498 | 154 | 69 | 135 | 6.9 | 8.1 | 8.3 | 123541509.4 | 406 | 2498 | 500 |
| 4/18/2006 20:00 | 0 | 0 | 59 | 66 | 2774 | 154 | 67 | 131 | 6.9 | 8.1 | 8.3 | 123557113 | 414 | 2774 | 500 |
| 4/19/2006 0:00 | 0 | 0 | 58 | 66 | 2774 | 153 | 68 | 132 | 6.9 | 8.1 | 8.3 | 123572663.5 | 407 | 2774 | 327 |
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| 4/19/2006 20:00 | 0 | 0 | 62 | 67 | 2604 | 154 | 66 | 130 | 6.8 | 8.1 | 8.3 | 123650727.7 | 387 | 2604 | 500 |
| 4/20/2006 0:00 | 0 | 0 | 60 | 0 | 2447 | 154 | 67 | 132 | 6.9 | 8.1 | 8.3 | 123666379.9 | 369 | 2447 | 500 |
| 4/20/2006 4:00 | 0 | 0 | 60 | 69 | 2691 | 154 | 69 | 133 | 6.9 | 8.1 | 8.3 | 123682146.4 | 386 | 2691 | 500 |
| 4/20/2006 8:00 | 0 | 0 | 58 | 69 | 2742 | 154 | 74 | 138 | 7 | 8.2 | 8.4 | 123697741.1 | 384 | 2742 | 331 |
| 4/20/2006 12:00 | 0 | 0 | 60 | 67 | 2746 | 154 | 69 | 135 | 6.9 | 8.1 | 8.3 | 123713375.3 | 340 | 2746 | 500 |
| 4/20/2006 16:00 | 0 | 0 | 62 | 65 | 2553 | 154 | 66 | 132 | 6.9 | 8.1 | 8.3 | 123729005.2 | 353 | 2553 | 500 |
| 4/20/2006 20:00 | 0 | 0 | 60 | 67 | 2546 | 154 | 65 | 129 | 6.8 | 8 | 8.3 | 123744676.8 | 398 | 2546 | 500 |
| 4/21/2006 0:00 | 0 | 0 | 62 | 65 | 2691 | 153 | 66 | 130 | 6.8 | 8.1 | 8.3 | 123760278.1 | 383 | 2691 | 500 |
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| 4/21/2006 12:00 | 0 | 0 | 59 | 67 | 2744 | 154 | 70 | 135 | 6.9 | 8.1 | 8.3 | 123807180.4 | 434 | 2744 | 500 |
| 4/21/2006 16:00 | 0 | 0 | 58 | 65 | 2693 | 154 | 68 | 133 | 6.9 | 8.1 | 8.3 | 123822770 | 368 | 2693 | 500 |
| 4/21/2006 20:00 | 0 | 0 | 60 | 68 | 2693 | 153 | 68 | 133 | 6.9 | 8.1 | 8.3 | 123838386.5 | 359 | 2693 | 500 |
| 4/22/2006 0:00 | 0 | 0 | 62 | 66 | 2774 | 153 | 74 | 137 | 6.9 | 8.2 | 8.4 | 123853988.7 | 361 | 2774 | 500 |
| 4/22/2006 4:00 | 0 | 0 | 61 | 68 | 2930 | 153 | 83 | 147 | 7.1 | 8.4 | 8.6 | 123869647.5 | 358 | 2930 | 500 |
| 4/22/2006 8:00 | 0 | 0 | 59 | 66 | 2774 | 153 | 88 | 154 | 7.2 | 8.5 | 8.7 | 123885298.3 | 389 | 2774 | 500 |
| 4/22/2006 12:00 | 0 | 0 | 59 | 66 | 2866 | 154 | 93 | 158 | 7.3 | 8.6 | 8.8 | 123900916.1 | 409 | 2866 | 500 |
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| 4/22/2006 20:00 | 0 | 0 | 61 | 67 | 2742 | 155 | 95 | 161 | 7.3 | 8.6 | 8.8 | 123932420.2 | 398 | 2742 | 500 |
| 4/23/2006 0:00 | 0 | 0 | 61 | 65 | 2578 | 156 | 96 | 164 | 7.4 | 8.7 | 8.9 | 123948075.4 | 379 | 2578 | 500 |
| 4/23/2006 4:00 | 0 | 0 | 61 | 67 | 2742 | 155 | 95 | 162 | 7.3 | 8.6 | 8.8 | 123963725.2 | 440 | 2742 | 500 |
| 4/23/2006 8:00 | 0 | 0 | 60 | 67 | 2742 | 156 | 94 | 163 | 7.3 | 8.6 | 8.8 | 123979392.5 | 427 | 2742 | 500 |
| 4/23/2006 12:00 | 0 | 0 | 60 | 65 | 2601 | 156 | 91 | 161 | 7.3 | 8.6 | 8.8 | 123994959.6 | 281 | 2601 | 500 |
| 4/23/2006 16:00 | 0 | 0 | 59 | 65 | 2551 | 156 | 85 | 154 | 7.2 | 8.4 | 8.6 | 124010572.7 | 399 | 2551 | 500 |
| 4/23/2006 20:00 | 0 | 0 | 60 | 67 | 2728 | 155 | 80 | 147 | 7.1 | 8.3 | 8.5 | 124026170.2 | 372 | 2728 | 500 |
| 4/24/2006 0:00 | 0 | 0 | 62 | 65 | 2546 | 155 | 84 | 150 | 7.1 | 8.4 | 8.6 | 124041762 | 427 | 2546 | 500 |
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| 4/24/2006 16:00 | 0 | 0 | 58 | 67 | 2601 | 155 | 80 | 147 | 7.1 | 8.3 | 8.5 | 124104406.6 | 440 | 2601 | 500 |
| 4/24/2006 20:00 | 0 | 0 | 58 | 68 | 2601 | 154 | 72 | 137 | 6.9 | 8.1 | 8.4 | 124120080.6 | 388 | 2601 | 500 |
| 4/25/2006 0:00 | 0 | 0 | 60 | 67 | 2714 | 155 | 80 | 147 | 7.1 | 8.3 | 8.5 | 124135720 | 388 | 2714 | 500 |
| 4/25/2006 4:00 | 0 | 0 | 60 | 68 | 2546 | 154 | 89 | 156 | 7.2 | 8.5 | 8.7 | 124151365.3 | 386 | 2546 | 500 |
| 4/25/2006 8:00 | 0 | 0 | 60 | 65 | 2544 | 158 | 99 | 167 | 7.4 | 8.7 | 8.9 | 124167027.6 | 424 | 2544 | 500 |
| 4/25/2006 12:00 | 0 | 0 | 59 | 67 | 2498 | 155 | 89 | 157 | 7.2 | 8.5 | 8.7 | 124182683.3 | 327 | 2498 | 500 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/25/2006 16:00 | 0 | 0 | 60 | 70 | 2544 | 155 | 71 | 138 | 6.9 | 8.2 | 8.4 | 124198302.6 | 335 | 2544 | 500 |
| 4/25/2006 20:00 | 0 | 0 | 60 | 65 | 2746 | 154 | 68 | 135 | 6.9 | 8.1 | 8.3 | 124214163.7 | 362 | 2746 | 500 |
| 4/26/2006 0:00 | 0 | 0 | 60 | 65 | 2691 | 153 | 75 | 139 | 7 | 8.2 | 8.4 | 124229772.6 | 439 | 2691 | 500 |
| 4/26/2006 4:00 | 0 | 0 | 61 | 69 | 2742 | 153 | 88 | 151 | 7.2 | 8.5 | 8.7 | 124245388.2 | 361 | 2742 | 500 |
| 4/26/2006 8:00 | 0 | 0 | 60 | 69 | 2774 | 155 | 96 | 162 | 7.3 | 8.6 | 8.9 | 124261223.1 | 338 | 2774 | 500 |
| 4/26/2006 12:00 | 0 | 0 | 62 | 65 | 2742 | 154 | 93 | 158 | 7.3 | 8.6 | 8.8 | 124276832.7 | 393 | 2742 | 500 |
| 4/26/2006 16:00 | 0 | 0 | 60 | 66 | 2774 | 154 | 81 | 146 | 7.1 | 8.3 | 8.6 | 124292415.1 | 406 | 2774 | 500 |
| 4/26/2006 20:00 | 0 | 0 | 59 | 69 | 2774 | 153 | 74 | 137 | 7 | 8.2 | 8.4 | 124308007.6 | 376 | 2774 | 500 |
| 4/27/2006 0:00 | 0 | 0 | 61 | 66 | 2691 | 154 | 85 | 151 | 7.2 | 8.4 | 8.7 | 124323559.7 | 463 | 2691 | 500 |
| 4/27/2006 4:00 | 0 | 0 | 60 | 69 | 2691 | 154 | 93 | 158 | 7.3 | 8.6 | 8.8 | 124339388.9 | 352 | 2691 | 500 |
| 4/27/2006 8:00 | 0 | 0 | 60 | 66 | 2691 | 157 | 98 | 167 | 7.4 | 8.7 | 8.9 | 124354974.6 | 404 | 2691 | 500 |
| 4/27/2006 12:00 | 0 | 0 | 59 | 65 | 2541 | 155 | 87 | 155 | 7.2 | 8.5 | 8.7 | 124370595.3 | 379 | 2541 | 500 |
| 4/27/2006 16:00 | 0 | 0 | 59 | 68 | 2396 | 154 | 71 | 137 | 6.9 | 8.1 | 8.4 | 124386180.6 | 398 | 2396 | 500 |
| 4/27/2006 20:00 | 0 | 0 | 61 | 67 | 2746 | 154 | 68 | 134 | 6.9 | 8.1 | 8.3 | 124401732.6 | 394 | 2746 | 500 |
| 4/28/2006 0:00 | 0 | 0 | 58 | 67 | 2744 | 154 | 71 | 136 | 6.9 | 8.1 | 8.4 | 124417283.8 | 403 | 2744 | 500 |
| 4/28/2006 4:00 | 0 | 0 | 58 | 10 | 2928 | 153 | 82 | 146 | 7.1 | 8.3 | 8.6 | 124433074.7 | 410 | 2928 | 500 |
| 4/28/2006 8:00 | 0 | 0 | 60 | 67 | 2689 | 153 | 90 | 155 | 7.2 | 8.5 | 8.7 | 124448639.6 | 437 | 2689 | 500 |
| 4/28/2006 12:00 | 0 | 0 | 61 | 67 | 2551 | 154 | 88 | 154 | 7.2 | 8.5 | 8.7 | 124464255.9 | 469 | 2551 | 500 |
| 4/28/2006 16:00 | 0 | 0 | 62 | 67 | 2601 | 154 | 77 | 142 | 7 | 8.3 | 8.5 | 124479862.6 | 427 | 2601 | 500 |
| 4/28/2006 20:00 | 0 | 0 | 60 | 66 | 2601 | 153 | 69 | 133 | 6.9 | 8.1 | 8.3 | 124495480.6 | 429 | 2601 | 500 |
| 4/29/2006 0:00 | 0 | 0 | 61 | 68 | 2601 | 153 | 79 | 144 | 7.1 | 8.3 | 8.5 | 124511095 | 448 | 2601 | 500 |
| 4/29/2006 4:00 | 0 | 0 | 60 | 70 | 2909 | 154 | 92 | 157 | 7.3 | 8.5 | 8.8 | 124526716.1 | 476 | 2909 | 500 |
| 4/29/2006 8:00 | 0 | 0 | 59 | 67 | 2774 | 156 | 100 | 165 | 7.4 | 8.7 | 8.9 | 124542356.2 | 413 | 2774 | 500 |
| 4/29/2006 12:00 | 0 | 0 | 58 | 69 | 2691 | 155 | 95 | 161 | 7.3 | 8.6 | 8.8 | 124557970.4 | 364 | 2691 | 500 |
| 4/29/2006 16:00 | 0 | 0 | 59 | 66 | 2744 | 154 | 80 | 145 | 7.1 | 8.3 | 8.5 | 124573600.9 | 407 | 2744 | 500 |
| 4/29/2006 20:00 | 0 | 0 | 62 | 67 | 2604 | 153 | 69 | 133 | 6.9 | 8.1 | 8.3 | 124589230.3 | 448 | 2604 | 500 |
| 4/30/2006 0:00 | 0 | 0 | 59 | 67 | 2928 | 153 | 84 | 148 | 7.1 | 8.4 | 8.6 | 124604824.6 | 424 | 2928 | 500 |
| 4/30/2006 4:00 | 0 | 0 | 62 | 66 | 2774 | 155 | 95 | 161 | 7.3 | 8.6 | 8.8 | 124620432.4 | 423 | 2774 | 500 |
| 4/30/2006 8:00 | 0 | 0 | 58 | 68 | 2774 | 158 | 103 | 170 | 7.5 | 8.7 | 9 | 124636044.1 | 469 | 2774 | 500 |
| 4/30/2006 12:00 | 0 | 0 | 60 | 65 | 2601 | 155 | 94 | 161 | 7.3 | 8.6 | 8.8 | 124651669.5 | 351 | 2601 | 500 |
| 4/30/2006 16:00 | 0 | 0 | 61 | 69 | 2553 | 154 | 77 | 144 | 7 | 8.3 | 8.5 | 124667051.1 | 404 | 2553 | 500 |
| 4/30/2006 20:00 | 0 | 0 | 61 | 67 | 2601 | 154 | 68 | 134 | 6.9 | 8.1 | 8.3 | 124682647 | 372 | 2601 | 500 |

# Appendix D

# Sampling Trip Reports

**SAMPLING TRIP REPORT**

**Site Name:** STANTON CLEANERS AREA GROUNDWATER CONTAMINATION SITE
**CERCLIS ID Number:** NYD047650197
**Sampling Dates:** April 4, 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):**

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

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

On April 4, 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.

| FedEx Air Bill No. | Number of Coolers | Number and Type of Samples | Time and Date of Shipping |
|---|---|---|---|
| 855367817699 | 1 | Total of 4 Aqueous Samples to include 1 duplicate sample, and 1 Trip Blank for TCL-VOAs | 4/4/06 @ 10:15 TO: USEPA |

**Sampling Personnel (Table 3):**

| Name | Organization | Site Duties |
|---|---|---|
| Tom Williams | Earth Tech, Inc. | Earth Tech Project Manager |
| James Kearns | Earth Tech, Inc. | Earth Tech Task Manager/ Health and Safety |
| 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<br>Building 209 MS-230<br>2890 Woodbridge Avenue<br>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.

# Appendix 1

## Chain of Custody
## (April 4, 2006 System Sampling Event)

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

**Case No:** R
DAS No:

| | | | | | |
|---|---|---|---|---|---|
| Region: | 2 | Date Shipped: | 4/4/2006 | **Chain of Custody Record** | Sampler Signature: |
| Project Code: | | Carrier Name: | FedEx | Relinquished By (Date / Time) | Received By (Date / Time) |
| Account Code: | | Airbill: | 855367817699 | 1 4-4-06/10:15 | |
| CERCLIS ID: | NYD047650197 | Shipped to: | USEPA REGION II DESA LAB<br>Building 209, MS-230<br>2890 Woodbridge Avenue<br>Edison NJ 08837<br>(732) 906-6886 | 2 | |
| Spill ID: | 02LH | | | 3 | |
| Site Name/State: | Stanton Cleaners Area Groundwater Contami | | | 4 | |
| Project Leader: | James Kearns | | | | |
| Action: | Operations and Maintenance | | | | |
| Sampling Co: | Earth Tech | | | | |

| ORGANIC SAMPLE No. | MATRIX/ SAMPLER | CONC/ TYPE | ANALYSIS/ TURNAROUND | TAG No./ PRESERVATIVE/ Bottles | STATION LOCATION | SAMPLE COLLECT DATE/TIME | | INORGANIC SAMPLE No. | QC Type |
|---|---|---|---|---|---|---|---|---|---|
| EFFLUENT | Monitor Well/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | EFFLUENT | S: 4/4/2006 | 8:48 | | -- |
| EFFLUENT A | Field QC/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | EFFLEUNT A | S: 4/4/2006 | 8:50 | | Field Duplicate |
| INFLUENT (MW-24 AND | Monitor Well/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | INFLUENT (MW-24 and EPA-EXT-02) | S: 4/4/2006 | 8:38 | | -- |
| TB | Field QC/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | TB | S: 4/4/2006 | 8:00 | | Trip Blank |

| | | | |
|---|---|---|---|
| Shipment for Case Complete? N | Sample(s) to be used for laboratory QC: EFFLUENT A | Additional Sampler Signature(s): | Chain of Custody Seal Number: |
| Analysis Key: VOA = CLP TCL Volatiles | Concentration: L = Low, M = Low/Medium, H = High | Type/Designate: Composite = C, Grab = G | Shipment Iced? _____ |

**TR Number:** 2-445049606-040306-0006

REGION COPY

**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

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

**Case No:** L
DAS No:
SDG No:

| | |
|---|---|
| Date Shipped: | 4/4/2006 |
| Carrier Name: | FedEx |
| Airbill: | 855367817699 |
| Shipped to: | USEPA REGION II DESA LAB<br>Building 209, MS-230<br>2890 Woodbridge Avenue<br>Edison NJ 08837<br>(732) 906-6886 |

**Chain of Custody Record**

Sampler Signature: RWA

| | Relinquished By | (Date / Time) | Received By | (Date / Time) |
|---|---|---|---|---|
| 1 | RWA | 4-4-06/10:15 | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |

**For Lab Use Only**

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

| ORGANIC SAMPLE No. | MATRIX/ SAMPLER | CONC/ TYPE | ANALYSIS/ TURNAROUND | TAG No./ PRESERVATIVE/ Bottles | STATION LOCATION | SAMPLE COLLECT DATE/TIME | | INORGANIC SAMPLE No. | FOR LAB USE ONLY Sample Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|
| EFFLUENT | Monitor Well/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | EFFLUENT | S: 4/4/2006 | 8:48 | | |
| ~~EFFLUENT A~~ | ~~Field QC/ Robert Derrick~~ | ~~L/G~~ | ~~VOA (14)~~ | ~~(HCL) (3)~~ | ~~EFFLEUNT A~~ | ~~S: 4/4/2006~~ | ~~8:50~~ | | |
| INFLUENT (MW-24 AND | Monitor Well/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | INFLUENT (MW-24 and EPA-EXT-02) | S: 4/4/2006 | 8:38 | | |
| TB | Field QC/ Robert Derrick | L/G | VOA (14) | (HCL) (3) | TB | S: 4/4/2006 | 8:00 | | |

| Shipment for Case Complete?N | Sample(s) to be used for laboratory QC: | Additional Sampler Signature(s): | Cooler Temperature Upon Receipt | Chain of Custody Seal Number: | |
|---|---|---|---|---|---|
| | EFFLUENT A | | | | |
| Analysis Key: | Concentration: L = Low, M = Low/Medium, H = High | Type/Designate: Composite = C, Grab = G | | Custody Seal Intact? ___ | Shipment Iced? ___ |

VOA = CLP TCL Volatiles

**TR Number: 2-445049606-040306-0006**

LABORATORY COPY

**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

I-ZV5.1. U45

# Appendix 2

## FedEx Air Bill
## (April 4, 2006 System Sampling Event)

FedEx Express US Airbill

FedEx Tracking Number 8553 6781 7699

Form ID No. 0200 Sender's Copy

**1 From** Please print and press hard.

Date 4-4-06 Sender's FedEx Account Number 237472598

Sender's Name Robert Derrick Phone (804) 400-9611

Company Earth Tech

Address 110 Cutter Mill Road

Dept./Floor/Suite/Room

City Great Neck State NY ZIP 11021

**2 Your Internal Billing Reference** First 24 characters will appear on invoice. 70536 07.03

**3 To**

Recipient's Name John Birri Phone (732) 906-6886

Company USEPA Region II

Recipient's Address 2890 Woodbridge Avenue, Building 209, MS-230

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Edison State NJ ZIP 08837

**4a Express Package Service** To add SATURDAY Delivery, see Section 6. Packages up to 150 lbs.

- [X] FedEx Priority Overnight — Next business morning.*
- [ ] FedEx Standard Overnight — Next business afternoon.*
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.*
- [ ] FedEx Express Saver — Third business day.*

FedEx Envelope rate not available. Minimum charge one-pound rate.

**4b Express Freight Service** To add SATURDAY Delivery, see Section 6. Packages over 150 lbs.

- [ ] FedEx 1Day Freight* — Next business day.**
- [ ] FedEx 2Day Freight — Second business day.**
- [ ] FedEx 3Day Freight — Third business day.**

* Call for Confirmation. ** To most locations.

**5 Packaging** * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

**6 Special Handling** Available FedEx locations in Section 3.

- [ ] SATURDAY Delivery — Available ONLY for FedEx Priority Overnight, FedEx 2Day, Priority 1Day Freight, and FedEx 2Day Freight to select ZIP codes.
- [ ] HOLD Weekday at FedEx Location — NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

**7 Payment** Bill to: Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. or Credit Card No. Exp. Date

| Total Packages | Total Weight | Total Declared Value† |
|---|---|---|
| 1 | | $ .00 |

FedEx Use Only

† Our liability is limited to $100 unless you declare a higher value. See back for details.

**8 NEW Residential Delivery Signature Options** If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. Fee applies.

520

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Rev. Date 5/05•Part #158394•©1994–2005 FedEx•PRINTED IN U.S.A. SRF

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# Appendix 3

## Water Quality Parameters
## (April 4, 2006 System Sampling Event)

# STANTON CLEANERS SITE LTRA

**Groundwater Pump and Treatment System**
**Water Quality Parameters Log**

Date: 4/4/06
Project # 70536

| | pH | COND. | TURB. | DO | TEMP. | SALINITY |
|---|---|---|---|---|---|---|
| **Influent*** | 6.24 | 0.783 | 40.6 | 9.6 | 12.9 | 0.0 |
| **Discharge** | 7.20 | 0.745 | 20.0 | 10.0 | 12.75 | 0.0 |

**Total Gallons pumped: 122,216,237 gallons**
**Flow rate: 61 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 | 5 |
| 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 (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 | JN | |

## 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 | | |
| | | | | Tetrachloroethene | 260 (D) | | 5 |
| Trip Blank | SC-TB | B1BS5 | 4/14/2004 | 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 | | |
| | | | | Tetrachloroethene | 200 | | 5 |
| Trip Blank | SC-TB | B1BS9 | 5/20/2004 | 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 | | |
| | | | | Tetrachloroethene | 320 | | 5 |
| Effluent | SC-04 | B1BS7 | 6/15/2004 | Tetrachloroethene | 2.1 | | 5 |
| Influent Dup | SC-67 | B1BS8 | 6/15/2004 | MTBE | 2.3 | | |
| | | | | *cis* -1,2-Dichloroethene | 1.2 | | |
| | | | | Trichloroethene | 2.2 | | |
| | | | | Tetrachloroethene | 330 | | 5 |
| Trip Blank | SC-TB | B1BS9 | 6/15/2004 | 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 | | | Chloromethane | 0.80 | | |
| | | | | Acetone | 1.0 | | 5 |
| | | | | MTBE | 1.5 | | |
| | | | | *cis*- 1,2-Dichloroethene | 0.70 | | |
| | | | | Trichloroethene | 1.4 | | |
| | | | | Tetrachloroethene | 200 | | 5 |
| Effluent | SC-04 | | | Chloromethane | 0.80 | | |
| | | | | Acetone | 2.1 | | 5 |
| | | | | Tetrachloroethene | 1.7 | | 5 |
| Influent Dup | SC-70 | | | Acetone | 1.0 | | 5 |
| | | | | MTBE | 1.3 | | |
| | | | | *cis*- 1,2-Dichloroethene | 0.60 | | |
| | | | | Trichloroethene | 1.4 | | |
| | | | | Tetrachloroethene | 210 | | 5 |
| Trip Blank | SC-TB | | | Acetone | 2.2 | | 5 |
| | | | | 2-Butanone | 1.5 | | |
| Influent | SC-01 | B1LZ2 | 10/21/2004 | Acetone | 5 | J | 5 |
| | | | | Methylene chloride | 0.2 | J | |
| | | | | MTBE | 0.82 | | |
| | | | | *cis* -1,2-Dichloroethene | 0.5 | | |
| | | | | Trichloroethene | 1.2 | | |
| | | | | Tetrachloroethene | 220 | | 5 |
| Effluent | SC-04 | B1LZ3 | 10/21/2004 | Acetone | 5 | J | 5 |
| | | | | Methylene chloride | 0.5 | UJ | |
| | | | | Tetrachloroethene | 0.2 | J | 5 |
| Influent Dup | SC-71 | B1LZ4 | 10/21/2004 | Acetone | 5 | J | 5 |
| | | | | Methylene chloride | 1.1 | | |
| | | | | MTBE | 1.1 | | |
| | | | | *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 | |
| | | | | 4-Methyl-2-pentanone | 10 | R | |
| Effluent | SC-04 | B1T81 | 12/15/2004 | Benzene | 0.5 | JB | |
| | | | | 1,2,4-Trichlorobenzene | 0.5 | JB | |
| | | | | 1,2,3-Trichlorobenzene | 0.5 | JB | 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 | JB | |
| | | | | 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 |
| | | | | Acetone | 10 | | 5 |
| Trip Blank | SC-TB | B1W03 | 1/21/2005 | 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 |
| | | | | Acetone | 1.1 | | 5 |
| Trip Blank | SC-TB | AG00200 | 2/3/2005 | Acetone | 4.3 | | 5 |
| | | | | 4-Methyl-2-pentanone | 1.2 | | |
| Influent | SC-01 | AG00468 | 3/9/2005 | ~~MTBE~~ | ~~1.4~~ | | |
| | | | | Acetone | 2.5 | | 5 |
| | | | | Trichloroethene (TCE) | 1.1 | | 5 |
| | | | | Tetrachloroethene | 130 | | 5 |
| Effluent | SC-04 | AG00469 | 3/9/2005 | 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 |
| | | | | Tetrachloroethene | 65 | | 5 |
| Influent (EPA-EXT-4R) | SC-02 | AG00826 | 4/22/2005 | 2-Butanone | 2.5 | | |
| | | | | Acetone | 5.1 | | 5 |
| | | | | Trichloroethene (TCE) | 1.3 | | 5 |
| | | | | Tetrachloroethene | 9.5 | | 5 |
| Effluent | SC-04 | AG00827 | 4/22/2005 | 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 | JN | |
| Influent (EPA-EXT-4R) | SC-02 | AG02075 | 6/22/2005 | Tetrachloroethene | 9.1 | | 5 |
| | | | | Acetone | 1.9 | K | 5 |
| | | | | Ethyl Acetate | 3.6 | JN | |
| | | | | Propane, 2-Isothiocyanto-2 | 0.8 | JN | |
| Influent | | AG02076 | 6/22/2005 | MTBE | 0.64 | | |
| | | | | Tetrachloroethene | 50 | | 5 |
| | | | | Acetone | 2 | K | 5 |
| | | | | Trichloroethene (TCE) | 0.56 | | 5 |
| | | | | Ethyl Acetate | 8.8 | JN | |
| Effluent | SC-04 | AG02072 | 6/22/2005 | Acetone | 2.6 | K | 5 |
| | | | | Ethyl Acetate | 6.2 | JN | |
| EffluenDup | SC-04 | AG02073 | 6/22/2005 | Acetone | 2.6 | K | 5 |
| | | | | Ethyl Acetate | 3.3 | JN | |
| Trip Blank | SC-TB | AG02077 | 6/22/2005 | Acetone | 2.4 | K | 5 |
| | | | | Chloroform | 13 | | |
| | | | | Bromodichloromethane | 2.7 | | |
| | | | | Ethyl Acetate | 3.1 | JN | |
| 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 | JN | |
| | | | | Propane, 2-Isothiocyanto-2 | 1.4 | JN | |
| 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 | JN | |
| EffluenDup | SC-04 | AG02779 | 7/12/2005 | Acetone | 1.9 | K | 5 |
| | | | | Ethyl Acetate | 5.2 | JN | |
| 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-Isothiocyanto-2 | 0.53 | JN | |
| Influent | | AG03723 | 8/15/2005 | Tetrachloroethene | 43 | | 5 |
| Effluent | SC-04 | AG03725 | 8/15/2005 | Acetone | ND (5.0) | | 5 |
| EffluenDup | 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 | | ND | | |
| Effluent Duplicate | | AH01176 | 2/15/2006 | | ND | | |
| 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 |
| Trip Blank | SC-TB | AH01257 | 3/8/2006 | Acetone | 2 | | 5 |
| | | | | Bromodichloromethane | 5 | | |
| | | | | Chloroform | 14 | | |
| Influent | SC-01 | AH01641 | 4/5/2006 | MTBE | 1.5 | | |
| | | | | TRICHLOROETHENE | 0.57 | | |
| | | | | TETRACHLOROETHENE | 68 | | |
| | | | | ACETONE | 1.7 | | |
| | | | | ETHYL ACETATE | 1.5 | NJ | |
| Effluent | SC-04 | AH01639 | 4/5/2006 | ACETONE | 1.7 | | |
| | | | | EHHYL ACETATE | 1.7 | NJ | |
| Effluent A | SC-04 | AH01640 | 4/5/2006 | ACETONE | 4.6 | | |
| | | | 4/5/2006 | EHHYL ACETATE | 5.3 | NJ | |
| Trip Blank | SC-TB | AH01642 | 4/5/2006 | ACETONE | 1.7 | | |

## 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 |
|---|---|---|---|---|---|---|---|

**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 qualifers and did not perform a separate review or validation of the data.

(D) = Detection from a dilution of the sample.

J = qualified as estimated

JN = 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 = Tert-butyl-methyl-ether

NJ = TIC. The reported value is estimated.

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: 4/11/06
Project # 70536

| | MultiRAE Plus PGM-50 | | | | | VelociCalc Plus | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | VOC | CO | Oxygen | LEL | H2S | Temp. | Vac. Pre. | %RH | Dew pt. | Flow |
| **SVE-Influent** | 1.6 | 1 | 20.5% | 0% | 0% | 101.6 | N/A | 23.4% | 57.4 | 245 |
| **Post Air Stripper** | 0.0 | 1 | 20.9% | 0% | 0% | 59.0 | N/A | 96.1% | 57.4 | 2040 |
| **SVE-Effluent[1]** | 0.0 | 2 | 20.1% | 0% | 0% | 82.1 | N/A | 43.2% | 57.5 | 250 |
| **GW Post Vapor Effluent[2]** | 0.0 | 1 | 20.9% | 0% | 0% | 59.1 | N/A | 93.0% | 56.7 | 2000 |
| **EPA-SVE-1 (shallow)** | 0.0 | 2 | 20.5% | 0% | 0% | 62.0 | 11.00 | 40.3% | 37.5 | 2.80 |
| **EPA-SVE-1 (medium)** | 0.0 | 1 | 20.5% | 0% | 0% | 67.4 | 12.00 | 33.3% | 37.5 | 5.80 |
| **EPA-SVE-2 (shallow)** | 0.0 | 2 | 20.4% | 0% | 0% | 72.4 | 0.00 | 58.2% | 56.6 | 1.00 |
| **EPA-SVE-2 (medium)** | 0.0 | 2 | 20.5% | 0% | 0% | 80.7 | 0.00 | 26.5% | 44.0 | 1.300 |
| **SS-A** | 0.0 | 0 | 20.5% | 0% | 0% | 62.2 | 5.00 | 48.9% | 42.7 | 36.0 |
| **EPA-SVE-04R/SS-B(A)** | 0.0 | 1 | 20.9% | 0% | 0% | 58.1 | 2.75 | 47.7% | 38.1 | 3.15 |
| **SS-B-C** | 0.0 | 2 | 20.4% | 0% | 0% | 63.3 | 3.00 | 37.0% | 37.4 | 41.50 |
| **SS-C** | 0.0 | 1 | 20.9% | 0% | 0% | 56.8 | 3.00 | 56.7% | 41.5 | 32.2 |
| **L1** | 0.0 | 2 | 20.4% | 0% | 0% | 60.8 | 6.25 | 100.0% | 60.8 | 74.5 |
| **L2** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **SS-B(B)** | 0.0 | 2 | 20.9% | 0% | 0% | 56.2 | 3.75 | 52.1% | 39 | 5.75 |
| **SS Vent-LIHA** | 0.0 | 1 | 20.9% | 0% | 0% | 56.9 | 2.25 | 49.0% | 40.1 | 65.5 |
| **Vapor Point-1/Slope 1** | 0.0 | 2 | 20.9% | 0% | 0% | N/A | N/A | N/A | N/A | N/A |
| **SVE-3A*** | 0.0 | 2 | 20.4% | 0% | 0% | N/A | N/A | N/A | N/A | >200 |
| **SVE-3B** | 0.9 | 1 | 19.9% | 0% | 0% | 63.1 | 9.50 | 79.0 | 56.6 | 95 |
| **Background** | 0.0 | 0 | 20.9% | 0% | 0% | 101.8 | N/A | 37.7% | 35.4 | N/A |

***Flow to strong to take VelociCalc readings**

**Equipment calibrated by: Frank Mahalski**
**Air readings collected by: Robert Derrick, Frank Mahalski, William Pollard**

***Approximately**

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)

[1]Formerly Post SVE Carbon
[2]Formerly Post Air Stripper Carbon

%RH: relative humidity

Dew Pt.: dew point in degrees Fahrenheit

AS: Air Stripper
SVE: Soil Vapor Extraction System

[3]Formerly Sub-Slab A,B, and C respectively
[4]Formerly Sub-Slab D
[5]Formerly Sub-Slab B

NA- Not Available

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

# Appendix G

# Semi-Annual Groundwater Sampling Analytical Data

**NO GROUNDWATER SAMPLING EVENT THIS MONTH**

# Appendix H

# Historical Groundwater Level Monitoring Results (Ongoing)

EARTH TECH
A Tyco Infrastructure Services Company



# WATER LEVEL DATA SUMMARY

**PROJECT:** Stanton Cleaners

**LOCATION:** Great Neck, NY

**CLIENT:** USACE / USEPA

**SURVEY DATUM:** ft msl

**MEASURING DEVICE:** Solinst Water Level Indicator S/N# 34407

**JOB NUMBER:** 70536

**DATE:** 5/2/2006

**MEASURED BY:** Derrick, Fernald

| WELL NUMBER | MEASURING POINT | | DEPTH TO WATER (FT) | ELEVATION OF WATER (FT) | COMMENTS |
|---|---|---|---|---|---|
| | Description | Elevation (FT) | | | |
| EPA-MW-11D | ft BTOC | 74.63 | 64.90 | 9.73 | |
| EPA-MW-21 | ft BTOC | 84.13 | 63.84 | 20.29 | |
| EPA-MW-22 | ft BTOC | 82.20 | 63.59 | 18.61 | |
| EPA-MW-23 | ft BTOC | 82.83 | 68.99 | 13.84 | |
| EPA-MW-27 | ft BTOC | 69.32 | 51.28 | 18.04 | |
| ST-MW-02 | ft BTOC | 82.03 | | | |
| ST-MW-06 | ft BTOC | 69.83 | 44.58 | 25.25 | |
| ST-MW-09 | ft BTOC | 78.13 | 63.50 | 14.63 | |
| ST-MW-11 | ft BTOC | 75.25 | | | |
| ST-MW-12 | ft BTOC | 87.20 | 73.87 | 13.33 | |
| ST-MW-14 | ft BTOC | 69.73 | 55.71 | 14.02 | |
| ST-MW-16 | ft BTOC | 75.78 | 54.63 | 21.15 | |
| ST-MW-17 | ft BTOC | 86.53 | 70.35 | 16.18 | |
| ST-MW-19 | ft BTOC | 82.50 | 66.69 | 15.81 | |
| ST-MW-20 | ft BTOC | 84.53 | 71.80 | 12.73 | |

**Notes:**
**WAGNN Public Supply Well Pumping Rate:** **GPM**
**Treatment System:**
**Total Gallons Pumped:**
**Pumping Rate:**

**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

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

| 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

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

| 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

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

| 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

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

| 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

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

| 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

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

| 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

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

| 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

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

| 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

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

| 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

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

| Well ID | Top of PVC Elevation (ft msl) | 4/11/2006 | | 5/2/2006 | |
|---|---|---|---|---|---|
| | | 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 |
| EPA-MW-22 | 82.20 | 63.89 | 18.31 | 63.59 | 18.61 |
| EPA-MW-23 | 82.83 | 64.44 | 18.39 | 68.99 | 13.84 |
| EPA-MW-27 | 69.32 | 51.72 | 17.60 | 51.28 | 18.04 |
| ST-MW-02 | 82.03 | | | | |
| ST-MW-06 | 69.83 | 46.54 | 23.29 | 44.58 | 25.25 |
| ST-MW-09 | 78.13 | 63.96 | 14.17 | 63.50 | 14.63 |
| ST-MW-11 | 75.25 | | | | |
| ST-MW-12 | 87.20 | 71.35 | 15.85 | 73.87 | 13.33 |
| ST-MW-14 | 69.73 | 56.10 | 13.63 | 55.71 | 14.02 |
| ST-MW-16 | 75.78 | 54.58 | 21.20 | 54.63 | 21.15 |
| ST-MW-17 | 86.53 | 70.76 | 15.77 | 70.35 | 16.18 |
| ST-MW-19 | 82.50 | 67.13 | 15.37 | 66.69 | 15.81 |
| ST-MW-20 | 84.53 | 72.13 | 12.40 | 71.80 | 12.73 |

**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 April 2006

EARTH TECH
A Tyco Infrastructure Services Company

# APRIL 2006 ACTION LIST SUMMARY

**PROJECT:** Stanton Cleaners **JOB NUMBER:** 70536
**LOCATION:** Great Neck, NY **DATE:** May 15, 2006
**CLIENT:** USACE / USEPA

| COMPLETED ITEMS | DATE PERFORMED |
|---|---|
| Review of Carbon Change out Schedule | (Aqueous Carbon and SVE Vapor Phase in June 2006) |
| Scheduling of Indoor Air Sampling Event | Planned for May 2006 |
| O&M Inspection/ System Monitoring | 4/4/2006 |
| Monthly System Sampling | 4/4/2006 |
| Flex Hose of Sub Slab at LIHA Replaced With Hard Piping, Blower Supported | 4/4/2006 |
| O&M/ System Monitoring/Air Monitoring | 4/11/2006 |
| Change out of Carbon Filters on the Rooftop of the LIHA | 4/11/2006 |
| O&M Inspection/ System Monitoring | 4/18/2006 |
| Replacement of Broken Actuator for Well EPA-EXT-02 | 4/18/2006 |

| OUTSTANDING ITEMS / | RECOMMENDED SOLUTION |
|---|---|
| Revision to O&M manual to reflect changes in GWP&T | Completed |
| Indoor Air Sampling | To be performed May 2006 |
| Change out of R2D2's in treatment Building | To be performed first week in May |
| Groundwater Monitoring Well Sampling | To be performed Week of May 23, 2006 |
| Replacement of System Oil and Grease | To be performed first week in May 2006 |