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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation
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ACTIVE INDUSTRIAL UNIFORM GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

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REPORT TITLE

Site Management Quarterly Report No. 25

REPORTING PERIOD

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CLIENT

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Site

NYSDEC Site No. 1-52-125, Active Industrial Uniform Site Groundwater Extraction and Treatment System Village of Lindenhurst, Town of Babylon, Suffolk County, New York

Project Background and Site Description

The Active Industrial Uniform (the Site) groundwater extraction and treatment system was designed to recover and treat a chlorinated solvent-contaminated groundwater plume emanating from the Site, a former dry cleaning and laundry facility. Dry cleaning activities were conducted at the site from the 1970's to 1987. The groundwater extraction and treatment system has been in operation since December 2001; however, D&B assumed O&M duties for the site in February 2005. Refer to *Figure 1* for a site location map depicting the treatment system location.

Groundwater Extraction and Treatment System Overview

The treatment system consists of two, 8-inch diameter extraction wells, with one located on-site in the southwest portion of the Site (RW-1), and one located off-site, approximately 1,500 feet southwest of the Site (RW-2). As per NYSDEC direction, extraction well RW-2 was shut-down in April 2010 due to low historic VOC concentrations. Extracted groundwater is conveyed to the treatment system building via underground piping to two series-configured packed-tower air strippers. The treated groundwater is then pumped via underground piping to a storm water basin located approximately 1,000 feet west of the Site, which subsequently discharges into Little Neck Creek, in accordance with all applicable discharge standards. Exhaust gas from each air stripper was treated utilizing two granular activated carbon (GAC) vessels in series. However, based on low historic contaminant concentrations detected in the air stripper exhaust gas, the air stripper exhaust piping was reconfigured to bypass the GAC vessels and discharge directly to the atmosphere in June 2011, per the direction of the NYSDEC. The treatment system is equipped with instrumentation and controls which allow for automated startup and operation, and an autodial alarm notification system. Refer to *Figure 2* for an "as-built" treatment system layout diagram.

It should be noted that, as documented in Quarterly Report No. 22, two USTs, several below-grade drainage structures and piping, and associated contaminated soil was excavated from the Site during April and June 2010. In order to limit waste disposal costs, the NYSDEC decided to remediate the contaminated soil on-site utilizing an ex-situ soil vapor extraction (SVE) system. Soil vapor was extracted from the contaminated soil and then routed into the treatment system exhaust piping, prior to the granular activated carbon (GAC) vessels.

Note, additional contaminated soil was excavated from the Site in June 2011. Soil from this excavation was again remediated on-site utilizing an ex-situ SVE system. Soil vapor generated from this system was initially routed through two 55-gallon GAC units; however, based on low VOC concentrations detected in the SVE system effluent and based on direction from the NYSDEC, the two GAC units were removed from this system. This SVE system is still operating at the time of this writing.

Regulatory Requirements/Cleanup Goals

Site-specific remedial goals have been established through the remedy selection process and are documented in the Record of Decision (ROD), dated March 1997. The overall goal is to meet all appropriate Standards, Criteria, and Guidance (SCGs) and to be protective of human health and the environment. Implementation of the groundwater extraction and treatment system is specifically focused on the following goals:

- Reduce, control, or eliminate contaminated media to the extent practicable;
- Eliminate the threat to surface waters by remediating groundwater to the extent practicable;
- Mitigate the impacts of contaminated groundwater to the environment;
- Prevent, to the extent possible, migration of contaminants;
- Provide for attainment of SCGs for groundwater, soil and indoor air within the limits of the affected area, to the extent practical; and
- Reduce the threat to homes from high groundwater.

Treatment System Performance Summary

The treatment system performance during the current reporting period and since D&B assumed O&M duties in February 2005 is summarized below.

System Extraction Rates and Total Flow Volumes (1)

	RW-1	RW-2	System Effluent
Average Pumping Rate - Current Reporting Period	0.0 gpm	0.0 gpm	0.0 gpm
Average Pumping Rate - Previous Reporting Period	112 gpm	0.0 gpm	111 gpm
Average Pumping Rate to Date	67 gpm	80 gpm	103 gpm
Total Flow Volume to Date	278,032,918 gal.	129,900,729 gal.	402,077,824 gal.

1. As detailed above, extraction well RW-1 did not operate this reporting period due to carbon vessel and building heater malfunctions.
2. As described above, extraction well RW-2 was shut down in June 2011 based on low historic VOC concentrations, as per NYSDEC direction.

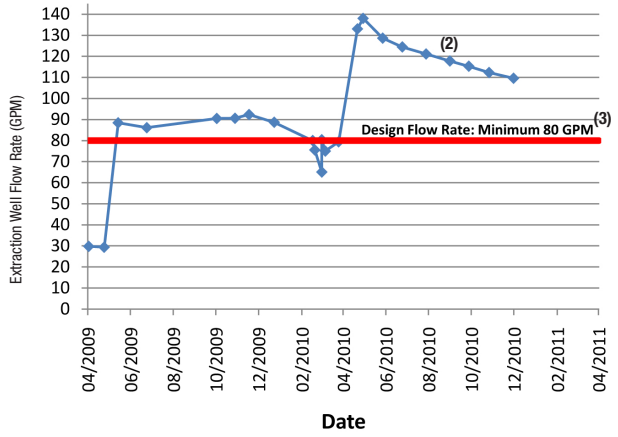
The treatment system was not operational for this entire reporting period due to the following system malfunctions:

- The bed screen supports located in the carbon vessels rusted and failed on December 23, 2010, resulting in ejection of the granular activated carbon (GAC) material, which was noted on January 5, 2011. Upon being notified of the bed screen failure, D&B recommened the bed screen be repaired, so the system could be restarted. The treatment system remained off for the entire reporting period while the NYSDEC reviewed bed screen replacement and system reconfiguring options; and
- The treatment system building heaters malfunctioned. As a result, and at the request of the NYSDEC on December 23, 2010, the water contained within the treatment system piping was purged so it would not freeze and burst the system piping.

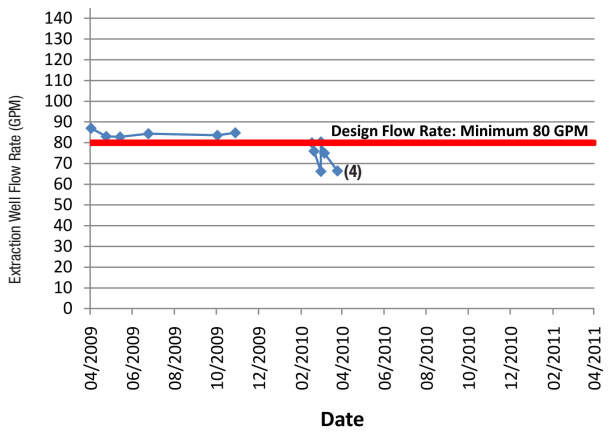
The building heaters were repaired on February 23, 2011. However, the system remained off for the entire reporting period due to the GAC vessel bed screen failure and, as such, system monitoring and sampling activities were not conducted this reporting period.

Based on NYSDEC's Air Guide-1 modeling and overall decreasing vapor-phase contaminant concentrations, the NYSDEC decided that the GAC vessels could be bypassed while still remaining protective of human health and the environment. As a result, the treatment system was restarted after this reporting period, on June 14, 2011, following rerouting of the system effluent vapor piping to bypass the GAC vessels. As, the GAC vessels have been bypassed, the NYSDEC decided that replacement of the GAC vessel bed screen and GAC material were not required at this time.

Extraction Well RW-1 Flow Rate Trend Line[1]

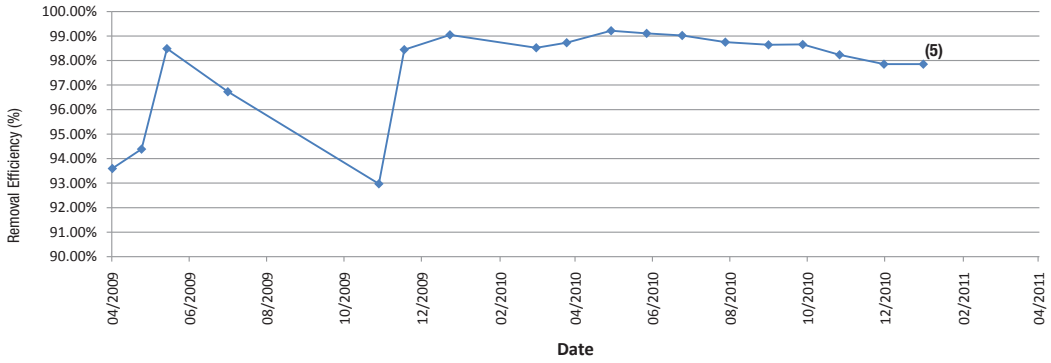


Extraction Well RW-2 Flow Rate Trend Line



1. As detailed above, the Groundwater Extraction and Treatment System did not operate this reporting period due to carbon vessel and building heater malfunctions.
2. Based on the decreasing well yield, the NYSDEC should consider reapplication of the Aqua-Freed process to improve well yield.
3. Based on design information presented in the Active Industrial O&M plan, dated April 2002, containment of the Active Industrial chlorinated plume could be achieved with on-site extraction well RW-1 operating at a minimum of 80% of the design flow rate of 100 GPM (80 GPM). Extraction well RW-1 has been operating at an average flow rate of approximately 112 GPM since system start-up to provide for a greater factor of safety and ensure all site groundwater contaminants are captured prior to migration off-site.
4. As detailed above, extraction well RW-2 was shutdown in April 2010 due to low historic VOC concentrations.

Air Stripper VOC Removal Efficiency



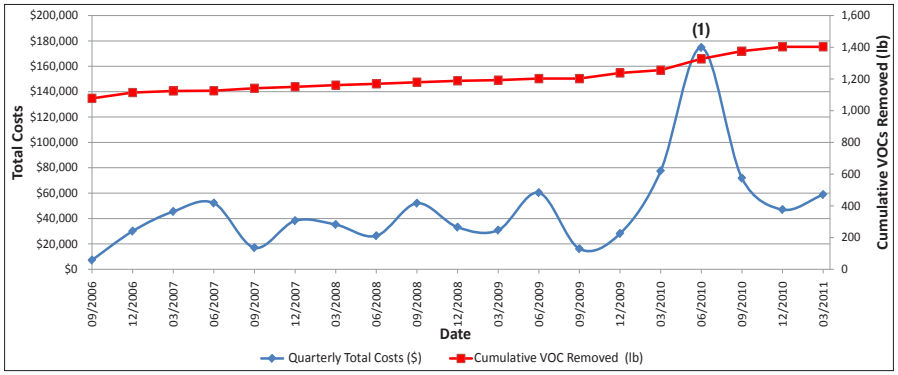
5. The packed-tower air strippers have operated at an approximate efficiency ranging from 92.65% to 99.47% since D&B assumed O&M duties in February 2005.

VOC Removal Assessment	
VOC Removal - Current Reporting Period [6]	0.0 lbs.
VOC Removal - Previous Reporting Period	27.29 lbs.
Average VOC Removal to Date	27.77 lbs.
Total VOC Removal to Date	1,396 lbs.

VOC Removal Costs	
VOC Removal Cost - Current Reporting Period [6]	NA [7]
VOC Removal Cost - Previous Reporting Period	$1,721 per lb.
Average VOC Removal Cost to Date [8]	$1,654 per lb.

6. The VOC removal costs include monthly utility charges, maintenance costs and engineering costs. Capital construction costs and NYSDEC project management effort are not included in this evaluation.
7. The treatment system did not operate this reporting period due to carbon vessel and building heater malfunctions.
8. Average calculated from when D&B assumed O&M duties in February 2005 through the current reporting period.

VOC Removal/Operational Cost Trend Line



1. Costs reflected for this period are primarily the result of UST and contaminated soil excavation activities completed by the NYSDEC "call-out" contractor, per the approval of the NYSDEC.

System Operation and Maintenance

Routine and non-routine maintenance completed during this reporting period and a summary of the alarm conditions and associated treatment system runtime/downtime for this reporting period are summarized below. Refer to *Attachment A* for operation and maintenance logs, as prepared by the NYSDEC "call-out" contractor for this reporting period.

Routine Equipment Maintenance Schedule Summary

Major System Component	Manufacturer	Model Number	Maintenance Frequency	Maintenance Summary					
				Current Reporting Period			Next Reporting Period		
				Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Extraction Well Pump RW-1	Grundfos Pump Corp.	150550-2	As needed based on flow trends						
Extraction Well Pump RW-2	Grundfos Pump Corp.	1505100-5	As needed based on flow trends						
Pressure Blower	Cincinnati Fan	PB-18	Bi-Monthly						
Vapor Carbon Vessels	Cameron Great Lake	VS7.2x6.7x8.6-5000-DUAL	As needed based on analytical results						
Air Strippers	Branch Environmental	48T-25H	As needed based contaminant concentrations						
Air Stripper Transfer Pumps	Magnatex Pumps, Inc.	MTA-A10-P-F20-2-FE	Quarterly						

##/##/##	*Activity Completed*		*Planned Activity*

Non-Routine System Maintenance:

- Inspect the vapor carbon vessels due to evidence of carbon ejection on January 5, 2011. As a result of this condition, water was purged from the treatment system piping on January 5, 2011 to prevent freezing and bursting of the pipes while the system was down. Note, the treatment system was shut down on December 23, 2010;
- Snow removal services on January 14 and January 28, 2011;

- Repair of the ex-situ SVE system knock-out drum float switch on January 26, 2011;
- Site meeting between the NYSDEC "call-out" contractor and Suffolk County Water Authority to locate and record a reading from the water usage meter on January 26, 2011;
- Site-walk to record the treatment system building temperature and assess the ex-situ SVE system on February 3, 2011;
- Assessment of ex-situ SVE system and draining of the SVE moisture knock-out drum on February 17, 2011;
- Evaluation and service of gas heaters on February 23, 2011, which have malfunctioned on several occasions over the past few winter seasons. Based on this evaluation, the NYSDEC "call-out" contractor concluded that the low height of the heater chimney stacks may be causing the heater pilot lights to be extinguished by wind gusts and down-drafts. As such, the NYSDEC "call-out" contractor extended the chimneys on February 23, 2011;
- The building heaters were turned on and checked on March 24, 2011; and
- Samples were collected from drainage structure piping excavated during the UST removal excavation, which was stockpiled on-site as the NYSDEC reviewed disposal options. The piping was disposed of on March 29, 2011.

Alarm Conditions:

High pressure alarm resulting from ice forming in the stripper towers on January 24, 2011. Note, the treatment system was not in operation at this time due to the carbon vessel bed screen malfunction described above.

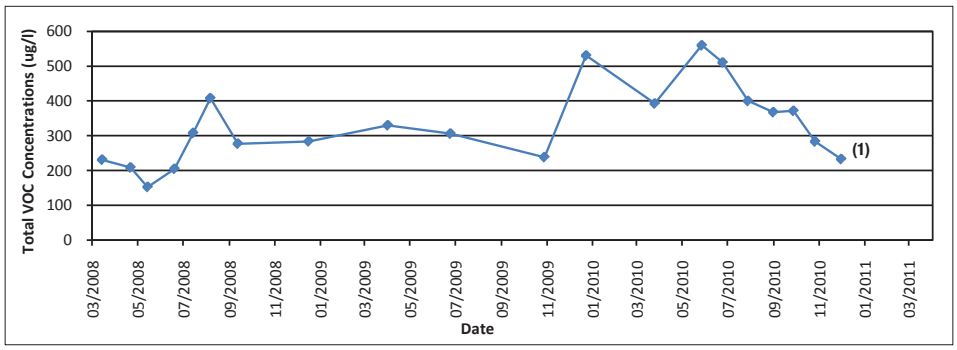
System Runtime/Downtime Summary		
Runtime - Current Reporting Period [1]	0 hours [3]	0%
Downtime - Current Reporting Period [1]	2,208 hours	100%
Total Runtime to Date [2]	42,100 hours	80.33%
Total Downtime to Date [2]	10,312 hours	19.67%

1. Total elapsed runtime for current reporting period is 2,208 hours (January 1, 2011 through March 31, 2011).
2. Based on the start of D&B's O&M duties in February 2005.
3. Groundwater extraction and treatment system did not operate during this reporting period due to carbon vessel and building heater malfunctions.

System Monitoring and Sampling Results

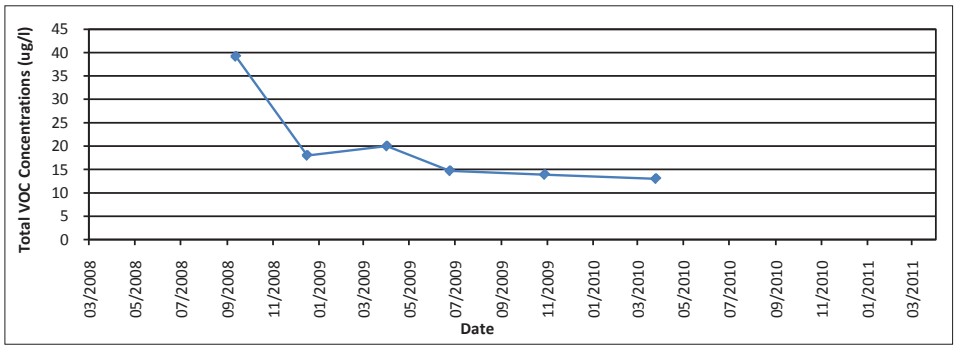
A summary of the pertinent routine treatment system monitoring and sampling results are provided below.

Extraction Well RW-1 Total VOC Concentration Trend Line



1. Groundwater extraction and treatment system did not operate during this reporting period due to carbon vessel and building heater malfunctions.

Extraction Well RW-2 Total VOC Concentration Trend Line (1)



1. RW-2 was shut down in April 2010 due to low historic VOC concentrations, as per the direction of the NYSDEC.

Extraction Well RW-1 - System Influent Contaminant Concentration Ranges/Averages (2)

Contaminant	Current Reporting Period (3)	Previous Reporting Period	Average to Date	Class GA Groundwater Standard
Tetrachlorothene (PCE)	- -	190 ug/l - 230 ug/l	234 ug/l	5.0 ug/l
Trichlorothene (TCE)	- -	42 ug/l - 49 ug/l	64 ug/l	5.0 ug/l
cis-1,2-Dichloroethene (cis-1,2-DCE)	- -	- -	102 ug/l	5.0 ug/l
trans-1,2-Dichloroethene (trans-1,2-DCE)	- -	ND	0.09 ug/l	5.0 ug/l
Vinyl chloride (VC)	- -	0.72 ug/l - 1.8 ug/l	0.67 ug/l	2.0 ug/l
1,1,1-Trichloroethane (1,1,1-TCA)	- -	ND	0.15 ug/l	5.0 ug/l
Iron	- -	1.81 ug/l - 1.36 ug/l	164 ug/l	300 ug/l
Manganese	- -	974 ug/l - 986 ug/l	1,177 ug/l	300 ug/l
Sodium	- -	22,200 ug/l - 23,100 ug/l	25,161 ug/l	20,000 ug/l
pH	- -	6.11 ug/l - 6.31 ug/l	6.2 ug/l	6.5-8.5 ug/l

Aqueous Phase Air Stripper Effluent Concentration Ranges

Discharge Permit Parameters	Current Reporting Period (3)	Previous Reporting Period	Site-Specific Effluent Limit
PCE	- -	ND	4.0 ug/l
TCE	- -	ND	10.0 ug/l
cis-1,2-DCE	- -	ND	10.0 ug/l
trans-1,2-DCE	- -	ND	10.0 ug/l
VC	- -	ND	10.0 ug/l
1,1,1-TCA	- -	ND	5.0 ug/l
Iron	- -	ND	4,000 ug/l
Manganese	- -	ND	2,000 ug/l
Sodium	- -	ND	NA
pH	- -	- -	6-9

- - : Not analyzed. NA: Not applicable. ND: Constituent concentration below the analytical detection limit.
Red font denotes an exceedance of the constituent's Class GA Groundwater Standard.
2. Only includes constituents typically detected in exceedance of their respective Class GA Groundwater Standard.
3. Groundwater extraction and treatment system did not operate during this reporting period due to carbon vessel and building heater malfunctions.

Vapor Phase Carbon Adsorption Vessels				
	Carbon Vessel 1 Influent [1]	Carbon Vessel Midfluent [1]	Carbon Vessel 2 Effluent [1]	Site-Specific Limits
PCE	- -	- -	- -	0.007 lbs/hr
TCE	- -	- -	- -	0.006 lbs/hr
Xylene	- -	- -	- -	0.001 lbs/hr
1,2-DCE (total)	- -	- -	- -	0.003 lbs/hr
VC	- -	- -	- -	0.014 lbs/hr
1,1,1-TCA	- -	- -	- -	0.001 lbs/hr
Pressure Blower Flow Rate	0 cfm	0 cfm	0 cfm	NA
Maximum Total VOC Emissions	0 lbs/hr	0 lbs/hr	0 lbs/hr	0.5 lbs/hr [2]

- - : Not analyzed. NA: Not applicable.
1. Groundwater extraction and treatment system did not operate during this reporting period due to carbon vessel and building heater malfunctions.
2. The site-specific effluent limit of 0.5 lbs/hr was developed in consultation with the NYSDEC and is utilized as a means to monitor total vapor-phase VOCs emitted by the treatment system.

Groundwater Monitoring Summary

The network of groundwater monitoring wells was sampled to determine groundwater quality at, and in the vicinity of, the Site. Samples were collected from nine on-site groundwater monitoring wells (MW-101 through MW-108 and MW-5S) and three off-site groundwater monitoring wells (MW-109, MW-111 and MW-2S). Note that existing on-site well MW-5S, which was identified during the UST removal excavation, will continue to be monitored as part of routine groundwater monitoring activities, until otherwise directed by the NYSDEC. The locations of the on-site groundwater monitoring wells are depicted in *Figure 3*, and the locations of the off-site groundwater monitoring wells are depicted on *Figure 4*.

Groundwater Monitoring Well Condition Summary:

All twelve groundwater monitoring wells were found to be accessible during the groundwater monitoring sampling event conducted on March 17 and 18, 2011. Although all groundwater monitoring wells were located as indicated on the site map, none had visible well IDs or measuring points. All groundwater monitoring well concrete well pads (where applicable), protective casings, surface seals, PVC well risers, well plugs and locks were observed to be present and in good condition, with the following exceptions:

- As final restoration/grading has not yet been completed in the UST removal excavation area, monitoring well locations MW-104 and MW-5S do not have concrete well pads;
- The well casing and manhole were observed to be damaged/broken at MW-5S;
- Stripped eyelets were observed on the well casings at MW-109, MW-111 and MW-5S; and
- The well lock was observed to be missing at MW-5S.

A summary of the field inspection logs for all groundwater monitoring wells assessed during this period are provided in *Attachment B*.

Groundwater Monitoring Results Summary:

A headspace reading was collected utilizing a photoionization detector (PID) at each groundwater monitoring well immediately after the removal of the well caps and plugs. The on-site groundwater monitoring wells exhibited concentrations of total VOCs in well headspace ranging from non-detect to a maximum concentration of 5.2 ppm, detected in groundwater monitoring well MW-107. VOCs were not detected in the headspace of any off-site monitoring well.

Below is a detailed summary of the site-specific contaminant of concern concentrations in on-site and off-site groundwater. Refer to *Attachment C* for analytical data results.

Site-Specific Contaminant of Concern Concentrations

Monitoring Well [1]	PCE		TCE		cis-1,2-DCE		Vinyl Chloride		
	Current Reporting Period	Previous Reporting Period	Current Reporting Period	Previous Reporting Period	Current Reporting Period	Previous Reporting Period [2]	Current Reporting Period	Previous Reporting Period	2-Year Contaminant Trend Analysis
On-Site Monitoring wells									
MW-101	1.0 ug/l	0.18 ug/l	0.65 ug/l	ND	ND	ND	ND	ND	Decreasing
MW-102	1.3 ug/l	0.70 ug/l	ND	ND	ND	ND	ND	ND	Decreasing
MW-103	17.0 ug/l	0.77 ug/l	ND	ug/l	3.1 ug/l	ND	1.1 ug/l	ND	Decreasing
MW-104	44.0 ug/l	40.0 ug/l	2.8 ug/l	2.3 ug/l	ND	5.4 ug/l	ND	ND	Decreasing
MW-105	1.8 ug/l	0.47 ug/l	37.0 ug/l	ND	430 ug/l	ND	65.0 ug/l	ND	Increasing
MW-106	92.0 ug/l	19.0 ug/l	80.0 ug/l	5.3 ug/l	140 ug/l	150 ug/l	2.1 ug/l	12.0 ug/l	Decreasing
MW-107	3.9 ug/l	1.2 ug/l	0.97 ug/l	0.49 ug/l	0.31 ug/l	ND	ND	ND	Decreasing
MW-108	6.6 ug/l	0.19 ug/l	1.4 ug/l	ND	3.9 ug/l	ND	ND	ND	Increasing
MW-5S	0.6 ug/l	0.29 ug/l	0.75 ug/l	0.75 ug/l	ND	--	ND	ND	Increasing
Off-Site Monitoring Wells									
MW-109	1.0 ug/l	0.18 ug/l	1.1 ug/l	0.54 ug/l	1.0 ug/l	2.8 ug/l	ND	ND	Decreasing
MW-111	0.52 ug/l	1.1 ug/l	ND	ND	ND	ND	ND	ND	Increasing
MW-2S	4.0 ug/l	2.2 ug/l	7.6 ug/l	3.0 ug/l	32.0 ug/l	670 ug/l	ND	0.95 ug/l	Decreasing

ND: Constituent concentration below the analytical detection limit.
--: Not analyzed.
Red font denotes an exceedance of the constituents Class GA Groundwater Standard (5.0 ug/l for PCE, TCE and cis-1,2-DCE, and 2.0 ug/l for VC).

1. Click on monitoring well IDs for graphs depicting contaminant concentrations over the last 2 years in wells exhibiting exceedances of the Class GA Groundwater Standards for this and the previous reporting period.
2. As cis-1,2-DCE has not been reported by the analytical laboratory from June 2010 to this reporting period, the previous reporting period concentration is from March 2010.

A gross plume model depicting the estimated extent of the total chlorinated VOC plume is provided as *Figure 5*. Note that, due to the limited number of sample and data points downgradient of the treatment system, the overall extent of the total chlorinated VOC plume is estimated and the plume extent is based on a total chlorinated VOC concentration of 5.0 ug/l. In comparison to the previous reporting period, the plume extent has increased due to a general increase in contaminant concentrations in on-site monitoring wells MW-103 and MW-105 through MW-108 and off-site monitoring well MW-109. However, note that the majority of the groundwater monitoring wells exhibit overall decreasing concentrations of the site-specific contaminants over the past 2-year period.

Based on the PCE concentrations detected in on-site monitoring well MW-106 and off-site monitoring well MW-2S, it may be warranted to install and sample several temporary geoprobe wells in the southwestern area of the Site and downgradient of the Site to more accurately define the current location of the PCE plume in these areas. Based on the results of the temporary well sampling, it may be warranted to install additional permanent monitoring wells in these areas and/or modify the current extraction well configuration in order to optimize and accelerate the recovery and treatment of the entire plume. Upon approval of this recommendation, D&B will provide the NYSDEC with a temporary well installation and sampling scope of work for review and approval.

Data Validation:

All sample results have been reviewed by D&B and deemed valid and usable for environmental assessment purposes. No qualification of the data was necessary based upon D&B's review. Data Validation Checklists are presented in *Attachment D*.

Findings and Recommendations

Findings:

- General Treatment System: The treatment system was not operational for the entire reporting period due to the carbon vessel bed screen and building heater malfunctions. As such, system monitoring and sampling activities were not completed during this reporting period. Note that the building heaters were repaired on February 23, 2011. In addition, the treatment system was restarted after this reporting period, on June 14, 2011, following rerouting of the system effluent vapor piping to bypass the GAC vessels. Based on NYSDEC's Air Guide-1 modeling and overall decreasing vapor-phase contaminant concentrations, the NYSDEC decided that the GAC vessels could be bypassed while still remaining protective of human health and the environment. As, the GAC vessels have been bypassed, replacement of the GAC vessel bed screen and GAC material is no longer necessary;
- Monitoring Well Conditions: All groundwater monitoring wells were observed to be in good condition, with the following exceptions:
  - No monitoring wells had visible well IDs or measuring points;
  - As final restoration/grading has not yet been completed in the UST removal excavation area to the west of the treatment system building, monitoring wells MW-104 and MW-5S do not have concrete well pads;
  - The well casing and manhole were observed to be damaged/broken at MW-5S;
  - Stripped eyelets were observed on the well casings at MW-109, MW-111 and MW-5S; and
  - The well lock was observed to be missing at MW-5S;
- Monitoring Well Headspace: Total VOC concentrations in on-site monitoring well headspace ranged from non-detect to a maximum concentration of 5.2 ppm, detected in on-site monitoring well MW-107. VOCs were not detected in the headspace of any off-site monitoring wells; and
- Monitoring Well Contaminant Concentrations: Five on-site groundwater monitoring wells (MW-103, MW-104, MW-105, MW-106 and MW-108) and one off-site monitoring well (MW-2S) exhibited one or more of the site-specific VOC concentrations in exceedance of their respective Class GA Groundwater Standards. In addition, contaminant concentrations in these monitoring wells have generally increased compared to the previous reporting period.

Recommendations:

- General Treatment System: As mentioned above, the treatment system was restarted on June 14, 2011, subsequent to this reporting period. Continued operation of the system is recommended at this time. Additionally, it is also recommended that each system component be inspected routinely to ensure that they are operating as designed and in an efficient manner. As described above, system repairs and reconfiguration activities have been completed following this reporting period in order to improve the efficiency of the treatment system;
- Groundwater Sampling: Collect routine groundwater samples from off-site extraction well RW-2, in order to better monitor off-site contamination concentrations and to determine whether the extraction well should be re-started;
- Monitoring Well Measuring Points: Well IDs and measuring points should be permanently fixed and clearly marked on each groundwater monitoring well for identification purposes;
- Monitoring Well Casings: Repair the well casing and/or manhole at monitoring well MW-5S, the well casing eyelets at monitoring wells MW-109, MW-111 and MW-5S, and replace the missing lock at monitoring well MW-5S;

- UST Excavation Area Restoration: Restore the UST removal excavation area to final grade and replace the well pads at monitoring wells MW-104 and MW-5S;
- Monitoring Well Headspace: Continue to assess headspace conditions in each groundwater monitoring well as part of each groundwater sampling event;
- Extraction Well ROI Analysis: In order to ensure the treatment system on-site extraction well is operating at an optimal and efficient flow rate, D&B recommends performing an annual radius of influence (ROI) analysis for extraction well RW-1; and
- RSO Evaluation: Based on the identification of several below grade structures and contaminated soil to the west of the treatment system and consistently elevated contaminant concentrations detected in several on-site monitoring wells, D&B recommends performing a Remedial Site Optimization (RSO) evaluation to further investigate residual on-site soil contamination, areal plume extents, treatment system equipment efficiency and operation, and possibly consider alternative remedial technologies.

Reclassification/Delisting Evaluation

The Site was originally listed as a Class 2 Inactive Hazardous Waste Site by the NYSDEC in November 1990. Since this time, completion of the following project phases has occurred, as summarized below:

Project Phases and Completion Dates

Project Phase	Completion Date
Remedial Investigation	04/1994
Phase II Remedial Design Investigation	12/1998
Remedial Design	06/2000
Groundwater Extraction and Treatment System Construction	12/2001 (1)

1. Construction of the groundwater extraction and treatment system was completed in December 2001. The groundwater extraction and treatment system was placed into routine operation in December 2001 and D&B assumed O&M duties in February 2005.

Given the above, it does not appear that the Active Industrial Uniform Site can be reclassified at this time, pursuant to the requirements identified in 6 NYCRR §375-2.7, as the contamination has not been fully remediated and continues to constitute a significant threat to public health or the environment. As such, Site delisting is not recommended at this time, as all remediation and post-remediation activities have not been satisfactorily completed. However, as described above, several USTs, below-grade drainage structures and contaminated soil have been identified and were removed from the site, which will likely accelerate overall remediation of the site.

Report Certification:

I have personally examined and am familiar with the information submitted in the referenced Report. To the best of my knowledge and belief, and based upon my inquiry of those individuals immediately responsible for obtaining the information reported therein, I certify that the submitted information is true, accurate, and complete.

Project Director:

_____ _____

Richard M. Walka **Date**
Senior Vice President

Project Manager:

_____ _____

Stephen E. Tauss **Date**
Geologist II