Hartsdale Village Square Aristocrat Cleaners

Westchester, New York

Site Management Plan

NYSDEC BCP Number: C360111

Prepared for:

Hartsdale Village Square LLC
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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

January, 2015

The following personnel have prepared, reviewed, and approved this document:

Site Management Plan

Hartsdale Village Square, Aristocrat Cleaners
Hartsdale, New York

BCA Site #C360111

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STATE OF NEW YORK
DALE C. KONAS
No. 081035
LICENSED PROFESSIONAL ENGINEER

1/29/13
Date

EnviroTrac
Environmental Services

CERTIFICATIONS

I Dale C. Konas certify that I am currently a NYS registered professional engineer as defined in 6 NYCR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10 and that all activities were performed in full accordance with the DER-approved work plan and any DER- approved modifications.

081035	1/29/15	
NYS Professional Engineer #	**Date**	**Signature**

STATE OF NEW YORK
DALE C. KONAS
No. 081035
LICENSED PROFESSIONAL ENGINEER

EnviroTrac
Environmental Services

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 Introduction

This document is required as an element of the remedial program at Hartsdale Village Square, Aristocrat Cleaners (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP), administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Site# C360111, which was executed on January 12, 2010.

1.1.1 General

Hartsdale Village Square LLC entered into a BCA with the NYSDEC to remediate a 0.1-acre property located in Hartsdale, New York. This BCA required the Remedial Party, Hartsdale Village Square LLC, to investigate and remediate contaminated media at the site. A figure showing the site location and boundaries of this 0.1-acre site subject to this plan is provided in Figure 1-1. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement (Appendix A).

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this site, which is hereafter referred to as 'remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by EnviroTrac Ltd., on behalf of Hartsdale Village Square LLC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May, 2010, and the guidelines provided by NYSDEC. This

SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. Engineering Controls have been incorporated into the site remedy to control exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Westchester County Clerk, will require compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action, including:

(1) Implementation and management of all Engineering and Institutional Controls;
(2) Media monitoring;
(3) Operation and maintenance of all treatment, collection, containment, or recovery systems;
(4) Performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and
(5) Defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans:

(1) An Engineering and Institutional Control Plan for implementation and management of EC/ICs;
(2) A Monitoring Plan for implementation of Site Monitoring; and

(3) An Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA Site #C360111 for the site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 Site Background

1.2.1 Site Location and Description

The site is located in the Hartsdale, Westchester County, New York and is identified as Block Block 8211 and Lot 8 on the Greenburgh Tax Map. The site is an approximately 0.1-acre area bounded by immediately adjacent stores to the north and south, East Hartsdale Road to the east, and a municipal parking garage to the west (see Figure 1-1). The boundaries of the site are more fully described in Appendix A.

1.2.2 Site History

The 0.1-acre property currently owned by Hartsdale Village Square LLC is located on East Hartsdale Avenue in the Village of Hartsdale, New York in the middle of a small strip mall comprising addresses 212 through 218, and facing the nearby Metro-North train station and east of the Municipal Parking Garage. The Site is zoned retail and has retail frontage on East Hartsdale Avenue of 87' 4".

No	Address	Property Use	Area (sq ft)
1	212	Dry Cleaner	1,700
2	214	Grocery Store –Market	2,200
3	216	Liquor Store	1,022
4	218	Commercial Office	3,000
		Total	7,922

Sanborn Maps show that the building at 212 was originally a store, but in 1970 it became a dry cleaner. This is confirmed by the City Directory in 1971. According to interviews with long-term on-site personnel conducted during preliminary site investigations the site may have been used for dry cleaning since 1940.

Owners and Operators of 212 E Hartsdale Avenue	From	To
Susanne and Shelly Grossbarth dry cleaner operator	1940	2005
John Aronian: owner Hartsdale Village 1&2 LLC	2005	7/2008
Hartsdale Village Square LLC	7/2008	Present

In accordance with BCP requirements an evaluation of the environmental setting and conditions has been conducted in the form of a remedial investigation (RI) as described in DEC Program Policy *DER-10 – Technical Guidance for Site Investigation and Remediation*.

The RI was implemented using a phased approach as presented in the Amended Remedial Investigation Work Plan (Work Plan) dated August 2011, and findings pertaining to the initial investigatory phase were provided in the Remedial Investigation Interim Summary Report dated June, 2012. The Interim Summary Report presented a recommendation regarding a potential groundwater treatment option that consisted of performing in-situ pilot testing. With concurrence from the NYSDEC this proposed option was developed in the July 19, 2013 Interim Remedial

Measure Work Plan (IRM Work Plan) to include the injection of contaminant reducing chemicals into the shallow subsurface in the area where the maximum groundwater contaminant concentrations have been found (beneath the basement of the dry cleaner) and through followup sampling of groundwater quality using nearby monitoring wells for performance monitoring. Groundwater that continues to exhibit the presence of contaminants (following completion of the IRM) related to former site practices is primarily located beneath the existing retail building structure and to a lesser extent beneath a paved area immediately to the west of the Site.

Results of the RI including the completed IRM were provided to the NYSDEC in two submittals:

- Remedial Investigation/Interim Remedial Measures/Alternatives Analysis (RI/IRM/AA) Report (December, 2014); and
- Final Engineering Report (December, 2014).

Prior to the RI several phases of investigative work was conducted, and that provided the basis for RI scoping, including the following:

- Phase 1 Site Assessment (2008) – Sun Tao Associates Inc.;
- Limited Phase 2 Site Investigation (2009) – Marksmen Enterprises, LLC;
    - Soil sampling and analyses
- Preliminary Assessment (2009) – Tapash Environmental Consultants
    - Followup due diligence
    - Ambient air assessment
    - Soil assessment
    - Monitoring well installations and groundwater assessment
    - Soil vapor assessment
    - Identification of on-site Areas of Concern (AOCs)

The RI report provides a summary of the preliminary assessments and findings that revealed the presence of petroleum related and chlorinated volatile organic compounds (VOCs) in environmental media at, in the nearby vicinity, of the Site.

1.2.3 Geologic Conditions

Surficial geology in Westchester County consists of a wide range of sediments deposited by glaciers. Glacial sediments include clay-rich glacial till on hillside and upland areas, and sandy outwash or ice contact deposits and glacial lake deposits in the County's valleys). Glacial till is generally clay-rich and contains varieties of angular and variously sized rock fragments and boulders.

Testing conducted at the Site has revealed the presence of more than 30 feet of well sorted medium to course sand and gravel deposits comprising an ancestral stream. No impervious zones or confining layers were identified.

According to literature, the bedrock under the site is a highly fractured metamorphic Shale, and Biotite Schists and Gneiss in 6 inch to 1 foot strata, injected with granite and quartz dikes. The rock strata dip steeply @ 70^{o} and strike Southeast-Northwest parallel to the rail line and Bronx River valley. The tightly-banded bedrock pattern in Westchester County is clearly visible around the site, particularly in the rocky outcrops in the valley sides. Weathered bedrock was encountered during the installation of monitoring well MW-2D at a depth of approximately 31 feet below land surface.

Glacial till is the most common soil substrate on hillsides and upland areas in Westchester County and is normally not used for water supply both because it lies in higher, unsaturated elevations and because it general exhibits low permeability that prevent the installation of viable wells.

Bedrock aquifers underlie all parts of Westchester County. Groundwater migrates through fractures in these formations. Wells in bedrock aquifers yield water where they intersect water-bearing fractures. Well yields in bedrock aquifers are generally low but are acceptable for domestic well purposes. Occasional higher-capacity wells are, and can be, sited in the County's bedrock aquifers.

Water levels have been periodically measured using the installed groundwater monitoring wells at the Site (MW-1 through MW-8, including MW-2D). Table 1-1 provides a summary of depth to

groundwater measurements and calculated water level elevations. The data gathered were used to determine a general direction of groundwater flow at the Site as shown in Figure 1-2.

The general direction of groundwater flow is generally towards the south with a horizontal hydraulic gradient of approximately 0.01 ft/ft. Assuming that the subsurface consists of fine/medium sand (approximate hydraulic conductivity of 20 ft/day), the horizontal groundwater flow velocity is estimated at 0.8 ft/day.

There were no perched water conditions noted at the Site and the water table is normally found approximately 10 feet below grade, an elevation corresponding to just beneath the basement floor slab of the dry cleaner, except during flooding conditions when it can temporarily rise to higher elevations.

1.3 Summary of Remedial Investigation Findings

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the following report:

- Remedial Investigation/Interim Remedial Measures/Alternatives Analysis (RI/IRM/AA) Report (December, 2014).

Locations where sampling was conducted during the RI are provided in Figure 1-3. Generally, the RI determined that historic releases of petroleum and chlorinated VOCs had occurred at the Site and impacted soil, groundwater, soil vapor and ambient air. The suspected spill area was coincident with a floor drain (designated SUMP 1 in Figure 1-4) in the basement of the dry cleaner (i.e., at a location approximately 10 feet below grade). Relative to the basement floor groundwater is very shallow and was found to range from approximately 0.5 to 4 feet deep. Historically, groundwater migration into the dry cleaner basement has been noted and is attributed to heavy precipitation events.

An in-situ chemical reduction (ISCR) IRM for groundwater was conducted to remediate onsite groundwater that was predominantly impacted with chemicals related to the dry cleaning process including tetrachloroethene and related breakdown products. Several inorganic and

semi-volatile organic compounds (SVOCs) were also found in groundwater at levels exceeding NYSDEC standards. Inorganic compounds and organochlorine pesticides were found in soil at concentrations exceeding unrestricted cleanup objectives.

Below is a summary of site conditions when the RI was performed during 2011-2014:

Soil

The RI was conducted through the implementation of several phases of field investigations; results of which were used to develop subsequent work scopes. Initial testing included the collection of soil samples at several locations at the site and analyzing them in the laboratory for a comprehensive suite of analytical parameters including volatile and semi-volatile organics, inorganics, organochlorine pesticides and PCBs. Several metals and pesticide compounds were found at concentrations exceeding unrestricted soil cleanup criteria. A summary of chemical constituents that were found in soil is provided in Tables 1-2 and 1-3. Figure 1-5 shows locations where constituents were found at concentrations meeting or exceeding regulatory comparison criteria.

Site-Related Groundwater

Groundwater is found at a depth of approximately 10 feet below land surface. The principal chemical constituents of interest at the site are VOCs related to the dry cleaning process including tetrachloroethene and associated dechlorination series compounds. The suspected source of these compounds is in the vicinity of a floor sump located in the basement of the dry cleaner. Figure 1-6 provides locations of monitoring wells and sampling results for testing conducted prior to implementation of the IRM. A summary of RI groundwater sampling results is provided in Tables 1-4, 1-5, 1-6 and 1-7.

Site-Related Soil Vapor Intrusion

The potential for soil vapor intrusion at the site was investigated during the RI through the installation and sampling of sub-slab monitoring points, and the collection of indoor and outdoor air samples. The predominantly detected chemical constituents included tetrachloroethene and

trichloroethene. Testing locations are shown on Figure 1-3. Table 1-8 provides a summary of sampling results.

Underground Storage Tanks

There are no underground storage tanks (USTs) associated with the Site.

1.4 Summary of Remedial Actions

The site was remediated in accordance with the NYSDEC-approved Interim Remedial Measure Work Plan dated July, 2013.

The following is a summary of the Remedial Actions performed at the site:

The work included the injection of chemical (EHC, manufactured by FMC Environmental Solutions) mixed with water as a 150 gallons of slurry, in the vicinity of the suspected former spill area in the basement of the dry cleaner to stimulate the reductive degradation of VOCs. These injections were conducted within an area measuring approximately 10 x 10 feet in area and to a depth of 6 feet beneath the floor. Following completion of the injections groundwater sampling was conducted 1 and 4 months later to assess performance. Results indicated significant improvements in groundwater quality and evidence of continuing reagent activity.

Additional remedial elements include the following:

1. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.
2. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

The chemical injections associated with the groundwater IRM were completed in October, 2013. Subsequent performance monitoring was conducted in November, 2013 and February, 2014 to evaluate ongoing chemical degradation resulting from the applied injection materials.

1.4.1 Removal of Contaminated Materials from the Site

With the exception of limited volumes of solid and liquid waste generated as a result of soil borings and groundwater sampling during the RI (that was properly disposed off-site) no contaminated material was removed from the Site.

1.4.2 Site-Related Treatment Systems

Groundwater treatment using in-situ chemical reduction (ISCR) technology is conducted onsite utilizing injections of chemical reagent beneath the basement floor of the dry cleaner in the vicinity of the suspected spill location (Figure 1-4). The intent of this application is to reduce concentrations of chemicals found in groundwater related to the dry cleaning process though direct contact and through stimulation of natural degradation processes in the downgradient direction.

1.4.3 Remaining Contamination

Soil testing conducted during the RI revealed several instances of results exceeding Track 1 SCOs (Part 375-6). These results pertained to several metals and pesticide compounds. The contamination of concern (that resulted in the need for a remedial approach) consists of chemicals associated with the dry cleaning process that are found in groundwater beneath the site.

Figure 1-5 summarizes the results of all soil samples remaining at the site after completion of Remedial Action that meet or exceed the Track 1 (unrestricted) SCOs.

Figure 1-8 summarizes results for groundwater samples collected prior to the IRM and following application of the ISCR reagent.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 Introduction

2.1.1 General

Since remaining contaminated soil and groundwater/soil vapor exists beneath the site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 Engineering Controls

2.2.1 Engineering Control Systems

Engineering controls that have been put in place on the site include a groundwater treatment system utilizing in-situ chemical reduction technology. No ongoing operation or maintenance

activities are required. Procedures for monitoring the efficacy in addressing the targeted groundwater contamination are provided in the Monitoring Plan (Section 2 of this SMP).

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

Groundwater Treatment System

Groundwater monitoring activities to assess attenuation will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

If during the site monitoring program groundwater concentrations of the chemicals of interest are found to increase, or if it is determined that additional treatment is required, the NYSDEC will make a determination as such and a work plan similar to the IRM work plan dated July 19, 2013 will be developed and provided for approval.

2.3 Institutional Controls

A series of Institutional Controls is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to commercial uses only. Adherence to these Institutional Controls on the site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- The property may only be used for commercial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- The property may not be used for a higher level of use, such as unrestricted, restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area noted on Figure 1-1, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited; and
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were

approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The site has been remediated for restricted commercial use. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix B to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP is attached as Appendix C to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section B-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Testing conducted at the site by the NYSDOH has suggested that indoor and outdoor air in the vicinity of the site is directly impacted by ongoing dry cleaner operations in addition to potential soil vapor intrusion resulting from volatilization of VOCs present beneath the basement floor of the dry cleaner. At some time in the future, following resolution of the operational issue an SVI evaluation may be performed to assess the effect of the IRM on potential volatilization. Because the water table is generally located just beneath the basement floor, the feasibility of a mitigation system would need to be evaluated.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York". Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 Inspections and Notifications

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;

- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the Brownfield Cleanup Agreement (BCA), 6NYCRR Part 375, and/or Environmental Conservation Law;
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan;
- Notice within 48-hours of any damage or defect to the foundation, structures or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action taken to mitigate the damage or defect;
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public; and

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Brownfield Cleanup Agreement (BCA) and all approved work plans and reports, including this SM; and
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to [qualified environmental professional]. These emergency contact lists must be maintained in an easily accessible location at the site.

Table 2-1: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 2-2: Other Contact Numbers

Peter C. Breen, PG, CPG Qualified Environmental Professional	(631) 924-3001

* Note: Contact numbers subject to change and should be updated as necessary

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 212 E. Hartsdale Avenue, Hartsdale, NY

Nearest Hospital Name: Westchester Medical Center

Hospital Location: 100 Woods Road, Valhalla, NY 10595-1530

Hospital Telephone: (914) 493-7000

Directions to the Hospital:

mapquest

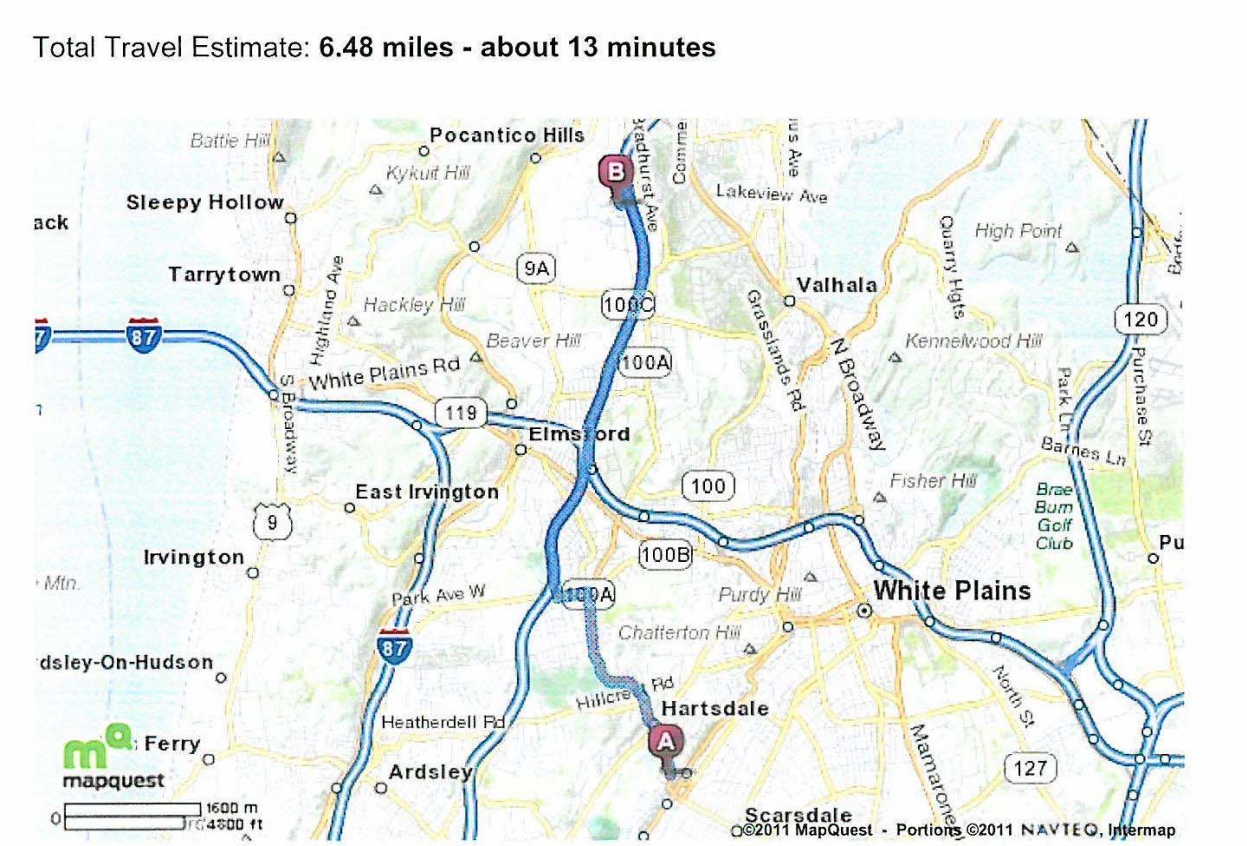
Notes

Route from Aristocrat Dry Cleaners to Hospital

Trip to:
100 Woods Rd
Valhalla, NY 10595-1530
6.48 miles
13 minutes

		Miles Per Section	Miles Driven
A	**212 E Hartsdale Ave** Hartsdale, NY 10530-3505		
	1. Start out going NORTH on E HARTSDALE AVE toward ROCKLEDGE RD.	**Go 2.0 Mi**	2.0 mi
	2. Turn LEFT onto RT-100B / DOBBS FERRY RD. *RT-100B is 0.1 miles past W HARTSDALE RD*	**Go 0.3 Mi**	2.2 mi
	3. Merge onto SPRAIN BROOK PKWY N. *If you are on DOBBS FERRY RD and reach WESTCHESTER VIEW LN you've gone about 0.6 miles too far*	**Go 3.8 Mi**	6.0 mi
EXIT	4. Take the HOSPITAL RD exit toward RT-100 N / HAWTHORNE.	**Go 0.2 Mi**	6.2 mi
	5. Turn LEFT onto BRADHURST ENTRANCE NORTH RD / HOSPITAL RD / CR-301.	**Go 0.1 Mi**	6.3 mi
	6. Turn LEFT onto WOODS RD. *If you are on HOSPITAL RD and reach WESTVIEW DR you've gone about 0.2 miles too far*	**Go 0.2 Mi**	6.5 mi
	7. 100 WOODS RD is on the RIGHT. *If you reach EMERGENCY DR you've gone about 0.2 miles too far*		6.5 mi
B	**100 Woods Rd** Valhalla, NY 10595-1530	**6.5 mi**	**6.5 mi**

Map Showing Route from the site to the Hospital:



2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 2-1). The list will also posted prominently at the site and made readily available to all personnel at all times.

3.0 SITE MONITORING PLAN

3.1 Introduction

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the soil cover system, and all affected site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities. To adequately address these issues, this Monitoring Plan provides information on:
- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Annual monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted for the first year. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. The monitoring program is summarized in Table 3-1 and outlined in detail in Sections 3.2 and 3.3 below.

Table 3-1: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Groundwater	Yearly for first year – subsequently to be determined by NYSDEC	Groundwater	VOCs and chemical attenuation parameters (see Section 3.3)

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH.

3.2 Cover System Monitoring

A yearly inspection of site cover including concrete flooring associated with the building and paving at exterior location to the west of the building will be conducted to determine if any alterations or defects are present that could compromise the efficacy of the remedy.

3.3 Media Program Monitoring

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy.

The network of monitoring wells (Figure 1-3) has been installed to monitor both up-gradient and down-gradient groundwater conditions at the site. Table 1-1 provides monitoring well construction details. Monitoring well construction logs are included in Appendix D. Figure 1-7 provides groundwater quality results for sampling conducted after the ISCR application.

Following is a summary of wells to be sampled and analytes tested during the initial implementation of this SMP.

Well	Location/Purpose	Analytes
MW-1	Outdoor/western plume perimeter monitoring	Method 8260C VOCs
MW-2	Dry cleaner basement/source area monitoring	Method 8260C VOCs ISCR indicator parameters*
MW-2D	Dry cleaner basement/source area monitoring	Method 8260C VOCs,
MW-5	Outdoor/western plume perimeter monitoring	Method 8260C VOCs
MW-7	Dry cleaner basement/eastern plume perimeter monitoring	Method 8260C VOCs
MW-8	Liquor store basement/downgradient plume monitoring	Method 8260C VOCs

Note: (*) Includes:

- Total Alkalinity
- Biological Oxygen Demand - 5 Day
- Total Metals - Calcium, Iron, Magnesium, Manganese
- Chloride
- Chemical Oxygen Demand
- Dissolved Gasses (methane, ethane, ethene)
- Dissolved Organic Carbon
- Total Hardness
- Nitrate Nitrogen
- TCL Volatile Organic Compounds
- Sulfate
- Total Organic Carbon

Groundwater sampling will be conducted on a yearly frequency for the first year of monitoring conducted under this SMP. Following that period a review of the testing results will be conducted and a proposal for alternate frequency of monitoring proposed. The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix E. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Groundwater sampling procedures specifying well gauging, well purging, sampling methodology, analytical methodology, lab certification, analytical methods and Analytes are provided in Appendix F.

3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning

If biofouling or silt accumulation occurs in the on-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.4 Site-wide Inspection

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix G). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that site records are up to date.

3.5 Monitoring Quality Assurance/Quality Control

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix H). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program;
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC ASP requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures;
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.

- The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.

- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method;
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules; and
- Corrective Action Measures.

3.6 Monitoring Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. The report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;

- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized below.

Table 3-2: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Site Inspection	Yearly for the initial year
Groundwater Monitoring	Yearly for the initial year

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

4.1 Introduction

The site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/ soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 Site Inspections

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded for the groundwater treatment engineering control (Appendix I). Additionally, a general site-wide inspection form will be completed during the annual site-wide inspection (see Appendix G). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items; and
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 Certification of Engineering and Institutional Controls

If the remedy includes any engineering controls, include the following:

After the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare the following certification:
For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices;
- The information presented in this report is accurate and complete; and
- No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid.

Every five years the following certification will be added:

- The assumptions made in the qualitative exposure assessment remain valid; and
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] for the site.

The signed certification will be included in the Periodic Review Report described below.

For projects in the BCP which the Department has determined do not represent a significant threat to public health or the environment, but where contaminants in groundwater exceed drinking water standards, the following should also be included for both EC/IC and IC scenarios listed above.

5.3 Periodic Review Report

A Periodic Review Report will be submitted to the Department every year, beginning fifteen months after the Certificate of Completion is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed,

along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following;
    - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 Corrective Measures Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

FIGURES

AERIAL PHOTOGRAPH

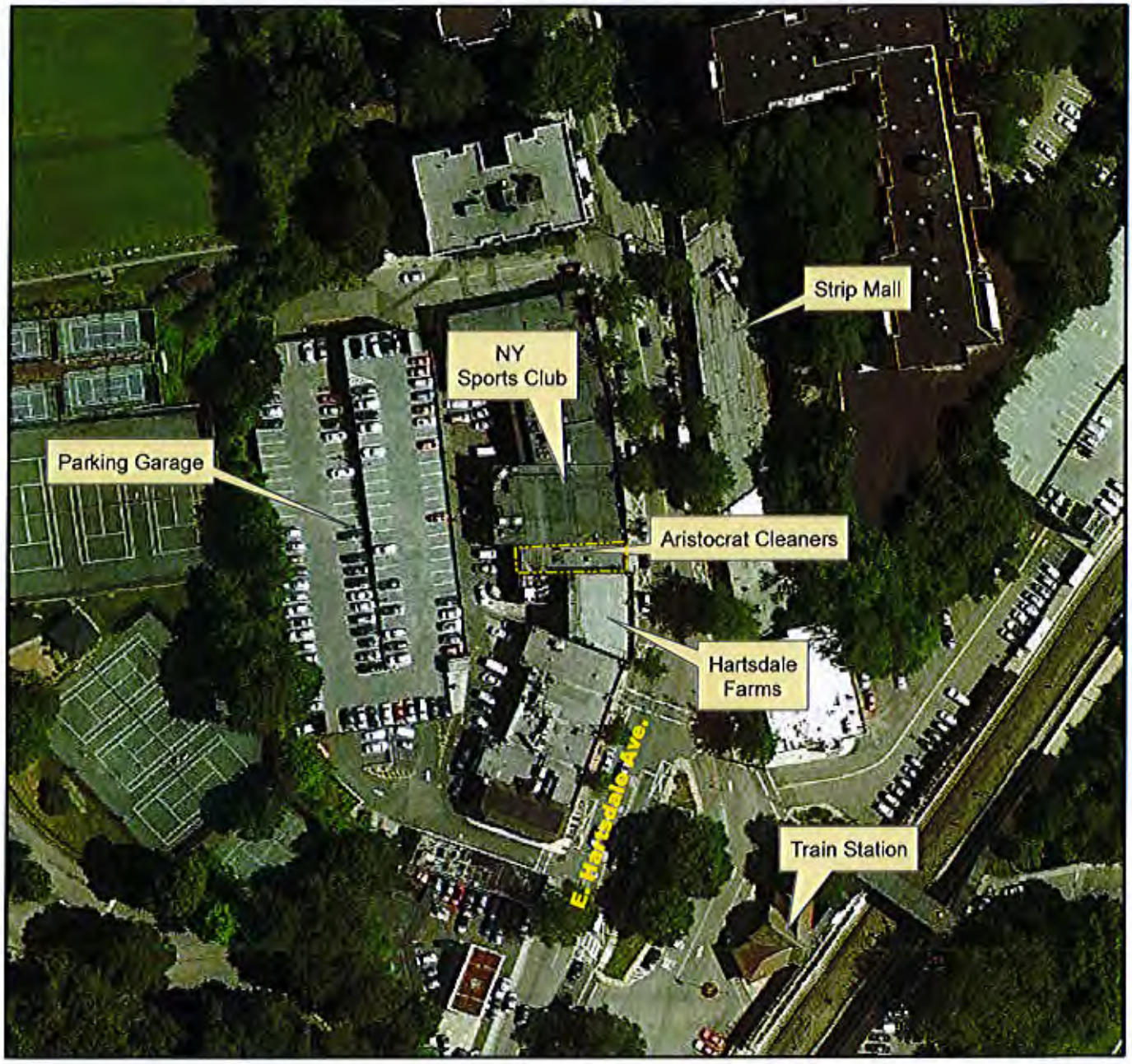
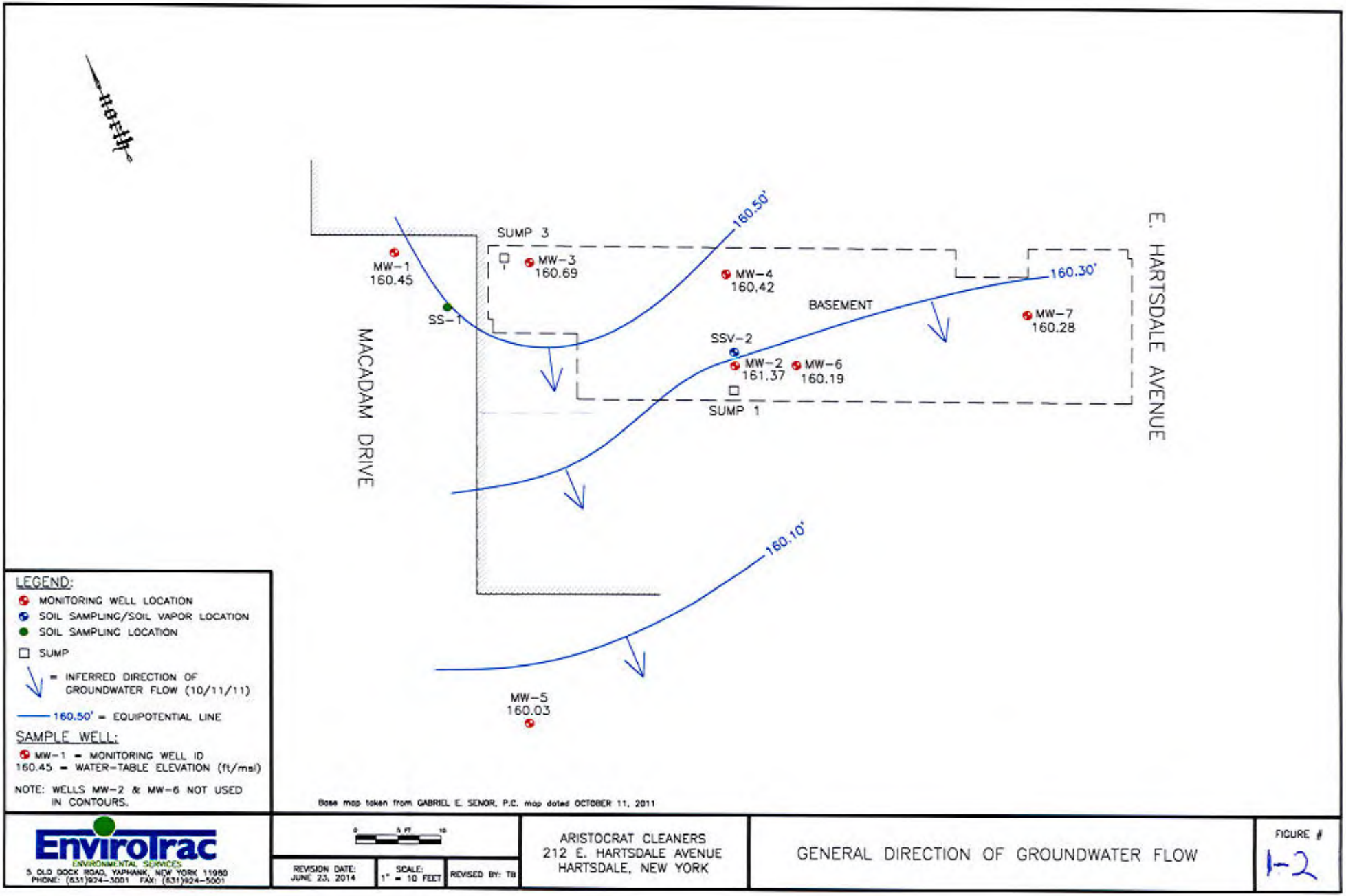


Figure 1-1
Site Location Map

Aristocrat Cleaners
212 E. Hartsdale Ave.
Hartsdale, NY

N
W E
S

EnviroTrac
Environmental Services
5 Old Dock Road
Yaphank, NY 11980
P: 631-924-3001 F:631-924-5001



EnviroTrac
ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-5001 FAX: (631)924-5001

0 5 FT 10

REVISION DATE: JUNE 23, 2014 | SCALE: 1" = 10 FEET | REVISED BY: TB

ARISTOCRAT CLEANERS
212 E. HARTSDALE AVENUE
HARTSDALE, NEW YORK

GENERAL DIRECTION OF GROUNDWATER FLOW

FIGURE # 1-2

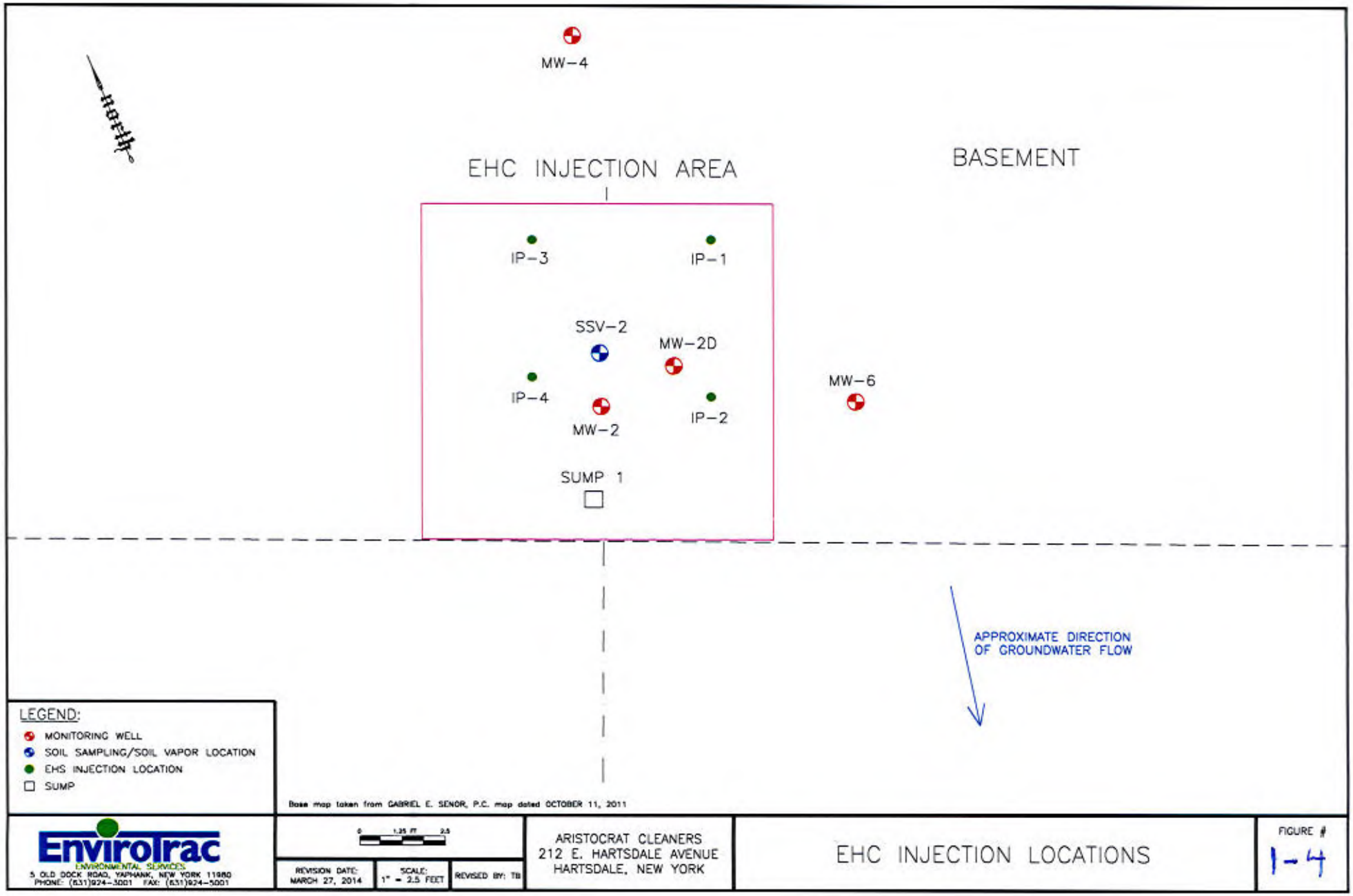
AERIAL PHOTOGRAPH

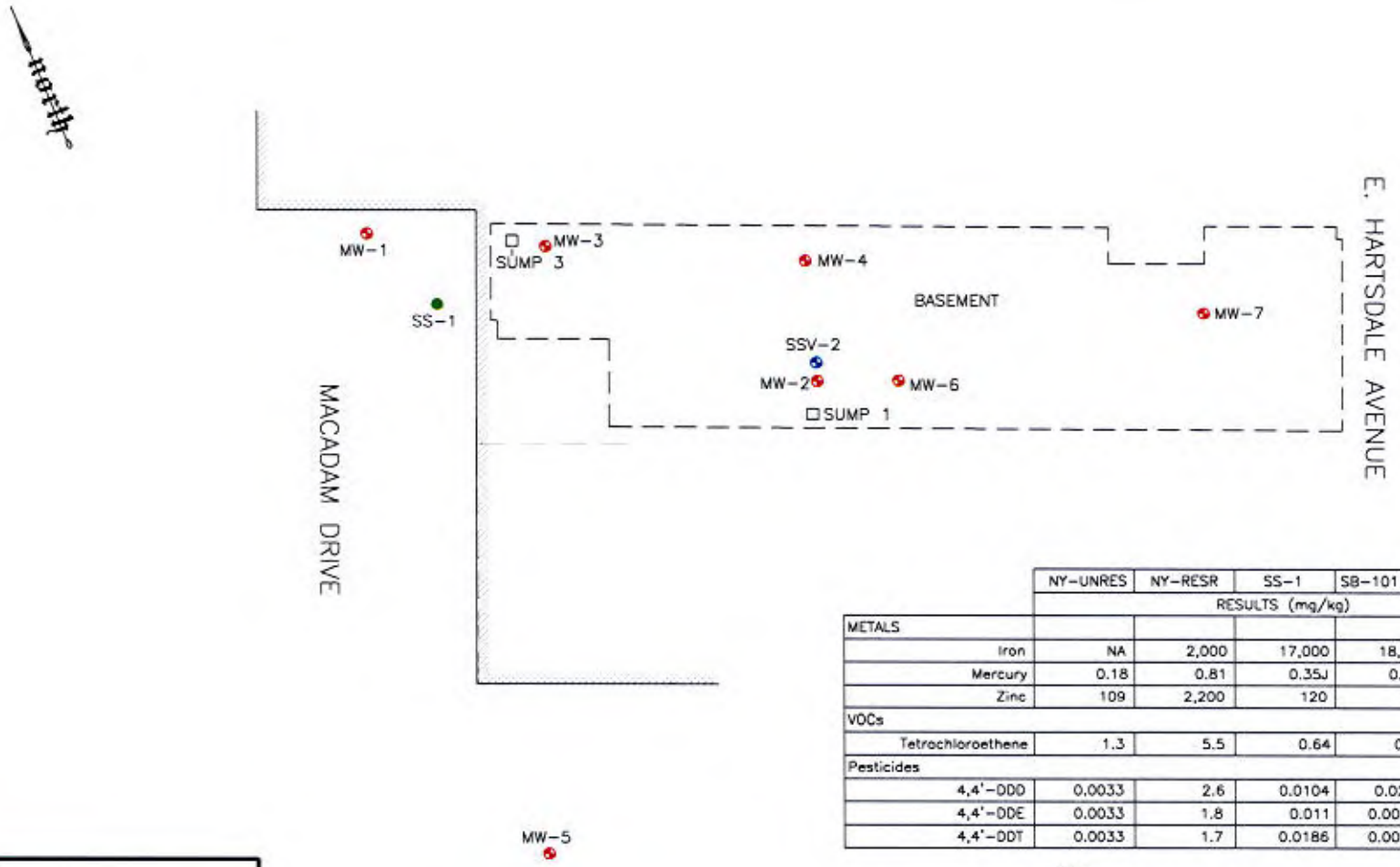
Figure 1-3
RI Testing Locations

Aristocrat Cleaners
212 E. Hartsdale Ave.
Hartsdale, NY

N
W E
S

EnviroTrac
Environmental Services
5 Old Dock Road
Yaphank, NY 11980
P: 631-924-3001 F:631-924-5001


north
MW-4
EHC INJECTION AREA
BASEMENT
IP-3
IP-1
SSV-2
MW-2D
IP-4
MW-6
IP-2
MW-2
SUMP 1
APPROXIMATE DIRECTION
OF GROUNDWATER FLOW
LEGEND:
MONITORING WELL
SOIL SAMPLING/SOIL VAPOR LOCATION
EHS INJECTION LOCATION
SUMP
Base map taken from GABRIEL E. SENOR, P.C. map dated OCTOBER 11, 2011
EnviroTrac
ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001
0 1.25 FT 2.5
REVISION DATE: MARCH 27, 2014
SCALE: 1" = 2.5 FEET
REVISED BY: TB
ARISTOCRAT CLEANERS
212 E. HARTSDALE AVENUE
HARTSDALE, NEW YORK
EHC INJECTION LOCATIONS
FIGURE #
1-4



	NY-UNRES	NY-RESR	SS-1	SB-101 (1)	SSV-2
	RESULTS (mg/kg)				
METALS					
Iron	NA	2,000	17,000	18,000	20,000
Mercury	0.18	0.81	0.35J	0.32J	0.36J
Zinc	109	2,200	120	150	180
VOCs					
Tetrachloroethene	1.3	5.5	0.64	0.22	1.3
Pesticides					
4,4'-DDD	0.0033	2.6	0.0104	0.0246	0.0134
4,4'-DDE	0.0033	1.8	0.011	0.00741	0.0194
4,4'-DDT	0.0033	1.7	0.0186	0.00994	0.0141

LEGEND:
- MONITORING WELL
- SOIL SAMPLING/SOIL VAPOR LOCATION
- SOIL SAMPLING LOCATION
- SUMP

Notes:
NY-RESR: Restricted Use Residential Soil Cleanup Objective.
NY-UNRES: Unrestricted Use Soil Cleanup Objective.
Sampling conducted October 11, 2011
(1) – Duplicate of SS-1
NA – Not applicable, no criteria provided.
J – Estimated value.

Base map taken from GABRIEL E. SENOR, P.C. map dated OCTOBER 11, 2011

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ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
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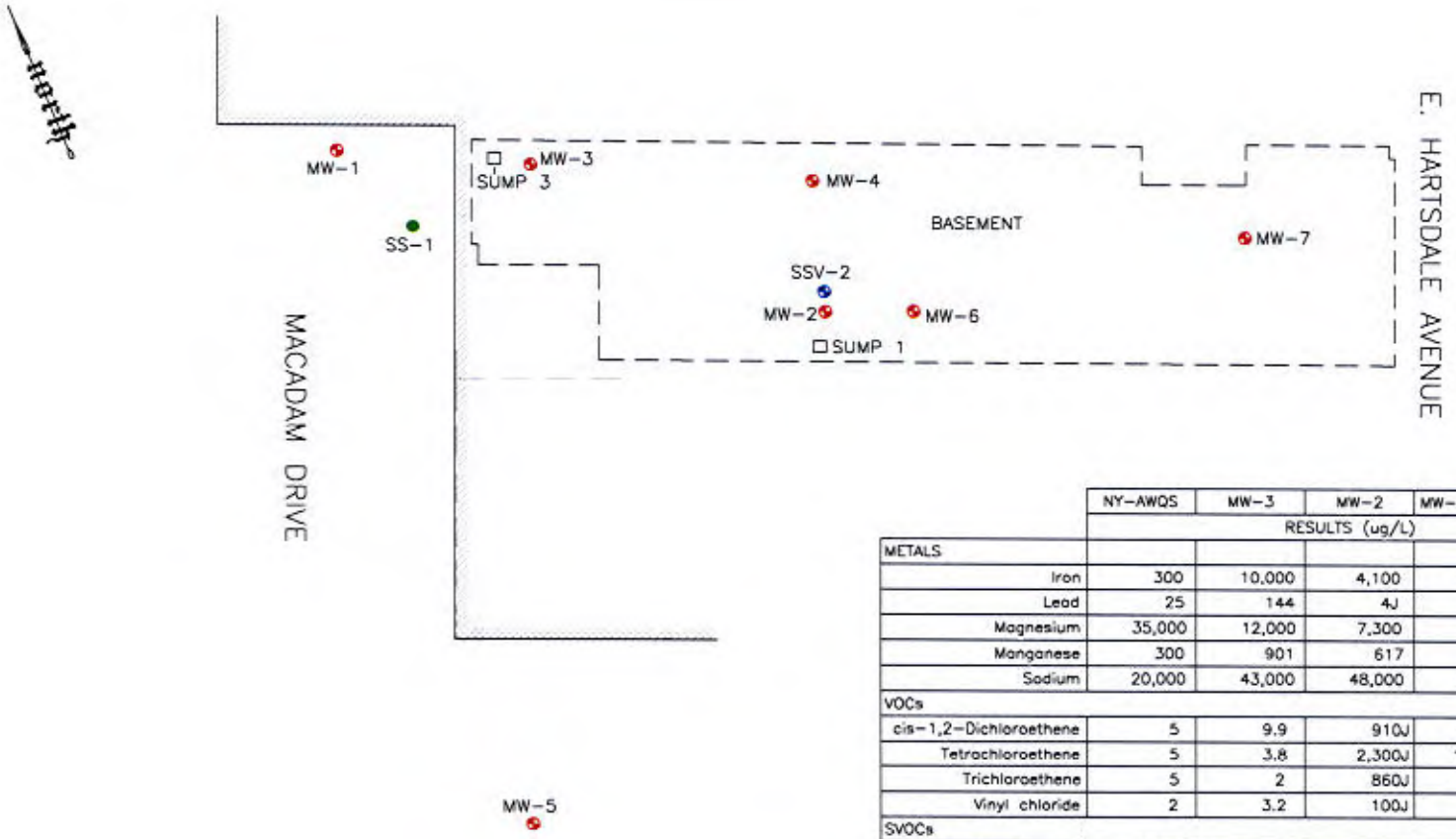
0 5 FT 10

REVISION DATE: JUNE 23, 2014 | SCALE: 1" = 10 FEET | REVISED BY: TB

ARISTOCRAT CLEANERS
212 E. HARTSDALE AVENUE
HARTSDALE, NEW YORK

SOIL RESULTS EXCEEDING REGULATORY CRITERIA

FIGURE # 1-5



	NY-AWQS	MW-3	MW-2	MW-101 (1)	MW-7
	RESULTS (ug/L)				
METALS					
Iron	300	10,000	4,100	6,500	1,800
Lead	25	144	4J	4J	5J
Magnesium	35,000	12,000	7,300	10,000	36,000
Manganese	300	901	617	900	183
Sodium	20,000	43,000	48,000	68,000	98,000
VOCs					
cis-1,2-Dichloroethene	5	9.9	910J	5,500J	160
Tetrachloroethene	5	3.8	2,300J	13,000J	98
Trichloroethene	5	2	860J	4,800J	20
Vinyl chloride	2	3.2	100J	580J	0.26J
SVOCs					
Benzo(b)fluoranthene	0.002	0.3	0.2U	0.2U	0.2U
Benzo(k)fluoranthene	0.002	0.18J	0.2U	0.2U	0.2U
Chrysene	0.002	0.25	0.2U	0.2U	0.2U

LEGEND:
- MONITORING WELL
- SOIL SAMPLING/SOIL VAPOR LOCATION
- SOIL SAMPLING LOCATION
- SUMP

Notes:
NY-AWQS New York State Ambient Water Quality Standard.
Sampling conducted October 11, 2011.
(1) – Duplicate of MW-2.
U – Compound was not detected relative to the indicated limit.
J – Estimated value.

Base map taken from GABRIEL E. SENOR, P.C. map dated OCTOBER 11, 2011

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ENVIRONMENTAL SERVICES
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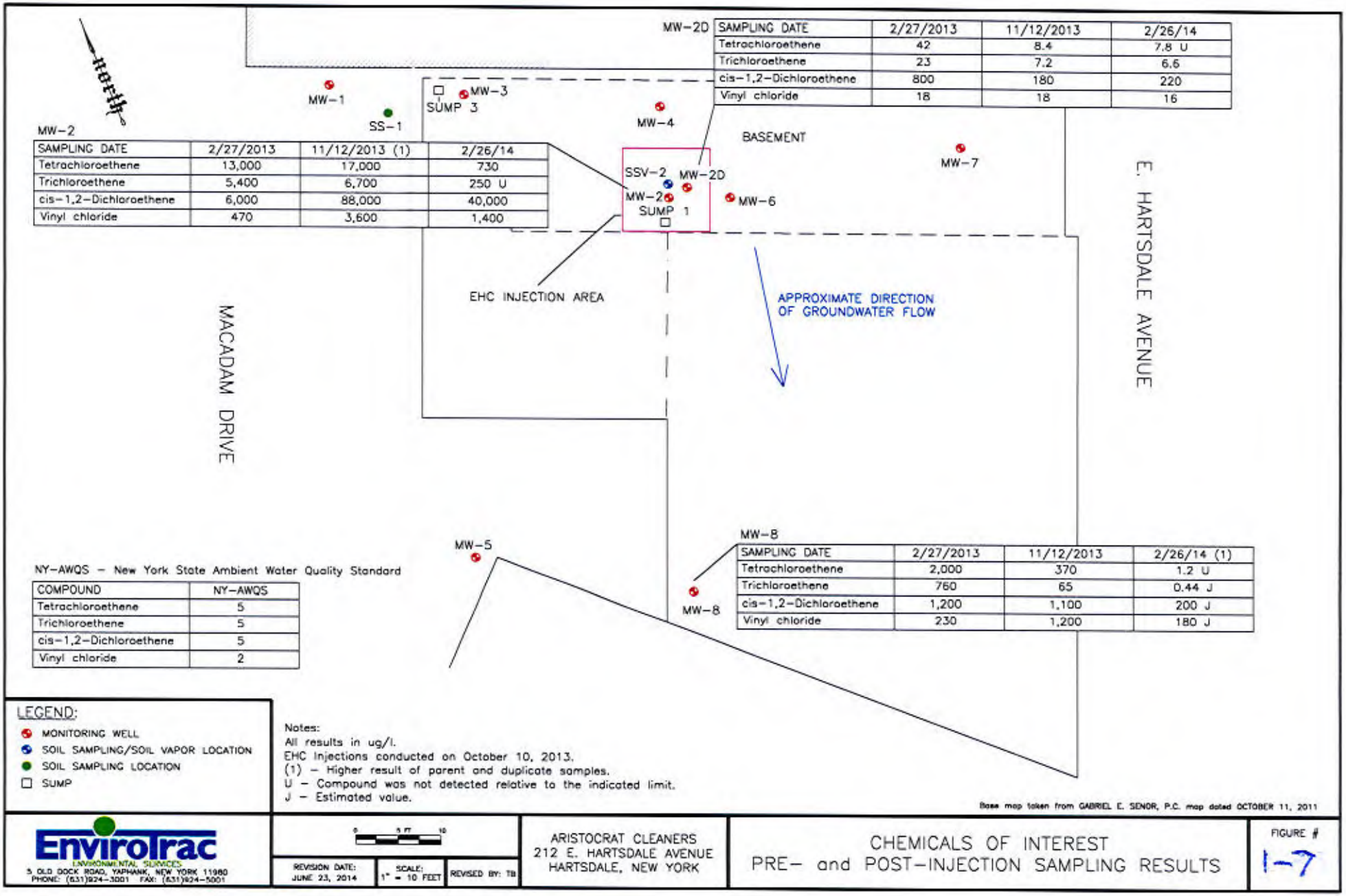
0 5 FT 10

REVISION DATE: JUNE 23, 2014 | SCALE: 1" = 10 FEET | REVISED BY: TB

ARISTOCRAT CLEANERS
212 E. HARTSDALE AVENUE
HARTSDALE, NEW YORK

RI PHASE I
GROUNDWATER SAMPLING RESULTS

FIGURE # 1-6


North
MW-1
SS-1
MW-3
SUMP 3
MW-4
MW-2D
SAMPLING DATE | 2/27/2013 | 11/12/2013 | 2/26/14
Tetrachloroethene | 42 | 8.4 | 7.8 U
Trichloroethene | 23 | 7.2 | 6.6
cis-1,2-Dichloroethene | 800 | 180 | 220
Vinyl chloride | 18 | 18 | 16
MW-2
SAMPLING DATE | 2/27/2013 | 11/12/2013 (1) | 2/26/14
Tetrachloroethene | 13,000 | 17,000 | 730
Trichloroethene | 5,400 | 6,700 | 250 U
cis-1,2-Dichloroethene | 6,000 | 88,000 | 40,000
Vinyl chloride | 470 | 3,600 | 1,400
BASEMENT
MW-7
SSV-2
MW-2D
MW-2
SUMP 1
MW-6
EHC INJECTION AREA
APPROXIMATE DIRECTION OF GROUNDWATER FLOW
MACADAM DRIVE
E. HARTSDALE AVENUE
MW-5
MW-8
MW-8
SAMPLING DATE | 2/27/2013 | 11/12/2013 | 2/26/14 (1)
Tetrachloroethene | 2,000 | 370 | 1.2 U
Trichloroethene | 760 | 65 | 0.44 J
cis-1,2-Dichloroethene | 1,200 | 1,100 | 200 J
Vinyl chloride | 230 | 1,200 | 180 J
NY-AWQS - New York State Ambient Water Quality Standard
COMPOUND | NY-AWQS
Tetrachloroethene | 5
Trichloroethene | 5
cis-1,2-Dichloroethene | 5
Vinyl chloride | 2
LEGEND:
MONITORING WELL
SOIL SAMPLING/SOIL VAPOR LOCATION
SOIL SAMPLING LOCATION
SUMP
Notes:
All results in ug/l.
EHC Injections conducted on October 10, 2013.
(1) - Higher result of parent and duplicate samples.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
Base map taken from GABRIEL E. SENOR, P.C. map dated OCTOBER 11, 2011
EnviroTrac
ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001
0 5 10
REVISION DATE: JUNE 23, 2014
SCALE: 1" = 10 FEET
REVISED BY: TB
ARISTOCRAT CLEANERS
212 E. HARTSDALE AVENUE
HARTSDALE, NEW YORK
CHEMICALS OF INTEREST
PRE- and POST-INJECTION SAMPLING RESULTS
FIGURE #
1-7

TABLES

Table 1-1: Water Level Elevation Measurements

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

WELL NO.	MW-1			MW-2			MW-2D			MW-3			MW-4		
LOCATION	Outdoor			Basement			Basement			Basement			Basement		
BOREHOLE DIAMETER (in.)	2			2			3			2			2		
CASING/SCREEN DIAMETER (in.)	1			1			1.25			1			1		
TOTAL WELL DEPTH (ft.)	18.5			10.5			18.0			10.5			10.5		
SCREEN INTERVAL (ft.)	8.5 - 18.5			0.5 - 10.5			13 - 18			0.5 - 10.5			0.5 - 10.5		
MP ELEVATION (ft./msl.)	169.15			162.70			161.86			162.54			162.71		
SCREEN INTERVAL (ft./msl.)	151-161			152-162			144-149			152-162			152-162		
SAMPLING DATE	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV
8/12/2008 (2)	9.40	0.00	159.75	0.50	0.00	162.20	NA			0.50	0.00	162.04	0.50	0.00	162.21
10/11/2011	8.70	0.00	160.45	1.33	0.00	161.37	NA			1.85	0.00	160.69	2.29	0.00	160.42
2/6/2013	8.61	0.00	160.54	2.70	0.00	160.00	2.01	0.00	159.85	2.50	0.00	160.04	2.91	0.00	159.80
2/27/2013	8.39	0.00	160.76	2.05	0.00	160.65	1.55	0.00	160.31	NM	-	-	2.48	0.00	160.23
11/12/2013	10.02	0.00	159.13	3.77	0.00	158.93	2.78	0.00	159.08	3.50	0.00	159.04	3.73	0.00	158.98
2/26/2014	NM	-	-	2.86	0.00	159.84	3.65	0.00	158.21	3.53	0.00	159.01	3.81	0.00	158.90

WELL NO.	MW-5			MW-6			MW-7			MW-8		
LOCATION	Outdoor			Basement			Basement			Basement (1)		
BOREHOLE DIAMETER (in.)	2			2			2			3		
CASING/SCREEN DIAMETER (in.)	1			1			1			2		
TOTAL WELL DEPTH (ft.)	18.5			10.5			10.5			8.0		
SCREEN INTERVAL (ft.)	8.5 - 18.5			0.5 - 10.5			0.5 - 10.5			3 - 8		
MP ELEVATION (ft./msl.)	169.50			162.88			162.87			160.91		
SCREEN INTERVAL (ft./msl.)	151-161			152-162			152-162			153-158		
SAMPLING DATE	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV	DTW	LNAPL	ELEV
8/12/2008 (2)	10.25	0.00	159.25	0.50	0.00	162.38	0.50	0.00	162.37	NA		
10/11/2011	9.47	0.00	160.03	2.69	0.00	160.19	2.59	0.00	160.28	NA		
2/6/2013	9.95	0.00	159.55	3.25	0.00	159.63	3.17	0.00	159.70	1.81	0.00	159.10
2/27/2013	9.18	0.00	160.32	NM	-	-	NM	-	-	1.06	0.00	159.85
11/12/2013	10.77	0.00	158.73	4.11	0.00	158.77	4.02	0.00	158.85	2.26	0.00	158.65
2/26/2014	NM	-	-	4.24	0.00	158.64	2.29	0.00	160.58	2.24	0.00	158.67

Notes:
MP - Top of casing measuring point.
DTW - Depth to water below measuring point (ft.).
LNAPL - Light non-aqueous phase liquid thickness (ft.).
ELEV - Groundwater elevation (ft./msl).
(1) - Liquor store - all other "Basement" samples are located in the dry cleaner.
(2) - Measurements recorded by Tapash, Hammonton, NY.
NA - Not applicable, well not installed.
NM - Not measured.

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
General Chemistry	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
Solids, Total (%)	NA	82		82		76	
Total Metals	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
Aluminum, Total	NA	12000		16000		13000	
Antimony, Total	NA	1.8	UJ	2.2	UJ	2.1	UJ
Arsenic, Total	13	2.6		3.3		3.4	
Barium, Total	350	96		110		73	
Beryllium, Total	7.2	0.37	J	0.48		0.38	J
Cadmium, Total	2.5	0.06	U	0.06	U	0.06	U
Calcium, Total	NA	2500	J	3200	J	4300	J
Chromium, Total	NA	19		24		20	
Cobalt, Total	NA	6.5		8.4		7.7	
Copper, Total	50	30	J	36	J	28	J
Iron, Total	NA	17000		20000		18000	
Lead, Total	63	45	J	48	J	23	J
Magnesium, Total	NA	3300	J	4600	J	3800	J
Manganese, Total	1600	150	J	180	J	250	J
Mercury, Total	0.18	0.35	J	0.32	J	0.36	J
Nickel, Total	30	14		18		15	
Potassium, Total	NA	1400		1900		1500	
Selenium, Total	3.9	1.5	U	1	J	1.4	J
Silver, Total	2	0.15	U	0.15	U	0.17	U
Sodium, Total	NA	200		180		220	
Thallium, Total	NA	0.57	U	0.57	U	0.63	U
Vanadium, Total	NA	26		33		29	
Zinc, Total	109	120		150		180	

Notes:
All results in mg/kg unless otherwise noted.
(1) - Duplicate of SS-1.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-UNRES - 6NYCRR Part 375 -Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Volatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
1,1,1,2-Tetrachloroethane	NA	0.003	U	0.003	U	0.016	U
1,1,1-Trichloroethane	0.68	0.003	U	0.003	U	0.016	U
1,1,2,2-Tetrachloroethane	NA	0.003	U	0.003	U	0.016	U
1,1,2-Trichloroethane	NA	0.0046	U	0.0046	U	0.025	U
1,1-Dichloroethane	0.27	0.0046	U	0.0046	U	0.025	U
1,1-Dichloroethene	0.33	0.003	U	0.003	U	0.016	U
1,1-Dichloropropene	NA	0.015	U	0.015	U	0.082	U
1,2,3-Trichlorobenzene	NA	0.015	U	0.015	U	0.082	U
1,2,3-Trichloropropane	NA	0.03	U	0.03	U	0.16	U
1,2,4,5-Tetramethylbenzene	NA	0.012	U	0.012	U	0.066	U
1,2,4-Trichlorobenzene	NA	0.015	U	0.015	U	0.082	U
1,2,4-Trimethylbenzene	3.6	0.015	U	0.015	U	0.082	U
1,2-Dibromo-3-chloropropane	NA	0.015	U	0.015	U	0.082	U
1,2-Dibromoethane	NA	0.012	U	0.012	U	0.066	U
1,2-Dichlorobenzene	1.1	0.015	U	0.015	U	0.082	U
1,2-Dichloroethane	0.02	0.003	U	0.003	U	0.016	U
1,2-Dichloropropane	NA	0.011	U	0.011	U	0.058	U
1,3,5-Trimethylbenzene	8.4	0.015	U	0.015	U	0.082	U
1,3-Dichlorobenzene	2.4	0.015	U	0.015	U	0.082	U
1,3-Dichloropropane	NA	0.015	U	0.015	U	0.082	U
1,4-Dichlorobenzene	1.8	0.015	U	0.015	U	0.082	U
1,4-Diethylbenzene	NA	0.012	U	0.012	U	0.066	U
2,2-Dichloropropane	NA	0.015	U	0.015	U	0.082	U
2-Butanone	0.12	0.03	U	0.03	U	0.16	U
2-Hexanone	NA	0.03	UJ	0.03	UJ	0.16	U
4-Ethyltoluene	NA	0.012	U	0.012	U	0.066	U
4-Methyl-2-pentanone	NA	0.03	U	0.03	U	0.16	U
Acetone	0.05	0.03	U	0.03	U	0.16	U
Acrylonitrile	NA	0.03	UJ	0.03	UJ	0.16	U
Benzene	0.06	0.003	U	0.003	U	0.016	U
Bromobenzene	NA	0.015	U	0.015	U	0.082	U
Bromochloromethane	NA	0.015	U	0.015	U	0.082	U
Bromodichloromethane	NA	0.003	U	0.003	U	0.016	U
Bromoform	NA	0.012	U	0.012	U	0.066	U
Bromomethane	NA	0.0061	U	0.0061	U	0.033	U
Carbon disulfide	NA	0.03	UJ	0.03	UJ	0.16	UJ
Carbon tetrachloride	0.76	0.003	U	0.003	U	0.016	U
Chlorobenzene	1.1	0.003	U	0.003	U	0.016	U
Chloroethane	NA	0.0061	U	0.0061	U	0.033	U
Chloroform	0.37	0.0046	U	0.0046	U	0.025	U
Chloromethane	NA	0.015	U	0.015	U	0.082	U
cis-1,2-Dichloroethene	0.25	0.088	J	0.0083	J	0.016	U
cis-1,3-Dichloropropene	NA	0.003	U	0.003	U	0.016	U
Dibromochloromethane	NA	0.003	U	0.003	U	0.016	U
Dibromomethane	NA	0.03	U	0.03	U	0.16	U

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Volatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
Dichlorodifluoromethane	NA	0.03	UJ	0.03	UJ	0.16	UJ
Ethyl ether	NA	0.015	U	0.015	U	0.082	U
Ethylbenzene	1	0.003	U	0.003	U	0.016	U
Hexachlorobutadiene	NA	0.015	U	0.015	U	0.082	U
Isopropylbenzene	NA	0.003	U	0.003	U	0.016	U
Methyl tert butyl ether	0.93	0.0061	U	0.0061	U	0.033	U
Methylene chloride	0.05	0.03	U	0.03	U	0.16	U
n-Butylbenzene	12	0.003	U	0.003	U	0.016	U
n-Propylbenzene	3.9	0.003	U	0.003	U	0.016	U
Naphthalene	12	0.015	U	0.015	U	0.082	U
o-Chlorotoluene	NA	0.015	U	0.015	U	0.082	U
o-Xylene	NA	0.0061	U	0.0061	U	0.033	U
p-Chlorotoluene	NA	0.015	U	0.015	U	0.082	U
p-Isopropyltoluene	NA	0.003	U	0.003	U	0.016	U
p/m-Xylene	NA	0.0061	U	0.0061	U	0.033	U
sec-Butylbenzene	11	0.003	U	0.003	U	0.016	U
Styrene	NA	0.0061	U	0.0061	U	0.033	U
tert-Butylbenzene	5.9	0.015	U	0.015	U	0.082	U
Tetrachloroethene	1.3	0.64		0.22		1.3	
Toluene	0.7	0.0046	U	0.0046	U	0.025	U
trans-1,2-Dichloroethene	0.19	0.0024	J	0.0046	U	0.025	U
trans-1,3-Dichloropropene	NA	0.003	U	0.003	U	0.016	U
trans-1,4-Dichloro-2-butene	NA	0.015	U	0.015	U	0.082	U
Trichloroethene	0.47	0.003	U	0.003	U	0.016	U
Trichlorofluoromethane	NA	0.015	U	0.015	U	0.082	UJ
Vinyl acetate	NA	0.03	U	0.03	U	0.16	U
Vinyl chloride	0.02	0.0061	U	0.0061	U	0.033	U
Tentatively Identified Compounds (TICS)	NA			0	U		
Cyclohexane, 2-butyl-1,1,3- - TIC (14.746)		0.088	J				
Decahydro-4,4,8,9,10-pentam - TIC (16.312)		0.49	J				
Unknown - TIC (14.152)		0.052	J				
Unknown - TIC (14.419)		0.1	J				
Unknown - TIC (14.621)		0.059	J				
Unknown - TIC (14.845)		0.054	J				
Unknown - TIC (15.237)		0.34	J				
Unknown - TIC (16.018)		0.85	J				
Unknown - TIC (16.203)		0.1	J				
Unknown - TIC (16.913)		0.56	J				
Unknown - TIC (2.72)						0.052	J
Unknown - TIC (3.108)						0.042	J

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Volatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual

Notes:
All results in mg/kg unless otherwise noted.
(1) - Duplicate of SS-1.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-UNRES - 6NYCRR Part 375 -Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Semivolatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
1,2,4,5-Tetrachlorobenzene	NA	0.2	U	0.2	U	0.22	U
1,2,4-Trichlorobenzene	NA	0.2	U	0.2	U	0.22	U
1,2-Dichlorobenzene	1.1	0.2	U	0.2	U	0.22	U
1,3-Dichlorobenzene	2.4	0.2	U	0.2	U	0.22	U
1,4-Dichlorobenzene	1.8	0.2	U	0.2	U	0.22	U
2,4,5-Trichlorophenol	NA	0.2	U	0.2	U	0.22	U
2,4,6-Trichlorophenol	NA	0.12	U	0.12	U	0.13	U
2,4-Dichlorophenol	NA	0.18	U	0.18	U	0.2	U
2,4-Dimethylphenol	NA	0.2	U	0.2	U	0.22	U
2,4-Dinitrophenol	NA	0.97	U	0.97	U	1	U
2,4-Dinitrotoluene	NA	0.2	U	0.2	U	0.22	U
2,6-Dinitrotoluene	NA	0.2	U	0.2	U	0.22	U
2-Chloronaphthalene	NA	0.2	U	0.2	U	0.22	U
2-Chlorophenol	NA	0.2	U	0.2	U	0.22	U
2-Methylnaphthalene	NA	0.24	U	0.12	J	0.26	U
2-Methylphenol	0.33	0.2	U	0.2	U	0.22	U
2-Nitroaniline	NA	0.2	U	0.2	U	0.22	U
2-Nitrophenol	NA	0.44	U	0.44	U	0.47	U
3,3'-Dichlorobenzidine	NA	0.2	U	0.2	U	0.22	U
3-Methylphenol/4-Methylphenol	0.33	0.29	U	0.29	U	0.32	U
3-Nitroaniline	NA	0.2	U	0.2	U	0.22	U
4,6-Dinitro-o-cresol	NA	0.52	U	0.52	U	0.57	U
4-Bromophenyl phenyl ether	NA	0.2	U	0.2	U	0.22	U
4-Chloroaniline	NA	0.2	U	0.2	U	0.22	U
4-Chlorophenyl phenyl ether	NA	0.2	U	0.2	U	0.22	U
4-Nitroaniline	NA	0.2	U	0.2	U	0.22	U
4-Nitrophenol	NA	0.28	U	0.28	U	0.31	U
Acenaphthene	20	0.16	U	0.16	U	0.18	U
Acenaphthylene	100	0.16	U	0.16	U	0.18	U
Acetophenone	NA	0.2	U	0.2	U	0.22	U
Anthracene	100	0.12	U	0.039	J	0.076	J
Benzo(a)anthracene	1	0.054	J	0.47	J	0.69	
Benzo(a)pyrene	1	0.1	J	0.5	J	0.62	
Benzo(b)fluoranthene	1	0.069	J	0.57	J	0.77	
Benzo(ghi)perylene	100	0.16	U	0.3		0.34	
Benzo(k)fluoranthene	0.8	0.12	U	0.16		0.25	
Benzoic Acid	NA	0.65	U	0.66	U	0.71	U
Benzyl Alcohol	NA	0.2	U	0.2	U	0.22	U
Biphenyl	NA	0.46	U	0.46	U	0.5	U
Bis(2-chloroethoxy)methane	NA	0.22	U	0.22	U	0.24	U
Bis(2-chloroethyl)ether	NA	0.18	U	0.18	U	0.2	U
Bis(2-chloroisopropyl)ether	NA	0.24	UJ	0.24	UJ	0.26	UJ
Bis(2-Ethylhexyl)phthalate	NA	0.2	U	0.2	U	0.22	U
Butyl benzyl phthalate	NA	0.2	U	0.2	U	0.22	U
Carbazole	NA	0.2	U	0.2	U	0.22	U

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Semivolatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
Chrysene	1	0.063	J	0.44		0.6	
Di-n-butylphthalate	NA	0.2	U	0.2	U	0.22	U
Di-n-octylphthalate	NA	0.2	U	0.2	U	0.22	U
Dibenzo(a,h)anthracene	0.33	0.12	U	0.081	J	0.12	J
Dibenzofuran	7	0.2	U	0.2	U	0.22	U
Diethyl phthalate	NA	0.2	U	0.2	U	0.22	U
Dimethyl phthalate	NA	0.2	U	0.2	U	0.22	U
Fluoranthene	100	0.063	J	0.52	J	1.1	
Fluorene	30	0.2	U	0.2	U	0.22	U
Hexachlorobenzene	0.33	0.12	U	0.12	U	0.13	U
Hexachlorobutadiene	NA	0.2	U	0.2	U	0.22	U
Hexachlorocyclopentadiene	NA	0.58	U	0.58	U	0.63	U
Hexachloroethane	NA	0.16	U	0.16	U	0.18	U
Indeno(1,2,3-cd)Pyrene	0.5	0.078	J	0.29	J	0.32	
Isophorone	NA	0.18	U	0.18	U	0.2	U
n-Nitrosodi-n-propylamine	NA	0.2	U	0.2	U	0.22	U
Naphthalene	12	0.2	U	0.082	J	0.22	U
Nitrobenzene	NA	0.18	U	0.18	U	0.2	U
NitrosoDiPhenylAmine(NDPA)/DPA	NA	0.16	U	0.16	U	0.18	U
P-Chloro-M-Cresol	NA	0.2	U	0.2	U	0.22	U
Pentachlorophenol	0.8	0.16	U	0.16	U	0.18	U
Phenanthrene	100	0.12	U	0.11	J	0.23	
Phenol	0.33	0.2	U	0.2	U	0.22	U
Pyrene	100	0.078	J	0.5	J	1	
Tentatively Identified Compounds (TICS)	NA						
Unknown - TIC (1.302)				0.29	J		
Unknown - TIC (1.548)				0.24	J		
Unknown - TIC (1.655)		0.63	J	0.66	J	0.38	J
Unknown - TIC (10.074)		0.17	J				
Unknown PAH - TIC (7.859)				0.16	J		

Notes:
All results in mg/kg unless otherwise noted.
(1) - Duplicate of SS-1.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-UNRES - 6NYCRR Part 375 -Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Polychlorinated Biphenyls	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
Aroclor 1016	0.1	0.0401	U	0.0401	U	0.0436	U
Aroclor 1221	0.1	0.0401	U	0.0401	U	0.0436	U
Aroclor 1232	0.1	0.0401	U	0.0401	U	0.0436	U
Aroclor 1242	0.1	0.0401	U	0.0401	U	0.0436	U
Aroclor 1248	0.1	0.0401	U	0.0401	U	0.0436	U
Aroclor 1254	0.1	0.0401	U	0.0401	U	0.0436	U
Aroclor 1260	0.1	0.0401	U	0.0401	U	0.0436	U

Notes:
All results in mg/kg unless otherwise noted.
(1) - Duplicate of SS-1.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-UNRES - 6NYCRR Part 375 -Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-2: Phase I Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsda
BCA Site #C360111

LOCATION		SS-1		SB-101 (1)		SSV-2	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-07		L1116534-09		L1116534-08	
Organochlorine Pesticides	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
4,4'-DDD	0.0033	0.0104		0.0246		0.0134	
4,4'-DDE	0.0033	0.011		0.00741		0.0194	
4,4'-DDT	0.0033	0.0186		0.00994		0.0141	
Aldrin	0.005	0.00192	U	0.00193	U	0.00205	U
Alpha-BHC	0.02	0.000802	U	0.000805	U	0.000854	U
Beta-BHC	0.036	0.00192	U	0.00193	U	0.00205	U
Chlordane	NA	0.0156	U	0.0157	U	0.0166	U
Delta-BHC	0.04	0.00192	U	0.00193	U	0.00205	U
Dieldrin	0.005	0.0012	U	0.00121	U	0.00128	U
Endosulfan I	2.4	0.00192	U	0.00193	U	0.00205	U
Endosulfan II	2.4	0.00192	U	0.00193	U	0.00205	U
Endosulfan sulfate	2.4	0.00122	J	0.000805	U	0.000854	U
Endrin	0.014	0.000914	J	0.000805	U	0.000854	U
Endrin ketone	NA	0.00192	U	0.00193	U	0.00205	U
Heptachlor	0.042	0.000962	U	0.000966	U	0.00102	U
Heptachlor epoxide	NA	0.00186	J	0.00362	U	0.00384	U
Lindane	0.1	0.000802	U	0.000805	U	0.000854	U
Methoxychlor	NA	0.00361	U	0.00362	U	0.00384	U
Toxaphene	NA	0.0361	U	0.0362	U	0.0384	U
trans-Chlordane	NA	0.0024	U	0.00241	U	0.00256	U

Notes:
All results in mg/kg unless otherwise noted.
(1) - Duplicate of SS-1.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-UNRES - 6NYCRR Part 375 -Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-3: Phase II Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2D@9-11 FBG		MW-2D@19-21 FBG		DUPLICATE (1)	
SAMPLING DATE		29-JAN-13		29-JAN-13		29-JAN-13	
LAB SAMPLE ID		L1301716-03		L1301716-02		L1301716-04	
Volatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
1,1,1,2-Tetrachloroethane	NA	0.00096	U	0.001	U	0.0011	U
1,1,1-Trichloroethane	0.68	0.00096	U	0.001	U	0.0011	U
1,1,2,2-Tetrachloroethane	NA	0.00096	U	0.001	U	0.0011	U
1,1,2-Trichloroethane	NA	0.0014	U	0.0015	U	0.0017	U
1,1-Dichloroethane	0.27	0.0014	U	0.0015	U	0.0017	U
1,1-Dichloroethene	0.33	0.00096	U	0.001	U	0.0011	U
1,1-Dichloropropene	NA	0.0048	U	0.0051	U	0.0056	U
1,2,3-Trichlorobenzene	NA	0.0048	U	0.0051	U	0.0056	U
1,2,3-Trichloropropane	NA	0.0096	U	0.01	U	0.011	U
1,2,4,5-Tetramethylbenzene	NA	0.0038	U	0.004	U	0.0045	U
1,2,4-Trichlorobenzene	NA	0.0048	U	0.0051	U	0.0056	U
1,2,4-Trimethylbenzene	3.6	0.0048	U	0.0051	U	0.0056	U
1,2-Dibromo-3-chloropropane	NA	0.0048	UJ	0.0051	UJ	0.0056	UJ
1,2-Dibromoethane	NA	0.0038	U	0.004	U	0.0045	U
1,2-Dichlorobenzene	1.1	0.0048	U	0.0051	U	0.0056	U
1,2-Dichloroethane	0.02	0.00096	U	0.001	U	0.0011	U
1,2-Dichloropropane	NA	0.0034	U	0.0035	U	0.0039	U
1,3,5-Trimethylbenzene	8.4	0.0048	U	0.0051	U	0.0056	U
1,3-Dichlorobenzene	2.4	0.0048	U	0.0051	U	0.0056	U
1,3-Dichloropropane	NA	0.0048	U	0.0051	U	0.0056	U
1,4-Dichlorobenzene	1.8	0.0048	U	0.0051	U	0.0056	U
1,4-Diethylbenzene	NA	0.0038	UJ	0.004	UJ	0.0045	UJ
1,4-Dioxane	0.1	0.096	UR	0.1	UR	0.11	UR
2,2-Dichloropropane	NA	0.0048	U	0.0051	U	0.0056	U
2-Butanone	0.12	0.0096	UJ	0.01	UJ	0.011	UJ
2-Hexanone	NA	0.0096	UJ	0.01	UJ	0.011	UJ
4-Ethyltoluene	NA	0.0038	U	0.004	U	0.0045	U
4-Methyl-2-pentanone	NA	0.0035	J	0.01	UJ	0.011	UJ
Acetone	0.05	0.0063	J	0.01	UR	0.011	UR
Acrylonitrile	NA	0.0096	UJ	0.01	UJ	0.011	UJ
Benzene	0.06	0.00096	U	0.001	U	0.0011	U
Bromobenzene	NA	0.0048	U	0.0051	U	0.0056	U
Bromochloromethane	NA	0.0048	U	0.0051	U	0.0056	U
Bromodichloromethane	NA	0.00096	U	0.001	U	0.0011	U
Bromoform	NA	0.0038	U	0.004	U	0.0045	U
Bromomethane	NA	0.0019	U	0.002	U	0.0022	U
Carbon disulfide	NA	0.0096	U	0.01	U	0.011	U
Carbon tetrachloride	0.76	0.00096	U	0.001	U	0.0011	U
Chlorobenzene	1.1	0.00096	U	0.001	U	0.0011	U
Chloroethane	NA	0.0019	U	0.002	U	0.0022	U
Chloroform	0.37	0.0014	U	0.0015	U	0.0017	U
Chloromethane	NA	0.0048	U	0.0051	U	0.0056	U

Table 1-3: Phase II Soil Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2D@9-11 FBG		MW-2D@19-21 FBG		DUPLICATE (1)	
SAMPLING DATE		29-JAN-13		29-JAN-13		29-JAN-13	
LAB SAMPLE ID		L1301716-03		L1301716-02		L1301716-04	
Volatile Organics	NY-UNRES	Result	Qual	Result	Qual	Result	Qual
cis-1,2-Dichloroethene	0.25	0.00061		0.009		0.0032	
cis-1,3-Dichloropropene	NA	0.00096	U	0.001	U	0.0011	U
Dibromochloromethane	NA	0.00096	U	0.001	U	0.0011	U
Dibromomethane	NA	0.0096	U	0.01	U	0.011	U
Dichlorodifluoromethane	NA	0.0096	U	0.01	U	0.011	U
Ethyl ether	NA	0.0048	UJ	0.0051	U	0.0056	U
Ethylbenzene	1	0.00096	U	0.001	U	0.0011	U
Hexachlorobutadiene	NA	0.0048	U	0.0051	U	0.0056	U
Isopropylbenzene	NA	0.00096	U	0.001	U	0.0011	U
Methyl tert butyl ether	0.93	0.0019	U	0.002	U	0.0022	U
Methylene chloride	0.05	0.0096	U	0.01	U	0.011	U
n-Butylbenzene	12	0.00096	U	0.001	U	0.0011	U
n-Propylbenzene	3.9	0.00096	U	0.001	U	0.0011	U
Naphthalene	12	0.0048	U	0.0051	U	0.0056	U
o-Chlorotoluene	NA	0.0048	U	0.0051	U	0.0056	U
o-Xylene	NA	0.0019	U	0.002	U	0.0022	U
p-Chlorotoluene	NA	0.0048	U	0.0051	U	0.0056	U
p-Isopropyltoluene	NA	0.00096	U	0.001	U	0.0011	U
p/m-Xylene	NA	0.0019	U	0.002	U	0.0022	U
sec-Butylbenzene	11	0.00096	U	0.001	U	0.0011	U
Styrene	NA	0.0019	U	0.002	U	0.0022	U
tert-Butylbenzene	5.9	0.0048	U	0.0051	U	0.0056	U
Tetrachloroethene	1.3	0.00068		0.0059		0.0035	
Toluene	0.7	0.0014	U	0.0015	U	0.0017	U
trans-1,2-Dichloroethene	0.19	0.0014	U	0.0015	U	0.0017	U
trans-1,3-Dichloropropene	NA	0.00096	U	0.001	U	0.0011	U
trans-1,4-Dichloro-2-butene	NA	0.0048	UJ	0.0051	U	0.0056	U
Trichloroethene	0.47	0.00096	U	0.002		0.00077	
Trichlorofluoromethane	NA	0.0048	U	0.0051	U	0.0056	U
Vinyl acetate	NA	0.0096	UJ	0.01	UJ	0.011	UJ
Vinyl chloride	0.02	0.0019	U	0.002	U	0.0022	U
Tentatively Identified Compounds	NA	0	U	0	U		
Unknown - TIC (7.887)	NA					0.0043	J

Notes:
(1) - Duplicate of MW-2D@19-21 FBG
NY-UNRES - 6NYCRR Part 375 -Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.
Soil and NY-UNRES results in mg/kg. Blank results in ug/l.
NA - Not applicable, no criteria provided.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
R - Sample result was rejected based on validation.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Total Metals	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Aluminum, Total	NA	290		240		5400		1400	
Arsenic, Total	25	2	U	2	J	7	U	2	U
Barium, Total	1000	83		117		144		184	
Cadmium, Total	5	1	U	1	U	1	U	1	U
Calcium, Total	NA	63000		87000		110000		100000	
Chromium, Total	50	2	U	2	U	10		4	J
Cobalt, Total	NA	2	U	2	U	3	J	2	J
Copper, Total	200	7	J	5	U	27		6	J
Iron, Total	300	4100		6500		10000		1800	
Lead, Total	25	4	J	4	J	144		5	J
Magnesium, Total	35000	7300		10000		12000		36000	
Manganese, Total	300	617		900		901		183	
Mercury, Total	0.7	0.1	U	0.1	U	0.1	U	0.1	U
Nickel, Total	100	3	U	3	U	10	J	3	J
Potassium, Total	NA	5200		7300		11000		5700	
Selenium, Total	10	3	U	3	U	3	U	3	U
Silver, Total	50	2	U	2	U	2	U	2	U
Sodium, Total	20000	48000		68000		43000		98000	
Vanadium, Total	NA	2	U	2	U	13		3	J
Zinc, Total	2000	210		216		119		15	J

Notes:
All results in ug/l.
(1) - Duplicate of MW-2.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Volatile Organics	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,1,1,2-Tetrachloroethane	5	25	U	200	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	25	U	200	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	25	U	200	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	38	U	300	U	0.75	U	0.75	U
1,1-Dichloroethane	5	38	U	300	U	0.75	U	0.75	U
1,1-Dichloroethene	5	25	U	200	U	0.5	U	0.22	J
1,1-Dichloropropene	5	120	U	1000	U	2.5	U	2.5	U
1,2,3-Trichlorobenzene	5	120	U	1000	U	2.5	U	2.5	U
1,2,3-Trichloropropane	0.04	250	U	2000	U	5	U	5	U
1,2,4,5-Tetramethylbenzene	NA	100	U	800	U	3		2	U
1,2,4-Trichlorobenzene	5	120	UJ	1000	UJ	2.5	UJ	2.5	UJ
1,2,4-Trimethylbenzene	5	120	U	1000	U	2.5	U	2.5	U
1,2-Dibromo-3-chloropropane	0.04	120	U	1000	U	2.5	U	2.5	U
1,2-Dibromoethane	0.0006	100	U	800	U	2	U	2	U
1,2-Dichlorobenzene	3	120	U	1000	U	2.5	U	2.5	U
1,2-Dichloroethane	0.6	25	U	200	U	0.5	U	0.5	U
1,2-Dichloropropane	1	88	U	700	U	1.8	U	1.8	U
1,3,5-Trimethylbenzene	5	120	U	1000	U	2.5	U	2.5	U
1,3-Dichlorobenzene	3	120	U	1000	U	2.5	U	2.5	U
1,3-Dichloropropane	5	120	U	1000	U	2.5	U	2.5	U
1,4-Dichlorobenzene	3	120	U	1000	U	2.5	U	2.5	U
1,4-Diethylbenzene	NA	100	U	800	U	13		0.34	J
2,2-Dichloropropane	5	120	U	1000	U	2.5	U	2.5	U
2-Butanone	50	250	U	2000	U	5	U	5	U
2-Hexanone	50	250	U	2000	U	5	U	5	U
4-Ethyltoluene	NA	100	U	800	U	2	U	2	U
4-Methyl-2-pentanone	NA	250	U	2000	U	5	U	5	U
Acetone	50	250	U	2000	U	5	U	5	U
Acrylonitrile	5	250	U	2000	U	5	U	5	U
Benzene	1	25	U	200	U	0.36	J	0.5	U
Bromobenzene	5	120	U	1000	U	2.5	U	2.5	U
Bromochloromethane	5	120	U	1000	U	2.5	U	2.5	U
Bromodichloromethane	50	25	U	200	U	0.5	U	0.5	U
Bromoform	50	100	U	800	U	2	U	2	U
Bromomethane	5	50	UJ	400	UJ	1	UJ	1	UJ
Carbon disulfide	60	250	U	2000	U	5	U	5	U
Carbon tetrachloride	5	25	U	200	U	0.5	U	0.5	U
Chlorobenzene	5	25	U	200	U	0.5	U	0.5	U
Chloroethane	5	50	U	400	U	1	U	1	U
Chloroform	7	33	U	300	U	0.75	U	0.75	U
Chloromethane	NA	120	UJ	1000	UJ	2.5	UJ	2.5	UJ
cis-1,2-Dichloroethene	5	910	J	5500	J	9.9		160	
cis-1,3-Dichloropropene	0.4	25	U	200	U	0.5	U	0.5	U
Dibromochloromethane	50	25	U	200	U	0.5	U	0.5	U
Dibromomethane	5	250	U	2000	U	5	U	5	U
Dichlorodifluoromethane	5	250	UJ	2000	UJ	5	UJ	5	UJ
Ethyl ether	NA	120	U	1000	U	2.5	U	2.5	U
Ethylbenzene	5	25	U	200	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	30	U	240	U	0.6	U	0.6	U
Isopropylbenzene	5	25	U	200	U	2.4		0.5	U
Methyl tert butyl ether	10	50	U	400	U	1	U	1	U
Methylene chloride	5	250	U	2000	U	5	U	5	U
n-Butylbenzene	5	25	U	200	U	2.6		0.5	U
n-Propylbenzene	5	25	U	200	U	2.8		0.5	U
Naphthalene	10	120	U	1000	U	3.8		2.5	U
o-Chlorotoluene	5	120	U	1000	U	2.5	U	2.5	U

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Volatile Organics	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
o-Xylene	5	50	U	400	U	1	U	1	U
p-Chlorotoluene	5	120	U	1000	U	2.5	U	2.5	U
p-Isopropyltoluene	5	25	U	200	U	0.5	U	0.5	U
p/m-Xylene	5	50	U	400	U	1	U	1	U
sec-Butylbenzene	5	25	U	200	U	4.4		0.5	U
Styrene	5	50	U	400	U	1	U	1	U
tert-Butylbenzene	5	120	U	1000	U	0.38	J	2.5	U
Tetrachloroethene	5	2300	J	13000	J	3.8		98	
Toluene	5	38	U	300	U	0.75	U	0.75	U
trans-1,2-Dichloroethene	5	38	U	300	U	0.39	J	1.2	
trans-1,3-Dichloropropene	0.4	25	U	200	U	0.5	U	0.5	U
trans-1,4-Dichloro-2-butene	5	120	U	1000	U	2.5	U	2.5	U
Trichloroethene	5	860	J	4800	J	2		20	
Trichlorofluoromethane	5	120	U	1000	U	2.5	U	2.5	U
Vinyl acetate	NA	250	U	2000	U	5	U	5	U
Vinyl chloride	2	100	J	580	J	3.2		0.26	J
Tentatively Identified Compounds (TICS)	NA	0	U	0	U				
Naphthalene, 1-methyl- - TIC (21.739)	NA							1.3	J
Unknown - TIC (16.234)	NA					14	J		
Unknown - TIC (17.112)	NA					19	J		
Unknown - TIC (18.138)	NA					14	J		
Unknown - TIC (18.422)	NA					20	J		
Unknown - TIC (19.164)	NA					14	J		
Unknown - TIC (19.617)	NA					15	J		
Unknown - TIC (20.086)	NA					14	J		
Unknown - TIC (20.517)	NA					13	J		
Unknown - TIC (21.117)	NA					10	J		
Unknown - TIC (21.739)	NA					12	J		

Notes:
All results in ug/l.
(1) - Duplicate of MW-2.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Semivolatile Organics	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,2,4,5-Tetrachlorobenzene	5	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	5	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	3	2.8		2	U	2	U	2	U
1,3-Dichlorobenzene	3	2	U	2	U	2	U	2	U
1,4-Dichlorobenzene	3	2	U	2	U	2	U	2	U
2,4,5-Trichlorophenol	NA	5	U	5	U	5	U	5	U
2,4,6-Trichlorophenol	NA	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	1	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	50	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	10	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	5	U	5	U	5	U	5	U
2-Chlorophenol	NA	2	U	2	U	2	U	2	U
2-Methylphenol	NA	5	U	5	U	5	U	5	U
2-Nitroaniline	5	5	U	5	U	5	U	5	U
2-Nitrophenol	NA	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	5	5	U	5	U	5	U	5	U
3-Methylphenol/4-Methylphenol	NA	5	U	5	U	5	U	5	U
3-Nitroaniline	5	5	U	5	U	5	U	5	U
4,6-Dinitro-o-cresol	NA	10	U	10	U	10	U	10	U
4-Bromophenyl phenyl ether	NA	2	U	2	U	2	U	2	U
4-Chloroaniline	5	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	NA	2	U	2	U	2	U	2	U
4-Nitroaniline	5	5	U	5	U	5	U	5	U
4-Nitrophenol	NA	10	U	10	U	10	U	10	U
Acetophenone	NA	5	U	5	U	5	U	5	U
Benzoic Acid	NA	50	U	50	U	50	U	50	U
Benzyl Alcohol	NA	2	U	2	U	2	U	2	U
Biphenyl	NA	2	U	2	U	2	U	2	U
Bis(2-chloroethoxy)methane	5	5	U	5	U	5	U	5	U
Bis(2-chloroethyl)ether	1	2	U	2	U	2	U	2	U
Bis(2-chloroisopropyl)ether	5	2	U	2	U	2	U	2	U
Bis(2-Ethylhexyl)phthalate	5	3	U	1.6	J	3	U	3	U
Butyl benzyl phthalate	50	5	U	5	U	5	U	5	U
Carbazole	NA	2	U	2	U	2	U	2	U
Di-n-butylphthalate	50	5	U	5	U	5	U	5	U
Di-n-octylphthalate	50	5	U	5	U	5	U	5	U
Dibenzofuran	NA	2	U	2	U	2	U	2	U
Diethyl phthalate	50	1.4	J	5	U	5	U	5	U
Dimethyl phthalate	50	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	20	U	20	U	20	U	20	U
Isophorone	50	5	U	5		5	U	5	U
n-Nitrosodi-n-propylamine	NA	5	U	5	U	5	U	5	U
Nitrobenzene	0.4	2	U	2	U	2	U	2	U
NitrosoDiPhenylAmine(NDPA)/DPA	50	2	U	2	U	2	U	2	U
P-Chloro-M-Cresol	NA	2	U	2	U	2	U	2	U
Phenol	1	5	U	5	U	5	U	5	U
2-Chloronaphthalene	10	0.2	U	0.2	U	0.2	U	0.2	U
2-Methylnaphthalene	NA	0.09	J	0.2	U	0.77		0.2	U
Acenaphthene	20	0.1	J	0.2	U	3		0.2	U
Acenaphthylene	NA	0.2	U	0.2	U	0.2	U	0.2	U
Anthracene	50	0.2	U	0.2	U	0.5		0.2	U
Benzo(a)anthracene	NA	0.2	U	0.2	U	0.24		0.2	U
Benzo(a)pyrene	NA	0.2	U	0.2	U	0.24		0.2	U
Benzo(b)fluoranthene	0.002	0.2	U	0.2	U	0.3		0.2	U
Benzo(ghi)perylene	NA	0.2	U	0.2	U	0.14	J	0.2	U

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Semivolatile Organics	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Benzo(k)fluoranthene	0.002	0.2	U	0.2	U	0.18	J	0.2	U
Chrysene	0.002	0.2	U	0.2	U	0.25		0.2	U
Dibenzo(a,h)anthracene	NA	0.2	U	0.2	U	0.2	U	0.2	U
Fluoranthene	50	0.2	U	0.2	U	0.73		0.2	U
Fluorene	50	0.08	J	0.2	U	4.2		0.2	U
Hexachlorobenzene	0.04	0.8	U	0.8	U	0.8	U	0.8	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U
Hexachloroethane	5	0.8		0.8		0.8	U	0.8	U
Indeno(1,2,3-cd)Pyrene	0.002	0.2	U	0.2	U	0.2	U	0.2	U
Naphthalene	10	0.22		0.2	U	0.62		0.2	U
Pentachlorophenol	1	0.8	U	0.8	U	0.8	U	0.8	U
Phenanthrene	50	0.2	U	0.2	U	2.5		0.2	U
Pyrene	50	0.2	U	0.2		1.4		0.2	U
Tentatively Identified Compounds (TICS)	NA	0	U					0	U
Unknown - TIC (2.397)	NA			18	J	22	J		
Unknown - TIC (2.637)	NA		U	18	J	21	J		
Unknown - TIC (5.613)	NA					15	J		
Unknown - TIC (7.392)	NA					14	J		
Unknown - TIC (8.3)	NA					8.2	J		
Unknown Alkane - TIC (7.99)	NA					11	J		
Unknown C13H12 Isomer - TIC (7.247)	NA					18	J		
Unknown C13H14 Isomer - TIC (6.943)	NA					9.6	J		
Unknown C13H14 Isomer - TIC (7.007)	NA					8.5	J		
Unknown C15H28 - TIC (6.473)	NA					8.2	J		
Unknown Subsituted Alkane - TIC (7.349)	NA					17	J		
Unknown Subsituted Alkane - TIC (7.584)	NA					26	J		
Unknown Subsituted Naphthalene - TIC (5.901)	NA					21	J		
Unknown Subsituted Naphthalene - TIC (6.366)	NA					8.3	J		
Unknown Subsituted Naphthalene - TIC (6.43)	NA					14	J		
Unknown Subsituted Naphthalene - TIC (6.451)	NA					10	J		
Unknown Subsituted Naphthalene - TIC (6.531)	NA					27	J		
Unknown Subsituted Naphthalene - TIC (6.601)	NA					9.1	J		
Unknown Subsituted Naphthalene - TIC (6.82)	NA					8.1	J		
Unknown Subsituted Naphthalene - TIC (7.082)	NA					8	J		

Notes:
All results in ug/l.
(1) - Duplicate of MW-2.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Polychlorinated Biphenyls	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Aroclor 1016	0.09	0.083	U	0.083	U	0.083	U	0.083	U
Aroclor 1221	0.09	0.083	U	0.083	U	0.083	U	0.083	U
Aroclor 1232	0.09	0.083	U	0.083	U	0.083	U	0.083	U
Aroclor 1242	0.09	0.083	U	0.083	U	0.083	U	0.083	U
Aroclor 1248	0.09	0.083	U	0.083	U	0.083	U	0.083	U
Aroclor 1254	0.09	0.083	U	0.083	U	0.083	U	0.083	U
Aroclor 1260	0.09	0.083	U	0.083	U	0.083	U	0.083	U

Notes:
All results in ug/l.
(1) - Duplicate of MW-2.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-4: Phase I Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION		MW-2		MW-101 (1)		MW-3		MW-7	
SAMPLING DATE		11-OCT-11		11-OCT-11		11-OCT-11		11-OCT-11	
LAB SAMPLE ID		L1116534-01		L1116534-04		L1116534-02		L1116534-03	
Organochlorine Pesticides	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual
4,4'-DDD	0.3	0.04	U	0.01	J	0.054		0.009	J
4,4'-DDE	0.2	0.04	U	0.04	U	0.04	U	0.041	U
4,4'-DDT	0.2	0.04	U	0.04	U	0.04	U	0.01	J
Aldrin	NA	0.02	U	0.02	U	0.02	U	0.02	U
Alpha-BHC	0.01	0.02	U	0.02	U	0.02	U	0.02	U
Beta-BHC	0.04	0.02	U	0.02	U	0.02	U	0.02	U
Chlordane	0.05	0.2	U	0.2	U	0.2	U	0.204	U
Delta-BHC	0.04	0.02	U	0.02	U	0.02	U	0.02	U
Dieldrin	0.004	0.04	U	0.04	U	0.04	U	0.041	U
Endosulfan I	NA	0.02	U	0.02	U	0.02	U	0.02	U
Endosulfan II	NA	0.04	U	0.04	U	0.04	U	0.041	U
Endosulfan sulfate	NA	0.04	U	0.04	U	0.04	U	0.041	U
Endrin	NA	0.04	U	0.04	U	0.04	U	0.041	U
Endrin ketone	5	0.04	U	0.04	U	0.04	U	0.041	U
Heptachlor	0.04	0.02	U	0.02	U	0.02	U	0.02	U
Heptachlor epoxide	0.03	0.02	U	0.02	U	0.02	U	0.02	U
Lindane	0.05	0.02	U	0.02	U	0.02	U	0.02	U
Methoxychlor	35	0.2	U	0.012	J	0.2	U	0.014	J
Toxaphene	0.06	0.2	U	0.2	U	0.2	U	0.204	U
trans-Chlordane	NA	0.02	U	0.02	U	0.02	U	0.02	U

Notes:
All results in ug/l.
(1) - Duplicate of MW-2.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-5: Phase II Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

WELL DESIGNATION		MW-1		DUPLICATE (1)		MW-2		MW-2D		MW-4	
SAMPLING DATE		27-FEB-13		27-FEB-13		27-FEB-13		27-FEB-13		27-FEB-13	
LAB SAMPLE ID		L1303352-01		L1303352-07		L1303352-02		L1303352-03		L1303352-04	
Volatile Organics	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
1,1,1,2-Tetrachloroethane	5	12	U	12	U	620	U	25	U	2.5	U
1,1,1-Trichloroethane	5	12	U	12	U	620	U	25	U	2.5	U
1,1,2,2-Tetrachloroethane	5	2.5	U	2.5	U	120	U	5	U	0.5	U
1,1,2-Trichloroethane	1	7.5	U	7.5	U	380	U	15	U	1.5	U
1,1-Dichloroethane	5	12	U	12	U	620	U	25	U	2.5	U
1,1-Dichloroethene	5	2.5	U	2.5	U	120	U	5	U	0.5	U
1,1-Dichloropropene	5	12	U	12	U	620	U	25	U	2.5	U
1,2,3-Trichlorobenzene	5	12	U	12	U	620	U	25	U	2.5	U
1,2,3-Trichloropropane	0.04	12	UJ	12	UJ	620	UJ	25	UJ	2.5	UJ
1,2,4,5-Tetramethylbenzene	NA	10	U	10	U	500	U	20	U	2	U
1,2,4-Trichlorobenzene	5	12	U	12	U	620	U	25	U	2.5	U
1,2,4-Trimethylbenzene	5	3.6		12	U	620	U	25	U	2.5	U
1,2-Dibromo-3-chloropropane	0.04	12	UJ	12	UJ	620	UJ	25	UJ	2.5	UJ
1,2-Dibromoethane	0.0006	10	U	10	U	500	U	20	U	2	U
1,2-Dichlorobenzene	3	12	U	12	U	620	U	25	U	2.5	U
1,2-Dichloroethane	0.6	2.5	U	2.5	U	120	U	5	U	0.5	U
1,2-Dichloropropane	1	5	U	5	U	250	U	10	U	1	U
1,3,5-Trimethylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
1,3-Dichlorobenzene	3	12	U	12	U	620	U	25	U	2.5	U
1,3-Dichloropropane	5	12	U	12	U	620	U	25	U	2.5	U
1,4-Dichlorobenzene	3	12	U	12	U	620	U	25	U	2.5	U
1,4-Diethylbenzene	NA	10	U	10	U	500	U	20	U	2	U
1,4-Dioxane	NA	1200	UR	1200	UR	62000	UR	2500	UR	250	UR
2,2-Dichloropropane	5	12	U	12	U	620	U	25	U	2.5	U
2-Butanone	50	25	U	25	U	1200	U	50	U	5	U
2-Hexanone	50	25	U	25	U	1200	U	50	U	5	U
4-Ethyltoluene	NA	10	U	10	U	500	U	20	U	2	U
4-Methyl-2-pentanone	NA	25	U	25	U	1200	U	50	U	5	U
Acetone	50	11		25	U	1200	U	50	U	5	U
Acrylonitrile	5	25	U	25	U	1200	U	50	U	5	U
Benzene	1	2.5	U	2.5	U	120	U	5	U	0.5	U
Bromobenzene	5	12	U	12	U	620	U	25	U	2.5	U
Bromochloromethane	5	12	U	12	U	620	U	25	U	2.5	U
Bromodichloromethane	50	2.5	U	2.5	U	120	U	5	U	0.5	U
Bromoform	50	10	U	10	U	500	U	20	U	2	U
Bromomethane	5	12	U	12	U	620	U	25	U	2.5	U
Carbon disulfide	60	25	U	25	U	1200	U	50	U	5	U
Carbon tetrachloride	5	2.5	U	2.5	U	120	U	5	U	0.5	U
Chlorobenzene	5	12	U	12	U	620	U	25	U	2.5	U
Chloroethane	5	12	U	12	U	620	U	25	U	2.5	U
Chloroform	7	12	U	12	U	620	U	25	U	2.5	U
Chloromethane	NA	12	U	12	U	620	U	25	U	2.5	U
cis-1,2-Dichloroethene	5	310		320		6000		800		10	
cis-1,3-Dichloropropene	0.4	2.5	U	2.5	U	120	U	5	U	0.5	U

Table 1-5: Phase II Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

WELL DESIGNATION		MW-1		DUPLICATE (1)		MW-2		MW-2D		MW-4	
SAMPLING DATE		27-FEB-13		27-FEB-13		27-FEB-13		27-FEB-13		27-FEB-13	
LAB SAMPLE ID		L1303352-01		L1303352-07		L1303352-02		L1303352-03		L1303352-04	
Volatile Organics	NY-AWQS	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Dibromochloromethane	50	2.5	U	2.5	U	120	U	5	U	0.5	U
Dibromomethane	5	25	U	25	U	1200	U	50	U	5	U
Dichlorodifluoromethane	5	25	U	25	U	1200	U	50	U	5	U
Ethyl ether	NA	12	U	12	U	620	U	25	U	2.5	U
Ethylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
Hexachlorobutadiene	0.5	12	U	12	U	620	U	25	U	2.5	U
Isopropylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
Methyl tert butyl ether	10	12	U	12	U	620	U	25	U	2.5	U
Methylene chloride	5	12	U	12	U	620	U	25	U	2.5	U
n-Butylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
n-Propylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
Naphthalene	10	6.4		3.6		620	U	25	U	2.5	U
o-Chlorotoluene	5	12	U	12	U	620	U	25	U	2.5	U
o-Xylene	5	12	U	12	U	620	U	25	U	2.5	U
p-Chlorotoluene	5	12	U	12	U	620	U	25	U	2.5	U
p-Isopropyltoluene	5	12	U	12	U	620	U	25	U	2.5	U
p/m-Xylene	5	3.6		12	U	620	U	25	U	2.5	U
sec-Butylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
Styrene	5	12	U	12	U	620	U	25	U	2.5	U
tert-Butylbenzene	5	12	U	12	U	620	U	25	U	2.5	U
Tetrachloroethene	5	170		170		13000		42		0.5	U
Toluene	5	12	U	12	U	620	U	25	U	2.5	U
trans-1,2-Dichloroethene	5	12	U	12	U	620	U	25	U	2.5	U
trans-1,3-Dichloropropene	0.4	2.5	U	2.5	U	120	U	5	U	0.5	U
trans-1,4-Dichloro-2-butene	5	12	UJ	12	UJ	620	UJ	25	UJ	2.5	UJ
Trichloroethene	5	40		41		5400		23		0.46	
Trichlorofluoromethane	5	12	U	12	U	620	U	25	U	2.5	U
Vinyl acetate	NA	25	U	25	U	1200	U	50	U	5	U
Vinyl chloride	2	57		55		470		18		0.83	
Tentatively Identified Compounds (TICS)				0	U	0	U	0	U	0	U
Unknown - TIC (17.085)											
Unknown Naphthalene - TIC (15.796)		9.1	J								
Unknown Naphthalene - TIC (15.958)		5.6	J								

Table 1-5: Phase II Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

WELL DESIGNATION		MW-5		MW-8	
SAMPLING DATE		27-FEB-13		27-FEB-13	
LAB SAMPLE ID		L1303352-05		L1303352-06	
Volatile Organics	NY-AWQS	Result	Qual	Result	Qual
1,1,1,2-Tetrachloroethane	5	6.2	U	120	U
1,1,1-Trichloroethane	5	6.2	U	120	U
1,1,2,2-Tetrachloroethane	5	1.2	U	25	U
1,1,2-Trichloroethane	1	3.8	U	75	U
1,1-Dichloroethane	5	6.2	U	120	U
1,1-Dichloroethene	5	1.2	U	25	U
1,1-Dichloropropene	5	6.2	U	120	U
1,2,3-Trichlorobenzene	5	6.2	U	120	U
1,2,3-Trichloropropane	0.04	6.2	UJ	120	UJ
1,2,4,5-Tetramethylbenzene	NA	5	U	100	U
1,2,4-Trichlorobenzene	5	6.2	U	120	U
1,2,4-Trimethylbenzene	5	6.2	U	120	U
1,2-Dibromo-3-chloropropane	0.04	6.2	UJ	120	UJ
1,2-Dibromoethane	0.0006	5	U	100	U
1,2-Dichlorobenzene	3	6.2	U	120	U
1,2-Dichloroethane	0.6	1.2	U	25	U
1,2-Dichloropropane	1	2.5	U	50	U
1,3,5-Trimethylbenzene	5	6.2	U	120	U
1,3-Dichlorobenzene	3	6.2	U	120	U
1,3-Dichloropropane	5	6.2	U	120	U
1,4-Dichlorobenzene	3	6.2	U	120	U
1,4-Diethylbenzene	NA	5	U	100	U
1,4-Dioxane	NA	620	UR	12000	UR
2,2-Dichloropropane	5	6.2	U	120	U
2-Butanone	50	12	U	250	U
2-Hexanone	50	12	U	250	U
4-Ethyltoluene	NA	5	U	100	U
4-Methyl-2-pentanone	NA	12	U	250	U
Acetone	50	12	U	250	U
Acrylonitrile	5	12	U	250	U
Benzene	1	1.2	U	25	U
Bromobenzene	5	6.2	U	120	U
Bromochloromethane	5	6.2	U	120	U
Bromodichloromethane	50	1.2	U	25	U
Bromoform	50	5	U	100	U
Bromomethane	5	6.2	U	120	U
Carbon disulfide	60	12	U	250	U
Carbon tetrachloride	5	1.2	U	25	U
Chlorobenzene	5	6.2	U	120	U
Chloroethane	5	6.2	U	120	U
Chloroform	7	6.2	U	120	U
Chloromethane	NA	6.2	U	120	U
cis-1,2-Dichloroethene	5	60		1200	
cis-1,3-Dichloropropene	0.4	1.2	U	25	U

Table 1-5: Phase II Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

WELL DESIGNATION		MW-5		MW-8	
SAMPLING DATE		27-FEB-13		27-FEB-13	
LAB SAMPLE ID		L1303352-05		L1303352-06	
Volatile Organics	NY-AWQS	Result	Qual	Result	Qual
Dibromochloromethane	50	1.2	U	25	U
Dibromomethane	5	12	U	250	U
Dichlorodifluoromethane	5	12	U	250	U
Ethyl ether	NA	6.2	U	120	U
Ethylbenzene	5	6.2	U	120	U
Hexachlorobutadiene	0.5	6.2	U	120	U
Isopropylbenzene	5	6.2	U	120	U
Methyl tert butyl ether	10	6.2	U	120	U
Methylene chloride	5	6.2	U	120	U
n-Butylbenzene	5	6.2	U	120	U
n-Propylbenzene	5	6.2	U	120	U
Naphthalene	10	6.2	U	120	U
o-Chlorotoluene	5	6.2	U	120	U
o-Xylene	5	6.2	U	120	U
p-Chlorotoluene	5	6.2	U	120	U
p-Isopropyltoluene	5	6.2	U	120	U
p/m-Xylene	5	6.2	U	120	U
sec-Butylbenzene	5	6.2	U	120	U
Styrene	5	6.2	U	120	U
tert-Butylbenzene	5	6.2	U	120	U
Tetrachloroethene	5	160		2000	
Toluene	5	6.2	U	120	U
trans-1,2-Dichloroethene	5	6.2	U	120	U
trans-1,3-Dichloropropene	0.4	1.2	U	25	U
trans-1,4-Dichloro-2-butene	5	6.2	UJ	120	UJ
Trichloroethene	5	24		760	
Trichlorofluoromethane	5	6.2	U	120	U
Vinyl acetate	NA	12	U	250	U
Vinyl chloride	2	0.97		230	
Tentatively Identified Compounds (TICS)		0	U	0	U
Unknown - TIC (17.085)					
Unknown Naphthalene - TIC (15.796)					
Unknown Naphthalene - TIC (15.958)					

Notes:
All results in ug/l.
(1) - Duplicate of MW-1
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
R - Sample result was rejected based on validation.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-6: IRM Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

								Blind Duplicate Samples	
WELL DESIGNATION		**MW-2**		**MW-2D**		**MW-8**		**MW-100 (1)**	**MW-101 (2)**
SAMPLING DATE		**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**
LAB SAMPLE ID		**L1323002-01**	**L1404174-01**	**L1323002-02**	**L1404174-02**	**L1323002-03**	**L1404174-03**	**L1323002-03**	**L1404174-04**
Volatile Organics	**NY-AWQS**	**Result**		**Result**		**Result**		**Result**	**Result**
1,1,1,2-Tetrachloroethane	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,1,1-Trichloroethane	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,1,2,2-Tetrachloroethane	**5**	1,000 U	250 U	3 U	2 U	12 U	0.5 U	500 U	1.2 U
1,1,2-Trichloroethane	**1**	3,000 U	750 U	8 U	6 U	38 U	1.5 U	1,500 U	3.8 U
1,1-Dichloroethane	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,1-Dichloroethene	**5**	1,000 U	250 U	3 UJ	2 U	12 U	0.5 U	500 U	1.2 U
1,1-Dichloropropene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2,3-Trichlorobenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2,3-Trichloropropane	**0.04**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2,4,5-Tetramethylbenzene	**NA**	4,000 U	1,000 U	10 U	8 U	50 U	9.9 J	2,000 U	13
1,2,4-Trichlorobenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2,4-Trimethylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2-Dibromo-3-chloropropane	**0.04**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2-Dibromoethane	**0.0006**	4,000 U	1,000 U	10 U	8 U	50 U	2 U	2,000 U	5 U
1,2-Dichlorobenzene	**3**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,2-Dichloroethane	**0.6**	1,000 U	250 U	3 U	2 U	12 U	0.5 U	500 U	1.2 U
1,2-Dichloropropane	**1**	2,000 U	500 U	5 U	4 U	25 U	1 U	1,000 U	2.5 U
1,3,5-Trimethylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,3-Dichlorobenzene	**3**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,3-Dichloropropane	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,4-Dichlorobenzene	**3**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
1,4-Diethylbenzene	**NA**	4,000 U	1,000 U	10 U	8 U	50 U	1.5 J	2,000 U	5 U
1,4-Dioxane	**NA**	500,000 UJ	120,000 U	1,200 UJ	1000 U	6200 UJ	250 U	250,000 UJ	620 U
2,2-Dichloropropane	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
2-Butanone	**50**	10,000 U	1,200 J	25 U	7 J	120 U	5 U	5,000 U	12 U
2-Hexanone	**50**	10,000 U	2,500 UJ	25 U	20 UJ	120 U	5 UJ	5,000 U	12 UJ
4-Ethyltoluene	**NA**	4,000 U	1,000 U	10 U	8 U	50 U	2 U	2,000 U	5 U
4-Methyl-2-pentanone	**NA**	10,000 R	2,500 UJ	25 R	20 UJ	120 R	5 UJ	5,000 R	12 UJ
Acetone	**50**	10,000 R	2,500 U	84 R	20 U	120 R	5 U	5,000 R	12 U
Acrylonitrile	**5**	10,000 R	2,500 U	25 R	20 U	120 R	5 U	5,000 R	12 U
Benzene	**1**	1,000 U	250 U	3 U	2 U	12 U	0.5 U	500 U	1.2 U
Bromobenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Bromochloromethane	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U

Table 1-6: IRM Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

								Blind Duplicate Samples	
WELL DESIGNATION		**MW-2**		**MW-2D**		**MW-8**		**MW-100 (1)**	**MW-101 (2)**
SAMPLING DATE		**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**
LAB SAMPLE ID		**L1323002-01**	**L1404174-01**	**L1323002-02**	**L1404174-02**	**L1323002-03**	**L1404174-03**	**L1323002-03**	**L1404174-04**
Volatile Organics	**NY-AWQS**	**Result**		**Result**		**Result**		**Result**	**Result**
Bromodichloromethane	**50**	1,000 U	250 U	3 U	2 U	12 U	0.5 U	500 U	1.2 U
Bromoform	**50**	4,000 U	1,000 U	10 U	8 U	50 U	2 U	2,000 U	5 U
Bromomethane	**5**	5,000 R	1,200 U	12 R	10 U	62 R	2.5 U	2,500 R	6.2 U
Carbon disulfide	**60**	10,000 U	2,500 U	25 UJ	20 U	120 U	5 U	5,000 U	12 U
Carbon tetrachloride	**5**	1,000 U	250 U	3 U	2 U	12 U	0.5 U	500 U	1.2 U
Chlorobenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Chloroethane	**5**	5,000 U	1,200 U	12 UJ	10 U	62 U	2.5 U	2,500 U	6.2 U
Chloroform	**7**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Chloromethane	**NA**	5,000 U	1,200 U	12 UJ	10 U	62 U	2.5 U	2,500 U	6.2 U
cis-1,2-Dichloroethene	**5**	88,000	40,000	180	220	1,100	79 J	64,000	200 J
cis-1,3-Dichloropropene	**0.4**	1,000 U	250 U	2.5 U	2 U	12 U	0.5 U	500 U	1.2 U
Dibromochloromethane	**50**	1,000 U	250 U	2.5 U	2 U	12 U	0.5 U	500 U	1.2 U
Dibromomethane	**5**	10,000 U	2,500 U	25 U	20 U	120 U	5 U	5,000 U	12 U
Dichlorodifluoromethane	**5**	10,000 U	2,500 U	25 UJ	20 U	120 U	5 U	5,000 U	12 U
Ethyl ether	**NA**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Ethylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Hexachlorobutadiene	**0.5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Isopropylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	1.2 J	2,500 U	6.2 U
Methyl tert butyl ether	**10**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Methylene chloride	**5**	5,000 U	1,200 U	12 UJ	10 U	62 U	2.5 U	2,500 U	6.2 U
Naphthalene	**10**	5,000 U	1,200 UJ	12 U	10 UJ	62 U	0.99 J	2,500 U	6.2 UJ
n-Butylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
n-Propylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
o-Chlorotoluene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
o-Xylene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
p/m-Xylene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
p-Chlorotoluene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
p-Isopropyltoluene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
sec-Butylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	1.5 J	2,500 U	1.9 J
Styrene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
tert-Butylbenzene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Tetrachloroethene	**5**	17,000	730	8.4	7.8 U	370	0.46 U	14,000	1.2 U
Toluene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
trans-1,2-Dichloroethene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
trans-1,3-Dichloropropene	**0.4**	1,000 U	250 U	2.5 U	2 U	12 U	0.5 U	500 U	1.2 U
trans-1,4-Dichloro-2-butene	**5**	5,000 U	1,200 U	12 U	10 U	62 U	2.5 U	2,500 U	6.2 U
Trichloroethene	**5**	6,700	250 U	7.2	6.6	65	0.44 J	5,000	1.2 U
Trichlorofluoromethane	**5**	5,000 U	1,200 U	12 UJ	10 U	62 U	2.5 U	2,500 U	6.2 U
Vinyl acetate	**NA**	10,000 U	2,500 U	25 U	20 U	120 U	5 U	5,000 U	12 U

Table 1-6: IRM Groundwater Sampling Results

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

								Blind Duplicate Samples	
WELL DESIGNATION		**MW-2**		**MW-2D**		**MW-8**		**MW-100 (1)**	**MW-101 (2)**
SAMPLING DATE		**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**	**12-Nov-13**	**26-Feb-14**
LAB SAMPLE ID		**L1323002-01**	**L1404174-01**	**L1323002-02**	**L1404174-02**	**L1323002-03**	**L1404174-03**	**L1323002-03**	**L1404174-04**
Volatile Organics	**NY-AWQS**	**Result**		**Result**		**Result**		**Result**	**Result**
Vinyl chloride	**2**	3,400	1,400	18 J	16	1,200	94 J	3,600	180 J

Notes:
All results in ug/l.
J - Estimated value.
U - Compound was not detected relative to the indicated limit.
R - Sample result was rejected based on validation.
(1) - Duplicate of MW-2.
(2) - Duplicate of MW-8.
NA - Not applicable, no criteria provided.
NY-AWQS - New York State Ambient Water Quality Standard, TOGS 1.1.1.
Analysis conducted by Alpha Analytical, Westborough, MA.

Table 1-7: Summary of Groundwater Sampling Results - Additional Parameters

Airstocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

										Blind Duplicate Samples	
LOCATION	**MW-2**			**MW-2D**			**MW-8**			**MW-100 (1)**	**MW-101 (2)**
SAMPLING DATE	**2/27/2013**	**11/12/2013**	**2/26/2014**	**2/27/2013**	**11/12/2013**	**2/26/2014**	**2/27/2013**	**11/12/2013**	**2/26/2014**	**11/12/2013**	**2/26/2014**
Constituent	**Result**			**Result**			**Result**			**Result**	**Result**
Chloride	**98**	**290**	**190**	**130**	**120**	**120**	**28**	**18**	**67**	**300**	**67**
Dissolved Iron	NA	NA	**13.7**	NA	NA	**5.36**	NA	NA	**6**	NA	**5.93**
Iron, Total	**0.296**	**61.8**	**16.6**	**1.76**	**21.4**	**9.37**	**3.37**	**6.94**	**10.2**	**82.1**	**6.37**
Magnesium, Total	**4.75**	**21.5**	**6.12**	**23.3**	**21.7**	**24.4**	**4.05**	**4.12**	**5.16**	**23**	**5.16**
Manganese, Total	**0.178**	**3.01**	**0.458**	**0.804**	**1.437**	**0.868**	**0.728**	**0.956**	**1.132**	**3.476**	**1.097**
Nitrogen, Nitrate	**0.469**	**0.043 J**	**0.186**	**0.205**	**0.037 J**	**0.342 J**	**0.102**	**0.033 J**	**0.054 J**	**0.05 J**	**0.054 J**
Nitrogen, Nitrate/Nitrite	NA	**0.27**	**0.18**	NA	**0.18**	**0.34 J**	NA	**0.033 J**	**0.054 J**	**0.19**	**0.054 J**
Total Nitrogen	NA	**11**	**2.1**	NA	**2.7**	**0.95**	NA	**1.3**	**0.95**	**8.2**	**0.3** U
Nitrogen, Total Kjeldahl	NA	**9.61**	**1.88**	NA	**2.53**	**0.609**	NA	**1.27**	**0.954**	**7.96**	**0.145 J**
Sulfate	**35**	10 U	**13**	**58**	**21**	**47**	**8.8 J**	10 U	10 U	10 U	10 U
Alkalinity, Total (mg CaCO3/L)	**115**	**353**	**126**	**211**	**252**	**208**	**105**	**128**	**90.2**	**343**	**90.2**
Biological Oxygen Demand, 5 day	2 U	**530**	**43**	**5.4**	**20**	**2.8**	**2**	2 U	**2.7**	**470**	**2.4**
Calcium, Total	**59.4**	**165**	**96.4**	**91.8**	**83.7**	**86.7**	**43.4**	**41.6**	**59.5**	**178**	**55.5**
Chemical Oxygen Demand	**9.1 J**	**1,300**	**86**	**21**	**50**	**9.2 J**	**37**	**27**	**21**	**920**	**21**
Dissolved Organic Carbon	**3.7**	**420**	**22**	**3.8**	**6.3**	**2.3**	**4.6**	**4.4**	**5.1**	**280**	**5.1**
Hardness	**170**	**517.8**	**265.8**	**300**	**307.8**	**317.2**	**110**	**119.2**	**169.5**	**561.6**	**159.8**
Total Organic Carbon	**4.4**	**416**	**26**	**3.5**	**7.91**	**2.66**	**5.3**	**9.48**	**5.35**	**256**	**5.35**
Methane (ug/l)	NA	**1,630 J**	**1,270**	NA	**317**	**252**	NA	**1,090**	**891**	**632 J**	**832**
Ethene (ug/l)	NA	**297 J**	**220**	NA	**2**	**10**	NA	**238**	**27.3**	**154 J**	**23.2**
Ethane (ug/l)	NA	**122 J**	**78**	NA	**3**	**4**	NA	**174**	**43.2**	**51 J**	**38**

Notes:
EHC Injections conducted on October 10, 2013.
All results in mg/l - except as noted.
(1) - Duplicate of MW-2.
(2) - Duplicate of MW-8.
U - Compound was not detected relative to the indicated limit.
J - Estimated value.
NA - Not analyzed.

Table 1-8: Air Testing Results - January 30, 2012

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION	Dry Cleaner						NY Sports Club				Outdoor	
SAMPLE TYPE	Sub-Slab Soil Vapor		Indoor Air				Sub-Slab Soil Vapor		Indoor Air		Outdoor Air	
LAB SAMPLE ID	SSV-2-40938		IA-1-40938		IA-3-40938 (1)		SSV-3-40938		IA-2-40938		OA-1-40938	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Vinyl Chloride	ND	13	ND	0.35	ND	0.35	ND	2.5	ND	0.35	ND	0.35
Styrene	ND	11	ND	0.29	ND	0.29	ND	2.1	0.72	0.29	ND	0.29
Propylene	ND	4.5	ND	0.12	ND	0.12	ND	0.86	ND	0.12	ND	0.12
p-Ethyltoluene	ND	64	16	1.7	24	1.7	ND	12	2.9	1.7	2.1	1.7
p- & m- Xylenes	ND	11	1.4	0.29	1.8	0.29	17	2.2	3.7	0.29	1.2	0.29
o-Xylene	ND	11	1.1	0.29	1.5	0.29	5.6	2.2	1.4	0.29	0.56	0.29
n-Hexane	ND	9.2	1.3	0.24	ND	0.24	ND	1.8	1.3	0.24	ND	0.24
n-Heptane	ND	11	ND	0.28	ND	0.28	ND	2.0	ND	0.28	ND	0.28
Methylene chloride	ND	9.1	2.6	0.24	1.7	0.24	4.3	1.7	2.2	0.24	1.7	0.24
Vinyl bromide	ND	11	ND	0.30	ND	0.30	ND	2.2	ND	0.30	ND	0.30
Methyl tert-butyl ether (MTBE)	ND	9.4	ND	0.24	ND	0.24	ND	1.8	ND	0.24	ND	0.24
4-Methyl-2-pentanone	ND	11	ND	0.28	ND	0.28	ND	2.0	4.3	0.28	ND	0.28
Isopropanol	ND	6.4	ND	0.17	ND	0.17	ND	1.2	380	3.3	ND	0.17
Hexachlorobutadiene	ND	28	ND	0.72	ND	0.72	ND	5.3	ND	0.72	ND	0.72
Ethyl Benzene	ND	11	ND	0.29	0.47	0.29	ND	2.2	1.1	0.29	0.38	0.29
Ethyl acetate	ND	9.4	ND	0.24	ND	0.24	ND	1.8	2.0	0.24	ND	0.24
Vinyl acetate	ND	18	ND	0.48	ND	0.48	ND	3.5	ND	0.48	ND	0.48
Cyclohexane	ND	9.0	ND	0.23	ND	0.23	3.8	1.7	ND	0.23	ND	0.23
cis-1,3-Dichloropropylene	ND	12	ND	0.31	ND	0.31	ND	2.3	ND	0.31	ND	0.31
cis-1,2-Dichloroethylene	150	10	ND	0.27	ND	0.27	ND	2.0	ND	0.27	ND	0.27
Chloromethane	ND	5.4	1.4	0.14	1.6	0.14	ND	1.0	1.6	0.14	1.5	0.14
Chloroform	540	13	1.6	0.33	1.6	0.33	ND	2.4	1.6	0.33	ND	0.33
Chloroethane	ND	6.9	ND	0.18	ND	0.18	ND	1.3	ND	0.18	ND	0.18
Carbon tetrachloride	ND	8.2	ND	0.21	ND	0.21	ND	1.6	ND	0.21	ND	0.21
Carbon disulfide	ND	8.1	6.0	0.21	6.4	0.21	12	1.6	8.9	0.21	6.1	0.21
Bromomethane	ND	10	ND	0.26	ND	0.26	ND	1.9	ND	0.26	ND	0.26
Trichloroethylene	4700 J	7.0	61	0.18	66	0.18	ND	1.3	5.1	0.18	10	0.18
Bromoform	ND	27	ND	0.70	ND	0.70	ND	5.1	ND	0.70	ND	0.70
Bromodichloromethane	ND	16	ND	0.42	ND	0.42	ND	3.1	ND	0.42	ND	0.42
Benzyl chloride	ND	14	ND	0.35	ND	0.35	ND	2.6	ND	0.35	ND	0.35
Benzene	ND	8.4	0.95	0.22	0.97	0.22	ND	1.6	1.7	0.22	1.1	0.22
Acetone	ND	6.2	18	0.16	19	0.16	34	1.2	38	3.2	23	0.16
3-Chloropropene	ND	82	ND	2.1	ND	2.1	ND	16	ND	2.1	ND	2.1
2-Hexanone	ND	21	ND	0.56	ND	0.56	ND	4.1	ND	0.56	ND	0.56
trans-1,3-Dichloropropylene	ND	12	ND	0.31	ND	0.31	ND	2.3	ND	0.31	ND	0.31
2-Butanone	ND	7.7	2.9	0.20	2.9	0.20	7.0	1.5	3.4	0.20	2.3	0.20

Table 1-8: Air Testing Results - January 30, 2012

Aristocrat Cleaners
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

LOCATION	Dry Cleaner						NY Sports Club				Outdoor	
SAMPLE TYPE	Sub-Slab Soil Vapor		Indoor Air				Sub-Slab Soil Vapor		Indoor Air		Outdoor Air	
LAB SAMPLE ID	SSV-2-40938		IA-1-40938		IA-3-40938 (1)		SSV-3-40938		IA-2-40938		OA-1-40938	
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
2,2,4-Trimethylpentane	ND	12	ND	0.32	ND	0.32	ND	2.3	ND	0.32	ND	0.32
1,4-Dioxane	R	94	R	2.4	R	2.4	R	18	R	2.4	R	2.4
1,4-Dichlorobenzene	ND	16	ND	0.41	ND	0.41	ND	3.0	ND	0.41	ND	0.41
1,3-Dichlorobenzene	ND	16	ND	0.41	ND	0.41	ND	3.0	ND	0.41	ND	0.41
1,3-Butadiene	ND	11	ND	0.29	ND	0.29	ND	2.2	ND	0.29	ND	0.29
1,3,5-Trimethylbenzene	ND	26	4.3	0.67	6.8	0.67	9.1	4.9	1.2	0.67	0.67	0.67
1,2-Dichlorotetrafluoroethane	ND	18	ND	0.47	ND	0.47	ND	3.5	ND	0.47	ND	0.47
trans-1,2-Dichloroethylene	ND	10	ND	0.27	ND	0.27	ND	2.0	ND	0.27	ND	0.27
1,2-Dichloropropane	ND	12	ND	0.31	ND	0.31	ND	2.3	ND	0.31	ND	0.31
1,2-Dichloroethane	ND	11	ND	0.27	ND	0.27	ND	2.0	ND	0.27	ND	0.27
1,2-Dichlorobenzene	ND	16	ND	0.41	ND	0.41	ND	3.0	ND	0.41	ND	0.41
1,2,4-Trimethylbenzene	ND	64	11	1.7	18	1.7	ND	12	3.3	1.7	ND	1.7
1,2,4-Trichlorobenzene	ND	19	ND	0.50	ND	0.50	ND	3.7	ND	0.50	ND	0.50
1,1-Dichloroethylene	ND	10	ND	0.27	ND	0.27	ND	2.0	ND	0.27	ND	0.27
Toluene	26	9.9	1.9	0.26	2.1	0.26	20	1.9	5.3	0.26	1.9	0.26
1,1-Dichloroethane	ND	11	ND	0.27	ND	0.27	ND	2.0	ND	0.27	ND	0.27
Trichlorofluoromethane (Freon 11)	ND	15	1.6	0.38	1.6	0.38	ND	2.8	2.1	0.38	1.6	0.38
1,1,2-Trichloroethane	ND	14	ND	0.37	ND	0.37	ND	2.7	ND	0.37	ND	0.37
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	20	ND	0.52	ND	0.52	ND	3.8	ND	0.52	ND	0.52
1,1,2,2-Tetrachloroethane	ND	18	ND	0.47	ND	0.47	ND	3.4	ND	0.47	ND	0.47
1,1,1-Trichloroethane	ND	14	ND	0.37	ND	0.37	ND	2.7	ND	0.37	ND	0.37
Dichlorodifluoromethane	ND	13	2.6	0.34	3.1	0.34	ND	2.5	2.7	0.34	3.0	0.34
Tetrahydrofuran	ND	7.7	1.6	0.20	1.6	0.20	5.1	1.5	1.9	0.20	1.3	0.20
Chlorobenzene	ND	12	ND	0.31	ND	0.31	ND	2.3	ND	0.31	ND	0.31
Tetrachloroethylene	140000	890	1100	23	1200	23	140	3.4	77	9.2	730	11
Helium	ND	0.50	NR		NR		ND	0.50	NR		NR	

Notes:

All results in ug/m^3 except helium which is provided in %.
Analysis conducted by York Analytical Laboratories, Inc.
(1) - Duplicate of sample IA-1-40938.
R - Sample result was rejected based on validation.
J - Estimated value.
RL - Reporting limit.
ND - Analyte was not detected relative to the indicated reporting limit.
NR - No result, constituent not tested.

APPENDICES

APPENDIX A

Environmental Easement

APPENDIX B

Excavation Work Plan

APPENDIX B – EXCAVATION WORK PLAN

Under the existing and anticipated site use scenarios excavation may potentially occur in two location types:

1. Beneath the building structure (i.e., under the basement floor); and
2. In the paved area located immediately to the west of the dry cleaner.

Contamination resulting from the dry cleaner activities originated at a location within the basement of the dry cleaner at a depth of approximately 10 feet below land surface. This elevation is coincident with the general location of the water table. Exterior location excavations shallower than 10 feet are not expected to encounter groundwater or chemical constituents related to the dry cleaning process (the chemicals of interest at the Site) that are the subject of the employed remedial approach. All excavated areas will be restored following completion of backfilling to include concrete cover (if excavation is conducted within the building structure) or pavement (at the exterior location on the western side of the site).

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

Regional Hazardous Waste Remediation Engineer
New York State Department of Environmental Conservation
21 South Putt Corners Road, New Paltz, NY

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,

- A summary of the applicable components of this EWP,
  - A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120
  - A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix C of this document,
  - Identification of disposal facilities for potential waste streams,
  - Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (PID) soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Based on media sampling conducted during the investigation at the site, the impacted material contains VOCs related to the dry cleaning process. This material was discharged to the subsurface from a location in the basement of the dry cleaner approximately 10-feet below land surface. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and potential reuse material that requires testing before returning to the subsurface.

B-3 STOCKPILE METHODS

In the unlikely event that large excavations are conducted in the paved area immediately west of the dry cleaner or in the case of demolition of the building structure soil stockpiles may be generated. These will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Bulk loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

If needed, in the event of large scale excavations, a truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from

the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Based on current and anticipated site use and associated excavation that may be required in the future materials requiring off-site disposal will utilize labeled 55-gallon DOT drums that would be taken from the site by licensed wasted haulers. Only in the unlikely occurrence of large scale excavations (in the case of demolishing the building) would bulk material be transported from the site.

Bulk material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. Bulk transportation trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Bulk hauler trucks will enter and leave the site via E. Hartsdale Avenue traveling 0.4 miles north toward S. Central Ave. (NYS Route 100), or 0.8 miles south toward NYS Route 22. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]]

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

Under the existing and anticipated site use scenarios excavation may potentially occur in two location types:

- Beneath the building structure (i.e., under the basement floor); and
- In the paved area located immediately to the west of the dry cleaner.

Any soil or groundwater generated from beneath the building structure will be disposed offsite. Soil excavated from the paved area will be tested for reuse onsite or disposed off-site

depending on the volume of material generated and specifics pertaining to the excavation. Soil considered for reuse onsite will be tested in the laboratory for metals, PCBs/pesticides, semivolatiles and volatiles. Results will be compared to 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives, Protection of Public Health, Commercial objectives to determine suitability.

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the impervious surface (concrete basement flooring or exterior pavement), and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

B-9 COVER SYSTEM RESTORATION

Not applicable

B-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP and DER-10 5.4(e) prior to

receipt at the site. Sampling is required for all imported soil for use as backfill. Samples of the fill will be collected based on the soil quantity and type of constituents and will be a combination of discrete and composite samples, handled as follows:

i. for VOCs only, grab samples are allowed. These grab samples are one or more discrete samples taken from the fill, with the number as specified in the volatile column of Table 5.4(e)10 (see below) for the soil quantity in question, and analyzed for the VOCs identified in Attachment 1 pertaining to commercial use; or

ii. for SVOCs, inorganics and PCBs/pesticides:

(1) one or more composite samples are collected from the volume of soil identified in Table 5.4(e)10 for analysis, with each composite from a different location in the fill volume;

(2) each composite is prepared by collecting discrete samples from 3 to 5 random locations from the volume of soil to be tested; and

(3) the discrete samples are mixed, and after mixing, a sample of the mixture is analyzed for the SVOCs, inorganic and PCBs/pesticide constituents identified in Attachment 1 pertaining to commercial use.

Table 5.4(e)10

Recommended Number of Soil Samples for Soil Imported To or Exported From a Site

Contaminant	**VOCs**	**SVOCs, Inorganics &**	
Soil Quantity (cubic yards)	**Discrete Samples**	**Composite**	**Discrete Samples/Composite**
0-50	1	1	3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	
$^{3}/_{4}$ 1000	Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER		

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site. All imported soils will meet the backfill soil quality standards established in 6NYCRR 375-6.7(d). Soils that meet 'exempt' fill requirements

under 6 NYCRR Part 360, but do not meet backfill objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

Under the current and future anticipated site use (retail commercial strip mall) large scale excavations or situations that would require a stormwater pollution prevention plan are not anticipated. In the unlikely circumstance that the facility is demolished or major excavation is required an appropriate stormwater pollution prevention plan will be provided in advance to the NYSDEC.

B-12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

B-13 COMMUNITY AIR MONITORING PLAN

Real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) will be conducted during implementation of the excavation activities to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses) from potential airborne contaminant releases as a direct result of the remedial work activities. Based on the available site characterization testing results and the site setting, the likelihood of any adverse exposure to the community is very low.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the work area on a continuous basis during intrusive activities (i.e., soil excavation and stockpiling). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the work area at temporary particulate monitoring stations during work activities; i.e., soil excavation and stockpiling.

The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include implementation of CAMP activities provided in Section B-13 and securing excavation stockpiles (covering with poly-sheeting) as discussed below. If nuisance odors are identified at the site boundary, or if odor

complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils; [add other elements as appropriate]. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods [add others as necessary].

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

B-15 DUST CONTROL PLAN

It is anticipate that any excavations that may be performed at the site under current/anticipated use will be shallow and minor and will consist of generating limited amounts of soil utilizing small machine excavators or through hand excavation. Prior to any excavations a task specific dust control plan will be developed and implemented in conjunction with the CAMP activities specified in Section A-13.

B-16 OTHER NUISANCES

Procedures to address other nuisances that may require control will be developed as needed based on the work scope and other pertinent site conditions present at the time of the proposed excavation activities.

ATTACHMENT 1

Allowable Constituent Levels for Imported Fill or Soil

Appendix 5
Allowable Constituent Levels for Imported Fill or Soil
Subdivision 5.4(e)

Source: This table is derived from soil cleanup objective (SCO) tables in 6 NYCRR 375. Table 375-6.8(a) is the source for unrestricted use and Table 375-6.8(b) is the source for restricted use.

Note: For constituents not included in this table, refer to the contaminant for supplemental soil cleanup objectives (SSCOs) in the Commissioner Policy on *Soil Cleanup Guidance*. If an SSCO is not provided for a constituent, contact the DER PM to determine a site-specific level.

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Metals					
Arsenic	13	16	16	16	13
Barium	350	350	400	400	433
Beryllium	7.2	14	47	47	10
Cadmium	2.5	2.5	4.3	7.5	4
Chromium, Hexavalent[1]	1 [3]	19	19	19	1 [3]
Chromium, Trivalent[1]	30	36	180	1500	41
Copper	50	270	270	270	50
Cyanide	27	27	27	27	NS
Lead	63	400	400	450	63
Manganese	1600	2000	2000	2000	1600
Mercury (total)	0.18	0.73	0.73	0.73	0.18
Nickel	30	130	130	130	30
Selenium	3.9	4	4	4	3.9
Silver	2	8.3	8.3	8.3	2
Zinc	109	2200	2480	2480	109
PCBs/Pesticides					
2,4,5-TP Acid (Silvex)	3.8	3.8	3.8	3.8	NS
4,4'-DDE	0.0033 [3]	1.8	8.9	17	0.0033 [3]
4,4'-DDT	0.0033 [3]	1.7	7.9	47	0.0033 [3]
4,4'-DDD	0.0033 [3]	2.6	13	14	0.0033 [3]
Aldrin	0.005	0.019	0.097	0.19	0.14
Alpha-BHC	0.02	0.02	0.02	0.02	0.04 [4]
Beta-BHC	0.036	0.072	0.09	0.09	0.6
Chlordane (alpha)	0.094	0.91	2.9	2.9	1.3
Delta-BHC	0.04	0.25	0.25	0.25	0.04 [4]
Dibenzofuran	7	14	59	210	NS
Dieldrin	0.005	0.039	0.1	0.1	0.006
Endosulfan I	2.4[2]	4.8	24	102	NS
Endosulfan II	2.4[2]	4.8	24	102	NS
Endosulfan sulfate	2.4[2]	4.8	24	200	NS
Endrin	0.014	0.06	0.06	0.06	0.014
Heptachlor	0.042	0.38	0.38	0.38	0.14
Lindane	0.1	0.1	0.1	0.1	6
Polychlorinated biphenyls	0.1	1	1	1	1

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Semi-volatile Organic Compounds					
Acenaphthene	20	98	98	98	20
Acenaphthylene	100	100	100	107	NS
Anthracene	100	100	100	500	NS
Benzo(a)anthracene	1	1	1	1	NS
Benzo(a)pyrene	1	1	1	1	2.6
Benzo(b)fluoranthene	1	1	1	1.7	NS
Benzo(g,h,i)perylene	100	100	100	500	NS
Benzo(k)fluoranthene	0.8	1	1.7	1.7	NS
Chrysene	1	1	1	1	NS
Dibenz(a,h)anthracene	0.33 [3]	0.33 [3]	0.33 [3]	0.56	NS
Fluoranthene	100	100	100	500	NS
Fluorene	30	100	100	386	30
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	NS
m-Cresol(s)	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	NS
Naphthalene	12	12	12	12	NS
o-Cresol(s)	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	NS
p-Cresol(s)	0.33	0.33	0.33	0.33	NS
Pentachlorophenol	0.8 [3]	0.8 [3]	0.8 [3]	0.8 [3]	0.8 [3]
Phenanthrene	100	100	100	500	NS
Phenol	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	30
Pyrene	100	100	100	500	NS
Volatile Organic Compounds					
1,1,1-Trichloroethane	0.68	0.68	0.68	0.68	NS
1,1-Dichloroethane	0.27	0.27	0.27	0.27	NS
1,1-Dichloroethene	0.33	0.33	0.33	0.33	NS
1,2-Dichlorobenzene	1.1	1.1	1.1	1.1	NS
1,2-Dichloroethane	0.02	0.02	0.02	0.02	10
1,2-Dichloroethene(cis)	0.25	0.25	0.25	0.25	NS
1,2-Dichloroethene(trans)	0.19	0.19	0.19	0.19	NS
1,3-Dichlorobenzene	2.4	2.4	2.4	2.4	NS
1,4-Dichlorobenzene	1.8	1.8	1.8	1.8	20
1,4-Dioxane	0.1 [3]	0.1 [3]	0.1 [3]	0.1 [3]	0.1
Acetone	0.05	0.05	0.05	0.05	2.2
Benzene	0.06	0.06	0.06	0.06	70
Butylbenzene	12	12	12	12	NS
Carbon tetrachloride	0.76	0.76	0.76	0.76	NS
Chlorobenzene	1.1	1.1	1.1	1.1	40
Chloroform	0.37	0.37	0.37	0.37	12
Ethylbenzene	1	1	1	1	NS
Hexachlorobenzene	0.33 [3]	0.33 [3]	1.2	3.2	NS
Methyl ethyl ketone	0.12	0.12	0.12	0.12	100
Methyl tert-butyl ether	0.93	0.93	0.93	0.93	NS
Methylene chloride	0.05	0.05	0.05	0.05	12

Volatile Organic Compounds (continued)					
Propylbenzene-n	3.9	3.9	3.9	3.9	NS
Sec-Butylbenzene	11	11	11	11	NS
Tert-Butylbenzene	5.9	5.9	5.9	5.9	NS
Tetrachloroethene	1.3	1.3	1.3	1.3	2
Toluene	0.7	0.7	0.7	0.7	36
Trichloroethene	0.47	0.47	0.47	0.47	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	3.6	NS
Trimethylbenzene-1,3,5	8.4	8.4	8.4	8.4	NS
Vinyl chloride	0.02	0.02	0.02	0.02	NS
Xylene (mixed)	0.26	1.6	1.6	1.6	0.26

All concentrations are in parts per million (ppm)
NS = Not Specified

Footnotes:
[1] The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.
[2] The SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.
[3] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
[4] This SCO is derived from data on mixed isomers of BHC.

APPENDIX C

Health and Safety Plan

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TABLES

ATTACHMENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared to identify the health and safety precautions, methods, and construction activities at the King Aristocrat Dry Cleaner Site (Site) located at 212 E. Hartsdale Avenue, Hartsdale, New York, 10530, to ensure the protection of site workers and the environment during activities pertaining to the remedial investigation of the Site. It addresses specific health and safety issues related to the presence of tetrachloroethylene (PCE) and other hazardous constituents that may be encountered during field activities. The procedures were developed in accordance with Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard 29 CFR 1910.120.

2.0 SITE BACKGROUND

2.1 Site Description

King Aristocrat Dry Cleaner is located in the middle of a small strip mall at 212-218 E. Hartsdale Avenue in the Town of Greenburgh in Westchester County, New York. East Hartsdale Avenue is a major shopping street with a wide sidewalk in the front and a narrow alleyway and a 2-story parking garage in the rear. The dry cleaner has a Hartsdale Farms market adjoining the North wall and a New York Sports gym on the south wall. The dry cleaner cleans clothes on the premises and has a basement that is approximately 8 feet high where solvent was spilled into the central sump in which groundwater was observed at approximately one foot below the concrete floor. The strip mall is located on the West side of this major shopping street in the hilly downtown urban area of Hartsdale, an unincorporated Hamlet within the Town of Greenburgh. Hartsdale consists of multi-family residences (1.56) and retail shops, commercial facilities and a Metro North Train Station in the valley bottom. This main street is a two-lane main street with wide sidewalks. The area is characterized as a mixed residential and commercial district.

2.2 Spill History

A spill was reported to the New York State Department of Environmental Conservation (NYSDEC) on June 22, 2009 in the basement of King Aristocrat Dry Cleaners after soil sample results pertaining to testing conducted by Marksmen Enterprises, LLC on June 5, 2009 were available and NYSDEC issued case number 0903393. Subsequent testing conducted at the Site identified concentrations of VOCs including Tetrachloroethylene in soil, soil vapor and groundwater beneath and in close proximity to the Site.

3.0 OBJECTIVES

The objective of this HASP is to protect on-site worker health and safety during field activities at the Site. General guidelines in the HASP are provided to assure that safe working conditions exist at the site. The health and safety procedures set forth in this plan have been established based on analysis of potential hazards and protection measures have been selected in response to these potential risks. The HASP will be modified if unforeseen changes occur while work is in progress.

This plan includes health and safety procedures required for field activities performed at the site. It has been designed to meet the following objectives:

- Evaluate the risk associated with each operation;
- Provide for identification, recognition, evaluation, and control of health, safety, and environmental hazards (if any);
- Provide the requirements for an optimum, safe, and healthful work environment, in which personnel are not exposed to avoidable risks, accidents, or injuries in the performance of their duties;
- Identify the roles and responsibilities of on-site personnel; and
- Establish personnel protection standards and mandatory safety practices and procedures for all on-site personnel.
- This document will be periodically reviewed to ensure that it is current and technically correct.

4.0 PERSONNEL RESPONSIBILITIES

The Health and Safety Coordinator (HSC) is responsible for the development and implementation of the HASP. The Health and Safety Officer (HSO) will be responsible for the day to day implementation of the HASP. In addition, the HSO is responsible for the distribution of this HASP to all field personnel and discussion of the plan prior to the start of field activities. The field personnel will sign **Attachment 1** of this HASP certifying that they have read, are familiar with and understand the contents of this HASP. The HSO will also have the following authority and responsibilities:

- Responsibility for the field implementation;
- Authority to make necessary field modifications to this HASP with approval of authorized State representatives;
- Responsibility to ensure that at a minimum the following safety equipment is available at the Site prior to start of the work: fire extinguisher, eye wash station, and personal protective equipment and first aid supplies.
- Authority to suspend field operations due to potential health and safety concerns;
- Responsibility to supervise emergency response activities;
- Implementation and documentation of daily pre-task field briefings (tailgate safety meetings).

HSO alternates will be designated to act accordingly when the primary HSO is not present at the Site. All site personnel and contract workers working within the exclusion zone will have received the appropriate level of training necessary to perform applicable duties and comply with 29 CFR 1910.120.

Other site personnel may be called upon to perform HSO duties. The HSO or alternate will be on site at all times during intrusive work activities. Certificates of OSHA 1910.120 40 hour Hazardous Materials Training are included in **Attachment 2**.

All EnviroTrac personnel who will be working at the Site will be provided with a copy of this HASP. All subcontractors and site visitors will follow EnviroTrac's HASP and required to sign the Affidavit (**Attachment 1**). Personnel responsible for HASP monitoring during on-site activities will be responsible for informing the field workers and subcontractors of any changes in conditions and/or levels of protection required in the affected work area. This HASP must be modified or amended when circumstances or conditions develop that are beyond the scope of the operations described in this HASP. Any changes in project work scope and/or site conditions as described must be amended in writing using the Amendment Sheet included in **Attachment 3**.

All personnel working on-site will supply documentation of compliance with 29 CFR 1910.120 in advance of undertaking any physical activities at the site.

5.0 SITE CHARACTERIZATION

Environmental Hazard Evaluation

The environmental hazards associated with the installation of soil sample collection, soil vapor extraction wells and monitoring points and air monitoring activities at the Site principally concern the potential presence of PCE in soil materials. Potential routes by which workers could be exposed to PCE or other hazardous constituents include:

- Inhalation;
- Ingestion; and
- Dermal Contact.

6.0 CHEMICAL EXPOSURE DATA

All the active site personnel will be protected against potential exposure to the constituents of concern using suitable personal protection as discussed below and as detailed in Section 11.

1. Inhalation

Environmental air monitoring for organic vapors will be conducted through the use of a photoionization detector (PID) within and at the perimeter of the exclusion zone and work areas during all on-site soil testing and activities including collection of soil samples, soil vapor and ambient air samples and installation of soil vapor monitoring points and groundwater monitoring wells. Level D personal protective equipment (PPE) will be required, as detailed in Section 11.

ORGANIC VAPORS

If PID monitoring readings are greater than 25 and less than 100 ppm levels within the breathing zone, engineering controls will be initiated as detailed in Section 13.

If PID readings in the exclusion zone exceed 100 ppm, work will cease. Prior to recommencement of work, work practices will be implemented to lower volatile emissions only after approval by the Engineer. If work practices do not lower emissions to less than 100 ppm then recommencement of work will only take place at appropriate PPE Levels as detailed in Section 11.

2. Ingestion

There is also a possibility of ingestion of soil materials during field activities. Safe work practices should be followed to avoid potential ingestion of soil materials. No food, drink or smoking will be allowed in the exclusion zone.

3. Dermal Contact

Due to the potential for dermal contact with soils containing PCE or other hazardous constituents, all active site personnel performing invasive and non-invasive sampling and pilot testing activities will be required to wear appropriate Level D personal protective clothing, as detailed in Section 11, including work boots, hard hats, eye protection and appropriate work gloves. Work boots should meet ANSI Z41 American National Standard for Personal Protection – Protective Footwear. As a precautionary measure, extra skin protective gear will be available on site in the field vehicle, to include Tyvek suits, to be worn, if necessary. In addition, safety guidance that may be posted throughout the site are included as **Attachments 4 and 5**.

Toxicological and physical characteristics information is provided below for PCE.

GENERAL DESCRIPTION

TETRACHLOROETHYLENE

Tetrachloroethylene, also called perchloroethylene, is a clear colorless volatile liquid having an ether-like odor. It is used as dry cleaning solvent, a vapor degreasing solvent, drying agent for metals, and for the manufacture of other chemicals. It is non-combustible, insoluble in water and its vapors are heavier than air. Symptoms of exposure by ingestion include nausea, flushed face and neck. Target organs are skin, liver, kidneys, eyes, upper respiratory system and central nervous system. The current OSHA permissible exposure limit (PEL) is 100 ppm with a short-term exposure limit (STEL) of 300 ppm/5 minutes and an immediately dangerous to life and health (IDLH) recommendation to treat PCE as a potential human carcinogen. The Material Safety Data Sheet (MSDS) for PCE is included in **Attachment 6**.

<u>HEALTH HAZARDS:</u>

TETRACHLOROETHYLENE

VAPOR: Irritating to eyes, nose and throat. If inhaled will cause difficult breathing, or loss of consciousness. LIQUID: Irritating to skin and eyes. Harmful if swallowed (USCG, 1985).

FIRE/EXPLOSION HAZARDS:

TETRACHLOROETHYLENE

Not flammable. Poisonous gases are produced when heated. Toxic, irritating gases may be generated in fires. (USCG, 1985).

FIRE FIGHTING:

TETRACHLOROETHYLENE

Extinguish fire using agent suitable for type of surrounding fire (material itself does not burn or burns with difficulty). ((C)AAR,1986).

Extinguish fire using agent suitable for type of surrounding fire (material itself does not burn or burns with difficulty). ((C)AAR,1986).

NON-FIRE SPILL RESPONSE:

TETRACHLOROETHYLENE

Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Attempt to stop leak if without hazard.

Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder.

Water spill: If dissolved, apply activated carbon at ten times the spilled amount in region of 10 ppm or greater concentration. Remove trapped material with suction hoses. Air spill: Apply water spray or mist to knock down vapors. Vapor knockdown water is corrosive or toxic and should be diked for containment. ((C)AAR, 1986).

FIRST AID:

TETRACHLOROETHYLENE

If this chemical comes in contact with the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. If this chemical comes in contact with the skin, promptly wash the contaminated skin with soap and water. Facilities are available at the site for washing. If this chemical penetrates through the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible. If this chemical has been swallowed, get medical attention immediately. (NIOSH, 1987).

7.0 TASK/OPERATION SAFETY AND HEALTH RISK ANALYSIS

The following subsections describe each task/operation in terms of the specific hazards associated with it. In addition, the protective measures to be implemented during completion of those operations are also identified.

7.1 Task by Task Risk Analysis

The evaluation of hazards is based upon the knowledge of site background presented in the Work Plan, and anticipated risks posed by the specific operation.

The following subsections describe each task/operation in terms of the specific hazards associated with it. In addition, the protective measures to be implemented during completion of those operations are also identified. Tables 7-1 & 7-2 provide a summary of task analysis and chemical hazards for each task at the Site. The Permissible Exposure Limit (PEL), Threshold Limit Value (TLV) and Immediately Dangerous to Life and Health (IDLH) levels are listed on Table 7-1 & 7-2 for the contaminant of concern. In general OSHA PELs are regulatory requirements that must be met and TLVs are guidance values. The PEL represents the maximum exposure concentration an individual can be exposed to as a time weighted average of 8 hours. TLVs represent the exposure concentration which an individual can be exposed to eight hours a day, five days a week (40 hours), without harmful effects. The IDLH represents the maximum concentration of a contaminant for which an individual can be exposed to for thirty minutes without any "escape impairing" symptoms or irreversible health effects.

TABLE 7-1 Task Analysis - Perimeter and Air Monitoring Chemical Hazards of Concern

CONTAMINANT	PEL/TLV/IDLH	ROUTES OF CONCENTRATION	EXPOSURE
TETRACHLORO-ETHYLENE	PEL:100 ppm TLV: 25 ppm IDLH: Not Applicable, Potential Human Carcinogen (NIOSH, 1987)	AIR SUBSURFACE SOIL	INHALATION INGESTION CONTACT

Notes: (PEL=Permissible Exposure Limit, TLV=Threshold Limit Value, IDLH=Immediately Dangerous to Life and Health)

TABLE 7-2 Task Analysis - Well Installation and Excavation Chemical Hazards of Concern

CONTAMINANT	TLV/IDLH	ROUTES OF CONCENTRATION	EXPOSURE
TETRACHLORO-ETHYLENE	PEL:100 ppm TLV: 25 ppm IDLH:Not Applicable, Potential Human Carcinogen (NIOSH, 1987)	AIR SUBSURFACE SOIL	INHALATION INGESTION CONTACT

Notes: (PEL=Permissible Exposure Limit, TLV=Threshold Limit Value, IDLH=Immediately Dangerous to Life and Health)

7.2 Task Hazard Description and Hazard Prevention

The following section identifies the hazards associated with site tasks, and provides suggestions for hazard prevention on-site.

PERIMETER MONITORING:

The site boundaries clearly mark off the "clean" off-site areas, from the "contaminated" on-site

areas, and so chemical contamination from the site should not be a hazard associated with perimeter and off-site monitoring.

Perimeter monitoring and off-site monitoring will be performed once the site boundaries have been established. Hazards specific to perimeter and off-site monitoring include encounters with non-project personnel. This is a unique hazard, in that untrained personnel prove to be a risk when performing any type of site work. Inquisitive and/or hostile persons may interfere with the monitoring/sampling effort, jeopardizing their safety as well as the safety of the field team.

AIR MONITORING:

General hazards frequently encountered during air monitoring include:

- Electrical hazards as a result of power sources to charge/run air monitoring equipment.
- Placing air monitoring equipment in elevated areas or areas where slip/trip and fall hazards exist.
- Hazards associated with ambient environment being sampled.
- Readings indicating non-explosive atmospheres, low concentrations of toxic substances, or other conditions may increase or decrease suddenly, changing the associated risks.
- Air sampling matrix solutions may be acidic or basic, causing a corrosive hazard, and broken glass collection tubes can cut hands if mishandled.

HAZARD PREVENTION DURING AIR MONITORING:

Grounded plugs should be used when a power source is needed to reduce the hazard of electric shock.

- Generators or air monitoring equipment should be used in dry areas, away from possible ignition sources. Do not stand in water or other liquids when handling equipment. Electrical equipment shall conform to OSHA 1910.303(a), 1910.305(a),(f),(f)(3).
- Ground fault interrupters are used in the absence of properly grounded circuitry or when portable tools must be used in wet areas.
- Extension cords should be protected from damage and maintained in good condition.
- Air monitoring equipment should be placed within easy reach.

- Personnel should be thoroughly familiar with the use, limitations and operating characteristics of the monitoring instruments.
- Perform continuous monitoring in variable atmospheres.
- Use intrinsically safe instruments until the absence of combustible gases or vapors is anticipated.

SYSTEM CONSTRUCTION AND INSTALLATION:

Activities during pilot testing and system installation may include trenching for underground system lines, installation of overhead lines, off site construction of the system and testing, and connection of the system. Hazards may include:

- Contact with or inhalation of contaminants, potentially in high concentrations in sampling media.
- Noise levels exceeding the OSHA PEL of 90 dBA are both a hazard and a hindrance to communication.
- Fumes (carbon monoxide) from the backhoe.
- Underground pipelines and utility lines can be ruptured or damaged during trenching operations
- Moving parts on the backhoe/personnel lifts may catch clothing.
- Moving the backhoe/personnel lifts over uneven terrain may cause the vehicle to roll over or get stuck in a rut or mud. Be aware of hazards associated with moving heavy machinery such as collision with personnel and structures.
- High pressure hydraulic lines and air lines used on the backhoe and personnel lifts are hazardous when they are in ill repair or incorrectly assembled.
- Back strain and muscle fatigue due to lifting and shoveling techniques.
- Working with power tools during system shed construction.
- Electrical hazards when energizing the system during testing.

HAZARD PREVENTION DURING SYSTEM CONSTRUCTION AND INSTALLATION:

- Review the contaminants suspected to be on-site and perform air monitoring as required.
- Continuously monitor carbon monoxide levels during machinery operation Shut down backhoe and/or divert exhaust fumes.

- All chains, lines, cables should be inspected daily for weak spots, frays, etc.
- Daily backhoe/personnel lift safety inspections (e.g. backup alarm) will be documented.
- A spotter on the ground will direct backhoe during operation.
- Safety vests will be worn to increase visibility of personnel.
- Ear muffs and ear plugs effectively reduce noise levels and will be worn during installation activities that have noise levels above 90 dBA.
- Hard hats should be worn at all times when working around heavy equipment. Secure loose clothing.
- Proper lifting (pre-lift weight assessment, use of legs, multiple personnel) techniques will prevent back strain. Use slow easy motions when shoveling and digging to decrease muscle strain.
- A thorough underground utilities search should be conducted before the commencement of a trenching project.
- All high pressure lines should be checked prior to and during use.
- Electric tools will be inspected daily for damage to safety guards and wires.
- All electric tools are to be properly grounded in accordance with manufacturers specifications.
- To minimize exposure to chemical contaminants, a thorough review of suspected contaminants should be completed and implementation of an adequate protection program.
- Follow lockout/tag out procedures when working with electrical components of the system during testing.

General Hazard Evaluation

In addition, there are several site activities which do not involve the potential contact with PCE or other hazardous constituents and therefore have low associated hazard for exposure. While these activities do not involve significant exposure risks, various physical hazards do exist. General hazards associated with these activities include the following:

- Personnel slipping, tripping, and falling as a result of improperly stored equipment and materials;

- Puncture wounds and lacerations from sharp edges of hand tools;
- Personnel being struck by equipment, tools, and vehicles; injuries to feet from falling objects, or sharp objects;
- And Back or other muscle injuries or strains from improper or excessive lifting.

To protect against accidental mechanical hazards, safe work practices will be followed and a hard hat, gloves, appropriate eye/face protection, and durable work boots that meet ANSI Z41 American National Standard for Personal Protection should be worn when working around heavy equipment, as detailed in Section 11.

Adverse weather conditions are also important considerations in planning and conducting site operations. Cold or hot weather can cause physical discomfort, loss of efficiency, and personnel injury. To protect against injury due to cold or hot weather, appropriate control measures will be taken, as detailed in Section 11.

8.0 RISK CHARACTERIZATION

Based on the following factors, it is believed that the conditions of exposure during field activities at the Site pose low risk of adverse health effects or injury:

- Environmental monitoring will be performed, during intrusive activity, for organic vapors explosive atmosphere and carbon monoxide.
- Personnel involved with intrusive activity within the exclusion zone will follow OSHA guidelines and wear the appropriate level of protection (Section 11).
- All site work will be accomplished at Level D personal protection and upgrading to Level C based on action levels (Section 11).
- Discontinuation of site activities will occur when personnel exposure to organic vapors exceed the PEL or the STEL for PCE.
- As an engineering control, a regenerative air blower or exhaust fans may be used to reduce the potential for dangerous concentrations of carbon monoxide and VOCs in the breathing zone near the borings.
- Mandatory safe occupational work practices will be followed at all times.

9.0 SITE CONTROL

9.1 Site Work Locations

Activities involving the installation of wells, air monitoring, and excavation will be performed at several locations throughout the site. The work area is the location in which the actual activity will occur. Only authorized personnel, including personnel conducting the work activities involved, and specialized personnel such as subcontractors engaged in well installation and heavy equipment operators, will be allowed in the work area. Within the work area, the levels of protection will be determined based on the degree of hazard present, as detected by the measurements obtained with the photoionization detector (PID), and/or other activity-specific monitoring equipment.

9.2 Work Zones

Work zones will be defined with the Engineer's approval prior to the commencement of work activities and be clearly marked off with traffic cones and/or caution tape. These work zones will limit equipment, operations and personnel in the areas as defined below:

9.2.1 Exclusion Zone

This shall include all areas where potential environmental monitoring has shown or is suspected that a potential chemical hazard may exist to workers. The level of PPE required in these areas shall be determined by the site HSO after air monitoring and on-site inspection has been conducted. The area shall be clearly delineated from the decontamination area. As work proceeds, the delineation boundary shall be relocated as necessary to prevent the accidental contamination of nearby people and equipment.

9.2.2 Contamination Reduction Zone

This zone will occur at the interface between the Exclusion Zone "Hot Zone" and Support Zone "Clean Zone" and shall provide a transfer of personnel and equipment to and from the Support

Zone to the Exclusion Zone, the decontamination of personnel and equipment prior to entering the Support Zone, and for the physical segregation of the Support Zone and Exclusion Zone.

9.2.3 Support Zone

This area is the remainder of the work site and project site. The function of the Support Zone includes:

- An entry area for personnel, material and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;
- An Exit for decontamination personnel, materials and equipment from the "Decon" area of site operations;
- The Housing of site special services; and
- A storage area for clean safety and work equipment.

Small decontamination areas may be set up adjacent to the work area to facilitate decontamination of equipment that is reused throughout the field activity.

9.3 Security

Periodic security patrols will be conducted to ensure that adequate security is being maintained. Only workers authorized by the field manager may be allowed to enter the site. Most of the work performed at Site will be within the buildings which will be locked during non working hours and the remaining outside work will be surrounded with a security fence. The gates of the fence will be secured by chains and padlocks. Warning signs will be attached to the fence to discourage entry by unauthorized personnel. While work activities are being implemented within fenced areas, existing security will be maintained. The site or alternative HSO will brief all visitors of all security and safety plans.

9.4 Site Communications

Communications on-site will be conducted through verbal communications. When out of audible range, verbal communications may be assisted using portable telephones and personal pagers.

9.5 General Work Rules

To protect against the occurrence of accidents and dangerous situations, as well as to minimize the potential for emergency events, all on-site personnel shall:

- Attend a daily tailgate safety meeting, read this HASP and sign the Affidavit (**Attachment 1**) attesting to this, prior to beginning of site activities. The HASP will be reviewed periodically by all on-site personnel conducting field activities. Daily Tailgate Safety Logs are included in **Attachment 7**.
- Field work will only be conducted during daylight hours unless adequate artificial lighting is provided and community/residential zoning laws permit operation after certain hours.
- No eating, drinking or smoking will be permitted within the exclusion or contamination reduction zone.
- All personnel shall be knowledgeable in the use of the first-aid equipment outlined in **Attachment 8**. Personnel will be advised of the precautions to be taken against sunburn, heat stroke, frostbite, and hypothermia.
- Only authorized personnel will be allowed on site.
- Fire extinguishers shall be available at the work site for immediate availability in an emergency.

To minimize the possibility of injuries, the following general precautions will be taken:

- All hand and power tools will be maintained in a safe condition.
- Safety guards will be kept in place during use.
- Power tools will be double-insulated and/or properly grounded.
- Walkways will be kept clear of equipment, vegetation, excavated material, or other obstructions.
- Proper work gloves will be provided and used when the possibility of burns, lacerations, or other injury exists.
- Hard hats and work boots will be worn.
- Employees exposed to vehicular traffic on public roads and working around heavy machinery will wear warning vests.

- Employees will observe proper lifting techniques and obey sensible lifting limits.
- Heavy equipment will be used in accordance with the manufacturer's specifications and guidelines.

To guard against injury caused by exposure to cold temperatures, the following measures will be taken in cold weather:

- Workers will be outfitted with adequate winter clothing.
- Clothing will be changed if it becomes wet.
- Warm shelters and regular rest periods will be available for workers.
- Training sessions will be held as appropriate to emphasize warning symptoms of hypothermia or frostbite such as reduced coordination, drowsiness, impaired judgment, fatigue, and numbing of toes and fingers.
- Warm beverages will be provided.

To guard against injury by heat stress, the following control measures will be employed in hot weather:

Provision for adequate liquids to replace lost body fluids. Employees must replace water and salt lost through perspiration.

Employees will be encouraged to drink more than the amount required to satisfy thirst, since thirst satisfaction is not an accurate indicator of adequate salt and fluid replacement. Replacement fluids can be a 0.1 percent salt solution, commercial mixes such as Gatorade or Quick Kick, or a combination of these with fresh water.

- Establishment of a work regimen that will provide adequate rest periods for cooling down. Rest breaks are to be taken in a cool, shaded area during hot weather.
- Employees shall not be assigned other tasks during rest periods.
- All employees shall be informed of the importance of adequate rest, acclimation, and proper diet in the prevention of heat stress.

Health and Safety Responsibilities

All Project Personnel are responsible for the following:

- Taking all reasonable precautions to prevent injury to themselves and to their fellow employees.
- Implementing the requirements of this HASP and reporting any deviations from the anticipated conditions described herein.
- Performing only those tasks that they believe they can do safely, and immediately reporting any accidents and/or unsafe conditions to the work supervisor.
- Filling out an accident report form included in **Attachment 9** and for all injuries, regardless of severity. The form will be submitted to the work supervisor. Subcontractor is required to notify contractor within 24 hours of any work related injury.

10.0 PERSONNEL TRAINING

Field team personnel associated with those activities in which the potential for exposure to hazardous substances exists are required to participate in a health and safety training program that complies with the OSHA standard 29 CFR 1910.120. This program instructs employees on general health and safety principles and procedures, proper operation of monitoring instruments, and use of personnel protective equipment.

In addition, field team personnel must undergo site-specific training prior to the start-up of any given project or task. As activities change at a particular work site, related training must be provided as necessary. The site-specific training will address potential hazards and associated risks, site operating procedures, emergency response and site control methods to be employed. All work site personnel will document their review of the HASP with their signature on the Affidavit (**Attachment 1**).

11.0 PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

Personal Protective Equipment Selection

Based on available data, it is anticipated that all field activities will be performed at Level D protection.

Level D

The following Personal Protective Equipment (PPE) for Level D will be necessary for all field personnel on site:

- Boots (should be safety toe when working near heavy machinery);
- Hard hat;
- Work gloves;
- Dust mask (if required by the activity) and;
- Safety glasses

If contaminated soil is exposed by drilling or trenching, safety glasses and overboots will be used.

Additionally, if and when free phase liquids are encountered, the following equipment will be necessary for all field personnel in the affected work area or dealing with the affected soil material:

- Tyvek (e.g., Saranex) disposable coveralls;
- Safety glasses/goggles/face shield;
- Chemically resistant overboots; and
- Protective gloves.

Level C

An upgrade of PPE to Level C may be necessary for all personnel in the work area when engineering controls do not lower the exposure levels to within acceptable limits. Fit test documentation is required if Level C respiratory protection is to be worn.

The upgrade will consist of donning:

- Laminated-type Tyvek (e.g., Saranex) disposable coveralls (if not already donned);
- Nitrile or PVC gloves;
- Full-face respirator equipped with approved cartridges suitable for up to 1,000 ppm organic vapors; and
- Chemically resistant overboots.

Level B

An upgrade of PPE to Level B will be necessary for all personnel in the work area if Level C protection does not adequately protect worker exposure.

The upgrade will consist of donning:

- Pressure demand, full-facepiece SCBA or pressure-demand supplied-air respirator with escape SCBA
- Inner gloves

Work Stoppage

Work stoppage will be required for all personnel in the work area when the PID reading is greater than 100 ppm within the breathing zone of the exclusion zone. Activities may be resumed when levels below 100 ppm are reached.

12.0 PERSONAL PROTECTIVE EQUIPMENT USE

Just prior to entering into the work area, the required PPE will be donned. In the event of damage to the PPE, a worker will return to the decontamination area set up for the specific work activity to repair or replace the damaged gear. All used PPE will be wrapped in plastic bags and disposed of as regular garbage.

First-Aid Supplies and Safety Equipment

First-Aid supplies will be located within the contamination reduction zone. The first-aid equipment list is included in **Attachment 8**. An emergency contact telephone list has been included in Section 15.0.

Safety equipment in addition to the PPE may be required depending upon the specific site activity. A list of safety equipment that may be required is included in **Attachment 8**.

13.0 MONITORING PROGRAM

Real-time air monitoring for VOCs in the work zone will performed during work activities. The following describes the air monitoring plan for the work zone during intrusive and non-intrusive activities. The permissible exposure limit (PEL) for PCE is 100 parts per million (ppm) time weighted average (TWA) and averaged over an 8-hour period (OSHA), with an OSHA peak of 300 ppm (5-minute average in any three hours).

Work Zone (building interior)

- VOCs will be monitored in the breathing zone of the work area prior to daily activities and on a periodic basis during intrusive work using a PID. The period of VOC monitoring will be adjusted based on the activity and readings obtained (i.e., continuous air monitoring may be performed during initial exposure and excavation of subsurface soil).
- During non-intrusive work, VOCs will be monitored in the breathing zone of the work area prior to daily activities and once during work activities using a PID. VOC monitoring will be adjusted based on the readings obtained (i.e., hourly air monitoring may be performed if initial readings are above 25 ppm).
- If the total organic vapor level exceeds 25 ppm, engineering controls will be instituted. Readings will be taken continuously in the work zone during implementation of an engineering control if readings are consistently above 25 ppm to ensure that the TWA is not exceeded. If readings are below 25 ppm during implementation of an engineering control and no new soil is exposed, readings will be collected hourly in the breathing zone of the work area.
- Carbon monoxide (CO) will be monitored in the work zone, continuously during machinery operation using a CO meter. If CO concentration exceeds 35 ppm work activities will be halted and engineering controls will be instituted.
- PCE is non-combustible, however LEL will be monitored in the work zone along with CO, continuously during intrusive activity in the event that other compounds are present. If the LEL exceeds 10% then work activities will be halted and engineering controls will be instituted.

Following is a summary of action levels for work zone monitoring.

Table 13-1 Action Levels for Work Zone Monitoring

HAZARD	Monitoring Method	Action Level	Protective Measures
Explosion or Fire	CGI	<5% LEL	Continue operations
		5-10% LEL	Continue monitoring with caution as higher levels are encountered
		>10% LEL	Stop work
Volatiles (PCE)	PID (within the site work area)	>25 ppm <100 (OSHA TWA)	Initiate engineering controls, continue operations
		>100 ppm (PEL) <200 ppm	Stop Work, evacuate work area, and initiate integrated work zone and perimeter air sampling and engineering controls. Upgrade to Level C PPE if engineering controls do not reduce concentration to <100 ppm.
		>300 ppm 5 minutes (STEL)	Stop Work, evacuate work area, notify authorities and initiate integrated air sampling and engineering controls.

The HSO or alternate will be designated to perform air monitoring. All meters used for air monitoring will be checked against standard gas concentrations daily and calibrated, if necessary by the designated HSO. A calibration log will be kept with each instrument used for air monitoring.

Physical Condition Monitoring

Heat Stress

One of the most frequently encountered problems associated with operations conducted under PPE Safety Level C is heat stress. Heat stress manifests itself in two forms: heat stroke and heat exhaustion. Depending on ambient conditions, the worker and the work being performed, heat stress can adversely affect a worker in as little as 15 minutes. This is especially important as ambient temperatures exceed approximately 69^{o} F at high humidity.

Heat stroke is a much more dangerous form of heat stress. Symptoms of heat stroke include high body temperatures and red or flushed hot, dry skin. There may be dizziness, nausea, headache, rapid pulse, and unconsciousness. First-aid for all forms of heat stress includes cooling the body by removing PPE, moving to a safe area, and allowing the worker to rest in a cooler environment.

Frostbite

Frostbite may be categorized into three types:

1. Frostbite or incipient frostbite characterized by sudden blanching or whitening of the skin.
2. Superficial frostbite - skin has a waxy or white appearance, is firm to the touch but tissue beneath is resilient.
3. Deep frostbite - tissues are cold and hard indicating an extremely serious injury.

Sign and symptoms of frostbite include:

- The skin changes to white or grayish-yellow in appearance.
- Pain is sometimes felt early but subsides later (often there is no pain).
- Blisters may appear later.
- The affected part feels intensely cold and numb.
- The person frequently is not aware of frostbite until someone tells him or her that they observe the pale, glossy skin.

As time passes, the affected worker may become confused, stagger, experience eyesight impairment, become unconscious, and breathing may stop.

First-aid frostbite will include protecting the frozen area from further injury, bringing the victim indoors, warming the affected areas quickly with warm water, and maintaining respiration according to the first-aid procedures. Medical assistance should be obtained immediately.

Frostbite may be prevented by the use of insulated gloves, socks and other protective clothing capable of keeping moisture away from the skin. All protective clothing should be chosen so that it is compatible with any chemical-resistant clothing required for the site activities involved.

14.0 DECONTAMINATION PROCEDURES

14.1 General

An equipment and worker decontamination area will be set up adjacent to the work area. The equipment decontamination procedures described herein include in-the-field and post-field decontamination of sampling equipment. The non-disposable equipment will be cleaned after completing each sampling event. Rinse water from equipment that comes in contact with contaminated soil will be contained on site for later disposal.

14.2 Safety Procedures During Equipment Decontamination

1. Personnel will wear the following safety equipment when decontaminating smaller equipment (i.e., shovels):
    - Safety glasses, goggles, and/or a splash shield; and
    - Nitrile or PVC gloves.

2. Personnel will wear the following additional safety equipment when decontamination larger equipment with a high-pressure water/steam decontamination unit (i.e., drill rigs):
    - Tyvek (e.g., Saranex) disposable coveralls;
    - Safety glasses
    - Chemically resistant overboots.
    - Hard hat

14.3 Decontamination Procedures

Drilling Equipment - Drilling equipment that comes in direct contact with subsurface soil will be cleaned with potable water before leaving the site. All equipment that comes into direct contact with subsurface soil will be decontaminated with a power washer or brush depending on the size of the equipment.

1) Potable water scrub to remove excess soil;
2) Potable water rinse; and
3) Air dry

Excavation Equipment (shovels, etc.) - All excavation equipment that has had direct contact with contaminated soil will be decontaminated before leaving the site.

1) Potable water scrub to remove excess soil;
2) Potable water rinse; and
3) Air dry

Meters and Probes - All meters and probes that are used in the field (other than those used solely for air monitoring purposes, e.g., PID) will be decontaminated between use as follows:

1) Non-phosphate detergent and water scrub to remove visual contamination;
2) Potable water rinse; and
3) Air dry

Disposal Method

PPE solids (e.g., disposable gloves, disposable clothing, and other disposable equipment) will be decontaminated as necessary prior to disposal as normal solid waste. Rinse water generated during decontamination of equipment or PPE that comes in contact with contaminated soil or water will be contained in properly labeled drums, on site, for later disposal as necessary.

Decontamination Areas

The equipment decontamination areas will be located within the work area. A decontamination pad will be constructed of plastic sheeting, sloped toward to allow for contaminated rinse water to be collected for transfer to onsite storage containers for later disposal. Plastic sheeting will be placed on plywood to prevent tearing. Decontamination procedures will be conducted on equipment, instruments, etc. if such equipment, etc. comes in contact with contaminated soil during intrusive work within the exclusion zone. All equipment (i.e. drilling rods) that contacts soil will be considered contaminated and properly decontaminated before leaving the site. All

decontamination activities for contaminated equipment, etc. will be conducted within the designated decontamination area. All rinsate water will be pumped into and contained in 55-gal.drums or other suitable container and properly labeled. Sediments remaining in the contained area will also be drummed.

15.0 CONTINGENCY PLAN

15.1 Emergency Notification

If downwind readings of organic vapors exceed the action levels described in Table 13-1, and remedial measures fail to control their release, the local Police and Fire Departments, State and Federal authorities will be notified immediately at the following numbers:

Fire Department	911
8th Precinct Police Dept Local Police Department	911
Hospital & Medical Center	Westchester Medical Center 100 Woods Road Valhalla, NY 10595 (914) 493-7000
New York Poison Control	(800) 336-6997
Chemical Emergency Advice (CHEMTREC)	(800) 424-9300
New York State Department of Health	(518) 458-6305
Utility one call center	(800) 272-4480
Federal	
National Response Center	(800) 424-8802
National Poison Control	(800) 926-1253

15.2 On-Site Fire Prevention

To protect and prevent against accidental fire hazards, safe work practices will be followed and:

1. Fire extinguishers shall be available in each vehicle and system shed and should only be used in accordance with the manufacturer's specifications and guidelines.
2. The Health and Safety Officer shall notify the Fire department and Engineer in the event that a fire cannot be controlled by the available on-site equipment.
3. System electric shall satisfy all National Electric Code (NEC) criteria.

4. Smoking is prohibited in the exclusion and contamination reduction zone.

15.3 Evacuation Procedures

Local authorities and emergency agencies will be informed, if necessary, of the purpose, schedule and scope of the construction activities 5 days prior to the initiation of construction. The exclusion zone will be delineated and air monitoring activities started prior to invasive work. Results of air monitoring at the perimeter of the exclusion zone will be monitored by the Health and Safety Officer and recorded in the on-site project Logbook. All work activities shall be halted and the Engineer notified if any of the following levels of organic vapors are exceeded at the exclusion zone perimeter:

- Organic vapor levels greater than 100 ppm
- Explosive atmosphere 10% of the lower explosive limit

If any of the above conditions persists after cessation of work activities, and cannot be alleviated by the implementation of engineering controls, then the following contingency plan shall be placed into effect:

- The perimeter of the nearest downwind residence or commercial property shall be monitored. If organic vapor levels are >100 ppm measured hourly, the evacuation of the residence/commercial property is advisable;
- The Health and Safety Officer will contact the Engineer and appropriate local agencies, and request assistance in completing the evacuation; and
- Designate on-site personnel will assist the local authorities in the evacuation of the immediate off-site area without delay.

15.4 Medical Emergency

In the event of a medical emergency in which Hospital / Emergency care is necessary personnel will be a taken to the nearest Hospital. A hospital direction map is included as **Attachment 10**.

ATTACHMENTS

ATTACHMENT 1
AFFIDAVIT

Affidavit

I,_____(name), of_____
(company name) have read the Health and Safety Plan (HASP).

I agree to conduct all on-site work in accordance with the requirements set forth in this HASP and understand that failure to comply with this HASP could lead to my removal from this site.

Signed:

_____Date:_____

ATTACHMENT 2
TRAINING CERTIFICATES

Current OSHA 1910.120 Training Certificates for Site Personnel
(To be provided)

ATTACHMENT 3
AMENDMENT SHEET

Amendment Sheet

Site Name: _____

Site Location: _____

Project Manager: _____

HSO: _____

Description of changes of field activities and hazards.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Requested By:_____ **HSO Approval:**_____

Date: _____ **Date:**_____

EnviroTrac
Environmental Services

ATTACHMENT 4
SAFETY GUIDANCE

Safety Guidance

The primary safety emphasis is preventing personal contact with gasses, soils, sludge and water. Towards that end, the following guidance has been established:

Requirements

A. Eating on the site is PROHIBITED except in specifically designated areas.
B. All project personnel on the site must wear clean or new gloves daily.
C. If you get wet to the skin, you must wash the affected area with soap and water immediately. If cloths in touch with the skin are wet, these must be changed.
D. You must wash your hands and face before eating, drinking or smoking.

Recommendations

A. Do not smoke with dirty hands; better yet, do not smoke.
B. Check personal habit which could get soil or water into your body. Examples: food off your fingers, wiping your face or nose with a dirty hand or running a dirty hand through your hair.
C. Check that any regularly worn clothing is clean. Examples: dirty watchbands, neck chains and a dirty liner on your safety helmet. Safety practices with poisonous chemicals can be summed up with a few words.
    - Don’t breathe in chemical odors and don’t touch the water, soil, and sludge.
    - If you do get dirty or wet, clean up as soon as possible.

ATTACHMENT 5
SAFETY REMINDER

Safety Reminder - Working in Proximity of Toxic Chemicals

- Chemicals in gases, soil, sludge and water can't cause problems unless you breathe, eat or put them on your skin.
- Don't let chemicals enter your mouth, nose, or stay on your skin.
- Use common sense personal hygiene
    A. Don't eat or drink on the site.
    B. Don't smoke in the work area.
    C. Wear appropriate personal protective clothing.
    D. Keep your hands clean whenever practical. Wash before eating, drinking, or smoking.
    E. Don't carry chemicals home to your family. For example, on clothing, mud in the car, dirty hands.
    F. Follow all procedures in the HASP.

ATTACHMENT 6
MATERIAL SAFETY DATA SHEET

Material Safety Data Sheet

SECTION 1 CHEMICAL PRODUCT IDENTIFICATION

EMERGENCY CONTACT:
CHEMTREC 1-800-424-9300

SUBSTANCE: TETRACHLOROETHYLENE

TRADE NAMES/SYNONYMS:
MTG MSDS 238; PERCHLOROETHYLENE; 1,1,2,2-TETRACHLOROETHYLENE; ETHYLENE TETRACHLORIDE; PERC; TETRACHLORETHYLENE; PERCHLORETHYLENE; TETRACHLOROETHENE; PCE; RCRA U210; UN 1897; C2Cl4; MAT22900; RTECS KX3850000

CHEMICAL FAMILY: halogenated, aliphatic
CREATION DATE: Jan 24 1989
REVISION DATE: Mar 19 2003
CAS NUMBER: 127-18-4

SECTION 2 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0
EMERGENCY OVERVIEW:
COLOR: colorless
PHYSICAL FORM: volatile liquid
ODOR: faint odor, sweet odor
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression, cancer hazard (in humans)

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: irritation, nausea, vomiting, chest pain, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, mood swings, loss of coordination, blurred vision, lung congestion, kidney damage, liver damage

LONG TERM EXPOSURE: irritation, nausea, stomach pain, loss of appetite, headache, drowsiness, dizziness, disorientation, sleep disturbances, pain in extremities, loss of coordination, blurred vision, hormonal disorders, internal bleeding, heart damage, liver damage, birth defects, brain damage, tumors, cancer

SKIN CONTACT:
SHORT TERM EXPOSURE: irritation (possibly severe)
LONG TERM EXPOSURE: irritation
EYE CONTACT:
SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: irritation
INGESTION:
SHORT TERM EXPOSURE: same as effects reported in short term inhalation
LONG TERM EXPOSURE: same as effects reported in long term inhalation

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.
EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.
INGESTION: If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.
NOTE TO PHYSICIAN: For inhalation, consider oxygen. For ingestion, consider gastric lavage. Consider oxygen.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.
EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.
FIRE FIGHTING: Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile).
FLASH POINT: No data available.

SECTION 6 ACCIDENTAL RELEASE MEASURES

SOIL RELEASE:
Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material.
WATER RELEASE:
Absorb with activated carbon. Remove trapped material with suction hoses.
OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Small liquid spills: Absorb with sand or other non-combustible material. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

TETRACHLOROETHYLENE (PERCHLOROETHYLENE):
100 ppm OSHA TWA
200 ppm OSHA ceiling
300 ppm OSHA peak 5 minute(s)/3 hour(s)
25 ppm (170 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
25 ppm ACGIH TWA
100 ppm ACGIH STEL
VENTILATION: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.
EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
CLOTHING: Wear appropriate chemical resistant clothing.
GLOVES: Wear appropriate chemical resistant gloves.
RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
At any detectable concentration -
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Escape -
Any air-purifying respirator with a full facepiece and an organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.
For Unknown Concentrations or Immediately Dangerous to Life or Health -
Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid
APPEARANCE: clear
COLOR: colorless
PHYSICAL FORM: volatile liquid
ODOR: faint odor, sweet odor
MOLECULAR WEIGHT: 165.83
MOLECULAR FORMULA: Cl2-C-C-Cl2
BOILING POINT: 250 F (121 C)
FREEZING POINT: -2 F (-19 C)
VAPOR PRESSURE: 14 mmHg @ 20 C
VAPOR DENSITY (air=1): 5.83
SPECIFIC GRAVITY (water=1): 1.6227
WATER SOLUBILITY: 0.015%
PH: Not available
VOLATILITY: Not available
ODOR THRESHOLD: 50 ppm
EVAPORATION RATE: 2.8 (butyl acetate=1)
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: alcohol, ether, benzene, chloroform, oils

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.
CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.
INCOMPATIBILITIES: acids, metals, bases, oxidizing materials, combustible materials
HAZARDOUS DECOMPOSITION:
Thermal decomposition products: phosgene, halogenated compounds, oxides of carbon
POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

TETRACHLOROETHYLENE:
IRRITATION DATA:
810 mg/24 hour(s) skin-rabbit severe; 500 mg/24 hour(s) skin-rabbit mild; 162 mg eyes-rabbit mild; 500 mg/24 hour(s) eyes-rabbit mild
TOXICITY DATA:
34200 mg/m3/8 hour(s) inhalation-rat LC50; >10000 mg/kg skin-rabbit LD50 (Dow); 2629 mg/kg oral-rat LD50

CARCINOGEN STATUS: NTP: Anticipated Human Carcinogen; IARC: Human Limited Evidence, Animal Sufficient Evidence, Group 2A; ACGIH: A3 -Animal Carcinogen; EC: Category 2
LOCAL EFFECTS:
Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:
Moderately Toxic: ingestion
Slightly Toxic: inhalation

TARGET ORGANS: central nervous system

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: eye disorders, heart or cardiovascular disorders, kidney disorders, liver disorders, nervous system disorders, skin disorders and allergies

TUMORIGENIC DATA: Available.

MUTAGENIC DATA: Available.

REPRODUCTIVE EFFECTS DATA: Available.

ADDITIONAL DATA: May be excreted in breast milk. Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce ventricular fibrillation.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY DATA:
FISH TOXICITY: 8430 ug/L 96 hour(s) LC50 (Mortality) Flagfish (Jordanella floridae)
INVERTEBRATE TOXICITY: 7500 ug/L 48 hour(s) EC50 (Immobilization) Water flea (Daphnia magna)
ALGAL TOXICITY: 509000 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom (Skeletonema costatum)
FATE AND TRANSPORT:
BIOCONCENTRATION: 49 ug/L 1-21 hour(s) BCF (Residue) Bluegill (Lepomis macrochirus) 3.43 ug/L

SECTION 13 DISPOSAL CONSIDERATIONS

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U210. Hazardous Waste Number(s): D039. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or

above the Regulatory level. Regulatory level- 0.7 mg/L. Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Tetrachloroethylene
ID NUMBER: UN1897
HAZARD CLASS OR DIVISION: 6.1
PACKING GROUP: III
LABELING REQUIREMENTS: 6.1
MARINE POLLUTANT: TETRACHLOROETHYLENE
CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: TETRACHLOROETHYLENE
UN NUMBER: UN1897
CLASS: 6.1
PACKING GROUP/RISK GROUP: III

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
TETRACHLOROETHYLENE (PERCHLOROETHYLENE): 100 LBS RQ
SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30): Not regulated.
SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40): Not regulated.
SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: Yes
CHRONIC: Yes
FIRE: No
REACTIVE: No
SUDDEN RELEASE: No
SARA TITLE III SECTION 313 (40 CFR 372.65):
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)
OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.
NATIONAL INVENTORY STATUS:
U.S. INVENTORY (TSCA): Listed on inventory.
TSCA 12(b) EXPORT NOTIFICATION: Not listed.

ATTACHMENT 7
DAILY TAILGATE SAFETY MEETING LOG

EnviroTrac
Environmental Services

Daily Tailgate Safety Meeting Log
(to be completed on site)

Site Name _____
Location _____
Weather _____
Topics _____

_____

_____

_____

_____

_____

Employee Names:	Signatures

Signature of SS (or designee)

Date

EnviroTrac
Environmental Services

ATTACHMENT 8
FIRST-AID EQUIPMENT LIST

First-aid Equipment List

- First-Aid Handbook
- A Standard First-Aid Kit, containing:
- Compresses
- Gauze and gauze roller bandage
- Triangular bandages
- Eye dressing packet
- Ammonia inhalant
- Salt or other emetic
- Band aids
- Tape
- Scissors
- Tweezers
- First-aid cream
- Antiseptic wipes
- Instant cold packs
- Eye irrigation solution
- Burn cream
- Sterile gloves
- Rescue blanket
- Non-aspirin pain reliever

Safety Equipment List

- Electrolyte replacement drink, stored in a clean area and used to prevent heat stress
- Type ABC multipurpose fire extinguisher
- Portable emergency eyewash station

ATTACHMENT 9
ACCIDENT REPORT FORM

Accident Report Form

Name of Reporter: _____Date:_____

Name(s) of Victim(s): _____Date of Accident:_____

Witnesses: _____Time of Accident:_____

Location on Accident:_____

Description of Accident:_____

_____

_____

_____

_____

Cause of Accident:_____

_____

_____

_____

_____

Persons/Agencies Notified	Time	Time of Arrival (if Applicable)
_____	____	_____
_____	____	_____
_____	____	_____
_____	____	_____

Corrective Actions:_____

_____

_____

_____

Duration of Accident:_____

Comments:_____

_____

_____

EnviroTrac
Environmental Services

ATTACHMENT 10
HOSPITAL DIRECTIONS AND LOCATION MAP

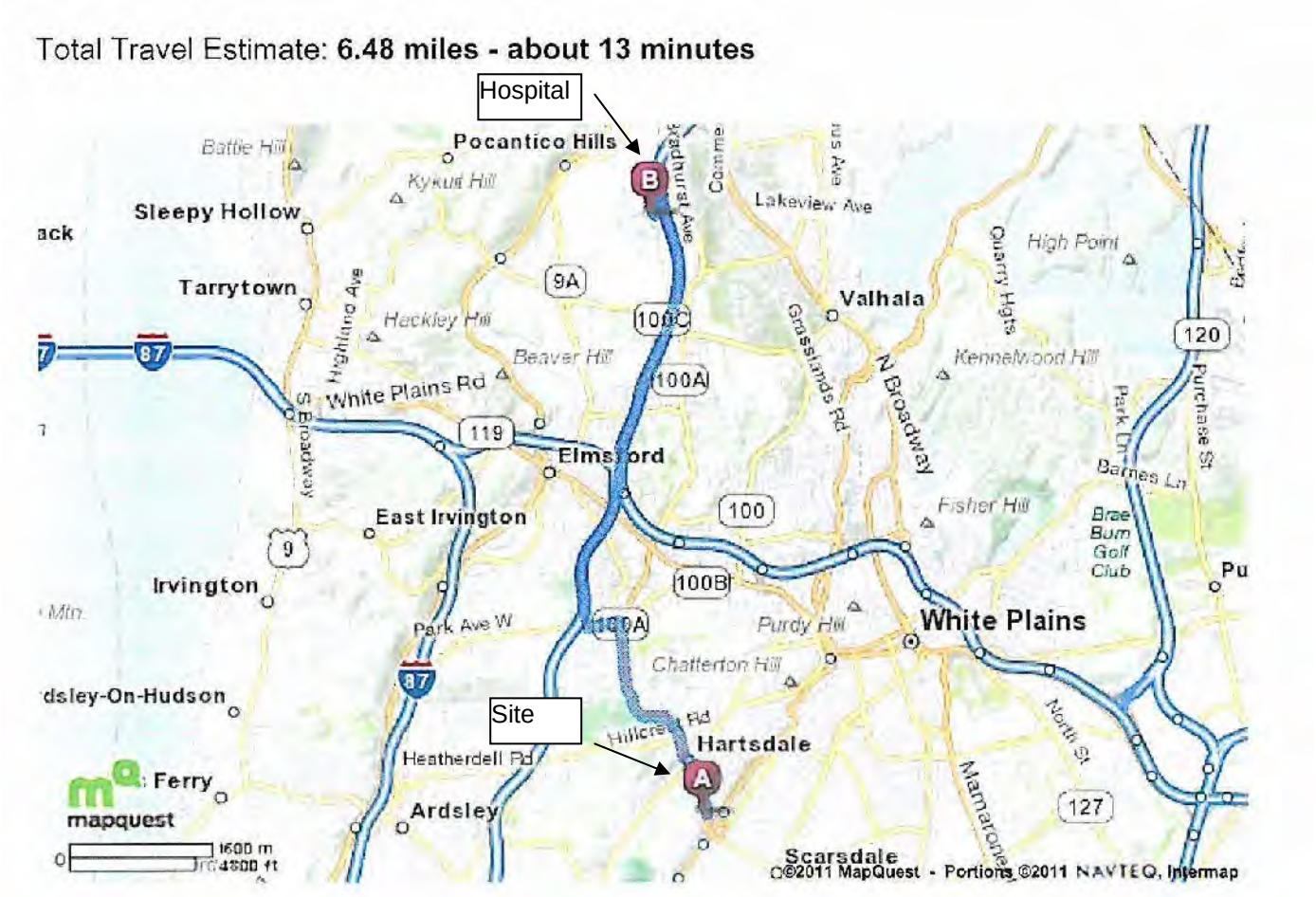
HOSPITAL DIRECTIONS AND LOCATION MAP

FROM: 212 E. Hartsdale Avenue, Hartsdale, NY

Hospital Address and Emergency Phone #'s
Westchester Medical Center
100 Woods Rd., Valhalla, NY 10595 (914) 7493-7000

Police - 911

Fire - 911



mapquest

Notes

Route from Aristocrat Dry Cleaners to Hospital

Trip to:
100 Woods Rd
Valhalla, NY 10595-1530
6.48 miles
13 minutes

		Miles Per Section	Miles Driven
A	**212 E Hartsdale Ave** Hartsdale, NY 10530-3505		
	1. Start out going NORTH on E HARTSDALE AVE toward ROCKLEDGE RD.	**Go 2.0 Mi**	2.0 mi
	2. Turn LEFT onto RT-100B / DOBBS FERRY RD. *RT-100B is 0.1 miles past W HARTSDALE RD*	**Go 0.3 Mi**	2.2 mi
	3. Merge onto SPRAIN BROOK PKWY N. *If you are on DOBBS FERRY RD and reach WESTCHESTER VIEW LN you've gone about 0.6 miles too far*	**Go 3.8 Mi**	6.0 mi
EXIT	4. Take the HOSPITAL RD exit toward RT-100 N / HAWTHORNE.	**Go 0.2 Mi**	6.2 mi
	5. Turn LEFT onto BRADHURST ENTRANCE NORTH RD / HOSPITAL RD / CR-301.	**Go 0.1 Mi**	6.3 mi
	6. Turn LEFT onto WOODS RD. *If you are on HOSPITAL RD and reach WESTVIEW DR you've gone about 0.2 miles too far*	**Go 0.2 Mi**	6.5 mi
	7. 100 WOODS RD is on the RIGHT. *If you reach EMERGENCY DR you've gone about 0.2 miles too far*		6.5 mi
B	**100 Woods Rd** Valhalla, NY 10595-1530	**6.5 mi**	**6.5 mi**

Appendix D

Monitoring Well Construction Logs

Geologic Log and Well Construction Details

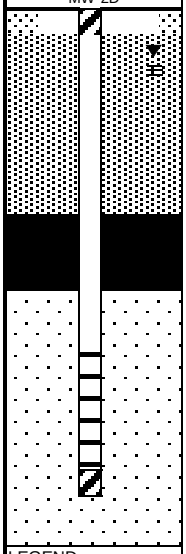
WELL ID: MW-2D

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, NY 11980

Client: Hartsdale Village Square, LLC.		Depth to Water (ft. from measuring pt.)		Site Elevation Datum
Site Name: Aristocrat Cleaners	Address: 212 East Hartsdale Avenue, Hartsdale NY	Date	DTW	
Drilling Company: ADT	Method: Geoprobe 422M			Measuring Point Elevation
Date Started: 01/29/2013	Date Completed: 01/30/2013			
Completion Depth: 19	*EnviroTrac* Geologist: Patrick Condon/Josh Levy			

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (in)	SAMPLES Blows per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
MW-2D	0	18	NA	NM	0-3 ft.
	1				**SAND**, Grey, Fine to Silt with gravel, well sorted and Moist. Organic layer at 2.2.5 fbg
	2				No apparent staining or odor.
	3	36	NA	NM	3-6 ft.
	4				**SAND**, light brown top foot, darker brown bottom 2 feet, Fine to Silt, and Saturated.
	5				No apparent staining or odor.
	6	36	NA	NM	6-9 ft.
	7				**SAND**, grey-brown top 2 feet, light brown bottom foot, Fine to Silt, and Saturated.
	8				No apparent staining or odor.
	9	36	NA	NM	9-12 ft.
	10				**SAND**, light grey top 2 feet, light brown bottom foot, Fine to Silt, and Saturated.
	11				No apparent staining or odor.
	12	24	NA	NM	12-15 ft.
	13				**SAND**, Grey-Brown, Fine to Silt, and Saturated. No apparent Staining or odor.
	14				**The core had a 3 foot recovery the top foot was heave and not logged.
	15	NR	NA	NM	15-18 ft.
	16				**No Recovery**
	17				
	18	36	NA	NM	18-21 ft.
	19				**SAND**, light brown top foot, grey-brown bottom 2 feet, Fine to Silt, and Saturated.
	20				No apparent staining or odor. Small rocks that appeared to be weathered bedrock at 21 fbg.
	21				



LEGEND:
- Cement
- Grout
- Bentonite Seal
- Sand Pack (morie #2)
- Screen
- End/Top Cap

Soil samples were collected from depths of 9-11 and 19-21 fbg for lab analysis.

Well Construction Details

Bottom of well (ft. bg):	19'
Screen Zone:	13'-18'
Screen Material:	#10 slot, 1.25" schedule 40 PVC
Casing Material:	1.25", schedule 40 PVC
Sand Pack (type):	Morie #1 Silica
Sand Pack (ft. b.g.)	11'-18'
Seal (type):	Bentonite
Seal (ft. b.g.):	9'-11'
Backfill Material:	Grout
Backfill Material (ft. b.g.):	0.5'-9'
Surface Seal (type):	Cement
Surface Seal (ft. b.g.):	0.5'

NM - Not Measured DTW - Depth to Water ND - Not Detected ft. bg - Feet below grade

NR - Not Recorded NA- Not Applicable

Geologic Log and Well Construction Details

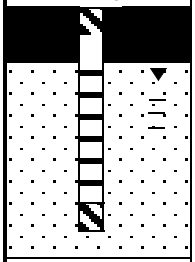
WELL ID: MW-8

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, NY 11980

Client:		Depth to Water (ft. from measuring pt.)		Site Elevation Datum
Hartsdale Village Square, LLC.				
Site Name:	Address:	Date	DTW	
Aristocrat Cleaners	212 East Hartsdale Avenue, Hartsdale NY			
Drilling Company:	Method:			Measuring Point Elevation
ADT	Geoprobe 422M			
Date Started:	Date Completed:			
01/29/2013	01/29/2013			
Completion Depth:	*EnviroTrac* Geologist:			
9	Patrick Condon/Josh Levy			

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (in)	SAMPLES Blows per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
MW-8	0	NM	NM	NM	Subsurface consists of silty fine sand. There was no apparent odor during borehole advancement and well installation activities and no soil samples were collected.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				



LEGEND:
- Cement
- Grout
- Bentonite Seal
- Sand Pack (morie #1)
- Screen
- End/Top Cap

Well Construction Details

Bottom of well (ft. bg):	8
Screen Zone:	3'-8'
Screen Material:	#10 slot, 2" schedule 40 PVC
Casing Material:	2", schedule 40 PVC
Sand Pack (type):	Morie #1 Silica
Sand Pack (ft. b.g.)	3'-9'
Seal (type):	Bentonite
Seal (ft. b.g.):	1'-3'
Backfill Material:	Bentonite
Backfill Material (ft. b.g.):	0.5'-0.75'
Surface Seal (type):	Cement
Surface Seal (ft. b.g.):	0.5'

NM - Not Measured DTW - Depth to Water ND - Not Detected ft. bg - Feet below grade

NR - Not Recorded

APPENDIX E

Groundwater Sampling Log

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:	
WELL NO:	SAMPLE ID:	DATE:

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES:

1. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation; optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

APPENDIX F

Groundwater Sampling Procedures

Appendix F Groundwater Sampling Procedures

Groundwater samples will be collected from installed monitoring wells to assess groundwater quality. These procedures will include measuring water levels, purging monitoring wells and recording field parameters and through the collection of samples for analysis in the laboratory.

Groundwater samples shall be collected using a low-flow purging and sampling protocol. Further detail can be found in the ASTM guidance document D6771-02, *Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Groundwater Quality Investigations.*

Groundwater Elevation Measurements

Groundwater elevation measurements are to be obtained using the following general procedures whenever depth to groundwater or groundwater elevation data is required. This may include activities such as soil borings, groundwater monitoring well installation/development, groundwater monitoring well sampling, and/or synoptic groundwater level measurements. The measurements will be collected concurrent with the groundwater sampling event and the water levels will be obtained prior to well evacuation and sample collection. The static water level will be measured to the nearest 0.01 foot.

1. Clean all water-level measuring equipment using appropriate decontamination procedures.
2. Remove locking well cap, note weather, time of day, and date, etc. in field notebook, or on an appropriate form.
3. Remove well casing cap.
4. Monitor headspace of well with a PID to determine presence of VOCs, and record in field notebook.
5. Lower water level measuring device into well until the water surface is encountered.
6. Measure distance from water surface to reference measuring point on well casing, and record in field notebook.

NOTE: if water level measurement is from either the top of protective steel casing, top of PVC riser pipe, from ground surface, or some other position on the wellhead.

7. Measure total depth of well and record in field notebook or on log form.

8. Remove all downhole equipment; replace well casing cap and locking steel caps.
9. Calculate elevation of water:

Egw = E – Dgw

Where:

Egw = Elevation of Groundwater;
E = Elevation at point of measurement; and
Dgw = Depth to Groundwater.

Field Measurement Procedures

The characterization of groundwater quality will include the measurement of indicator parameters in the field during groundwater sampling events using portable testing instruments. These parameters will include turbidity, specific conductance, pH, Eh, temperature and dissolved oxygen. It is anticipated that a flow-through cell equipped with probes and a meter for measuring these parameters will be used and the specific manufacturer's calibration and operation procedures should be followed.

Groundwater Sample Collection

The low-flow groundwater purging/sampling technique employs the use of a flow-through cell equipped with probes and a meter for measuring groundwater quality parameters such as pH, temperature, specific conductivity, and dissolved oxygen. One example of this equipment is the Horiba U-22 Flow-Through Cell and the specific manufacturer's calibration and operation instructions should be followed.

General Procedures

The following procedure will be used for all monitoring well groundwater sampling.

- Clean all water-level measuring equipment using appropriate decontamination procedures.
- Wear appropriate health and safety equipment as outlined in the HASP. In addition, samplers will don new sampling gloves at each individual well prior to sampling.
- Visually examine the exterior of the monitoring well for signs of damage or tampering and record in the field logbook.
- Unlock well cap.
- Take and record in field logbook PID readings.
- Measure the static water level in the well with a decontaminated steel tape or electronic water level indicator. The tape or water level indicator will be rinsed with deionized water in between individual wells to prevent cross-contamination. Synoptic round of water level measurements will all be completed on the same day.
- All wells will also be checked for the presence and thickness of Light or Dense Non Aqueous Phase Liquids (LNAPL/DNAPL).
- If LNAPL or DNAPL is not detected in the well, continue with the low-flow sampling procedures described below.

Low-Flow Sampling

The low-flow sampling procedure is intended to facilitate the collection of minimum-turbidity groundwater monitoring well samples.

Typical Sampling Equipment List

- Adjustable-rate, low flow pumping system (e.g., bladder pump, peristaltic pump). The selected pump must be specifically designed for low flow rates (i.e., use of a high volume pump that is adjusted down to a low flow setting is not permitted).
- Tubing: Tubing used in purging and sampling each well must be dedicated to that well. Once properly located, moving the pump in the well should be avoided. Consequently, the same tubing should be used for purging and sampling. Teflon® and Teflon®-lined polyethylene tubing must be used to collect samples for organic analysis. For samples collected for inorganic analysis, Teflon® or Teflon®-lined polyethylene, PVC, Tygon, or polyethylene or silicon tubing may be used.
- Electronic water level measuring device, 0.01-foot accuracy.

- Flow measurement supplies (e.g., graduated cylinder and stop watch).
- Interface probe.
- Power or air source (generator, compressed air tank, etc.).
- In-line purge criteria parameter monitoring instruments - pH, turbidity, specific conductance, temperature, and dissolved oxygen.
- Decontamination supplies.
- Field book.
- Sample bottles.
- Sample preservation supplies (as specified by the analytical methods).
- Sample tags or labels, chain of custody forms.
- Well construction data, location map, field data from last sampling event.

Sample Collection Procedure

1. Lower the pump and any associated equipment (e.g., safety cable, tubing, and e!ectric lines) very slowly into the well to a depth corresponding to the center of the saturated screen section of the well. If possible, the pump intake should be kept at least two feet above the bottom of the well to prevent mobilization of any sediment. Lowering the pump quickly, or even at a moderate rate, will result in disturbing sediment in the well. This is one of the most important steps in low flow sampling at the Site.

2. Measure the water level again with the pump in well before starting the pump. Start pumping the well at 100 to 500 milliliters per minute. Ideally, the pump rate should cause little or no water level drawdown in the well (less than 0.3 foot and the water level should stabilize).

    a. Measure and record the depth to water and pumping rate every 3 to 5 minutes (or as appropriate) during pumping. If purging continues for more than 30 minutes, readings will be recorded at approximately 10-minute intervals. However, once stabilization is indicated, a minimum of 3 consecutive readings at 3 to 5 minute intervals will be recorded prior to sample collection.
    b. Care should be taken not to cause pump suction to be broken or entrainment of air in the sample. Do not allow the groundwater IeveI to go below the pump intake.

c. Pumping rates should, if needed, be reduced to the minimum capabilities of the pump to minimize drawdown and/or to ensure stabilization of indicator parameters.

3. During purging, measure and record the field indicator parameters using the in-line meter (turbidity, temperature, specific conductance, pH and dissolved oxygen) every 3 to 5 minutes (or as appropriate). If purging continues for more than 30 minutes, readings will be recorded at approximately 10-minute intervals. However, once stabilization is indicated, a minimum of 3 consecutive readings at 3 to 5 minute intervals will be recorded prior to sample collection.

    a. The well is considered stabilized and ready for sample collection once all the field indicator parameter values remain within 10 percent for 3 consecutive readings.
    b. If drawdown in the well is measured at 1 foot or more, continue to low flow purge until a minimum of the equivalent volume of 1 well casing volume is removed. Using the flow equation to calculate the volume of purge water. Then collect the groundwater sample.

    Purge water generated during well sampling will be managed in accordance with procedures provided in Appendix A (QAPP) Section 3.0.

4. Before sampling, either disconnect the in-line cell or use a bypass assembly to collect groundwater samples before the in-line cell. All sample containers should be filled by allowing the pump discharge to flow gently down the inside of the container with minimal turbulence.
5. Samples requiring pH adjustments will have their pH checked to ensure that the proper pH has been obtained. For VOC samples, this will necessitate the collection of a test sample to determine the amount of preservative that needs to be added to the sample container prior to sampling.
6. Samples for analysis of inorganic constituents will be collected directly into the laboratory supplied containers, in some instances the remainder of samples required (e.g., VOCs, SVOCs) may be collected following removal of the pumping apparatus from the well using a dedicated or properly decontaminated bailer;

7. Label the samples using waterproof labels, or apply clear tape over the paper labels. Place all samples in a cooler as described in the QAPP with bagged ice or frozen cold packs and maintain at 4°C for delivery to the laboratory.
8. Do not use ice for packing material; melting will cause bottle contact and possible breakage.
9. Measure and record well depth. Take final water quality reading using low flow cell.
10. Secure the well.

APPENDIX G

Site Inspection Form

SITE-WIDE INSPECTION FORM

Hartsdale Village Square
Aristocrat Cleaners
Westchester County
212 East Hartsdale Avenue
Hartsdale, New York
BCA Site #: C360111

NAME OF INSPECTOR:

COMPANY OF INSPECTOR:

DATE OF INSPECTION:

CURRENT USE OF SITE:

HAS A CHANGE OF USE OCCURRED SINCE THE LAST CERTIFICATION?
_____ YES _____NO
IF YES, THEN EXPLAIN:_____

GENERAL DESCRIPTION OF COVER:

HAS THE COVER BEEN PENETRATED? YES NO
IF YES, THEN EXPLAIN:

HAVE ANY STRUCTURES BEEN CONSTRUCTED ON THE SITE SINCE THE LAST INSPECTION? _____ YES _____ NO
IF YES, THEN EXPLAIN: _____

HAVE COVER CONDITIONS CHANGED SINCE THE LAST INSPECTION?
YES NO

IF YES, THEN EXPLAIN:

IS ANY MAINTENANCE OF THE COVER REQUIRED?

_____YES NO

IF YES, THEN EXPLAIN:

_____

_____

ADDITIONAL OBSERVATIONS, CONCLUSIONS OR RECCOMMENDATIONS:

_____

_____

_____

_____

ANY CHANGES TO THE SITE OR REQUIRED MAINTENANCE SHOULD BE MARKED IN THE CORRESPONDING LOCATION ON THE ATTACHED MAP

APPENDIX H

Quality Assurance Project Plan

EnviroTrac
Environmental Services

TABLE OF CONTENTS

EnviroTrac
Environmental Services

TABLE OF CONTENTS (Continued)

TABLES

ATTACHMENTS

1.0 PURPOSE AND OBJECTIVES

1.1 Purpose

This Quality Assurance Project Plan (QAPP) has been prepared for site management plan (SMP) activities at the Aristocrat Cleaners Site located within a strip mall at 212-218 Hartsdale Avenue in Hartsdale, New York. The QAPP is intended to set Chemical Quality Assurance (CQA) guidelines of reliable data obtained by measurement activities, such that data generated are scientifically valid, defensible, comparable, and of known precision and accuracy.

This QAPP contains a detailed discussion of the chemical quality assurance protocols to be used by field and laboratory personnel, as well as project organization and responsibilities.

Analysis of media samples will be conducted by a laboratory certified in New York State to conduct work under the Environmental Laboratory Approval and Analytical Services Programs (ELAP/ASP) producing Category B deliverables.

This QAPP contains a detailed discussion of the quality assurance and quality control (QA/QC) protocols to be utilized by EnviroTrac and laboratory personnel.

1.2 Definitions

The parameters that will be used to specify data quality objectives, and to evaluate the analytical system performance for all analytical samples are precision, accuracy, representativeness, completeness, and comparability (PARCC). Definitions of these and other key terms used in this QAPP are provided below

- ***Accuracy*** - the degree of agreement of a measurement with an accepted reference value. Accuracy is generally reported as a percent recovery, and calculated as: Accuracy = Measured Value/Accepted Value x 100

- ***Analyte*** - the chemical or property for which a sample is analyzed.
- ***Comparability*** - the expression of information in units and terms consistent with reporting conventions; the collection of data by equivalent means; or the generation of data by the same analytical method. Aqueous samples will be reported as ug/l, solid samples will be reported in units of mg/kg, dry weight.
- ***Completeness*** - the percentage of valid data obtained relative to that which would be expected under normal conditions. Data are judged valid if they meet the stated precision and accuracy goals.
- ***Duplicate*** - two separate samples taken from the same source by the same person at essentially the same time and under the same conditions that are placed into separate containers for independent analysis. Duplicate samples are intended to assess the effectiveness of equipment decontamination, the precision of sampling efforts, the impacts of ambient environmental conditions on sensitive analyses (e.g., volatile organics analysis (VOA), and the potential for contaminants attributable to reagents or decontamination fluids. Identifying such potential sources of error is essential to the success of the sampling program and the validity of the environmental data. Each QC sample is described below. As a minimum, each set of ten or fewer field samples will include a trip blank, a duplicate, and one sample collected in a sufficient volume to allow the laboratory to perform a matrix spike.
- ***Field Blanks*** - field blanks (sometimes referred to as "equipment blanks" or "sampler blanks") are the final analyte-free water rinse from equipment decontamination in the field and are collected at least one during a sampling episode. If analytes pertinent to the project are found in the field blank, the results from the blanks will be used to qualify the levels of analytes in the samples. This qualification is made during data validation. The field blank is analyzed for the same analytes as the sample that has been collected with that equipment.
- ***Precision*** - a measure of the agreement among individual measurements of the sample property under prescribed similar conditions. Precision is generally reported as Relative Standard Deviation (RSD) or Relative Percent Difference (RPD).

Relative standard deviation is used when three or more measurements are available and is calculated as:

RSD = Standard Deviation/Arithmetic Mean x 100.

Relative percent difference is used for duplicate measurements, calculated as:

RPD = ((Value 1-Value 2)/Arithmetic Mean) x 100.

- ***Quality Assurance (QA)*** - all means taken in the field and inside the laboratory to make certain that all procedures and protocols use the same calibration and standardization procedures for reporting results; also, a program which integrates the quality planning, quality assessment, and quality improvements activities within an organization.
- ***Quality Control (QC)*** - all the means taken by an analyst to ensure that the total measurement system is calibrated correctly. It is achieved by using reference standards, duplicates, replicates, and sample spikes. In addition, the routine application of procedures designed to ensure that the data produced achieve known limits of precision and accuracy.
- ***Replicate*** - two aliquots taken from the same sample container and analyzed separately. Where replicates are impossible, as with volatile organics, duplicates must be taken.
- ***Representativeness*** - degree to which data represent a characteristic of a set of samples. The representativeness of the data is a function of the procedures and caution utilized in collecting and analyzing the samples. The representativeness can be documented by the relative percent difference between separately collected, but otherwise identical sample volumes.
- ***Trip Blanks*** - trip blanks are samples that originate from analyte-free water taken from the laboratory to the Site and returned to the laboratory with the volatile organic samples. One trip blank should accompany each cooler containing volatile organics; it will be stored at the laboratory with the samples, and analyzed with the sample set. Trip blanks are only analyzed for VOCs.

1.3 Data Quality Objectives

1.3.1 Overall Data Quality Objectives

Data Quality Objectives (DQO) are quantitative and qualitative statements specifying the quality of the environmental data necessary to support the decision-making process to guide the site characterization activities and any subsequent actions. DQO define the total uncertainty in the data that is acceptable for each specific activity conducted. This uncertainty includes both sampling error and analytical error. Ideally, the prospect of zero uncertainty is the objective; however, the very processes by which data are collected in the field and analyzed in the laboratory contribute to the uncertainty of the data. It is the overall objective to keep the total uncertainty to a minimal level such that it will not hinder the intended use of the data.

To achieve the project DQO, specific data quality parameters such as detection limits, criteria for accuracy and precision, sample representativeness, data comparability and data completeness must be specified. The overall objectives are established such that there is a high degree of confidence in the measurements.

The parameters that will be used to specify data quality objectives and to evaluate the analytical system performance for rinsate and soil samples are PARCC: precision, accuracy, representativeness, completeness, and comparability.

1.3.2 Field Investigation Data Quality Objectives

To permit calculation of precision and accuracy for the samples, blind field duplicate, field blanks, trip blanks, and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected, analyzed, and evaluated. Through the submission of field QC samples, the distinction can be made between laboratory problems, sampling technique

considerations, sample matrix effects, and laboratory artifacts. To assure sample representativeness, all sample collection will be performed in strict accordance with the procedures set forth in this QAPP.

Precision will be calculated as RPD if there are only two analytical points and percent relative standard deviation (% RSD) if there are more than two analytical points. Blind field duplicate and MS/MSD sample analyses will provide the means to assess precision. The submission of field and trip blanks will provide a check with respect to accuracy and will monitor chemicals that may be introduced during sampling, preservation, handling, shipping, and/or the analytical process. In the event that the blanks are contaminated and/or poor precision is obtained, the associated data will be appropriately qualified.

Representativeness will be assured through the implementation of the Site Management Plan of which this QAPP is a part. This plan has been designed so that the appropriate numbers of samples of each matrix and of each location of interest are obtained for analysis.

Ideally, 100% completeness is the goal. However, it must be recognized that unforeseen issues may result in the generation of some data that may not be acceptable for use. Therefore, a completeness target of 90%, as determined by the total number of usable data points versus the total number of data points measured, will be the realistic goal of this program.

Comparability is defined as the extent to which data from one data set can be compared to similar data sets. Comparability between data sets is often questionable due to issues such as different analytical methods used or inter-laboratory differences. In order that the data generated as part of this project remain comparable to any previously generated data or data to be generated in the future, currently published analytical methods have been identified for the analysis of the collected samples. These methods will be performed by an analytical laboratory with a demonstrated proficiency in the analysis of similar samples by the referenced methods. In addition, samples will be

collected using documented procedures to ensure consistency of effort and reproducibility if necessary.

1.3.3 Laboratory Data Quality Objectives

The analytical laboratory will demonstrate analytical precision and accuracy by the analysis of various QC samples (i.e., laboratory duplicates, spike samples, matrix spike duplicates and laboratory control samples). Relevant precision and accuracy criteria for the analytical parameters related to this Site Management Plan are provided in Attachment 1 -Laboratory Reporting Limits, and Attachment 2 -Standard QC Limits. Precision, as well as instrument stability, will also be demonstrated by comparison of calibration response factors from the initial calibration to that of the continuing calibrations. Laboratory accuracy will be evaluated by the addition of surrogate and matrix spike compounds, and will be presented as percent recovery (%R). Precision will be presented as RPD, % RSD, or percent difference (%D), whichever is appropriate for the number and type of QC samples analyzed. Lab blanks are also used to demonstrate accuracy of analyses and possible effects from laboratory artifact contamination.

2.0 QUALITY ASSURANCE/QUALITY CONTROL PROVISIONS

2.1 Equipment Decontamination

To minimize the possible occurrence of cross-contamination, dedicated disposable equipment will be used to collect samples at the Site whenever possible. All non-disposable sampling Equipment will be cleaned before each use by washing with solutions in the following order:

1. Phosphate-free detergent wash;
2. Tap water rinse;
3. Air dry; and
4. Wrap in aluminum foil until use.

The tap water may be obtained from any municipal supply system. Sampling equipment will be decontaminated in an area covered by plastic near the sampling location. All spent liquids developed during the decontamination process will be collected for proper disposal in accordance with procedures provided in Section 3.0.

2.2 Field Calibration and Maintenance of Equipment

A maintenance, calibration, and operation program will be implemented to ensure that routine calibration and maintenance is performed on all field instruments. Team members are familiar with the field calibration, operation, and maintenance of the equipment, and will perform the prescribed field operating procedures outlined in the Operation and Field Manuals accompanying the respective instruments. They will keep records of all field instrument calibrations and field checks in the field log books.

If on-site monitoring equipment should fail, the Project Manager will be contacted immediately. The Project Manager will either provide replacement equipment or have the malfunction repaired immediately.

Field equipment will be maintained through the use of a tracking system. Each piece of equipment will carry a tag which identifies the date of the most recent maintenance, and/or battery charge, and the condition. When equipment is damaged or in need of repair it will be immediately and appropriately flagged for the required maintenance to be performed. This process ensures that only operable and maintained equipment enters the field. Routine daily maintenance procedures conducted in the field will include:

- Removal of surface dirt and debris from exposed surfaces of the sampling equipment and measurement systems;
- Protection of equipment from adverse weather conditions;
- Daily inspections of sampling equipment and measurement systems for possible problems such as cracked or clogged lines or tubing or weak batteries;
- Daily checks of instrument calibration; and
- Charge battery packs for equipment that is not in use.

2.3 Sample Preparation, Transportation and Holding

Sample bottles will be labeled with the sample location, identification number, and date and time of sampling prior to being filled with sample. Once filled the sample containers will be immediately capped and placed into an iced cooler for transport to the laboratory.

Field Chain-of Custody records completed at the time of sample collection will accompany the samples inside the cooler for shipment to the laboratory. These record forms will be sealed in a ziplock plastic bag to protect them against moisture. Each cooler will contain sufficient ice packs to insure that a 4^0C temperature is maintained, and will be packed in a manner to prevent damage to sample containers. Temperature blanks will accompany the coolers from the laboratory to the site and back to the laboratory. Sample coolers will be sealed with nylon strapping tape and the Field Team Leader (FTL) will sign and date a custody seal and place it on the cooler in such a way that any tampering during shipment will be detected.

All coolers will either be driven to or shipped by an overnight courier according to current US DOT regulations. Upon receiving the samples, the Sample Custodian at the

laboratory will inspect the condition of the samples, compare the information on the sample labels against the field Chain-of-Custody record, assign a laboratory control number, and log the control number into the computer sample inventory system. The Sample Custodian will then store the sample in a secure sample storage cooler maintained at 4°C and maintain custody until the sample is assigned to an analyst for analysis. Custody will be maintained until disposal of the analyzed samples.

The Sample Custodian at the laboratory will note any damaged sample vials, void space within the vials, or discrepancies between the sample label and information on the field Chain-of-Custody record when logging the sample. This information will also be communicated to the FTL or field personnel so proper action can be taken. The Chain-of-Custody form will be signed by both the relinquishing and receiving parties and the reason for transfer indicated each time the sample changes hands.

An internal Chain-of-Custody form will be used by the laboratory to document sample possession from laboratory Sample Custodian to Analysts and final disposition. All Chain-of-Custody information will be supplied with the data packages for inclusion in the document control file.

2.4 Record Keeping

One or more bound books will be maintained for the site; each book will be consecutively numbered. All sample collection, handling and shipping information will be recorded in the field notebook. Accurate and detailed field notes will be maintained. Decontamination procedures will also be documented in the field notebook. The book(s) will remain with the site evidence file. Copies will be made for the Project Manager and for the person who made the entries if requested. All entries in the Logbook will be made in ink. Logbook entries will include but not be limited to the following:

First Page:

- Site Name and number;

- Date and time started; and
- Personnel on site.

Subsequent Pages:

- Detailed description of investigative activities including lithology, physical characteristics, sampling, on-site meetings and any problems encountered along with the duration of these activities;
- Documentation of all personnel monitoring results (e.g. PID readings);
- List of all samples obtained and sample appearance (referenced to field logs if necessary);
- List of personal protection used and documentation procedure; and
- All other pertinent daily activities.

Each New Day Will Contain:

- Date and time started;
- Weather;
- Personnel on-site;
- Activity information; and
- Initials of note keeper.

*Note: When a mistake is made in the log, it will be crossed out with a single ink line and will be initialed and dated.

Special care will be taken in the description and documentation of sampling procedures. Sampling information to be documented in the field notebook and/or associated forms are as follows:

- Sample #;
- Date and Time Sample collected;
- Source of Sample;
- Location of Sample - document with a site sketch and/or written description of the sampling location so that accurate re-sampling can be conducted if necessary;

- Sampling equipment;
- Analysis and QA/QC required;
- Field instrument calibration including date of calibration, standards used; and their source, results of calibration and any corrective actions taken;
- Field data;
- Field observations - all significant observations will be documented;
- Sample condition;
- Site conditions (stressed vegetation, exposure of buried wastes, erosion problems, etc.);
- Sample shipping procedure, date, time, destination and if legal seals were attached to transport container(s); and
- Comments - Any observation or event that occurred that would be relevant to the site; for example: weather changes and effect on sampling, conversations with the client, public official or private citizen; and instrument calibration, equipment problems, and field changes.

2.5 Analytical Procedures

2.5.1 Soil Vapor and Air Samples

Analysis of the soil vapor/air samples will be conducted by a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP) and certified by the New York State Department of Health. Soil vapor/air samples will be analyzed for the EPA Full Compendium TO-15 List. A tracer (helium) will be utilized when samples are collected from sub-slab locations.

2.5.2 Soil and Aqueous Samples

Analysis of the soil and groundwater samples will be conducted by a laboratory certified in New York State to conduct work under the Environmental Laboratory Approval and Analytical Services Programs (ELAP/ASP). Soil and groundwater samples will be analyzed for the full TCL/TAL list of constituents including TCL VOCs +10, TCL SVOCs

+20, PCBs, TCL Organochlorine Pesticides and TAL Metals

2.5.3 Laboratory Deliverables

Laboratory deliverables packages will follow the NYS ASP Category B format.

3.0 MANAGEMENT OF INVESTIGATION DERIVED WASTE

Investigation derived waste (IDW) generated during the implementation of the RI will include cuttings from soil sampling, soil boring and monitoring well installations, and purge water generated during well development and groundwater sampling activities.

The following procedures will be used to manage IDW.

3.1 Drill Cutting and Spoil Disposal From On-site Locations

Drill cuttings and other soil generated on-site will be presumed to be contaminated.

Such cuttings and spoil:

i. will be stored on protective sheeting and covered with protective sheeting if cuttings remain on ground at the end of the day;

ii. will be disposed at the site within the borehole that generated them to within 12 inches of the surface unless:
   (1) free product, NAPL or grossly contaminated soil, are present in the cuttings;
   (2) the borehole will be used for the installation of a monitoring well (cuttings may only be used to backfill boreholes installed for soil sampling);
   (3) the borehole has:
      (A) penetrated an aquitard, aquiclude or other confining layer; or
      (B) extended into bedrock;
   (4) backfilling the borehole with cuttings will create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability; and
   (5) the soil cannot fit into the borehole.

iii. cuttings meeting any of the conditions set forth in subparagraph i above, which cannot be disposed in the borehole will be containerized and handled as set forth in Section 3.3; and

iv. the borehole/ area will be restored, after backfill:

(1) in unpaved areas, by placing 12 inches of cohesive, compacted soil over the area of the borehole; or
(2) for paved areas, by placing clean cohesive, compacted soil in the borehole to sufficient depth to allow restoration of the paved surface; and

v. if the work is conducted in publicly accessible areas, the off-site provisions Section 3.2 will be applied to samples collected in those areas.

3.2 Drill Cutting and Spoil Disposal From Locations Not Known to be Contaminated

Cuttings and spoils generated from off-site locations during the investigation are to be managed as follows:

i. cuttings, may initially be placed on plastic as generated,, but will be containerized as drilling progresses. Overnight storage outside of a container will not be allowed. The cuttings may be transported from the point of generation to a temporary on-site storage area without a 6 NYCRR Part 364 permit;

ii. cuttings from off-site boring locations will be considered non contaminated until testing indicates otherwise, unless field screening results of the soil are positive for the presence of contamination; and

iii. the borehole will be filled with soil or a soil bentonite mixture and restored as set forth in Section 3.1, clauses .iv. (1) or (2).

3.3 Drill Cutting and Soil Disposal From Known Contaminated Locations.

Representative samples of drill cuttings will be characterized for disposal. Such samples

will be analyzed to ensure proper classification, treatment and disposal and where determined to be:

i. hazardous waste or a solid waste, will be properly managed and disposed at a properly permitted treatment, storage or disposal facility. Such waste will:
   (1) be transported by a hauler permitted in accordance with 6 NYCRR Part 364;
   (2) if such cuttings and soil are determined to be a hazardous waste, the waste shipment shall be accompanied by a manifest in accordance with 6 NYCRR Part 372; and
   (3) any IDW soil identified as either a solid or hazardous waste, may be stored on the site in a secure area awaiting disposal, in accordance with applicable DEC waste management regulations or other provisions approved by DER.

3.4 Investigation Generated Water/fluid Handling and Disposal.

All water/fluid resulting from well development and/or well purging before sampling will be collected, handled and discharged/disposed of pursuant to applicable guidance and regulations.

Water/fluid generated during the RI:

i. will be containerized upon production and will be subject to the following handling/disposal guidelines:
   (1) 6 NYCRR Part 364 will not apply to the transport of the containers from the point of generation to a temporary on-site storage area;
   (2) the containers will be securely staged, pending appropriate disposal as set forth in subparagraph ii below;
   (3) NAPL shall never be released to the ground;
   (4) where containers include water mixed with NAPL, the water can be decanted from the NAPL (or vice versa) as long as a measurable layer of water remains with the NAPL, and the decanted water is NAPL- and/or sheen-free;
   (5) groundwater from several monitoring wells may be combined; and
   (6) NAPL may be collected from several containers and combined;

ii. may be stored on-site in labeled containers in an area with secondary containment awaiting treatment and/or disposal, in accordance with applicable DEC waste management regulations (e.g., 6 NYCRR Parts 360, 364 and the 370 series) or other provisions approved by DER. The contents of the containers will be:

(1) properly treated or disposed of, when any of the following are observed:

(A) visual evidence of contamination, consisting of discoloration, sheens, free product or NAPL;

(B) olfactory evidence of contamination; or

(C) concentrations of contaminants above groundwater standards at levels of concern are known to be present in the monitoring wells, based on previous sampling of the groundwater; or

(2) if none of the conditions described in clause ii.(1) apply, the containerized water may be:

(A) recharged to unpaved ground into the same groundwater unit, within or directly adjacent to a source area in a manner which does not result in surface water runoff, with DER approval; and

(3) treatment of contaminated water/fluids will be at:

(A) a permitted off-site facility;

iii. sediment that settles out during monitoring well development or well purging, provided there is no NAPL or free product present, will be handled and disposed in accordance with paragraphs 1 to 3 above, as appropriate for the location of the well.

4.0 QA/QC REQUIREMENTS FOR FIELD SAMPLES

In accordance with sampling and analysis requirements provided in DER-10, Chapter 2 Sampling, Analysis and Quality Assurance, testing for laboratory characterization of site media will include provisions to serve as a check on the accuracy and integrity of results. This will entail the collection and analysis of various blanks, duplicates and spiked samples as described below.

Trip Blanks

The trip blank will be used to determine if any cross-contamination occurs between aqueous samples during shipment. The analytical laboratory will supply trip blanks as aliquots of distilled, deionized water that will be sealed in a sample bottle prior to initiation of each day of fieldwork. Glass vials (40 ml) with Teflon lined lids will be used for trip blanks. The sealed trip blank bottles will be placed in a cooler with the empty sample bottles and will be shipped to the Site by the laboratory personnel. If multiple coolers are necessary to store and transport aqueous VOC samples, then each cooler must contain an individual trip blank. Trip blanks are analyzed for VOCs only.

Field Blanks

Field blanks will be collected to evaluate the cleanliness of soil and aqueous sampling equipment, sample bottles and the potential for cross-contamination of samples due to handling of equipment, sample bottles and contaminants present in the air. Field blanks will collected at a frequency of one per decontamination event for each type of sampling equipment, and each media being sampled (e.g., a groundwater bailer for groundwater, and a hand auger for soil sampling), at a minimum of one per equipment type and/ or media per day.

Field blanks will be collected prior to the occurrence of any analytical field-sampling event by pouring deionized or potable water over a particular piece of sampling equipment and into a sample container. The analytical laboratory will provide field blank water and sample jars with preservatives for the collection of all field blanks. Glass jars will be used for organic blanks. The field blanks as well as the trip blanks will accompany field personnel to the sampling location. The field blanks will be analyzed for the same analytes as the environmental samples being collected that day and will be shipped with the samples taken.

Field blanks will be taken in accordance with the procedure described below:

- Decontaminate sampler using the procedures specified in the QAPP;
- Pour distilled/deionized water over the sampling equipment and collect the rinsate water in the appropriate sample bottles;
- The sample will be immediately placed in a sample cooler and maintained at a temperature of 4°C until receipt by the laboratory; and
- Fill out sample log, labels, and COC forms, and record in field notebook.

Temperature Blanks

The temperature blank will be used to determine the temperature of the samples within the cooler upon arrival at the analytical laboratory. A laboratory-supplied temperature blank will be an aliquot of distilled, deionized water that will be sealed in a sample bottle. The sealed temperature blank bottles will be placed in a cooler with the empty sample bottles and will be shipped to the Site by the laboratory personnel. If multiple coolers are necessary to store and transport samples, then each cooler must contain an individual temperature blank.

Blind Field Duplicate Samples

Blind field duplicate samples will be collected and analyzed to check laboratory reproducibility of analytical data. Blind field duplicate samples will be collected at a frequency of at least 5% (one out of every 20 samples) of the total number of samples collected to evaluate the precision and reproducibility of the analytical methods. All blind field duplicate samples will be submitted to the analytical laboratory as a normal sample, however will have a fictitious sample identification and fictitious time of sample collection. Each blind field duplicate will be cross-referenced to document which actual sample it is a blind field duplicate of in the field notes and on the master sample log.

Split Samples

Split samples are not anticipated for work conducted at the Site; however, if split samples are required, then the following procedures will be conducted:

One of the aspects for generating sound quality analytical data is to collect quality assurance (QA) split samples that will be submitted to a third party analytical laboratory selected by the NYSDEC for analysis. The results from the QA split samples will then be compared to the analytical results from the primary analytical laboratory.

Matrix Spike/Matrix Spike Duplicate

Additional environmental sample volume will be collected for use as MS/MSD samples at a frequency of at least 5% (one out of every 20 samples) of the total number of samples collected per matrix to evaluate the precision and reproducibility of the analytical methods.

The field sampling quality assurance-sampling program are summarized in Table 4-1 and 4-2.

5.0 DATA MANAGEMENT AND REPORTING PLAN

5.1 Data Use and Management Objectives

Data Use Objectives

The typical data use objectives for this project are:

- Ascertaining if there is a threat to public health or the environment;
- Locating and identifying potential sources of impacts to soil or groundwater;
- Delineation of horizontal and vertical constituent concentrations, identifying clean areas, estimating the extent and/or volume of impacted soil and groundwater;
- Determining treatment and disposal options;
- Characterizing soil for on-site or off-site treatment; and
- Formulating remediation strategies, and estimating remediation costs.

Data Management Objectives

The primary objective of proper data management is to ensure and document that all necessary work is conducted in accordance with the project goals and QAPP in an efficient and high quality manner thereby maximizing the confidence in the data in terms of precision, accuracy, representativeness, completeness, and comparability (PARCC). Data management procedures not only include field and laboratory documentation, but also include how the information is handled after the conclusion of field investigation and laboratory analyses area completed. - Data handling procedures include project file management, reporting, usability analysis and use of consistent formats for the presentation of the data.

Project File Specifications

The EnviroTrac Project Manager in EnviroTrac's Yaphank, New York office location will keep all project information in a central Project File maintained. The Project File will be

assigned a unique project number that will be clearly displayed on all project file folders (including electronic files). Electronic files will be maintained in a similarly organized Project File located on the EnviroTrac central network system that is backed regularly to both on-site and off-site locations. Both hard copy and electronic Project Files will contain, at a minimum copies or originals of the following key project information:

- All correspondence including letters, transmittals, telephone logs, memoranda, and emails;
- Meeting notes;
- Technical information such as analytical data; field survey results, field notes, field logbooks and field management forms;
- Project calculations;
- Subcontractor agreements/contracts, and insurance certificates;
- Project-specific health and safety information/records;
- Access agreements;
- Project document output review/approval documentation; and
- Reports: Monthly Progress, Interim Technical, and Draft/Final Technical.

5.2 Reporting

Field Data

Field data will be recorded and reported by field personnel using appropriate field data documentation materials such as the field logbook, field management forms, and COC forms.

Good field management procedures include following proper chain of custody procedures to track a sample from collection through analysis, noting when and how samples are split (if necessary), making regular and complete entries in the field logbook, and the consistent use and completion of field management forms. Proper completion of these forms and the field logbook are necessary to support the consequent actions that may result from the sample analysis. This documentation will

support that the samples were collected and handled properly making the resultant data complete, comparable, and defensible.

5.2.1 Data Validation

Field data generated in accordance with the project-specific scope of work will primarily consist of data associated with soil boring/soil vapor probe advancement and screening, soil classification information and groundwater sampling field parameters. This data will be assessed by review of the project documentation to check that the scope of work specified in the Work Plan and this QAPP have been correctly implemented and that documentation exists for the specified field instrument calibrations. This documentation will be considered sufficient to provide that proper procedures have been followed during the field investigation.

DUSRs will be prepared to provide a thorough evaluation of analytical data with the primary objective to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use. These reports will be prepared by a qualified party independent of the laboratory performing the analysis and independent from any direct involvement with the project for all samples when Category B data deliverables are provided. All of the laboratory testing that will be conducted during the implementation of the proposed Amended RIWP will include Category B deliverables.

5.2.2 Electronic Deliverables

In accordance with DER-10 Section 1.15 electronic deliverables will be utilized to the greatest degree appropriate. The NYSDEC has implemented an Environmental Information Management System (EIMS). The EIMS uses the database software application EQuIS from EarthSoft® Inc. to manage environmental data. Pursuant to 6 NYCRR 375-1.11(a) all data submitted to the DER will be in the DEC-approved Electronic Data Deliverable (EDD) and new data will be submitted on a continuous basis immediately after data validation occurs but not to exceed 90 days after the data has been obtained.

5.3 Data Presentation Formats

Project data will be presented in consistent formats for all letters, Progress Reports, Interim Technical Reports, and Draft/Final Technical Reports. Specific formats will be tailored to best fit the needs of the data being presented but general specifications are described below.

Data Records

The data record will generally include one or more of the following:

- Unique sample or field measurement code;
- Sampling or field measurement location and sample or measurement type;
- Sampling or field measurement raw data;
- Laboratory analysis ID number;
- Property or component measured; and
- Result of analysis (e.g., concentration).

Tabular Displays

The following data will generally be presented in tabular displays:

- Unsorted (raw) data;
- Results for each medium or for each constituent monitored;
- Data reduction for statistical analysis;
- Sorting of data by potential stratification factors (e.g., location, soil Layer/depth, topography, etc.); and
- Summary data.

Graphical Displays

The following data will be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- Sample locations and sampling grid;
- Boundaries of sampling area;
- Areas where additional data are necessary;
- Constituent concentrations at each sample location;
- Geographical extent of impacts;
- Constituent concentration levels, averages, minima and maxima;
- Changes in concentration in relation to distance from the source, time,
- depth or other parameters;
- Features affecting intramedia transport; and
- Potential receptors.

6.0 PERFORMANCE AUDITS

6.1 Field Audits

During field activities, the EnviroTrac QAO or designee may accompany sampling personnel into the field to verify that the sampling program is being properly implemented and to detect and define problems so that corrective action can be taken. All findings will be documented and provided to the EnviroTrac Project Manager and Field Task Manager.

6.2 Laboratory Audits

The NYSDOH ELAP CLP certified laboratories that have satisfactorily completed performance audits and performance evaluation samples will be used for all sample analysis. The results of the most recent performance audits and performance evaluations will be made available upon request. EnviroTrac may perform a laboratory audit if warranted.

7.0 CORRECTIVE ACTIONS

The laboratory utilized for this project will meet the specifications for corrective action protocols typical for performing contract laboratory services. Laboratory corrective action may include instrumentation maintenance, methods modification, cross contamination/carry over issues, sample tracking practices, laboratory information management (LIMs), etc.

Prior to mobilization for the field investigation, a meeting may be scheduled among representatives of EnviroTrac and the laboratory to discuss general corrective action approach and establish procedures to ensure good and timely communications among all parties during the investigation. New procedures will be put into effect as appropriate.

TABLES

Table 4-1
Analytical Methods/Quality Assurance Summary Table
Aristocrat Dry Cleaners - Hartsdale, New York

		Soil					Air
Analytical Parameter		TCL VOA +10	TCL SemiVOC +20	PCBs	TCL Organochlorine Pesticides	TAL Metals	VOA
Number of Samples		TBD	TBD	TBD	TBD	TBD	TBD
Number of Duplicate Samples (1)		TBD	TBD	TBD	TBD	TBD	TBD
Number of Field Blanks (2)		TBD	TBD	TBD	TBD	TBD	TBD
Number of Trip Blanks (3)		TBD	TBD	TBD	TBD	TBD	TBD
Number of MS/MSD Pairs (4)		TBD	TBD	TBD	TBD	TBD	TBD
Analytical Method	(5)	SW-846 8260B	SW-846 8270C	SW-846 8082	SW-846 8081A	SW-846 6010B/7471	Modified TO-15 Hi/Lo
Sample Container		4 oz. amber jar w/ septum top	8 oz. amber jar w/Teflon lined cap	8 oz. amber jar w/Teflon lined cap	8 oz. amber jar w/Teflon lined cap	8 oz. amber jar w/Teflon lined cap	6 L Summa Canister - collected via flow controller for 8 hours
Sample Preservation		Cool, 4°C	Cool, 4°C	Cool, 4°C	Cool, 4°C	Cool, 4°C	NA
Sample Holding Time		14 days	14 days to extraction/40 days to analysis	14 days to extraction/40 days to analysis	14 days to extraction/40 days to analysis	Hg 28 days, all others180 days	30 days

		Aqueous				
Analytical Parameter		TCL VOA +10	TCL SemiVOC +20	PCBs	TCL Organochlorine Pesticides	TAL Metals
Number of Samples		TBD	TBD	TBD	TBD	TBD
Number of Duplicate Samples (1)		TBD	TBD	TBD	TBD	TBD
Number of Field Blanks (2)		TBD	TBD	TBD	TBD	TBD
Number of Trip Blanks (3)		TBD	TBD	TBD	TBD	TBD
Number of MS/MSD Pairs (4)		TBD	TBD	TBD	TBD	TBD
Analytical Method		SW-846 8260B	SW-846 8270C	SW-846 8082	SW-846 8081A	SW-846 6010B/7470
Sample Container		40 ml septum top amber	2-one liter amber	2-one liter amber	2-one liter amber	500 ml plastic
Sample Preservation		Cool, 4°C, HCl to pH<2	Cool, 4°C	Cool, 4°C	Cool, 4°C	Cool, 4°C, HNO3 to pH<2
Sample Holding Time		14 days	7 days to extraction/40 days to analysis	7 days to extraction/40 days to analysis	7 days to extraction/40 days to analysis	Hg 28 days, all others180 days

Notes:
NA - Not Applicable.
MS/MSD - Matrix Spike, Matrix Spike Duplicate.
(1) Duplicates will be collected at a frequency of five percent (1 per 20 field samples).
(2) Field Blanks will be collected at a frequency of one per day, where applicable.
(3) Trip Blanks will be collected at the rate of one per aqueous sample shipment when VOCs are collected.
(4) MS/MSD pairs will be collected at a frequency of five percent (1 per 20 field samples), where applicable.

Table 4-2: IRM Performance Monitoring Analytical Methods and Sample Management Summary

Aristocrat Cleaners - IRM Performance Monitoring
212 E. Hartsdale Ave., Hartsdale, NY
BCA Site #C360111

	Analytical Parameter										
	Alkalinity	**BOD**	**Chloride**	**COD**	**Dissolved Gases**	**DOC**	**Hardness**	**4 Metals (1)**	**Nitrate Nitrogen**	**Sulfate**	**TOC**
Number of Samples	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Sample Duplicate (2)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Method	SM2320B	SM5210B	300.0, SM4500Cl-E	SM5220D	RSKSOP-175	SM5310C	200.7, SM2340B	6010C, 6020A	$SM4500NO_3$ -F	$SM4500SO_4$ -E, 300	SM5310C
Container	Plastic, no headspace	Plastic	Plastic	Plastic	Amber Glass, Teflon Lined	Amber Glass	Plastic	Plastic	Plastic	Plastic	Amber Glass
Quantity	250 ml	500 ml	250 ml	250 ml	(2) 20 ml VOA Vials	(2) 40 ml VOA Vials	500 ml	500 ml	250 ml	250 ml	(2) 40 ml VOA Vials
Preservation	4° C	4° C	4° C	H_2SO_4, pH<2, 4° C	HCL, pH<2, 4° C. If CO_2, 4° C.	H_2SO_4, pH<2, 4° C	HNO_3, pH<2, 4° C	HNO_3, pH<2, 4° C	4° C	4° C	H_2SO_4, pH<2, 4° C
Holding Time	14 Days	48 Hours	28 Days	28 Days	14 Days preserved; 7 Days Unpreserved	28 Days	180 Days	180 Days	48 Hours	28 Days	28 Days

Notes:
BOD - biological oxygen demand.
COD - chemical oxygen demand.
DOC - dissolved organic carbon.
TOC - total organic carbon.
(1) Total Metals - calcium, iron, magnesium, manganese.
(2) Duplicates will be collected at a frequency of five percent (1 per 20 field samples).

ATTACHMENT 1

Laboratory Reporting Limits

EnviroTrac
Environmental Services

Laboratory Reporting Limits for Air Samples
Aristocrat Dry Cleaners - Hartsdale, New York

VOCs by TO-15	CAS#	(ug/m^3)	(ppbv)
Trichloroethene	79-01-6	0.11	0.02
Freon 12	75-71-8	0.5	0.1
Freon 114	76-14-2	0.71	0.1
Chloromethane	74-87-3	0.21	0.1
Vinyl Chloride	75-01-4	0.26	0.1
1,3-Butadiene	106-99-0	0.22	0.1
Bromomethane	74-83-9	0.39	0.1
Chloroethane	75-00-3	0.27	0.1
Freon 11	75-69-4	0.57	0.1
Ethanol	64-17-5	0.96	0.5
Freon 113	76-13-1	0.78	0.1
1,1-Dichloroethene	75-35-4	0.4	0.1
Acetone	67-64-1	1.2	0.5
2-Propanol	67-63-0	1.2	0.5
Carbon Disulfide	75-15-0	1.6	0.5
Methylene Chloride	75-09-2	0.71	0.2
Methyl tert-butyl ether	1634-04-4	0.37	0.1
trans-1,2-Dichloroethene	156-60-5	0.4	0.1
Hexane	110-54-3	0.36	0.1
1,1-Dichloroethane	75-34-3	0.41	0.1
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.3	0.1
cis-1,2-Dichloroethene	156-59-2	0.4	0.1
Tetrahydrofuran	109-99-9	1.5	0.5
Chloroform	67-66-3	0.5	0.1
1,1,1-Trichloroethane	71-55-6	0.55	0.1
Cyclohexane	110-82-7	0.35	0.1
Carbon Tetrachloride	56-23-5	0.64	0.1
Benzene	71-43-2	0.32	0.1
1,2-Dichloroethane	107-06-2	0.41	0.1
Heptane	142-82-5	0.42	0.1
1,2-Dichloropropane	78-87-5	0.47	0.1
1,4-Dioxane	123-91-1	0.37	0.1
Bromodichloromethane	75-27-4	0.68	0.1
cis-1,3-Dichloropropene	10061-01-5	0.46	0.1
4-Methyl-2-pentanone	108-10-1	0.42	0.1
Toluene	108-88-3	0.38	0.1
trans-1,3-Dichloropropene	10061-02-6	0.46	0.1
1,1,2-Trichloroethane	79-00-5	0.55	0.1

Laboratory Reporting Limits for Air Samples
Aristocrat Dry Cleaners - Hartsdale, New York

VOCs by TO-15 (continued)	CAS#	(ug/m^3)	(ppbv)
Tetrachloroethene	127-18-4	0.69	0.1
2-Hexanone	591-78-6	2.1	0.5
Dibromochloromethane	124-48-1	0.86	0.1
1,2-Dibromoethane (EDB)	106-93-4	0.78	0.1
Chlorobenzene	108-90-7	0.47	0.1
Ethyl Benzene	100-41-4	0.44	0.1
m,p-Xylene	106-42-3/108-38-3	0.44	0.1
o-Xylene	95-47-6	0.44	0.1
Styrene	100-42-5	0.43	0.1
Bromoform	75-25-2	1	0.1
Cumene	98-82-8	0.5	0.1
1,1,2,2-Tetrachloroethane	79-34-5	0.7	0.1
Propylbenzene	103-65-1	0.5	0.1
4-Ethyltoluene	622-96-8	0.5	0.1
1,3,5-Trimethylbenzene	108-67-8	0.5	0.1
1,2,4-Trimethylbenzene	95-63-6	0.5	0.1
1,3-Dichlorobenzene	541-73-1	0.61	0.1
1,4-Dichlorobenzene	106-46-7	0.61	0.1
alpha-Chlorotoluene	100-44-7	0.53	0.1
1,2-Dichlorobenzene	95-50-1	0.61	0.1
1,2,4-Trichlorobenzene	120-82-1	3.8	0.5
Hexachlorobutadiene	87-68-3	5.4	0.5

	CAS#	Reporting Limit (%)
Helium	7440-59-7	0.050

Notes:
As specified by Air Toxics LTD.

Laboratory Reporting Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

VOCs by GC/MS	CAS#	Reporting Limit (mg/kg)
Methylene chloride	75-09-2	0.034
1,1-Dichloroethane	75-34-3	0.0052
Chloroform	67-66-3	0.0052
Carbon tetrachloride	56-23-5	0.0034
1,2-Dichloropropane	78-87-5	0.012
Dibromochloromethane	124-48-1	0.0034
1,1,2-Trichloroethane	79-00-5	0.0052
Tetrachloroethene	127-18-4	0.0034
Chlorobenzene	108-90-7	0.0034
Trichlorofluoromethane	75-69-4	0.018
1,2-Dichloroethane	107-06-2	0.0034
1,1,1-Trichloroethane	71-55-6	0.0034
Bromodichloromethane	75-27-4	0.0034
trans-1,3-Dichloropropene	10061-02-6	0.0034
cis-1,3-Dichloropropene	10061-01-5	0.0034
1,1-Dichloropropene	563-58-6	0.018
Bromoform	75-25-2	0.014
1,1,2,2-Tetrachloroethane	79-34-5	0.0034
Benzene	71-43-2	0.0034
Toluene	108-88-3	0.0052
Ethylbenzene	100-41-4	0.0034
Chloromethane	74-87-3	0.018
Bromomethane	74-83-9	0.0069
Vinyl chloride	75-01-4	0.0069
Chloroethane	75-00-3	0.0069
1,1-Dichloroethene	75-35-4	0.0034
trans-1,2-Dichloroethene	156-60-5	0.0052
Trichloroethene	79-01-6	0.0034
1,2-Dichlorobenzene	95-50-1	0.018
1,3-Dichlorobenzene	541-73-1	0.018
1,4-Dichlorobenzene	106-46-7	0.018
Methyl tert butyl ether	1634-04-4	0.0069
p/m-Xylene	106-42-3/108-38-3	0.0069
o-Xylene	95-47-6	0.0069
cis-1,2-Dichloroethene	156-59-2	0.0034
Dibromomethane	74-95-3	0.034
Styrene	100-42-5	0.0069
Dichlorodifluoromethane	75-71-8	0.034

Laboratory Reporting Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

VOCs by GC/MS (continued)	CAS#	Reporting Limit (mg/kg)
Acetone	67-64-1	0.212
Carbon disulfide	75-15-0	0.034
2-Butanone	78-93-3	0.046
Vinyl acetate	108-05-4	0.034
4-Methyl-2-pentanone	108-10-1	0.034
1,2,3-Trichloropropane	96-18-4	0.034
2-Hexanone	591-78-6	0.034
Bromochloromethane	74-97-5	0.018
2,2-Dichloropropane	594-20-7	0.018
1,2-Dibromoethane	106-93-4	0.014
1,3-Dichloropropane	142-28-9	0.018
1,1,1,2-Tetrachloroethane	630-20-6	0.0034
Bromobenzene	108-86-1	0.018
n-Butylbenzene	104-51-8	0.0034
sec-Butylbenzene	135-98-8	0.0034
tert-Butylbenzene	98-06-6	0.018
o-Chlorotoluene	95-49-8	0.018
p-Chlorotoluene	106-43-4	0.018
1,2-Dibromo-3-chloropropane	96-12-8	0.018
Hexachlorobutadiene	87-68-3	0.018
Isopropylbenzene	98-82-8	0.0034
p-Isopropyltoluene	99-87-6	0.0034
Naphthalene	91-20-3	0.018
Acrylonitrile	107-13-1	0.034
n-Propylbenzene	103-65-1	0.0034
1,2,3-Trichlorobenzene	87-61-6	0.018
1,2,4-Trichlorobenzene	120-82-1	0.018
1,3,5-Trimethylbenzene	108-67-8	0.018
1,2,4-Trimethylbenzene	95-63-6	0.018
1,4-Diethylbenzene	105-05-5	0.014
4-Ethyltoluene	622-96-8	0.014
1,2,4,5-Tetramethylbenzene	95-93-2	0.014
Ethyl ether	60-29-7	0.018
trans-1,4-Dichloro-2-butene	110-57-6	0.018

Laboratory Reporting Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

Organochlorine pesticides by GC	CAS#	Reporting Limit (mg/kg)
Delta-BHC	319-86-8	0.0131
Lindane	58-89-9	0.00434
Alpha-BHC	319-84-6	0.00434
Beta-BHC	319-85-7	0.0131
Heptachlor	76-44-8	0.00521
Aldrin	309-00-2	0.0131
Heptachlor epoxide	1024-57-3	0.0195
Endrin	72-20-8	0.00434
Endrin ketone	53494-70-5	0.0131
Dieldrin	60-57-1	0.00651
4,4'-DDE	72-55-9	0.0195
4,4'-DDD	72-54-8	0.0131
4,4'-DDT	50-29-3	0.0195
Endosulfan I	959-98-8	0.0131
Endosulfan II	33213-65-9	0.0195
Endosulfan sulfate	1031-07-8	0.00434
Methoxychlor	72-43-5	0.0195
trans-Chlordane	5103-74-2	0.0131
Chlordane	57-74-9	0.0846

PCBs by GC	CAS#	Reporting Limit (mg/kg)
Aroclor 1016	12674-11-2	0.0427
Aroclor 1221	11104-28-2	0.0427
Aroclor 1232	11141-16-5	0.0427
Aroclor 1242	53469-21-9	0.0427
Aroclor 1248	12672-29-6	0.0427
Aroclor 1254	11097-69-1	0.0427
Aroclor 1260	11096-82-5	0.0427

Laboratory Reporting Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

SVOCs by GC/MS	CAS#	Reporting Limit (mg/kg)
1,2,4-Trichlorobenzene	120-82-1	0.42
Bis(2-chloroethyl)ether	111-44-4	0.42
1,2-Dichlorobenzene	95-50-1	0.42
1,3-Dichlorobenzene	541-73-1	0.42
1,4-Dichlorobenzene	106-46-7	0.42
3,3'-Dichlorobenzidine	91-94-1	0.84
2,4-Dinitrotoluene	121-14-2	0.42
2,6-Dinitrotoluene	606-20-2	0.42
4-Chlorophenyl phenyl ether	7005-72-3	0.42
4-Bromophenyl phenyl ether	101-55-3	0.42
Bis(2-chloroisopropyl)ether	108-60-1	0.42
Bis(2-chloroethoxy)methane	111-91-1	0.42
Hexachlorocyclopentadiene	77-47-4	0.84
Isophorone	78-59-1	0.42
Nitrobenzene	98-95-3	0.42
NitrosoDiPhenylAmine(NDPA)/DP	86-30-6	1.3
n-Nitrosodi-n-propylamine	621-64-7	0.42
Bis(2-Ethylhexyl)phthalate	117-81-7	0.84
Butyl benzyl phthalate	85-68-7	0.42
Di-n-butylphthalate	84-74-2	0.42
Di-n-octylphthalate	117-84-0	0.42
Diethyl phthalate	84-66-2	0.42
Dimethyl phthalate	131-11-3	0.42
Biphenyl	92-52-4	0.42
4-Chloroaniline	106-47-8	0.42
2-Nitroaniline	88-74-4	0.42
3-Nitroaniline	99-09-2	0.42
4-Nitroaniline	100-01-6	0.59
Dibenzofuran	132-64-9	0.42
1,2,4,5-Tetrachlorobenzene	95-94-3	1.6
Acetophenone	98-86-2	1.6
2,4,6-Trichlorophenol	88-06-2	0.42
P-Chloro-M-Cresol	59-50-7	0.42
2-Chlorophenol	95-57-8	0.51
2,4-Dichlorophenol	120-83-2	0.84
2,4-Dimethylphenol	105-67-9	0.42
2-Nitrophenol	88-75-5	1.6
4-Nitrophenol	100-02-7	0.84

Laboratory Reporting Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

SVOCs by GC/MS (continued)	CAS#	Reporting Limit (mg/kg)
2,4-Dinitrophenol	51-28-5	1.6
4,6-Dinitro-o-cresol	534-52-1	1.6
Phenol	108-95-2	0.6
2-Methylphenol	95-48-7	0.51
3-Methylphenol/4-Methylphenol	108-39-4	0.51
2,4,5-Trichlorophenol	95-95-4	0.42
Benzoic Acid	65-85-0	4.2
Benzyl Alcohol	100-51-6	0.84
Carbazole	86-74-8	0.42

SVOCs by GC/MS SIM	CAS#	Reporting Limit (mg/kg)
Acenaphthene	83-32-9	0.016
2-Chloronaphthalene	91-58-7	0.016
Fluoranthene	206-44-0	0.016
Hexachlorobutadiene	87-68-3	0.042
Naphthalene	91-20-3	0.016
Benzo(a)anthracene	56-55-3	0.016
Benzo(a)pyrene	50-32-8	0.016
Benzo(b)fluoranthene	205-99-2	0.016
Benzo(k)fluoranthene	207-08-9	0.016
Chrysene	218-01-9	0.016
Acenaphthylene	208-96-8	0.016
Anthracene	120-12-7	0.016
Benzo(ghi)perylene	191-24-2	0.016
Fluorene	86-73-7	0.016
Phenanthrene	85-01-8	0.016
Dibenzo(a,h)anthracene	53-70-3	0.016
Indeno(1,2,3-cd)Pyrene	193-39-5	0.016
Pyrene	129-00-0	0.016
2-Methylnaphthalene	91-57-6	0.016
Pentachlorophenol	87-86-5	0.067
Hexachlorobenzene	118-74-1	0.067
Hexachloroethane	67-72-1	0.067

Laboratory Reporting Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

Total Metals	CAS#	Reporting Limit (mg/kg)
Aluminum, Total	7429-90-5	4.0
Antimony, Total	7440-36-0	2.0
Arsenic, Total	7440-38-2	0.4
Barium, Total	7440-39-3	0.4
Beryllium, Total	7440-41-7	0.2
Cadmium, Total	7440-43-9	0.4
Calcium, Total	7440-70-2	4.0
Chromium, Total	7440-47-3	0.4
Cobalt, Total	7440-48-4	0.8
Copper, Total	7440-50-8	0.4
Iron, Total	7439-89-6	2.0
Lead, Total	7439-92-1	2.0
Magnesium, Total	7439-95-4	4.0
Manganese, Total	7439-96-5	0.4
Mercury, Total	7439-97-6	0.08
Nickel, Total	7440-02-0	1.0
Potassium, Total	7440-09-7	100
Selenium, Total	7782-49-2	2.0
Silver, Total	7440-22-4	0.4
Sodium, Total	7440-23-5	80
Thallium, Total	7440-28-0	2.0
Vanadium, Total	7440-62-2	0.4
Zinc, Total	7440-66-6	2.0

General Chemistry	CAS#	Reporting Limit (mg/kg)
Cyanide, Total	57-12-5	1.0

Notes:
As specified by Alpha Analytical.

Laboratory Reporting Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

VOCs by GC/MS	CAS#	Reporting Limit (ug/l)
Methylene chloride	75-09-2	5
1,1-Dichloroethane	75-34-3	0.75
Chloroform	67-66-3	0.75
Carbon tetrachloride	56-23-5	0.5
1,2-Dichloropropane	78-87-5	1.8
Dibromochloromethane	124-48-1	0.5
1,1,2-Trichloroethane	79-00-5	0.75
Tetrachloroethene	127-18-4	0.5
Chlorobenzene	108-90-7	0.5
Trichlorofluoromethane	75-69-4	2.5
1,2-Dichloroethane	107-06-2	0.5
1,1,1-Trichloroethane	71-55-6	0.5
Bromodichloromethane	75-27-4	0.5
trans-1,3-Dichloropropene	10061-02-6	0.5
cis-1,3-Dichloropropene	10061-01-5	0.5
1,1-Dichloropropene	563-58-6	2.5
Bromoform	75-25-2	2
1,1,2,2-Tetrachloroethane	79-34-5	0.5
Benzene	71-43-2	0.5
Toluene	108-88-3	0.75
Ethylbenzene	100-41-4	0.5
Chloromethane	74-87-3	2.5
Bromomethane	74-83-9	1
Vinyl chloride	75-01-4	1
Chloroethane	75-00-3	1
1,1-Dichloroethene	75-35-4	0.5
trans-1,2-Dichloroethene	156-60-5	0.75
Trichloroethene	79-01-6	0.5
1,2-Dichlorobenzene	95-50-1	2.5
1,3-Dichlorobenzene	541-73-1	2.5
1,4-Dichlorobenzene	106-46-7	2.5
Methyl tert butyl ether	1634-04-4	1
p/m-Xylene	106-42-3/108-38-3	1
o-Xylene	95-47-6	1
cis-1,2-Dichloroethene	156-59-2	0.5
Dibromomethane	74-95-3	5
1,2,3-Trichloropropane	96-18-4	5
Acrylonitrile	107-13-1	5
Styrene	100-42-5	1

Laboratory Reporting Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

VOCs by GC/MS (continued)	CAS#	Reporting Limit (ug/l)
Dichlorodifluoromethane	75-71-8	5
Acetone	67-64-1	5
Carbon disulfide	75-15-0	5
2-Butanone	78-93-3	5
Vinyl acetate	108-05-4	5
4-Methyl-2-pentanone	108-10-1	5
2-Hexanone	591-78-6	5
Bromochloromethane	74-97-5	2.5
2,2-Dichloropropane	594-20-7	2.5
1,2-Dibromoethane	106-93-4	2
1,3-Dichloropropane	142-28-9	2.5
1,1,1,2-Tetrachloroethane	630-20-6	0.5
Bromobenzene	108-86-1	2.5
n-Butylbenzene	104-51-8	0.5
sec-Butylbenzene	135-98-8	0.5
tert-Butylbenzene	98-06-6	2.5
o-Chlorotoluene	95-49-8	2.5
p-Chlorotoluene	106-43-4	2.5
1,2-Dibromo-3-chloropropane	96-12-8	2.5
Hexachlorobutadiene	87-68-3	0.6
Isopropylbenzene	98-82-8	0.5
p-Isopropyltoluene	99-87-6	0.5
Naphthalene	91-20-3	2.5
n-Propylbenzene	103-65-1	0.5
1,2,3-Trichlorobenzene	87-61-6	2.5
1,2,4-Trichlorobenzene	120-82-1	2.5
1,3,5-Trimethylbenzene	108-67-8	2.5
1,2,4-Trimethylbenzene	95-63-6	2.5
1,4-Diethylbenzene	105-05-5	2
4-Ethyltoluene	622-96-8	2
1,2,4,5-Tetramethylbenzene	95-93-2	2
Ethyl ether	60-29-7	2.5
trans-1,4-Dichloro-2-butene	110-57-6	2.5

Laboratory Reporting Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

Organochlorine pesticides by GC	CAS#	Reporting Limit (ug/l)
Delta-BHC	319-86-8	0.02
Lindane	58-89-9	0.02
Alpha-BHC	319-84-6	0.02
Beta-BHC	319-85-7	0.02
Heptachlor	76-44-8	0.02
Aldrin	309-00-2	0.02
Heptachlor epoxide	1024-57-3	0.02
Endrin	72-20-8	0.04
Endrin ketone	53494-70-5	0.04
Dieldrin	60-57-1	0.04
4,4'-DDE	72-55-9	0.04
4,4'-DDD	72-54-8	0.04
4,4'-DDT	50-29-3	0.04
Endosulfan I	959-98-8	0.02
Endosulfan II	33213-65-9	0.04
Endosulfan sulfate	1031-07-8	0.04
Methoxychlor	72-43-5	0.2
Toxaphene	8001-35-2	0.2
trans-Chlordane	5103-74-2	0.02
Chlordane	57-74-9	0.2

PCBs by GC	CAS#	Reporting Limit (ug/l)
Aroclor 1016	12674-11-2	0.083
Aroclor 1221	11104-28-2	0.083
Aroclor 1232	11141-16-5	0.083
Aroclor 1242	53469-21-9	0.083
Aroclor 1248	12672-29-6	0.083
Aroclor 1254	11097-69-1	0.083
Aroclor 1260	11096-82-5	0.083

Laboratory Reporting Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

SVOCs by GC/MS	CAS#	Reporting Limit (ug/l)
1,2,4-Trichlorobenzene	120-82-1	5
Bis(2-chloroethyl)ether	111-44-4	5
1,2-Dichlorobenzene	95-50-1	5
1,3-Dichlorobenzene	541-73-1	5
1,4-Dichlorobenzene	106-46-7	5
3,3'-Dichlorobenzidine	91-94-1	50
2,4-Dinitrotoluene	121-14-2	6
2,6-Dinitrotoluene	606-20-2	5
4-Chlorophenyl phenyl ether	7005-72-3	5
4-Bromophenyl phenyl ether	101-55-3	5
Bis(2-chloroisopropyl)ether	108-60-1	5
Bis(2-chloroethoxy)methane	111-91-1	5
Hexachlorocyclopentadiene	77-47-4	30
Isophorone	78-59-1	5
Nitrobenzene	98-95-3	5
NitrosoDiPhenylAmine(NDPA)/DP	86-30-6	15
n-Nitrosodi-n-propylamine	621-64-7	5
Bis(2-Ethylhexyl)phthalate	117-81-7	5
Butyl benzyl phthalate	85-68-7	5
Di-n-butylphthalate	84-74-2	5
Di-n-octylphthalate	117-84-0	5
Diethyl phthalate	84-66-2	5
Dimethyl phthalate	131-11-3	5
Biphenyl	92-52-4	5
4-Chloroaniline	106-47-8	5
2-Nitroaniline	88-74-4	5
3-Nitroaniline	99-09-2	5
4-Nitroaniline	100-01-6	7
Dibenzofuran	132-64-9	5
1,2,4,5-Tetrachlorobenzene	95-94-3	20
Acetophenone	98-86-2	20
2,4,6-Trichlorophenol	88-06-2	5
P-Chloro-M-Cresol	59-50-7	5
2-Chlorophenol	95-57-8	6
2,4-Dichlorophenol	120-83-2	10
2,4-Dimethylphenol	105-67-9	10
2-Nitrophenol	88-75-5	20
4-Nitrophenol	100-02-7	10
2,4-Dinitrophenol	51-28-5	30

Laboratory Reporting Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

SVOCs by GC/MS (continued)	CAS#	Reporting Limit (ug/l)
4,6-Dinitro-o-cresol	534-52-1	20
Phenol	108-95-2	7
2-Methylphenol	95-48-7	6
3-Methylphenol/4-Methylphenol	108-39-4	6
2,4,5-Trichlorophenol	95-95-4	5
Benzoic Acid	65-85-0	50
Benzyl Alcohol	100-51-6	10
Carbazole	86-74-8	5

SVOCs by GC/MS SIM	CAS#	Reporting Limit (ug/l)
Acenaphthene	83-32-9	0.2
2-Chloronaphthalene	91-58-7	0.2
Fluoranthene	206-44-0	0.2
Hexachlorobutadiene	87-68-3	0.5
Naphthalene	91-20-3	0.31
Benzo(a)anthracene	56-55-3	0.2
Benzo(a)pyrene	50-32-8	0.2
Benzo(b)fluoranthene	205-99-2	0.2
Benzo(k)fluoranthene	207-08-9	0.2
Chrysene	218-01-9	0.2
Acenaphthylene	208-96-8	0.2
Anthracene	120-12-7	0.2
Benzo(ghi)perylene	191-24-2	0.2
Fluorene	86-73-7	0.2
Phenanthrene	85-01-8	0.2
Dibenzo(a,h)anthracene	53-70-3	0.2
Indeno(1,2,3-cd)Pyrene	193-39-5	0.2
Pyrene	129-00-0	0.2
2-Methylnaphthalene	91-57-6	0.2
Pentachlorophenol	87-86-5	0.8
Hexachlorobenzene	118-74-1	0.8
Hexachloroethane	67-72-1	0.8

Laboratory Reporting Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

Total Metals	CAS#	Reporting Limit (ug/l)
Aluminum, Total	7429-90-5	100
Antimony, Total	7440-36-0	0.5
Arsenic, Total	7440-38-2	5
Barium, Total	7440-39-3	10
Beryllium, Total	7440-41-7	0.5
Cadmium, Total	7440-43-9	5
Calcium, Total	7440-70-2	100
Chromium, Total	7440-47-3	10
Cobalt, Total	7440-48-4	20
Copper, Total	7440-50-8	10
Iron, Total	7439-89-6	50
Lead, Total	7439-92-1	10
Magnesium, Total	7439-95-4	100
Manganese, Total	7439-96-5	10
Mercury, Total	7439-97-6	0.2
Nickel, Total	7440-02-0	25
Potassium, Total	7440-09-7	2500
Selenium, Total	7782-49-2	10
Silver, Total	7440-22-4	7
Sodium, Total	7440-23-5	2000
Thallium, Total	7440-28-0	0.5
Vanadium, Total	7440-62-2	10
Zinc, Total	7440-66-6	50

General Chemistry	CAS#	Reporting Limit (ug/l)
Cyanide, Total	57-12-5	5

Notes:
As specified by Alpha Analytical.

ATTACHMENT 2

Standard QC Limits

EnviroTrac
Environmental Services

Standard QC Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
VOCs by GC/MS	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Methylene chloride	75-09-2	0.034	70	130	30	30	70-130	70-130
1,1-Dichloroethane	75-34-3	0.0052	70	130	30	30	70-130	70-130
Chloroform	67-66-3	0.0052	70	130	30	30	70-130	70-130
Carbon tetrachloride	56-23-5	0.0034	70	130	30	30	70-130	70-130
1,2-Dichloropropane	78-87-5	0.012	70	130	30	30	70-130	70-130
Dibromochloromethane	124-48-1	0.0034	70	130	30	30	70-130	70-130
1,1,2-Trichloroethane	79-00-5	0.0052	70	130	30	30	70-130	70-130
Tetrachloroethene	127-18-4	0.0034	70	130	30	30	70-130	70-130
Chlorobenzene	108-90-7	0.0034	60	133	30	30	60-133	60-133
Trichlorofluoromethane	75-69-4	0.018	70	130	30	30	70-130	70-130
1,2-Dichloroethane	107-06-2	0.0034	70	130	30	30	70-130	70-130
1,1,1-Trichloroethane	71-55-6	0.0034	70	130	30	30	70-130	70-130
Bromodichloromethane	75-27-4	0.0034	70	130	30	30	70-130	70-130
trans-1,3-Dichloropropene	10061-02-6	0.0034	70	130	30	30	70-130	70-130
cis-1,3-Dichloropropene	10061-01-5	0.0034	70	130	30	30	70-130	70-130
1,1-Dichloropropene	563-58-6	0.018	70	130	30	30	70-130	70-130
Bromoform	75-25-2	0.014	70	130	30	30	70-130	70-130
1,1,2,2-Tetrachloroethane	79-34-5	0.0034	70	130	30	30	70-130	70-130
Benzene	71-43-2	0.0034	66	143	30	30	66-143	66-143
Toluene	108-88-3	0.0052	59	139	30	30	59-139	59-139
Ethylbenzene	100-41-4	0.0034	70	130	30	30	70-130	70-130
Chloromethane	74-87-3	0.018	70	130	30	30	70-130	70-130
Bromomethane	74-83-9	0.0069	70	130	30	30	70-130	70-130
Vinyl chloride	75-01-4	0.0069	70	130	30	30	70-130	70-130
Chloroethane	75-00-3	0.0069	70	130	30	30	70-130	70-130
1,1-Dichloroethene	75-35-4	0.0034	59	172	30	30	59-172	59-172
trans-1,2-Dichloroethene	156-60-5	0.0052	70	130	30	30	70-130	70-130
Trichloroethene	79-01-6	0.0034	62	137	30	30	62-137	62-137
1,2-Dichlorobenzene	95-50-1	0.018	70	130	30	30	70-130	70-130
1,3-Dichlorobenzene	541-73-1	0.018	70	130	30	30	70-130	70-130
1,4-Dichlorobenzene	106-46-7	0.018	70	130	30	30	70-130	70-130
Methyl tert butyl ether	1634-04-4	0.0069	70	130	30	30	70-130	70-130
p/m-Xylene	106-42-3/108-38-3	0.0069	70	130	30	30	70-130	70-130
o-Xylene	95-47-6	0.0069	70	130	30	30	70-130	70-130

Standard QC Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
VOCs by GC/MS (continued)	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
cis-1,2-Dichloroethene	156-59-2	0.0034	70	130	30	30	70-130	70-130
Dibromomethane	74-95-3	0.034	70	130	30	30	70-130	70-130
Styrene	100-42-5	0.0069	70	130	30	30	70-130	70-130
Dichlorodifluoromethane	75-71-8	0.034	70	130	30	30	70-130	70-130
Acetone	67-64-1	0.212	70	130	30	30	70-130	70-130
Carbon disulfide	75-15-0	0.034	70	130	30	30	70-130	70-130
2-Butanone	78-93-3	0.046	70	130	30	30	70-130	70-130
Vinyl acetate	108-05-4	0.034	70	130	30	30	70-130	70-130
4-Methyl-2-pentanone	108-10-1	0.034	70	130	30	30	70-130	70-130
1,2,3-Trichloropropane	96-18-4	0.034	70	130	30	30	70-130	70-130
2-Hexanone	591-78-6	0.034	70	130	30	30	70-130	70-130
Bromochloromethane	74-97-5	0.018	70	130	30	30	70-130	70-130
2,2-Dichloropropane	594-20-7	0.018	70	130	30	30	70-130	70-130
1,2-Dibromoethane	106-93-4	0.014	70	130	30	30	70-130	70-130
1,3-Dichloropropane	142-28-9	0.018	70	130	30	30	70-130	70-130
1,1,1,2-Tetrachloroethane	630-20-6	0.0034	70	130	30	30	70-130	70-130
Bromobenzene	108-86-1	0.018	70	130	30	30	70-130	70-130
n-Butylbenzene	104-51-8	0.0034	70	130	30	30	70-130	70-130
sec-Butylbenzene	135-98-8	0.0034	70	130	30	30	70-130	70-130
tert-Butylbenzene	98-06-6	0.018	70	130	30	30	70-130	70-130
o-Chlorotoluene	95-49-8	0.018	70	130	30	30	70-130	70-130
p-Chlorotoluene	106-43-4	0.018	70	130	30	30	70-130	70-130
1,2-Dibromo-3-chloropropane	96-12-8	0.018	70	130	30	30	70-130	70-130
Hexachlorobutadiene	87-68-3	0.018	70	130	30	30	70-130	70-130
Isopropylbenzene	98-82-8	0.0034	70	130	30	30	70-130	70-130
p-Isopropyltoluene	99-87-6	0.0034	70	130	30	30	70-130	70-130
Naphthalene	91-20-3	0.018	70	130	30	30	70-130	70-130
Acrylonitrile	107-13-1	0.034	70	130	30	30	70-130	70-130
n-Propylbenzene	103-65-1	0.0034	70	130	30	30	70-130	70-130
1,2,3-Trichlorobenzene	87-61-6	0.018	70	130	30	30	70-130	70-130
1,2,4-Trichlorobenzene	120-82-1	0.018	70	130	30	30	70-130	70-130
1,3,5-Trimethylbenzene	108-67-8	0.018	70	130	30	30	70-130	70-130
1,2,4-Trimethylbenzene	95-63-6	0.018	70	130	30	30	70-130	70-130
1,4-Diethylbenzene	105-05-5	0.014	70	130	30	30	70-130	70-130

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		Reporting Limit			RPD Limits		Recovery Limits	
VOCs by GC/MS (continued)	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
4-Ethyltoluene	622-96-8	0.014	70	130	30	30	70-130	70-130
1,2,4,5-Tetramethylbenzene	95-93-2	0.014	70	130	30	30	70-130	70-130
Ethyl ether	60-29-7	0.018	70	130	30	30	70-130	70-130
trans-1,4-Dichloro-2-butene	110-57-6	0.018	70	130	30	30	70-130	70-130

		Reporting Limit			RPD Limits		Recovery Limits	
Organochlorine pesticides by GC	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Delta-BHC	319-86-8	0.0131	30	150	50	50	30-150	30-150
Lindane	58-89-9	0.00434	30	150	50	50	30-150	30-150
Alpha-BHC	319-84-6	0.00434	30	150	50	50	30-150	30-150
Beta-BHC	319-85-7	0.0131	30	150	50	50	30-150	30-150
Heptachlor	76-44-8	0.00521	30	150	50	50	30-150	30-150
Aldrin	309-00-2	0.0131	30	150	50	50	30-150	30-150
Heptachlor epoxide	1024-57-3	0.0195	30	150	50	50	30-150	30-150
Endrin	72-20-8	0.00434	30	150	50	50	30-150	30-150
Endrin ketone	53494-70-5	0.0131	30	150	50	50	30-150	30-150
Dieldrin	60-57-1	0.00651	30	150	50	50	30-150	30-150
4,4'-DDE	72-55-9	0.0195	30	150	50	50	30-150	30-150
4,4'-DDD	72-54-8	0.0131	30	150	50	50	30-150	30-150
4,4'-DDT	50-29-3	0.0195	30	150	50	50	30-150	30-150
Endosulfan I	959-98-8	0.0131	30	150	50	50	30-150	30-150
Endosulfan II	33213-65-9	0.0195	30	150	50	50	30-150	30-150
Endosulfan sulfate	1031-07-8	0.00434	30	150	50	50	30-150	30-150
Methoxychlor	72-43-5	0.0195	30	150	50	50	30-150	30-150
trans-Chlordane	5103-74-2	0.0131	30	150	50	50	30-150	30-150
Chlordane	57-74-9	0.0846	30	150	50	50	30-150	30-150

Standard QC Limits for Soil Samples
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		Reporting Limit			RPD Limits		Recovery Limits	
PCBs by GC	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Aroclor 1016	12674-11-2	0.0427	40	140	50	50	40-140	40-140
Aroclor 1221	11104-28-2	0.0427	40	140	50	50	40-140	40-140
Aroclor 1232	11141-16-5	0.0427	40	140	50	50	40-140	40-140
Aroclor 1242	53469-21-9	0.0427	40	140	50	50	40-140	40-140
Aroclor 1248	12672-29-6	0.0427	40	140	50	50	40-140	40-140
Aroclor 1254	11097-69-1	0.0427	40	140	50	50	40-140	40-140
Aroclor 1260	11096-82-5	0.0427	40	140	50	50	40-140	40-140

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
1,2,4-Trichlorobenzene	120-82-1	0.42	38	107	50	50	38-107	38-107
Bis(2-chloroethyl)ether	111-44-4	0.42	40	140	50	50	40-140	40-140
1,2-Dichlorobenzene	95-50-1	0.42	40	140	50	50	40-140	40-140
1,3-Dichlorobenzene	541-73-1	0.42	40	140	50	50	40-140	40-140
1,4-Dichlorobenzene	106-46-7	0.42	28	104	50	50	28-104	28-104
3,3'-Dichlorobenzidine	91-94-1	0.84	40	140	50	50	40-140	40-140
2,4-Dinitrotoluene	121-14-2	0.42	28	89	50	50	28-89	28-89
2,6-Dinitrotoluene	606-20-2	0.42	40	140	50	50	40-140	40-140
4-Chlorophenyl phenyl ether	7005-72-3	0.42	40	140	50	50	40-140	40-140
4-Bromophenyl phenyl ether	101-55-3	0.42	40	140	50	50	40-140	40-140
Bis(2-chloroisopropyl)ether	108-60-1	0.42	40	140	50	50	40-140	40-140
Bis(2-chloroethoxy)methane	111-91-1	0.42	40	140	50	50	40-140	40-140
Hexachlorocyclopentadiene	77-47-4	0.84	40	140	50	50	40-140	40-140
Isophorone	78-59-1	0.42	40	140	50	50	40-140	40-140
Nitrobenzene	98-95-3	0.42	40	140	50	50	40-140	40-140
NitrosoDiPhenylAmine(NDPA)/DP	86-30-6	1.3	40	140	50	50	40-140	40-140
n-Nitrosodi-n-propylamine	621-64-7	0.42	41	126	50	50	40-140	40-140
Bis(2-Ethylhexyl)phthalate	117-81-7	0.84	40	140	50	50	40-140	40-140
Butyl benzyl phthalate	85-68-7	0.42	40	140	50	50	40-140	40-140
Di-n-butylphthalate	84-74-2	0.42	40	140	50	50	40-140	40-140
Di-n-octylphthalate	117-84-0	0.42	40	140	50	50	40-140	40-140
Diethyl phthalate	84-66-2	0.42	40	140	50	50	40-140	40-140
Dimethyl phthalate	131-11-3	0.42	40	140	50	50	40-140	40-140
Biphenyl	92-52-4	0.42	40	140	50	50	40-140	40-140

Standard QC Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS (continued)	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
4-Chloroaniline	106-47-8	0.42	40	140	50	50	40-140	40-140
2-Nitroaniline	88-74-4	0.42	40	140	50	50	40-140	40-140
3-Nitroaniline	99-09-2	0.42	40	140	50	50	40-140	40-140
4-Nitroaniline	100-01-6	0.59	40	140	50	50	40-140	40-140
Dibenzofuran	132-64-9	0.42	40	140	50	50	40-140	40-140
1,2,4,5-Tetrachlorobenzene	95-94-3	1.6	40	140	50	50	40-140	40-140
Acetophenone	98-86-2	1.6	40	140	50	50	40-140	40-140
2,4,6-Trichlorophenol	88-06-2	0.42	30	130	50	50	30-130	30-130
P-Chloro-M-Cresol	59-50-7	0.42	26	103	50	50	26-103	26-103
2-Chlorophenol	95-57-8	0.51	25	102	50	50	25-102	25-102
2,4-Dichlorophenol	120-83-2	0.84	30	130	50	50	30-130	30-130
2,4-Dimethylphenol	105-67-9	0.42	30	130	50	50	30-130	30-130
2-Nitrophenol	88-75-5	1.6	30	130	50	50	30-130	30-130
4-Nitrophenol	100-02-7	0.84	11	114	50	50	11-114	11-114
2,4-Dinitrophenol	51-28-5	1.6	4	130	50	50	4-103	4-103
4,6-Dinitro-o-cresol	534-52-1	1.6			50	50		
Phenol	108-95-2	0.6	26	90	50	50	26-90	26-90
2-Methylphenol	95-48-7	0.51	30	130	50	50	30-130	30-130
3-Methylphenol/4-Methylphenol	108-39-4	0.51	30	130	50	50	30-130	30-130
2,4,5-Trichlorophenol	95-95-4	0.42	30	130	50	50	30-130	30-130
Benzoic Acid	65-85-0	4.2			50	50		
Benzyl Alcohol	100-51-6	0.84			50	50		
Carbazole	86-74-8	0.42			50	50		

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS SIM	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Acenaphthene	83-32-9	0.016	31	137	50	50	31-137	31-137
2-Chloronaphthalene	91-58-7	0.016	40	140	50	50	40-140	40-140
Fluoranthene	206-44-0	0.016	40	140	50	50	40-140	40-140
Hexachlorobutadiene	87-68-3	0.042	40	140	50	50	40-140	40-140
Naphthalene	91-20-3	0.016	40	140	50	50	40-140	40-140
Benzo(a)anthracene	56-55-3	0.016	40	140	50	50	40-140	40-140
Benzo(a)pyrene	50-32-8	0.016	40	140	50	50	40-140	40-140
Benzo(b)fluoranthene	205-99-2	0.016	40	140	50	50	40-140	40-140

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		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS SIM (continued)	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Benzo(k)fluoranthene	207-08-9	0.016	40	140	50	50	40-140	40-140
Chrysene	218-01-9	0.016	40	140	50	50	40-140	40-140
Acenaphthylene	208-96-8	0.016	40	140	50	50	40-140	40-140
Anthracene	120-12-7	0.016	40	140	50	50	40-140	40-140
Benzo(ghi)perylene	191-24-2	0.016	40	140	50	50	40-140	40-140
Fluorene	86-73-7	0.016	40	140	50	50	40-140	40-140
Phenanthrene	85-01-8	0.016	40	140	50	50	40-140	40-140
Dibenzo(a,h)anthracene	53-70-3	0.016	40	140	50	50	40-140	40-140
Indeno(1,2,3-cd)Pyrene	193-39-5	0.016	40	140	50	50	40-140	40-140
Pyrene	129-00-0	0.016	35	142	50	50	35-142	35-142
2-Methylnaphthalene	91-57-6	0.016	40	140	50	50	40-140	40-140
Pentachlorophenol	87-86-5	0.067	17	109	50	50	17-109	17-109
Hexachlorobenzene	118-74-1	0.067	40	140	50	50	40-140	40-140
Hexachloroethane	67-72-1	0.067	40	140	50	50	40-140	40-140
1,2,3-Trichlorobenzene	87-61-6	0.018	70	130	30	30	70-130	70-130
1,2,4-Trichlorobenzene	120-82-1	0.018	70	130	30	30	70-130	70-130
1,3,5-Trimethylbenzene	108-67-8	0.018	70	130	30	30	70-130	70-130
1,2,4-Trimethylbenzene	95-63-6	0.018	70	130	30	30	70-130	70-130
1,4-Diethylbenzene	105-05-5	0.014	70	130	30	30	70-130	70-130
4-Ethyltoluene	622-96-8	0.014	70	130	30	30	70-130	70-130
1,2,4,5-Tetramethylbenzene	95-93-2	0.014	70	130	30	30	70-130	70-130
Ethyl ether	60-29-7	0.018	70	130	30	30	70-130	70-130
trans-1,4-Dichloro-2-butene	110-57-6	0.018	70	130	30	30	70-130	70-130

		Reporting Limit			RPD Limits		Recovery Limits	
Total Metals	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Aluminum, Total	7429-90-5	4			35	35	75-125	75-125
Antimony, Total	7440-36-0	2			35	35	75-125	75-125
Arsenic, Total	7440-38-2	0.4			35	35	75-125	75-125
Barium, Total	7440-39-3	0.4			35	35	75-125	75-125
Beryllium, Total	7440-41-7	0.2			35	35	75-125	75-125
Cadmium, Total	7440-43-9	0.4			35	35	75-125	75-125
Calcium, Total	7440-70-2	4			35	35	75-125	75-125
Chromium, Total	7440-47-3	0.4			35	35	75-125	75-125

Standard QC Limits for Soil Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
Total Metals (continued)	**CAS#**	**(mg/kg)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Cobalt, Total	7440-48-4	0.8			35	35	75-125	75-125
Copper, Total	7440-50-8	0.4			35	35	75-125	75-125
Iron, Total	7439-89-6	2			35	35	75-125	75-125
Lead, Total	7439-92-1	2			35	35	75-125	75-125
Magnesium, Total	7439-95-4	4			35	35	75-125	75-125
Manganese, Total	7439-96-5	0.4			35	35	75-125	75-125
Mercury, Total	7439-97-6	0.08			35	35	70-130	80-120
Nickel, Total	7440-02-0	1			35	35	75-125	75-125
Potassium, Total	7440-09-7	100			35	35	75-125	75-125
Selenium, Total	7782-49-2	2			35	35	75-125	75-125
Silver, Total	7440-22-4	0.4			35	35	75-125	75-125
Sodium, Total	7440-23-5	80			35	35	75-125	75-125
Thallium, Total	7440-28-0	2			35	35	75-125	75-125
Vanadium, Total	7440-62-2	0.4			35	35	75-125	75-125
Zinc, Total	7440-66-6	2			35	35	75-125	75-125

Notes:

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
VOCs by GC/MS	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Methylene chloride	75-09-2	5	70	130	20	20	70-130	70-130
1,1-Dichloroethane	75-34-3	0.75	70	130	20	20	70-130	70-130
Chloroform	67-66-3	0.75	70	130	20	20	70-130	70-130
Carbon tetrachloride	56-23-5	0.5	70	130	20	20	70-130	70-130
1,2-Dichloropropane	78-87-5	1.8	70	130	20	20	70-130	70-130
Dibromochloromethane	124-48-1	0.5	70	130	20	20	70-130	70-130
1,1,2-Trichloroethane	79-00-5	0.75	70	130	20	20	70-130	70-130
Tetrachloroethene	127-18-4	0.5	70	130	20	20	70-130	70-130
Chlorobenzene	108-90-7	0.5	75	130	20	20	75-130	75-130
Trichlorofluoromethane	75-69-4	2.5	70	130	20	20	70-130	70-130
1,2-Dichloroethane	107-06-2	0.5	70	130	20	20	70-130	70-130
1,1,1-Trichloroethane	71-55-6	0.5	70	130	20	20	70-130	70-130
Bromodichloromethane	75-27-4	0.5	70	130	20	20	70-130	70-130
trans-1,3-Dichloropropene	10061-02-6	0.5	70	130	20	20	70-130	70-130
cis-1,3-Dichloropropene	10061-01-5	0.5	70	130	20	20	70-130	70-130
1,1-Dichloropropene	563-58-6	2.5	70	130	20	20	70-130	70-130
Bromoform	75-25-2	2	70	130	20	20	70-130	70-130
1,1,2,2-Tetrachloroethane	79-34-5	0.5	70	130	20	20	70-130	70-130
Benzene	71-43-2	0.5	76	127	20	20	76-130	76-130
Toluene	108-88-3	0.75	76	125	20	20	76-130	76-130
Ethylbenzene	100-41-4	0.5	70	130	20	20	70-130	70-130
Chloromethane	74-87-3	2.5	70	130	20	20	70-130	70-130
Bromomethane	74-83-9	1	70	130	20	20	70-130	70-130
Vinyl chloride	75-01-4	1	70	130	20	20	70-130	70-130
Chloroethane	75-00-3	1	70	130	20	20	70-130	70-130
1,1-Dichloroethene	75-35-4	0.5	61	145	20	20	61-130	61-130
trans-1,2-Dichloroethene	156-60-5	0.75	70	130	20	20	70-130	70-130
Trichloroethene	79-01-6	0.5	71	120	20	20	71-120	71-120
1,2-Dichlorobenzene	95-50-1	2.5	70	130	20	20	70-130	70-130
1,3-Dichlorobenzene	541-73-1	2.5	70	130	20	20	70-130	70-130
1,4-Dichlorobenzene	106-46-7	2.5	70	130	20	20	70-130	70-130
Methyl tert butyl ether	1634-04-4	1	70	130	20	20	70-130	70-130
p/m-Xylene	106-42-3/108-38-3	1	70	130	20	20	70-130	70-130
o-Xylene	95-47-6	1	70	130	20	20	70-130	70-130

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
VOCs by GC/MS (continued)	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
cis-1,2-Dichloroethene	156-59-2	0.5	70	130	20	20	70-130	70-130
Dibromomethane	74-95-3	5	70	130	20	20	70-130	70-130
1,2,3-Trichloropropane	96-18-4	5	70	130	20	20	70-130	70-130
Acrylonitrile	107-13-1	5	70	130	20	20	70-130	70-130
Styrene	100-42-5	1	70	130	20	20	70-130	70-130
Dichlorodifluoromethane	75-71-8	5	70	130	20	20	70-130	70-130
Acetone	67-64-1	5	70	130	20	20	70-130	70-130
Carbon disulfide	75-15-0	5	70	130	20	20	70-130	70-130
2-Butanone	78-93-3	5	70	130	20	20	70-130	70-130
Vinyl acetate	108-05-4	5	70	130	20	20	70-130	70-130
4-Methyl-2-pentanone	108-10-1	5	70	130	20	20	70-130	70-130
2-Hexanone	591-78-6	5	70	130	20	20	70-130	70-130
Bromochloromethane	74-97-5	2.5	70	130	20	20	70-130	70-130
2,2-Dichloropropane	594-20-7	2.5	70	130	20	20	70-130	70-130
1,2-Dibromoethane	106-93-4	2	70	130	20	20	70-130	70-130
1,3-Dichloropropane	142-28-9	2.5	70	130	20	20	70-130	70-130
1,1,1,2-Tetrachloroethane	630-20-6	0.5	70	130	20	20	70-130	70-130
Bromobenzene	108-86-1	2.5	70	130	20	20	70-130	70-130
n-Butylbenzene	104-51-8	0.5	70	130	20	20	70-130	70-130
sec-Butylbenzene	135-98-8	0.5	70	130	20	20	70-130	70-130
tert-Butylbenzene	98-06-6	2.5	70	130	20	20	70-130	70-130
o-Chlorotoluene	95-49-8	2.5	70	130	20	20	70-130	70-130
p-Chlorotoluene	106-43-4	2.5	70	130	20	20	70-130	70-130
1,2-Dibromo-3-chloropropane	96-12-8	2.5	70	130	20	20	70-130	70-130
Hexachlorobutadiene	87-68-3	0.6	70	130	20	20	70-130	70-130
Isopropylbenzene	98-82-8	0.5	70	130	20	20	70-130	70-130
p-Isopropyltoluene	99-87-6	0.5	70	130	20	20	70-130	70-130
Naphthalene	91-20-3	2.5	70	130	20	20	70-130	70-130
n-Propylbenzene	103-65-1	0.5	70	130	20	20	70-130	70-130
1,2,3-Trichlorobenzene	87-61-6	2.5	70	130	20	20	70-130	70-130
1,2,4-Trichlorobenzene	120-82-1	2.5	70	130	20	20	70-130	70-130
1,3,5-Trimethylbenzene	108-67-8	2.5	70	130	20	20	70-130	70-130
1,2,4-Trimethylbenzene	95-63-6	2.5	70	130	20	20	70-130	70-130
1,4-Diethylbenzene	105-05-5	2	70	130	20	20	70-130	70-130

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
VOCs by GC/MS (continued)	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
4-Ethyltoluene	622-96-8	2	70	130	20	20	70-130	70-130
1,2,4,5-Tetramethylbenzene	95-93-2	2	70	130	20	20	70-130	70-130
Ethyl ether	60-29-7	2.5	70	130	20	20	70-130	70-130
trans-1,4-Dichloro-2-butene	110-57-6	2.5	70	130	20	20	70-130	70-130

		Reporting Limit			RPD Limits		Recovery Limits	
Organochlorine pesticides by GC	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Delta-BHC	319-86-8	0.02	30	150	30	30	30-150	30-150
Lindane	58-89-9	0.02	30	150	30	30	30-150	30-150
Alpha-BHC	319-84-6	0.02	30	150	30	30	30-150	30-150
Beta-BHC	319-85-7	0.02	30	150	30	30	30-150	30-150
Heptachlor	76-44-8	0.02	30	150	30	30	30-150	30-150
Aldrin	309-00-2	0.02	30	150	30	30	30-150	30-150
Heptachlor epoxide	1024-57-3	0.02	30	150	30	30	30-150	30-150
Endrin	72-20-8	0.04	30	150	30	30	30-150	30-150
Endrin ketone	53494-70-5	0.04	30	150	30	30	30-150	30-150
Dieldrin	60-57-1	0.04	30	150	30	30	30-150	30-150
4,4'-DDE	72-55-9	0.04	30	150	30	30	30-150	30-150
4,4'-DDD	72-54-8	0.04	30	150	30	30	30-150	30-150
4,4'-DDT	50-29-3	0.04	30	150	30	30	30-150	30-150
Endosulfan I	959-98-8	0.02	30	150	30	30	30-150	30-150
Endosulfan II	33213-65-9	0.04	30	150	30	30	30-150	30-150
Endosulfan sulfate	1031-07-8	0.04	30	150	30	30	30-150	30-150
Methoxychlor	72-43-5	0.2	30	150	30	30	30-150	30-150
Toxaphene	8001-35-2	0.2	30	150	30	30	30-150	30-150
trans-Chlordane	5103-74-2	0.02	30	150	30	30	30-150	30-150
Chlordane	57-74-9	0.2	30	150	30	30	30-150	30-150

		Reporting Limit			RPD Limits		Recovery Limits	
PCBs by GC	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Aroclor 1016	12674-11-2	0.083	40	140	50	50	40-140	40-140
Aroclor 1221	11104-28-2	0.083	40	140	50	50	40-140	40-140
Aroclor 1232	11141-16-5	0.083	40	140	50	50	40-140	40-140

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
PCBs by GC (continued)	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Aroclor 1242	53469-21-9	0.083	40	140	50	50	40-140	40-140
Aroclor 1248	12672-29-6	0.083	40	140	50	50	40-140	40-140
Aroclor 1254	11097-69-1	0.083	40	140	50	50	40-140	40-140
Aroclor 1260	11096-82-5	0.083	40	140	50	50	40-140	40-140

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
1,2,4-Trichlorobenzene	120-82-1	5	39	98	30	30	39-98	39-98
Bis(2-chloroethyl)ether	111-44-4	5	40	140	30	30	40-140	40-140
1,2-Dichlorobenzene	95-50-1	5	40	140	30	30	40-140	40-140
1,3-Dichlorobenzene	541-73-1	5	40	140	30	30	40-140	40-140
1,4-Dichlorobenzene	106-46-7	5	36	97	30	30	36-97	36-97
3,3'-Dichlorobenzidine	91-94-1	50	40	140	30	30	40-140	40-140
2,4-Dinitrotoluene	121-14-2	6	24	96	30	30	24-96	24-96
2,6-Dinitrotoluene	606-20-2	5	40	140	30	30	40-140	40-140
4-Chlorophenyl phenyl ether	7005-72-3	5	40	140	30	30	40-140	40-140
4-Bromophenyl phenyl ether	101-55-3	5	40	140	30	30	40-140	40-140
Bis(2-chloroisopropyl)ether	108-60-1	5	40	140	30	30	40-140	40-140
Bis(2-chloroethoxy)methane	111-91-1	5	40	140	30	30	40-140	40-140
Hexachlorocyclopentadiene	77-47-4	30	40	140	30	30	40-140	40-140
Isophorone	78-59-1	5	40	140	30	30	40-140	40-140
Nitrobenzene	98-95-3	5	40	140	30	30	40-140	40-140
NitrosoDiPhenylAmine(NDPA)/DP	86-30-6	15	40	140	30	30	40-140	40-140
n-Nitrosodi-n-propylamine	621-64-7	5	41	116	30	30	40-140	40-140
Bis(2-Ethylhexyl)phthalate	117-81-7	5	40	140	30	30	40-140	40-140
Butyl benzyl phthalate	85-68-7	5	40	140	30	30	40-140	40-140
Di-n-butylphthalate	84-74-2	5	40	140	30	30	40-140	40-140
Di-n-octylphthalate	117-84-0	5	40	140	30	30	40-140	40-140
Diethyl phthalate	84-66-2	5	40	140	30	30	40-140	40-140
Dimethyl phthalate	131-11-3	5	40	140	30	30	40-140	40-140
Biphenyl	92-52-4	5	40	140	30	30	40-140	40-140
4-Chloroaniline	106-47-8	5	40	140	30	30	40-140	40-140
2-Nitroaniline	88-74-4	5	40	140	30	30	40-140	40-140
3-Nitroaniline	99-09-2	5	40	140	30	30	40-140	40-140

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS (continued)	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
4-Nitroaniline	100-01-6	7	40	140	30	30	40-140	40-140
Dibenzofuran	132-64-9	5	40	140	30	30	40-140	40-140
1,2,4,5-Tetrachlorobenzene	95-94-3	20	40	140	30	30	40-140	40-140
Acetophenone	98-86-2	20	40	140	30	30	40-140	40-140
2,4,6-Trichlorophenol	88-06-2	5	30	130	30	30	30-130	30-130
P-Chloro-M-Cresol	59-50-7	5	23	97	30	30	23-97	23-97
2-Chlorophenol	95-57-8	6	27	123	30	30	27-123	27-123
2,4-Dichlorophenol	120-83-2	10	30	130	30	30	30-130	30-130
2,4-Dimethylphenol	105-67-9	10	30	130	30	30	30-130	30-130
2-Nitrophenol	88-75-5	20	30	130	30	30	30-130	30-130
4-Nitrophenol	100-02-7	10	10	80	30	30	10-80	10-80
2,4-Dinitrophenol	51-28-5	30	20	130	30	30	20-130	20-130
4,6-Dinitro-o-cresol	534-52-1	20			30	30		
Phenol	108-95-2	7	12	110	30	30	12-110	12-110
2-Methylphenol	95-48-7	6	30	130	30	30	30-130	30-130
3-Methylphenol/4-Methylphenol	108-39-4	6	30	130	30	30	30-130	30-130
2,4,5-Trichlorophenol	95-95-4	5	30	130	30	30	30-130	30-130
Benzoic Acid	65-85-0	50			30	30		
Benzyl Alcohol	100-51-6	10			30	30		
Carbazole	86-74-8	5			30	30		

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS SIM	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Acenaphthene	83-32-9	0.2	37	111	40	40	37-111	37-111
2-Chloronaphthalene	91-58-7	0.2	40	140	40	40	40-140	40-140
Fluoranthene	206-44-0	0.2	40	140	40	40	40-140	40-140
Hexachlorobutadiene	87-68-3	0.5	40	140	40	40	40-140	40-140
Naphthalene	91-20-3	0.31	40	140	40	40	40-140	40-140
Benzo(a)anthracene	56-55-3	0.2	40	140	40	40	40-140	40-140
Benzo(a)pyrene	50-32-8	0.2	40	140	40	40	40-140	40-140
Benzo(b)fluoranthene	205-99-2	0.2	40	140	40	40	40-140	40-140
Benzo(k)fluoranthene	207-08-9	0.2	40	140	40	40	40-140	40-140
Chrysene	218-01-9	0.2	40	140	40	40	40-140	40-140
Acenaphthylene	208-96-8	0.2	40	140	40	40	40-140	40-140

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
SVOCs by GC/MS SIM (continued)	**CAS#**	**(ug/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Anthracene	120-12-7	0.2	40	140	40	40	40-140	40-140
Benzo(ghi)perylene	191-24-2	0.2	40	140	40	40	40-140	40-140
Fluorene	86-73-7	0.2	40	140	40	40	40-140	40-140
Phenanthrene	85-01-8	0.2	40	140	40	40	40-140	40-140
Dibenzo(a,h)anthracene	53-70-3	0.2	40	140	40	40	40-140	40-140
Indeno(1,2,3-cd)Pyrene	193-39-5	0.2	40	140	40	40	40-140	40-140
Pyrene	129-00-0	0.2	26	127	40	40	26-127	26-127
2-Methylnaphthalene	91-57-6	0.2	40	140	40	40	40-140	40-140
Pentachlorophenol	87-86-5	0.8	9	103	40	40	9-103	9-103
Hexachlorobenzene	118-74-1	0.8	40	140	40	40	40-140	40-140
Hexachloroethane	67-72-1	0.8	40	140	40	40	40-140	40-140

		Reporting Limit			RPD Limits		Recovery Limits	
Total Metals	**CAS#**	**(ug/l)**			**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Aluminum, Total	7429-90-5	100			20	20	75-125	80-120
Antimony, Total	7440-36-0	0.5			20	20	80-120	80-120
Arsenic, Total	7440-38-2	5			20	20	75-125	80-120
Barium, Total	7440-39-3	10			20	20	75-125	80-120
Beryllium, Total	7440-41-7	0.5			20	20	80-120	80-120
Cadmium, Total	7440-43-9	5			20	20	75-125	80-120
Calcium, Total	7440-70-2	100			20	20	75-125	80-120
Chromium, Total	7440-47-3	10			20	20	75-125	80-120
Cobalt, Total	7440-48-4	20			20	20	75-125	80-120
Copper, Total	7440-50-8	10			20	20	75-125	80-120
Iron, Total	7439-89-6	50			20	20	75-125	80-120
Lead, Total	7439-92-1	10			20	20	75-125	80-120
Magnesium, Total	7439-95-4	100			20	20	75-125	80-120
Manganese, Total	7439-96-5	10			20	20	75-125	80-120
Mercury, Total	7439-97-6	0.2			20	20	70-130	80-120
Nickel, Total	7440-02-0	25			20	20	75-125	80-120
Potassium, Total	7440-09-7	2500			20	20	75-125	80-120
Selenium, Total	7782-49-2	10			20	20	75-125	80-120
Silver, Total	7440-22-4	7			20	20	75-125	80-120
Sodium, Total	7440-23-5	2000			20	20	75-125	80-120

Standard QC Limits for Aqueous Samples
Aristocrat Dry Cleaners - Hartsdale, New York

		Reporting Limit			RPD Limits		Recovery Limits	
Total Metals (continued)	**CAS#**	**(ug/l)**			**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Thallium, Total	7440-28-0	0.5			20	20	80-120	80-120
Vanadium, Total	7440-62-2	10			20	20	75-125	80-120
Zinc, Total	7440-66-6	50			20	20	75-125	80-120

		Reporting Limit			RPD Limits		Recovery Limits	
General Chemistry - SM4500 CN-CE	**CAS#**	**(mg/l)**	**UCL**	**LCL**	**MS/MSD**	**Duplicates**	**MS/MSD**	**Blank Spike**
Cyanide, Total	57-12-5	0.005	90	110	20	20	90-110	90-110
General Chemistry - 9010/9012A								
Cyanide, Total	57-12-5	0.005	80	120	20	20	80-120	80-120

Notes:

APPENDIX I

Groundwater Monitoring Event Form

GROUNDWATER MONITORING EVENT FORM

Hartsdale Village Square
Aristocrat Cleaners
Westchester County
212 East Hartsdale Avenue
Hartsdale, New York
BCA Site #: C360111

NAME OF LEAD SAMPLER:_____

COMPANY OF SAMPLER:_____

MONITORING DATE:_____

WEATHER:_____

GENERAL DESCRIPTION OF ACTIVITIES PERFORMED:_____

_____

_____

LIST OF WELLS SAMPLED:_____

SAMPLING METHOD(S):_____

PARAMETERS FOR LAB TESTING:_____

FIELD PARAMETERS:_____

ATTACH ASSOCIATED FIELD SAMPLING FORMS:

LABORATORY(S):_____

ATTACH COPY OF CHAIN(S) OF CUSTODY:

INVESTIGATION DERIVED WASTE GENERATED:

_____YES, _____TYPE, _____ESTIMATED QUANTITY, _____ STATUS

_____NO

ADDITIONAL INFORMATION:_____

_____

_____