# VALLEY FALLS DRY CLEANERS SITE RENSSELAER COUNTY, NEW YORK

Site Management Plan

#### NYSDEC Site Number: 4-42-028

#### Prepared for: New York State Department of Environmental Conservation 625 Broadway Albany, New York 12233

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## **Revisions to Final Approved Site Management Plan:**

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

## TABLE OF CONTENTS

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM
1.1.1 General
1.1.2 Purpose
1.1.3 Revisions
1.2 SITE BACKGROUND
1.2.1 Site Location and Description
1.2.2 Site History
1.2.3 Geologic Conditions
1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS 4
1.3.1 Soil
1.3.2 Site-Related Groundwater
1.3.3 Site-Related Soil Vapor Intrusion
1.4 SUMMARY OF REMEDIAL ACTIONS7
1.4.1 Removal of Contaminated Materials from the Site7
1.4.2 Site-Related Treatment Systems
1.4.3 Remaining Contamination
2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN
2.1.1 General
2.1.2 Purpose
2.2 ENGINEERING CONTROLS
2.2.1 Engineering Control Systems
2.2.1.1 Granular Activated Carbon Systems
2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems
2.2.2.1 Granular Activated Carbon Systems102.2.2.2 Monitored Natural Attenuation10

2.3 INSPECTIONS AND NOTIFICATIONS	10
2.3.1 Inspections	10
2.3.2 Notifications	11
2.4 CONTINGENCY PLAN	11
2.4.1 Emergency Telephone Numbers	12
2.4.2 Map and Directions to Nearest Health Facility	12
2.4.3 Response Procedures	13
3.0 SITE MONITORING PLAN	14
3.1 INTRODUCTION	14
3.1.1 General	14
3.1.2 Purpose and Schedule	14
3.2 MEDIA MONITORING PROGRAM	15
3.2.1 Groundwater Monitoring	15
3.2.2 Groundwater Sampling	15
3.3 SAMPLING PROTOCOL	16
3.3.1 Purging and Sampling Equipment	16
3.3.2 Field Analytical Equipment	16
3.3.3 Groundwater Sampling Purge Method	17
3.3.4 Decontmaination Procedures	18
3.3.5 Storage and Disposal of Waste	19
3.3.6 Laboratory Analysis and Reporting	19 20
2 4 CD ANULLAD A CTIVATED CADDON SYSTEM SAMDUNC	20
5.4 GRANULAR ACTIVATED CARDON STSTEW SAWPLING	20
3.4.1 Sampling Protocol	21
3.4.1.1 Purging and Sampling Equipment	21
3.4.1.2 Granular Activated Carbon Laboratory Analysis and Reporting	g.21
3.4.1.3 Granular Activated Carbon Repairs, Replacement, and	01
Decommissioning	21
3.5 SITE-WIDE INSPECTION	21
3.6 MONITORING QUALITY ASSURANCE/QUALITY CONTROL	22
3.7 MONITORING REPORTING REQUIREMENTS	23

4.0 OPERATION	AND MAINTENANCE PLAN	
4.1 INTRODUCTI	[ON	
4.2 ENGINEERIN	G CONTROL SYSTEM OPERATION AND MAINTENA	NCE
4 3 SCOPE OF M	AINTENANCE FOR GRANIILAR ACTICATED CARBO	N
SVSTEMS		24
4 4 MAINTENAN	CF AND PERFORMANCE MONITORING REPORTING	
<b>REOURFMENT</b>	S	, 25
REQUIREMENT	3	
4 4 1 Routin	e Maintenance Reports	25
4 4 2 Non-R	outine Maintenance Reports	25
1.1.2 1001 1		
5.0 INSPECTION	S REPORTING AND CERTIFICATIONS	27
5 1 SITE INSPEC	FIONS	27 27
5.1 SITE INSTEC		•••••• 41
5.1.1 Inspec	tion Frequency	
5.1.2 Inspec	tion Forms, Sampling Data, and Maintenance Reports	
5.1.3 Evalua	ation of Records and Reporting	
5.2 CERTIFICAT	ION OF ENGINEERING CONTROLS	27
5.3 PERIODIC RE	VIEW REPORT	
5.4 CORRECTIVI	E MEASURES PLAN	
APPENDIX A:	BOREHOLE LOG DURING EXCAVATION ACTIVIT	TIES
APPENDIX B:	MONITORING WELL BORING LOGS	
APPENDIX C:	GROUNDWATER MONITORING WELL PURGING	AND
	SAMPLING LOG FORM	
APPENDIX D:	GRANULAR ACTIVATED CARBON SAMPLING FO	RM
APPENDIX E:	ANNUAL INSPECTION RECORD	

## LIST OF FIGURES

Number	Title
1	Site location map.
2	Site map.
3	Location of geologic cross sections.
4	Geologic cross section A-A'.
5	Geologic cross section B-B'.
6	Summary of onsite soil sample analytical results.
7	Interpolated overburden groundwater contours October 2008.
8	Interpolated bedrock groundwater contour map October 2008.
9	PCE concentrations in the upper aquifer 1996.
10	Soil gas survey results.
11	Post-excavation soil sample locations.
12	Soil boring sketch map.
13	Locations of GAC/UV treatment systems.

#### 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 the Valley Falls Dry Cleaners Site (hereinafter referred to as the "Site") under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by the New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with the NYS Environmental Conservation Law. The site has been assigned the NYSDEC # 4-42-028.

#### 1.1.1 General

The NYSDEC took responsibility to remediate the 1.2-acre property located in the village of Valley Falls, Rensselaer County, town of Pittstown, New York. The NYSDEC completed a site investigation and remediated contaminated media at the site. A site location map is included as Figure 1 and the boundaries of this 1.2-acre site are provided in Figure 2.

After completion of the remedial work described in the Post-Remediation Report<sup>1</sup>, some contamination was left in the groundwater at this site, which is hereafter referred to as "remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining groundwater contamination at the Site until the Site meets the remedial goals discussed in this report. Each report associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in NYS.

This SMP was prepared by EA Engineering, P.C., and Its Affiliate EA Science and Technology (EA), on behalf of NYSDEC in accordance with the requirements in NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Engineering Controls (ECs) that are required for the Site by this SMP.

#### 1.1.2 Purpose

The Site contains residual contamination left after completion of the remedial action. A long-term groundwater monitoring program has been incorporated as an EC required at the site to minimize exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. The Institutional Controls (ICs)

<sup>1.</sup> NYSDEC. 2000. Post-Remediation Report, Valley Falls Dry Cleaner Site, Village of Valley Falls, Town of Pittstown, Rensselaer County, New York, Site Number 4-42-028.

associated with this site place restrictions on site use; and mandate operation, maintenance, monitoring, and reporting measures for each EC and IC. This SMP specifies the methods necessary to ensure compliance with each EC and IC required by this SMP for residual contamination at the Site. This plan has been approved by the NYSDEC. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of the procedures required to manage remaining contamination at the Site after completion of the remedial action including: (1) media monitoring and submittal of Periodic Review Reports and (2) defining criteria for termination of the groundwater monitoring program.

To address these needs, this SMP includes a Monitoring Plan for implementation of site monitoring. 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 to properly manage the Site. Failure to properly implement the SMP could lead to grounds for revocation of the Certificate of Completion.
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 New York Code of Rules and Regulations (NYCRR) Part 375 and, thereby, subject to applicable penalties.

## 1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC project manager. In accordance with this SMP, 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 a residential area where single family homes are serviced by private drinking water wells. The Site is approximately 0.5 mi from the Hoosic River and is located within the incorporated village of Valley Falls, a small, rural community on the Hoosic River in the town of Pittstown, Rensselaer County (Figures 1 and 2).

The Site, the former Winchell Dry Cleaners property, consists of a relatively flat parcel of land, and includes the residence of the present owner at 11 Lyon Street. The property includes four contiguous parcels totaling approximately 1.2 acres.

EA Project No.: 14474.23

## 1.2.2 Site History

The Site, formerly Winchell Dry Cleaners, was established in the 1940s by Mr. Winchell and operated continuously through the early 1970s. It was reportedly sold by Mr. Winchell to Mr. Johnson in the early 1970s. Mr. Johnson continued to operate the facility as a dry cleaner for a few years, and the property was resold and then abandoned in the mid-1970s. It is believed that the dry cleaning operation discharged perchloroethene (PCE) wastes directly onto the ground surface when operators washed lint filters in wash water which discharged into an on-site septic system.

In January 1992, the New York State Department of Health (NYSDOH) sampled nine private wells after it was notified of contamination at a private well in the village of Valley Falls. The results of the sampling analysis from one of the wells revealed that the concentration of PCE contamination exceeded the United States Environmental Protection Agency (USEPA) action level of 67 parts per billion (ppb). As a result, the Site was referred by the NYSDEC to the USEPA for an emergency response action. USEPA provided bottled water and installed granular activated carbon (GAC)/ultraviolet (UV) units at six residences that exceeded the NYSDOH drinking water standard of 5 ppb. The NYSDEC completed a Phase I assessment of the Site in June 1993 and the Site was listed on the NYS Registry as a Class 2 Inactive Hazardous Waste Disposal Site. NYSDEC initiated an in-house remedial investigation (RI) in 1996. This work was completed in December 1996.

A RI/Feasibility Study (FS) was completed in February 1998 that led to remedial design and construction in the fall of 1999. In addition to the replacement of selected potable water wells, contaminated soil, an on-site drywell, an abandoned septic system, and an underground storage tank (UST) were excavated as part of the construction.

The Site is currently surrounded by residential, commercial, and undeveloped lands (Figure 2). Bedrock is exposed near the surface to the south of the Site and is located onsite at a depth of 23 ft. It is believed that the eroded bedrock surface slopes to the north, allowing the overburden sand and gravel aquifer to reach a thickness greater than 70 ft near the Hoosic River, which is located approximately <sup>1</sup>/<sub>4</sub>-mi north of the Site. The following reports are available for the Site:

- *Remedial Investigation Report, Valley Falls Dry Cleaners, Site Number 4-42-028* (NYSDEC, 1996)<sup>2</sup>
- Record of Decision (ROD), Valley Falls Dry Cleaners Site, Village of Valley Falls, Rensselaer County, New York, Site Number 4-42-028 (NYSDEC, 1998)<sup>3</sup>

<sup>2.</sup> NYSDEC, 1996. Remedial Investigation Report, Valley Falls Dry Cleaners, Site Number 4-42-028. December.

<sup>3.</sup> NYSDEC, 1998. Record of Decision, Valley Falls Dry Cleaners Site, Village of Valley Falls, Rensselaer County, New York, Site Number 4-42-028. February.

 Post-Remediation Report, Valley Falls Dry Cleaner Site, Village of Valley Falls, Town of Pittstown, Rensselaer County, New York, Site Number 4-42-028 (NYSDEC, 2000)<sup>1</sup>.

# **1.2.3** Geologic Conditions

The Site lies on the south side of the lower Hoosic River Valley at an elevation of approximately 375 ft above mean sea level, within the Hudson River drainage basin. Valley Falls is approximately 6 mi east of the confluence of the Hoosic and Hudson rivers. Bedrock occurs at 23 ft below grade at the Site, and is mapped as lower Ordovician and upper Cambrian limestone and calcareous somewhat carbonaceous black shale. The bedrock is competent, largely deformed and nearly vertically bedded in outcrop. Bedrock in the area is overlain by a variety of unconsolidated glacial deposits, deposited during the advance and retreat of the late-Wisconsin Glaciation. Although remnants of the Eagle Bridge recessional moraine are evident south of the site, most of the area south of the Site is typified by lodgement till and drumlins. The Site itself lays near the southern margin of the Hoosic River glacial lacustine deltaic and river terrace deposits. The locations of the geologic sections are shown as Figure 3, and the cross sections are shown as Figures 4 and 5.

# 1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A 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 Report, Valley Falls Dry Cleaner, Site Number 4-42-028* (NYSDEC, 1996)<sup>2</sup>.

Generally, the RI determined that volatile organic compound (VOC) contamination from the former dry cleaning operation was present in on-site soil and in groundwater at and downgradient of the Site. Constituents of concern include PCE and its breakdown products of trichloroethylene (TCE) and dichloroethylene (DCE). Residential well sampling and monitoring well sampling results (from the upper and lower aquifers) indicated that wide spread low levels of PCE were present in groundwater downgradient of the Site. There are two ways that contaminants could migrate from the unconfined upper sand and gravel aquifer to the lower confined bedrock aquifer over time. One is by leakage along the steel casing of residential wells which are not grouted and sealed in a bedrock socket, and the second is by leakage through the glacial till unit downgradient of the Site. Analytical results also indicated that the highest levels of soil contamination were present below the water table and have remained localized beneath the Site. The RI also revealed the presence of an abandoned on-site fuel tank, dry well, septic tank, and associated pipes.

## 1.3.1 Soil

In April 1996, a total of four initial soil borings were advanced to bedrock using a hollow-stem auger. Continuous split-spoon samples were obtained from the ground surface to the top of competent bedrock. In September 1996, an additional nine soil borings were advanced to better delineate the extent of soil contamination using a NYSDEC truck mounted drill rig.

The soil sample analysis conducted at the Site indicated that the on-site soil primarily below the water table is contaminated with PCE, and its breakdown products of TCE and DCE. The concentration of the contaminants of concern ranges from 0.012 to 170 parts per million (ppm). Sample locations and the analytical results are shown in Figure 6. The soil cleanup level necessary to achieve protection of the groundwater is 0.84 ppm (840 ppb).

## 1.3.2 Site-Related Groundwater

Two aquifers were identified on-site: the upper sand and gravel (overburden) and the shale bedrock. The upper sand and gravel, and lower bedrock aquifer are separated by a glacial till unit. The upper sand and gravel aquifer was not present at the upgradient MW-1 location (upgradient of the Site). The till unit is saturated at the upgradient location, and is hydraulically connected to the upper sand and gravel aquifer. On-site and downgradient of the Site, the till unit functions as an aquitard impeding the movement of groundwater to the bedrock aquifer. Bedrock was encountered at a depth of 23 ft at the Site. Groundwater contour maps for the overburden and bedrock are included as Figures 7 and 8.

Both aquifers exhibit low yield. The shallow sand and gravel aquifer is an unconfined water table aquifer which yielded only about 1 gal per minute (gpm) or less to monitoring wells when pumped. In the past, however, most homes in the village depended on this aquifer for a water supply. Water was obtained from large diameter dug wells. Two residents in the vicinity of the Site still obtain their drinking water from shallow large diameter dug wells. The sand and gravel are about 9-ft deep at the Site, and the bottom 2-4 ft are saturated, depending on the season.

Most shallow dug wells have been replaced by drilled bedrock wells over the years. The shale bedrock aquifer yielded only about 1.5 gpm or less to monitoring wells which were drilled 30 ft into the rock. Most deep residential bedrock wells have higher yields at approximately 5 gpm or 6 gpm.

A total of six homeowner's wells were impacted with PCE contamination above the NYSDOH standards, criteria, and guidance (SCGs) value of 5 ppb. The on-site shallow groundwater is contaminated by PCE, and its breakdown products of TCE and DCE at concentrations up to 350 ppb.

There are two shallow dug wells in the sand and gravel aquifer which are contaminated with PCE at concentrations of 8 and 190 ppb. Four bedrock wells are contaminated with PCE at concentrations ranging from 5 to 130 ppb. The table below details residences with detections of PCE over the SCG.

RESIDENTIAL WELL ANALYTICAL RESULTS		
Residence	Type of Well	PCE Concentration (ppb)
16 Charles St	45-ft drilled well	8.0
10 Charles St	150-ft drilled well	5.0
36 State St	Dug	9.7
12 Charles St	15-ft Dug	115-190
9 Edward St	Drilled bedrock well	130
11 Lyon St	120-ft drilled well	47
31 State St	90 to 100-ft drilled well	5.2

Concentrations in the off-site shallow groundwater are in excess of 100 ppb for PCE and its breakdown products, extending from the site to the northwest. The areal extent of the shallow groundwater plume above 200 ppb in 1996 is approximately 3 acres. An isopleth map depicting the areal extent is shown as Figure 9.

There has been no apparent decline in concentration of contaminants in these wells over time. Contaminant concentrations in other residential bedrock wells generally occur at very low levels (1-2 ppb), but the contamination appears to be quite widespread, with very low levels showing up 0.5-mi downgradient of the site. The mechanism for transport of the contaminants from the upper sand and gravel aquifer to the bedrock aquifer is due to the downward hydraulic gradient at the site. Another possible mechanism for transport of the contaminants is leakage along the casing of the on-site homeowner well. Once contaminants are in the fractures and fissures in the bedrock, they can move along fractures with groundwater which may be influenced by the pumping of other bedrock wells in the area. The groundwater cleanup level that will bring the Site in compliance with SCGs for PCE, TCE, and DCE is 5 ppb, respectively.

# 1.3.3 Site-Related Soil Vapor Intrusion

The soil gas survey performed at the site (December 1995) was used to determine the lateral extent of PCE contamination and was accomplished with a Geoprobe mounted on a pick-up truck. A 10-ft grid was laid out over the Site and was expanded as samples and field gas chromatograph results were obtained. Soil gas samples were taken from a total of 56 sample points. Soil vapor sample locations and results are shown on Figure 10. The results of the soil gas greater than 1 ppm south of the building's foundation, with a small area greater than 5 ppm, and one location greater than 10 ppm under the foundation. Based on these data, contaminants in soil vapor were believed to be limited to the immediate area surrounding the former dry cleaners building.

EA Project No.: 14474.23

## **1.4 SUMMARY OF REMEDIAL ACTIONS**

The Site was remediated in accordance with the NYSDEC-approved ROD dated February 1998<sup>3</sup> and the Post-Remediation Report dated September 2000<sup>1</sup>. The following is a summary of the remedial actions performed at the Site.

Remedial actions required by the ROD included the replacement of residential drinking water wells or the installation of GAC/UV systems on the affected wells; excavation and off-site disposal of contaminated soil; decommissioning the abandoned UST, septic tank, dry well, and associated piping; dewatering of from the excavation and treatment of groundwater prior to disposal. The ROD also required semi-annual monitoring of the affected private water supply wells and monitoring wells for a period of 5 years. The scope of work required confirmatory soil sampling, backfilling of the excavations, and installation of an 8-in. soil cover over all disturbed areas. Specific remedial elements are described below:

- 1. Excavation of soil/fill exceeding PCE concentrations of 0.84 ppm.
- 2. Construction and maintenance of an 8-in. soil cover system consisting of non-contaminated soil to prevent human exposure to contaminated soil/fill remaining at the site.
- 3. Decommission a 1,000 gal UST, septic tank, dry well, and piping. Two additional USTs were discovered and decommissioned during the excavation including a 500 gal tank and 2,000 gal tank.
- 4. Replacement of three private drinking water wells.
- 5. Confirmatory soil investigation that included 45 locations across the site area.
- 6. Development and implementation of a SMP for long-term management of remaining contamination which includes plans for groundwater monitoring.

Remedial activities were completed at the Site by 5 April 2000.

#### **1.4.1** Removal of Contaminated Materials from the Site

A total of three USTs were recovered, cleaned, and disposed of off-site during the excavation. The tanks had capacities of 2,000 gal, 1,000 gal, and 500 gal. The 500 gal and 2,000 gal USTs were used to store petroleum products; both were corroded and had leaked product to the soil. Additionally, an abandoned septic tank, dry well, and all associated piping were excavated and disposed of off-site.

Soil cleanup objectives of 0.84 ppm for PCE impacted soils and 10 ppm for petroleum impacted soils were established prior to site remediation. No hazardous soil was found at

the Site and 269.49 tons of non-hazardous contaminated soil was excavated and disposed of off-site. A figure showing areas of excavation and confirmatory sample locations is shown as Figure 11. The excavation area was backfilled with clean fill and an 8-in. soil cover was installed to grade.

The vertical extent of contamination at the Site exceeded original estimates. As a result, a 10 in. recovery well was installed to a depth of 15 ft below grade that could be used to recover contaminated groundwater underneath the site. The well was constructed using 10-in. schedule 40 polyvinyl chloride casing and was screened from 5 to 15 ft. To date, the recovery well has not been used to recover contaminated groundwater. During excavation activities, an additional 26 soil borings were installed and screened with a photoionization detector (PID). Figure 12 shows the boring locations and borehole logs are included as Appendix A.

## 1.4.2 Site-Related Treatment Systems

Prior to remedial activities at the Site, seven GAC/UV water treatment systems were installed at private residences by the NYSDOH. In 1992, five treatment systems were installed by Megometrics Corporation. In 1994 and 1996, two additional treatments were installed by Rust Environment and Infrastructure. No additional systems have been installed since that time.

Systems installed by Megometrics Corporation include pre-filtration for sediment removal, two 12-in. diameter, 52-in. tall GAC vessels and UV disinfection. Systems installed by Rust Environment and Infrastructure are of the same design, but with larger capacity carbon vessels (3.3 ft<sup>3</sup>). In 2002, NYSDEC requested that two systems be removed. One was turned over to NYSDEC and the other was turned over to the homeowner for private maintenance. Locations of installed GAC/UV treatment systems are shown in Figure 13.

## 1.4.3 Remaining Contamination

Based on post-excavation analytical data, the impacted soil has been removed from the Site. Analytical results from the overburden groundwater monitoring well located on-site reveals the presence of PCE over the SCG.

EA Project No.: 14474.23

## 2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

#### 2.1 INTRODUCTION

#### 2.1.1 General

Since remaining contaminated groundwater exists beneath the Site, ECs are required to protect human health and the environment. This Engineering Plan describes the procedures for the implementation and management of each EC at the Site. The EC Plan is one component of the SMP and is subject to revision by NYSDEC.

#### 2.1.2 Purpose

This plan provides:

- A description of each EC.
- The basic implementation and intended role of each EC.
- 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 ECs. Any other provisions necessary to identify or establish methods for implementing the ECs required by the site remedy, as determined by the NYSDEC.

#### 2.2 ENGINEERING CONTROLS

#### 2.2.1 Engineering Control Systems

#### 2.2.1.1 Granular Activated Carbon Systems

Exposure to remaining contamination in groundwater at the Site is prevented by GAC whole-house water treatment systems at four private water supply wells. Each of the systems utilize pre-filtration for sediment removal, two 12-in.  $\times$  52-in., or 14-in.  $\times$  47-in., GAC vessels for the removal of VOCs and UV disinfection. Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). Procedures for the inspection and maintenance of the GAC systems are provided in the Operations and Maintenance Plan included in Section 4 of this SMP. The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

#### 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.

#### 2.2.2.1 Granular Activated Carbon Systems

The GAC system is a temporary control, and the quality and integrity of this system will be inspected semi-annually until the systems are decommissioned.

#### 2.2.2.2 Monitored Natural Attenuation

Groundwater monitoring activities to assess natural 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.

## 2.3 INSPECTIONS AND NOTIFICATIONS

#### 2.3.1 Inspections

Inspections of each remedial component 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 ECs continue to perform as designed.
- If these controls continue to be protective of human health and the environment.
- Compliance with requirements of this SMP.
- Achievement of remedial performance criteria.
- Sampling and analysis of appropriate media during monitoring events.
- If site records are complete and up to date.
- 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 SMP (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 ECs implemented at the site by a qualified environmental professional as determined by NYSDEC.

# 2.3.2 Notifications

Notifications will be submitted by the consulting firm 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 NYSDEC Work Assignment #D004445-23, 6NYCRR Part 375, and/or Environmental Conservation Law.
- Notice within 48-hours of any damage or defect to the foundation structures that reduces or has the potential to reduce the effectiveness of other ECs, and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- 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 NYSDEC Work Assignment #D004445-23, and all approved work plans and reports, including this SMP.
- 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.

# 2.4 CONTINGENCY PLAN

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

## 2.4.1 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.

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

## 2.4.2 Map and Directions to Nearest Health Facility

Site Location: Valley Falls Dry Cleaners Nearest Hospital Name: St. Mary's Hospital Hospital Location: 1300 Massachusetts Avenue, Troy, NY 12180 Hospital Telephone: (518) 268-5000

Directions to the Hospital:

- 1. Start out going west on Lyon St toward Edward St.
- 2. Turn left onto State St/CR117/Main St. Continue to follow CR117.
- 3. Continue onto CR 119/Madigan Rd
- 4. Slight right onto CR 117/Melrose Valley Falls Rd
- 5. Continue onto NY-40 S/State Route 40 S
- 6. Turn right onto State Route 40 S
- 7. Take the 1<sup>st</sup> left onto NY-40 S/State Route 40 S. Destination will be on the left.

Total Distance: 13.2 miles

Total Estimated Time: 24 minutes



## Map Showing Route from the Site to the Hospital:

#### 2.4.3 Response Procedures

As appropriate, the fire department and other emergency response groups will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan. The list will also be 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 (monitored natural attenuation) to reduce or mitigate contamination of groundwater at the Site. 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 appropriate media (e.g., groundwater).
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards.
- Assessing achievement of the remedial performance criteria (below NYSDEC Ambient Water Quality Standards [AWQS] standards).
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.
- 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 (QA)/Quality Control (QC) requirements.
- Inspection and maintenance requirements for monitoring wells.
- Monitoring well decommissioning procedures.

• Annual inspection and periodic certification.

Five-quarter (every 15 months) monitoring of the performance of the remedy and overall reduction in contamination on-site [and off-site] will be conducted for the first 3 years. 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. Monitoring programs are summarized in the table below and outlined in detail in Sections 3.2 and 3.3 below.

MONITORING SCHEDULE			
Monitoring	Frequency <sup>(1)</sup>	Matrix	Analysis
Program			
Groundwater	15 Months	Aqueous	USEPA Method 8260B
(1) The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH.			

## 3.2 MEDIA MONITORING PROGRAM

The only media required to be monitored under the site remedy (monitored natural attenuation) currently is on-site and off-site groundwater.

## 3.2.1 Groundwater Monitoring

## **Groundwater Elevation Monitoring**

In order to evaluate the groundwater flow direction at the site, groundwater level gauging will be performed on the eight monitoring well (Figure 2). Depth to groundwater measurements will be collected on a quarterly basis and in conjunction with groundwater sampling (conducted every 15 months). An electronic water level meter will be used for this field task capable of recording water elevations to within +/- 0.01-in. accuracy. The depth to groundwater measurements will be used to generate groundwater elevation/flow direction maps for both the overburden and bedrock monitoring wells. The following table identifies the wells to be gauged and sampled at frequency noted above and in the following section.

MONITORING WELL NETWORK			
MW-1S	MW-2S	MW-3S	MW-4S
MW-1D	MW-2D	MW-3D	MW-4D

## 3.2.2 Groundwater Sampling

The groundwater monitoring schedule will include sampling events approximately 15months apart (five-quarter), in order to collect samples that reflect seasonal groundwater fluctuation. Eight wells noted above (well logs included in Appendix B), including each locatable and functional existing site-related monitoring well, will be gauged and sampled.

Groundwater monitoring well sampling procedures will include water level measurements, well purging, field measurements, and sample collection at each monitoring well location. A copy of the purging and sampling log form used to record well purging, water quality measurements, and sampling flow rates is provided in Appendix C. The objective of the groundwater sampling protocol is to obtain samples that are representative of the aquifer in the well vicinity so that analytical results reflect the composition of the groundwater as accurately as possible. Water level measurements and analytical results will be included in the reports issued after each groundwater sampling event.

Rapid and significant changes can occur in groundwater samples upon exposure to sunlight, temperature, and pressure changes at ground surface. Therefore, groundwater sampling will be conducted in a manner that will minimize interaction of the sample and the surface environment. The equipment and protocol for collecting groundwater samples by each method are described in Section 3.3. Groundwater samples will be collected using low-flow sampling procedures. Monitoring wells will be purged until water quality measurements are stabilized (variation of less than 10 percent), and turbidity is recorded below 50 nephelometric turbidity units. Purge water will be handled as detailed in Section 3.3.6.

The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

# 3.3 SAMPLING PROTOCOL

# 3.3.1 Purging and Sampling Equipment

Well purging may be performed by using submersible/peristaltic pumps or by using dedicated polyethylene bailers. Equipment for sampling may include the following:

- Submersible pumps and dedicated polyethylene tubing
- Teflon-lined polyethylene bailers dedicated in each well for well purging
- Electronic water level measurement unit with accuracy of 0.01 ft
- Flow measurement device (containers graduated in milliliters) and stop watch.

# 3.3.2 Field Analytical Equipment

Field equipment to be used at the Site will include a Horiba U-22 water quality meter (or similar) with a flow-through cell, which includes probes for measurement of pH,

oxidation-reduction potential (ORP), turbidity, dissolved oxygen, temperature, and conductivity. Each piece of equipment will be checked by the field technician to assure that it is in proper working order before its use and calibrated as required by the manufacturer. Prior to each use, field analytical equipment probe(s) will be decontaminated. After each use, the instrument will be checked and stored in an area shielded from weather conditions.

The calibration of each instrument will be checked at the beginning of each day of groundwater sampling.

# 3.3.3 Groundwater Sampling Purge Method

Groundwater samples will be analyzed for VOCs by USEPA Method 8260B, in accordance with the NYSDEC Analytical Services Protocol (ASP) during the sampling event. The following procedures will be used for monitoring well groundwater sampling:

- Wear appropriate personal protective equipment as specified in the Health and Safety Plan (HASP) and the HASP Addendum. In addition, samplers will use new sampling gloves for the collection of each sample.
- Unlock and remove the well cap and monitor headspace with a PID.
- Measure the static water level in the well with an electronic water level indicator. The water level indicator will be washed with Alconox detergent and water, then rinsed with deionized water between individual wells to prevent crosscontamination.
- Calculate the volume of water in the well.
- Purge the well with a low-flow submersible pump at a flow rate between 0.2-0.5 Liters/minute.
- Allow field parameters of pH, Eh, dissolved oxygen, specific conductivity, and temperature to stabilize before sampling. Purging will be complete if the following conditions are met:
  - Consecutive pH readings are ±0.2 pH units of each other
  - Consecutive water temperatures are  $\pm 0.5^{\circ}$ C of each other
  - Consecutive measured specific conductance is  $\pm 10$  percent of each other.
- If the well goes dry before the required volumes are removed, the well may be sampled when it recovers (recovery period up to 24 hours).
- If the well goes dry, obtain the sample from the well with a bailer suspended on

EA Project No.: 14474.23

new, clean nylon twine. The sampling will be performed with a new bailer dedicated to each individual well.

- Collect the sample aliquot for VOC analysis, by lowering and raising the bailer slowly to avoid agitation and degassing, carefully pouring directly into the appropriate sample bottles. Sample bottles containing appropriate preservative for the parameter to be analyzed will be obtained from the laboratory.
- Obtain a field measurement of pH, dissolved oxygen, turbidity, ORP, temperature, and specific conductivity with a YSI/Horiba and record it on the purging and sampling form. The instruments will be decontaminated between wells to prevent cross-contamination.
- Place the analytical samples in cooler and chill to 4°C. The samples will be shipped to the analytical laboratories within 24 hours.
- If a submersible pump is used, it will be fully decontaminated and the polyethylene suction/discharge line will be properly discarded.
- Re-lock well cap.
- Fill out the field logbook, sample log sheet, labels, custody seals, and chain-ofcustody forms.

Groundwater samples will be placed in appropriate sample containers, sealed, and submitted to the laboratory for analysis. The samples will be labeled, handled, and packaged following the procedures described in the Generic Quality Assurance Project Plan (QAPP) and QAPP Addendum. QA/QC samples (duplicate, matrix spike and matrix spike duplicate) will be collected at the frequency detailed in the Generic QAPP and QAPP Addendum. Sample forms to be completed during groundwater sampling are included in Appendix C.

## **3.3.4 Decontamination Procedures**

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each monitoring well using an Alconox rinse and potable water rinse. Additional cleaning of the equipment with steam may be needed under some circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

#### **3.3.5** Storage and Disposal of Waste

The consultant is responsible for the proper storage, handling, and disposal of investigative derived waste including personal protective equipment, solids and liquids generated during the well drilling, well development, and well sampling activities. All drummed materials will be clearly labeled as to their contents and origin. All investigative derived waste will be managed in accordance with NYSDEC DER Technical and Administrative Guidance Memorandum 4032.

Accordingly, handling and disposal will be as follows:

- Liquids generated from contaminated equipment decontamination that exhibit visual staining, sheen, or discernable odors will be collected in drums or other containers at the point of generation. They will be stored in an appropriate staging area as approved by NYSDEC. A waste subcontractor will then remove the drums and dispose at an off-site location.
- Liquid generated during well purging or a decontamination activity that does not exhibit visible staining, sheen, or discernable odors will be discharged to an unpaved area on the site, where it can percolate into the ground.
- Soil and rock cuttings from drilling operations that do not exhibit visible staining, sheen, or discernable odors will be disposed of on-site.
- Soil and rock cuttings from drilling operations that exhibit visible staining, sheen, or discernable odors will be staged onsite until an appropriate treatment/disposal procedure has been determined after the completion of the site characterization.
- Used protective clothing and equipment that is suspected to be contaminated with hazardous waste will be placed in plastic bags, packed in 55-gal ring-top drums, and transported to the drum staging area.
- Non-contaminated trash and debris will be placed in a trash dumpster and disposed of by a local garbage hauler.
- Non-contaminated protective clothing will be packed in plastic bags and placed in a trash dumpster for disposal by a local garbage hauler.

## 3.3.6 Laboratory Analysis and Reporting

Groundwater samples will be analyzed by an Environmental Lead Proficiency Analytical Testing- and Environmental Laboratory Accreditation Program-certified laboratory for VOCs USEPA Method 8260B. It is anticipated that preliminary analytical results will be available within 2 weeks of receipt at the laboratory, and final results will be provided within the standard turnaround time (i.e., 30 days). Analytical results will be provided as Category A deliverables.

## 3.3.7 Monitoring Well Repairs, Replacement, And Decommissioning

If biofouling or silt accumulation occurs in the on-site and/or off-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 GRANULATED ACTIVATED CARBON SYSTEM SAMPLING

The GAC system monitoring schedule will include semi-annual sampling events. Three GAC units will be sampled; the fourth GAC unit (12 Charles Street) has not been sampled since April 2007 due to the owner's death. The house has subsequently been vacant and will be sampled again once it's occupied. Sampling points include a raw and intermediate port. Final samples are collected at the kitchen tap. The GAC units currently reported and expected to be sampled as part of the groundwater monitoring program are:

- 11 Lyon Street, Valley Falls, New York
- 12 Charles Street, Valley Falls, New York
- 9 Edward Street, Valley Falls, New York
- 31 State Street, Valley Falls, New York.

The sampling frequency may be modified with the approval of the NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

## 3.4.1 Sampling Protocol

## **3.4.1.1 Purging and Sampling Equipment**

Standard protocol at sites with limited water usage is to allow a sampling tap to run for at least 15 minutes prior to sampling for volatiles to insure that representative water is in the system. After purging, samples are collected in the following order: effluent, intermediate, and raw water in order to minimize the possibility of cross-contamination. Volatile organic samples are collected in 40-mL vials, capped, and then checked to ensure that no air bubbles are trapped in the vial. Care is taken during collection to minimize agitation and to immediately place sample containers on ice to prevent volatilization.

Bacteria sampling of the final (treated) water is conducted after volatile sampling. Sampling protocol requires decontamination of the water sampling port by heating with an open flame for 1 minute prior to sampling.

GAC samples will be placed in appropriate sample containers, sealed, and submitted to the laboratory for analysis. The samples will be labeled, handled, and packaged following the procedures described in Generic QAPP and QAPP Addendum. Sample/inspection forms to be completed during GAC sampling are included in Appendix D.

## 3.4.1.2 Granular Activated Carbon System Laboratory Analysis and Reporting

Groundwater samples will be analyzed by an Environmental Lead Proficiency Analytical Testing- and Environmental Laboratory Accreditation Program-certified laboratory for VOCs USEPA Method 524.2. A sample for the tap will be collected and analyzed for bacteria at each location. It is anticipated that preliminary analytical results will be available within 2 weeks of receipt at the laboratory and final results will be provided within the standard turnaround time (i.e., 30 days).

## 3.4.1.3 Granular Activated Carbon Repairs, Replacement, and Decommissioning

GAC units will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the units unusable. Repairs and/or replacement of GAC units will be performed based on assessments of structural integrity and overall performance.

# 3.5 SITE-WIDE INSPECTION

Site-wide inspections will be performed concurrently with groundwater sampling events. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

• General site conditions at the time of the inspection.

- The site management activities are being conducted including, where appropriate, confirmation sampling and a health and safety inspection.
- Confirm that site records are up to date.

## 3.6 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Generic QAPP 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.
- Internal QC and checks.
- QA performance and system audits.
- Preventative maintenance procedures and schedules.

## 3.7 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on-site with field personnel. 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. A letter report will also be prepared subsequent to each sampling event. 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
- 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 in the table below.

SCHEDULE OF MONITORING/INSPECTION REPORTS		
Task	<b>Reporting Frequency</b> <sup>(1)</sup>	
Groundwater Sample Letter Report	Following each sampling event	
Periodic Review Report	Every 2 years	
(1) The frequency of events will be conducted as specified until otherwise		
approved by NYSDEC inspections, reporting and certifications.		

#### 4.0 OPERATION AND MAINTENANCE PLAN

## 4.1 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor, and maintain the mechanical components of the remedy selected for the Site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the GAC systems
- Includes an operation and maintenance contingency plan
- Will be updated periodically to reflect changes in site conditions or the manner in which the GAC systems are operated and maintained.

# 4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

Currently, there are active treatment systems on four residential private supply wells. The point of entry treatment system consists of utilizing pre-filtration for sediment removal, two GAC vessels for the removal of VOCs, and an UV light for disinfection.

# 4.3 SCOPE OF MAINTENANCE FOR GRANULAR ACTIVATED CARBON SYSTEMS

A visual inspection of the GAC system will be conducted during each semi-annual sampling event. The following maintenance activities should be completed during each round of sampling:

- Cleaning the particle filter
- Cleaning the quartz sleeve
- Change out the UV light (annually)
- Inspection of carbon vessel, UV light, and associated plumbing for leaks and/or damages.

A carbon vessel change out will be required when site contaminants are reported at 1  $\mu$ g/L or above in the intermediate water sample. During the carbon change out, the primary vessel will be removed and the secondary vessel will be moved to the primary vessel. The new carbon vessel will then be inserted as the secondary vessel.

## 4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the Site will be kept on file with the NYSDEC. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

## 4.4.1 Routine Maintenance Reports

Checklists or forms (Appendix D) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date.
- Name, company, and position of person(s) conducting maintenance activities.
- Maintenance activities conducted.
- Any modifications to the system.
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet).
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

#### 4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date.
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities.
- Presence of leaks.
- Date of leak repair.
- Other repairs or adjustments made to the system.

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet).
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

## 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. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted 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 on the appropriate forms which are contained in Appendixes B through D. Additionally, a general site-wide inspection will be completed and recorded on the inspection form. 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.
- The site remedy continues to be protective of public health and the environment.

#### 5.2 CERTIFICATION OF ENGINEERING CONTROLS

After the last groundwater sampling event of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in NYS will prepare the following certification:

For each IC/EC 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 IC/ECs required by the remedial program was performed under my direction.

- The IC/EC 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 the environment.
- Nothing has occurred that would constitute a violation or failure to comply with any SMP for 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.
- The EC 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.
- 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] (and if the site consists of multiple properties): [I have been authorized and designated by all site owners to sign this certification] for the Site. The signed certification will be included in the Periodic Review Report described below.

# 5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every 2 years. 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 depicted in Figure 2. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment, and certification of each ECs/ICs required by the remedy for the Site.
- Results of the required annual site inspections and severe condition inspections, if applicable.

- Each 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 each compound analyzed, along with the applicable standards, with each exceedance highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
- Results of all analyses, copies of each laboratory data sheets, and the required laboratory data deliverables for each 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 Remedial Action Work Plan, ROD, or Decision Document.
  - The operation and the effectiveness of each treatment unit, 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.
  - 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 IC/EC, 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.


























## Appendix A

## **Borehole Log During Excavation Activities**

CLENT:	Tyree Organization, Limited Latham, NY	WELL LOG	BORING NAME . <b>B</b> /
Betwin     Interval Grade     Blow K Name     Plow Reserve     Blow Reserve     Well       0     0     0     0     0     0       1     0     0     0     0       2     0     0     0     0       3     0     0     0     0       4     0     1     0     0       5     0     0     0     0       6     0     1     0     0       6     0     1     0     0       7     0     0     0     0       6     0     0     0     0       10     0     0     0     0       11     0     0     0     0       11     0     0     0     0       11     0     0     0     0       10     0     0     0     0       11     0     0     0     0       12     0     0     0     0       13     0     0     0     0       14     0     0     0     0       15     0     0     0     0       16     0     0	CLIENT: NYSDEC PROJECT: VALLEY FI LOCATION: VALLEY FA	DATE STARTED, LOGGED BY: US, NY RIG: RIG:	COMPLETED: 3/8/00 J. MURRAY BRA ROBE
1       Image: Second Se	Below Interval Reading Grade & Name (ppm)	Blow Counts/ Well ecovery Completion Field Description of Soil (0-4')	BORE HOLE DATA Drilling Method:
3 $A$		BROWN SANDY GRAVE	Hole Dia.: <u>21/4</u> " Depth: <u>12'</u> WELL DATA
5			Riser Type: <u>N/A</u> Riser Dia.: Riser Length:
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	- 5 - 6	(4-8) BROWN SILTY SAND AND GRAVEL, MOIST	D Screen Type:
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Screen Dia.: Screen Length: Slot:
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	- 10	(B-12) B-10: SANDY FGRAVEL	FILTER PACK
$  -12: GRAY_S LTY_CLAY_{,}$ $Type:V_U_U_U_U_U_U_U_U_U_U_U_U_U_U_U_U_$		10-11: SILTY SANDAND mf GRAVEL SOME CLAN	Volume Used: Interval:
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	- 14	Some ANGULAR	Type: Volume Used:
es: ppm=parts per million, nd=not detected       Concrete Pad: YES NO         es: ppm=parts per million, nd=not detected       Size:         Notive       LEGEND         Motive       WELL DEVELOPMENT         Sond Pock       trace=1-10%         Notive       Very fine sand=0.6-0.13mm         Mathematical       Very fine sand=0.13-0.25mm         Ittle=10-20%       Ittle=20.4mm	16	VERY MOLST	WELL HEAD COMPLETION Manhole: YES NO Size:
Sond Pocktrace=1-10%very fine sand=0.6-0.13mm $\nabla$ = groundBentanitalittle=10-20%fine sand=0.13-0.25mmf-gravel=2-4mmMethod:	es: ppm=parts per million, p n by: J. Cerr Notive material	id=not detected	Concrete Pad: YES NO Size:
Portlond some = 20-30% medium sand=0.25-0.50mm m-gravel=4-64mm Amt. Purged: Cement Gravel=64-	Sand Pack trace= Bentanite little= Portland some=	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	e Performed: YES NO m Method: mm Amt. Purged:

. •

Tyree Organization, Limited Latham, NY	WELL LC	G	BORING NAME <b>B2</b>
CLIENT: NYSDEC PROJECT: VANEY F LOCATION: VANEY F	ALLS DRY CLEANERS	DATE STARTED/COM LOGGED BY: J.M DRILLER: ZEBC RIG: COTR	PLETED: <u>3/8/00</u> NURRAY A
Depth Sample P.I.D. Below Interval Reading Grade & Name (ppm) F	Blow Counts/ Well ecovery Completion (feet)		BORE HOLE DATA
	(0-4') BRDWN Si	ANDY GRAVEL	Drilling Method: <b>SEOTROBE</b> Hole Dia.: <u>21/4</u> * Depth: <u>12</u> '
			WELL DATA
			Type: Riser Dia.: Riser Length:
- 5 - 6	BROWN SI AND mf	LTY SAND GRAVEL. MOIS	Screen
- 7	WET @7	,),	Screen Dia.: Screen Length: Slot:
- 9	(8-12')		Interval:
- 11	AND n WE	Y COARSESAND 1F GRAVEL,	Source: Composition: Volume Used:
- 12	10-11: BRDI AND M	NN SILTY CLAY	Interval: GROUT / SEAL
14	- Round 11-12: GRE	ED GRAVEL	Type: Volume Used: Interval:
16	WITH AN MC GRA	GULAR WEL.	WELL HEAD COMPLETION Manhole: YES NO
17 es: ppm=parts per million,	nd=not detected		Size: Concrete Pad:YESNO Size:
Native material Sand Pack trace	= 1 - 10% very fine sand=0.6-0.13m	∏ = ground m water table	WELL DEVELOPMENT Performed: YES NO
Bentonite little: Portland some: Cement Grout and=C	=10-207   me sand=0.13-0.25mm medium sand=0.25-0.50m coarse sand=0.5-1mm 0-507   very coarse sand=1-2mm	f-gravel=2-4mm m-gravel=4-64mm c-gravel=64- 256mm	Method: Amt. Purged:

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Tyree Organization, Limited Latham, NY	WELL LO	G	BORING NAME <b>B3</b>
CLIENT: <u>NYSDEC</u> PROJECT: <u>VANEY F</u> LOCATION: <u>VANEY</u>	TAUS DRY CLEANERS	DATE STARTED/COMP LOGGED BY: <u>V.</u> DRILLER: <u>ZEBK</u> RIG: <u>6E0P R</u>	MURRAY
Depth Sample P.I.D. Below Interval Reading Grade & Name (ppm)	Blow Counts/ Well Recovery Completion (feet) Field Descri	ption of Soil	BORE HOLE DATA Drilling Method: <b>GEO Perso</b>
	(0-4') BL	IND PROBE	Hole Dia.: <u>21/4 "</u> Depth: <u>12'</u>
			Riser Type: N/A- Riser Dia.:
		WN YCOARSE Dmf6CAVEL	Riser Length: Interval: Screen
	2" LAYER: VARV IN	S WHICH- COARSENESS	Type: Screen Dia.: Screen Length:
- 8 - <u>2</u> - 9	WET AT ?	7'	Slot: Interval: FILTER PACK
	COARSE S	AND, WET	Source: Composition: Volume Used:
	12': BROW CLAY	SHALE IN SILTY (TILL)	GROUT / SEAL
- 14 15			Volume Used: Interval: WELL HEAD COMPLETION
16			Manhole: YES NO Size: Concrete Pad: YES NO
Notes: ppm=parts per million, brawn by: J. Carr	nd=not detected LEGEND		Size:
Material Sand Pack trac Bentonite little Portland some Cement Grout and=	e=1-10% very fine sand=0.6-0.13m fine sand=0.13-0.25mm medium sand=0.25-0.50m coarse sand=0.5-1mm 30-50% very coarse sand=1-2mm	♥=groundmwater tablef-gravel=2-4mmnm-gravel=4-64mmc-gravel=64-256mm	Performed: YES NO Method: Amt. Purged: Date:

Tyree Organizatio Limited Latham, NY	wE	LL LO	G	BORING NAME <b>B4</b>
CLIENT:NYSDE PROJECT:VALLE LOCATION:VALLE	EC EY FALLS DRY C Y FALLS, NY	LEANERS	DATE STARTED/COM LOGGED BY: DRILLER: RIG:6EOPP	PLETED: 3/8/00 MURLAY CA
Below Interval Readi Grade & Name (ppn	D. Blow ng Counts/ Well n) Recovery Completion (feet)	Field Descri	ption of Soil	BORE HOLE DATA
		(0-4) BL	IND PROBE	Method: <u>GEOPROBE</u> Hole Dia.: <u>2/4</u> " Depth: <u>12</u>
- 2				WELL DATA Riser
4				Type: N/A- Riser Dia.: Riser Length:
- 5		(T-O) COARSES	AND AND RAVEL	Interval:
- 7 2.7				Screen Dia.:
- 8		( 8-12)		Slot: Interval:
- 10 3	B	-10: BROW GRAYEL,	N SAND AND VERY MOIST	FILTER PACK
12		0-11: BRO (LAY A	WASILTY ND GRAVEL	Composition: Volume Used: Interval:
13		1-12: GRA AND	Y SILTY CLAY	GROUT / SEAL
15				WELL HEAD COMPLETION
16				Manhole: YES NO
es: ppm=parts per mil	lion, nd=not detected	GEND		Concrete Pad: YES NO
Native material Sand Pack Bentonite	trace=1-10% very fine sand= little=10-20% fine sand=	sand=0.6-0.13mm 0.13-0.25mm und=0.25-0.50	∑ = ground water table [-gravel=2-4mm	WELL DEVELOPMENT Performed: YES NO Method:
Portland sement Grout a	some=20-30% coarse san and=30-50% very coarse	d=0.5-1mm sand=1-2mm	m-gravel=4-64mm c-gravel=64- 256mm	Amt. Purged: Date:

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Tyree Organizat Limited Latham, NY	tion. W	ELL LO	G	BORING NAME
CLIENT: <u>NYSD</u> PROJECT: <u>VAUE</u> LOCATION: <u>VAUE</u>	EC EX FAUS Dey C Y FAUS, NY	LEANERS	DATE STARTED/COM LOGGED BY: DRILLER: RIG:	PLETED: 3/8/00 MURRAY BRA
Depth Below       Sample Interval & Name       P.I Read (pp)         0       0       0       0         1       0       0       0         1       0       0       0         2       0       0       0         3       0       0       0         4       0       0       0         5       3       0       0         6       0       0       0         7       3.4       0       0         8       0       0       0         10       3.9       0       0         11       0       0       0         12       0       0       0         13       0       0       0         14       0       0       0         17       0       0       0	D. Blow Counts/ Recovery (feet) Well Complet 	ion Field Descr (0-4') Blin (4-B') BROWN C AND mf VERY MO WET AT T $5': 2" CAY BLACK M (B-12')B-10: 5/CT SAND AT 10': 2" LA BLA 10-12: BRA CLAY$	iption of Soil d probe. d probe.	BORE HOLE DATA   Drilling   Method:   Gepth:   12'     WELL DATA   Riser   Type:   Riser Dia.:   Riser Length:   Interval:   Screen   Type:   Screen Dia.:   Screen Length:   Slot:   Interval:   FILTER PACK   Source:   Composition:   Volume Used:   Interval:   Type:   Volume Used:   Interval:   WELL HEAD COMPLETION   Manhole:   YES   NO   Size:   Concrete Pad:   YES
awn by: J. Carr Native material Sand Pack Bentonite Portland Cement Grout	trace=1-10% little=10-20% some=20-30% and=30-50%	LEGEND ne sand=0.6-0.13mm nd=0.13-0.25mm 1 sand=0.25-0.50mm sand=0.5-1mm arse sand=1-2mm		WELL DEVELOPMENT  Performed: YES NO Method: Amt. Purged: Date:

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Tyrce Organizat Limited Latham, NY	<sup>ion,</sup> W]	ELL LO	G	BORING NAME <b>B6</b>
CLIENT: NYSD	EC		DATE STARTED (COM	2/2/22
PROJECT: VAUE	Y FAUS DRY CO	ETHERS	LOGGED BY:	MURRAU
LOCATION: VALLE	EY FAUS, NY		DRILLER:	BRA
Depth Sample P.I	.D. Blow		RIG:68.07	
Below Interval Read	ling Counts/ Well			BORE HOLE DATA
orade a Maine (pp	(feet)	Field Descr	iption of Soil	Drilling
		(0-4) 0		Method: GEOPROBE
		(C 7) BL	IND PROBE.	Hole Dia.: 2.4
2				WELL DATA
				Riser
				Type:
				Riser Dia.:
- 2.		(4-8)		Riser Length:
- 5		4-5: BRO	NALSHITI LEAN	
6			in Diely y SAND	Screen
		5.2 LA	VER OF	lype:
-7 2.1		BLAC	KORGANIC.	Screen Dia.:
			- TEAN	Screen Length:
8		5-7: mf	GRAVEL	Slot:
9		1 0		
		7-8: SATN	DY MT GRAVE	L FILTER PACK
- 10		WETAT	7'	Source:
				Composition:
		(8-12')		Volume Used:
12		B-In: COA	PER SAUN	Interval:
-		ono ch	CANEL WE	GROUT / SEAL
		NND MF	BRATEL, NET	Type:
- 14		10': 2" LA)	IER OF	Volume Used:
		RED-BA	20WN STAININ	Interval:
- 15		10-12: BRC	WN SILTY	WELL HEAD COMPLETION
16		CLAY A	ND BRAVEL,	Manhole: YES NO
- 17		VERY	FRICIST.	Size:
• L				Concrete Pad: YES NO
Notes: ppm=parts per m Drawn by: J. Carr	nillion, nd=not detected			Size:
Native	• ]	LEGEND	1	WELL DEVELOPMENT
material	trace=1-10% verv fin	e sand=0.6-0.12-	$\nabla = \text{ground}$	Performed:
	little= $10-20\%$ fine san	d=0.13-0.25mm	I-gravel=2-4mm	Method:
Bentanite	some=20-30% coarse	sand = 0.25 - 0.50m	m m-gravel=4-64mm	Amt. Purged
Cement Grout	and=30-50% very coa	rse sand=1-2mm	c-gravel=64- 256mm	Date:
				Date

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Tyree Organization Limited	. WELI	LOG	BORING NAME
CLIENT: <u>NYSDE</u> PROJECT: <u>VALLE</u> LOCATION: <u>VALLE</u>	FAUS DRY CLEA FAUS, NY	DATE STARTED/CC LOGGED BY: DRILLER: RIC:	B7 MPLETED: <u>3/8/00</u> T. MURRAY BRA
Depth Sample P.I.D. Below Interval Grade & Name (ppm)	Blow Counts/ Recovery (feet) Completion F	ield Description of Soil	BORE HOLE DATA Drilling Method: Hole Dia.: 21/4" Depth: 121
		в')	WELL DATA Riser Type: N/A Riser Dia.:
- 5 - 6 - 7 <b>3.0</b>	4. 4. 4.	- 7: BROWN SILTY OARSE SAND, SOME GRAVEL TAT 7'	Riser Length: Interval: Screen Type: Screen Dia.:
- 9 - 10	7- (8-1) 8-	B': SANDY GRAVEL 2') 95: COARSESANT	Screen Length: Slot: Interval: FILTER PACK
	9.5-	ND MERAVEL, WE 12: BROWN SILTY SLAY WITH ROWDE AND ANGULAR GRAVE	Composition: Volume Used: Interval: GROUT / SEAL
- 14			Type:
= 17 tes: ppm=parts per mill wn by: J. Carr Notive	ion, nd=not detected		Size:
material Sand Pack t Bentonite si Portland cement Grout a	race=1-10% very fine sand=0 fine sand=0.13-0 medium sand=0. coarse sand=0.5- nd=30-50% very coarse sand	D.6-0.13mm          ∑ = ground         water table          D.25mm          [-gravel=2-4mm	Performed: YES NO Method: Amt. Purged: Date:

Tyree Organiz Limited Latham, N	ation, Y	WELL LO	G	BORING NAME <b>Bs</b>
CLIENT: <u>NYS</u> PROJECT: <u>VAU</u> LOCATION: <u>VAU</u>	DEC LEY FAUS I LEY FAUS,	NY CLEANERS	DATE STARTED/COM LOGGED BY: DRILLER: RIG:	IPLETED: 3/8/00 MURRAY BRA
Depth Sample P Below Interval Re Grade & Name (1	A.I.D. Blow ading Counts/ We Recovery Com (feet)	pletion		BORE HOLE DATA
		(0-4') B	LINDPROBE	Drilling Method: <u>GEOPROBE</u> Hole Dia.: <u>2'/4 "</u> Depth: <u>12</u> '
				WELL DATA
- 4		(4-B')		Type: Riser Dia.: Riser Length:
- 6		4-7.5': B	SAND, MOIS	Type:
- 7 <b>3</b> .2	2	7.5 -8. m	f GRAVEL WE	Screen Dia.: Screen Length:
- 9		(8-12')		Interval:
10 2.5	2	870: COAR AND,	SESAND nf GRAVEL	FILTER PACK
11 2.5		101: 2" RE STAT	D-ORANGE NING-	Composition: Volume Used: Interval:
13		10-12: BR	CLAY AND	GROUT / SEAL
14		II <sup>1</sup> : LARG		Type: Volume Used: Interval:
16			ACESTICE.	WELL HEAD COMPLETION
17				Size:
s: ppm=parts per by: J. Carr	million, nd=not detec	LEGEND		Size:
Native naterial iand Pack	trace=1-10% very	/ fine sand=0.6-0.13mn	$\nabla = \text{ground}$ water table	WELL DEVELOPMENT
entonite fortland	little=10-20% fine some=20-30% coar	sand=0.13-0.25mm lium sand=0.25-0.50mm se sand=0.5-1mm	f-gravel=2-4mm m-gravel=4-64mm c-gravel=64-	Method:
ement Grout	and=30-50% very	coarse sand=1-2mm	256mm	Date:

Tyree Organization, Limited Latham, NY	W	ELL LC	G	BORING NAME
CLIENT: NYSDEC PROJECT: VALLEY LOCATION: VALLEY	FAUS PRY CLE FALLS, NY	EANERS	DATE STARTED/COM LOGGED BY: DRILLER: RIG:	PLETED: 3/8/00 MURRAY
Below       Interval & Name       Reading (ppm)         0       1         1       2         3       3.5         4       3.5         6       2.8         9       3         10       3.3         11       3.3         10       3.3         11       3.3         12       3.3         14       15         15       16         17       16         18       17         wn by J. Carr       2.1	n. nd=not detected	Prield Descr         (0-4) BLA         (4-8)         4-7: SI         Some         7-8: m4         (8-12)         6RAYEN         12': BROW	IND PROBE	BORE HOLE DATA   Drilling   Method:   Method:
Native material tra Sand Pack tra litt Bentonite son Partland cement Grout and	L ce=1-10% very fine le=10-20% fine sand medium coarse sa =30-50% very coar	sand=0.6-0.13mr =0.13-0.25mm sand=0.25-0.50mm ind=0.5-1mm se sand=1-2mm	∑ = ground n water table I-gravel=2-4mm m-gravel=4-64mm c-gravel=64- 256mm	WELL DEVELOPMENT Performed: YES NO Method: Amt. Purged: Date:

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Tyree Organization, Limited Latham, NY	WELL LOC	BORING NAME
CLIENT: <u>NYSPEC</u> PROJECT: <u>VALLEY</u> LOCATION: <u>VALLEY</u>	FAUS, NY	DATE STARTED/COMPLETED: 3/8/00 LOGGED BY: J. MURRAY DRILLER: ZEBRA
Below Interval Reading Grade & Name (ppm)	Blow Counts/ Well Recovery Completion (reet) Field Descripti	BORE HOLE DATA
	(0-4') BLIN	Drilling Method: 6EOPROBE Hole Dia.: 2/4 " Depth: 121
- 2		WELL DATA Riser Type: N/A
- 4 - - 5	(4-B') SIL AND GRA B': SILT	TY SAND     Riser Dia.:       VEL     Riser Length:       Interval:
- 6 - 7 - 2.4		Screen Type: Screen Dia.:
- 8	(8-/2') 8-9: SILTY	Screen Length: Slot: Interval:
- 10	9-11.5: SIL	FILTER PACK FILTER PACK Source: Composition:
- 12	II.5-12: BA	Volume Used:       Interval:
13	BECOMI WITH D	AVEL, Type: NG GRAY Volume Used: EPTH Interval:
15		WELL HEAD COMPLETION
16		Manhole: YES NO Size:
es: ppm=parts per million,	nd=not detected	Concrete Pad: YES NO Size:
Native material	LEGEND	WELL DEVELOPMENT
Sond Pock trac	=1-107 very fine sand=0.6-0.13mm =10-207 fine sand=0.13-0.25mm f	water table Performed: YES NO -gravel=2-4mm Method:

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Tyree Organization Limited Latham, NY	wei	LL LO	G	BORING NAME
CLIENT: <u>NYSDE</u> PROJECT: <u>VALLE</u> LOCATION: <u>VALLE</u>	TC EY FAUS DRY CLE Y PAUS, NY	EANEKS	DATE STARTED/COM LOGGED BY: DRILLER: RIG:	PLETED: 3/8/00 J. MURRAY EBRA 2085
Below       Interval       Reading         Grade $\&$ Name       (ppr         0       1          0       1          0       1          0       1          0       1          1       2          3           3           4           5           6           9           10           11       2.1          12           13           14           15           16           avn by: J. Carr	Blow     Well       Counts/     Recovery       (feet)     Completion	Field Descri (0-4) BLIN SILTYSAN AND CAA AND MF WET AT (B-12) B-11: COAT AND 11-12: BR CLAY	Ption of Soil /D PROBE ERLAYERED ND AND GRAVE RSE SAND MF GRAVEL SWN SILTY AND GRAVEL	BORE HOLE DATA   Drilling   Method:   Loe Dia.:   2.1/4"   Depth:   12'     WELL DATA     Riser   Type:   N/A   Riser Dia.:   Riser Length:   Interval:   Screen   Type:   Screen Length:   Storeen Length:   Slot:   Interval:   FILTER PACK   Source:   Composition:   Volume Used:   Interval:   GROUT / SEAL   Type:   Volume Used:   Interval:   WELL HEAD COMPLETION   Manhole:   YES   NO   Size:   Concrete Pad:   YES
Native material Sand Pack Bentanite Partland Cement Grout	LEG trace=1-10% little=10-20% some=20-30% and=30-50% trace=1-10% very fine satisfies and medium satisfies and very coarse	and=0.6-0.13mr 0.13-0.25mm nd=0.25-0.50mn l=0.5-1mm sand=1-2mm	∑ = ground m water table 1-gravel=2-4mm m-gravel=4-64mm c-gravel=64- 256mm	WELL DEVELOPMENT Performed: YES NO Method: Amt. Purged: Date:

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Tyree Organiz. Limited Latham, N	ation, Y	ELL LO	G	BORING NAME
CLIENT: <u>NYS</u> PROJECT: <u>VALU</u> LOCATION: <u>VAL</u>	DEC EX FAUS DRY CI LEY FAUS, NY	LEANERS	DATE STARTED/COA LOGGED BY: .DRILLER: RIG:	MPLETED: 3/08/00 T. MULKAY CEBRA
Below Interval Rea Grade & Name (p	ading Counts/ Well ppm) Recovery Completio (feet)	n Field Descri	ption of Soil	BORE HOLE DATA
		(0-4) BL	IND PROBE	Method: <u>EOFROBE</u> Hole Dia.: <u>21/4</u> * Depth: <u>12-</u> WELL DATA
- 3		(4-8) BR SANDA	ND Af GRAV	Riser Type: N/A Riser Dia.: Riser Length: Interval:
- 6 - 7 <b>2</b> .0	D	VERY N WET A	1015T. T7'	Screen Type: Screen Dia.:
- 8		(8-12) 8-11: COA	RSESAND NDGRAYEL	Slot: Interval: FILTER PACK
- 11 <b>3.6</b> - 12		11: 2"( CRI 11-12: BA CLAY	AYER OF ISHED STONE COWN SILTY AND GRAVEL	Source: Composition: Volume Used: Interval:
- 13		BEU	OMING GRAY	GROUT / SEAL Type: Volume Used: Interval:
16				WELL HEAD COMPLETION Manhole: YES NO Size:
es: ppm=parts per r n by: J. Carr	nillion, nd=not detected	2004		Concrete Pad: YES NO
Native material Sand Pack Bentonite Portland Cement Grout	trace=1-10% very fine little=10-20% fine sand some=20-30% coarse sa and=30-50% very coarse	sand=0.6-0.13mn =0.13-0.25mm sand=0.25-0.50mm nd=0.5-1mm se sand=1-2mm	∑ = ground water table f-gravel=2-4mm m-gravel=4-64mm c-gravel=64- 256mm	WELL DEVELOPMENT Performed: YES NO Method: Amt. Purged: Date:

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Tyree Organization, Limited Latham, NY	WE:	LL LO	G	BORING NAME Bj3
CLIENT: <u>NYSDEC</u> PROJECT: <u>VALLEY</u> LOCATION: <u>VALLEY</u>	FAUS DRYCLE FAUS, NY	ANERS	DATE STARTED/COM LOGGED BY: DRILLER: RIG:	PLETED: 3/8/00 MURKAY EBRA PROBE
Below     Interval     Reading (ppm)       0     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       1     0     0       10     10     10       11     0     10       12     0     10       13     0     10       14     0     0       15     0     0       16     0     0	Blow Well Counts/ Recovery (feet) Well Completion (A A A A A A A A A A A A A A	Field Descri (0-4) BL (4-8) BC SAND WET A BE-12) B-10: C AND BECON	ption of Soil NDPROBE ONJA AND GRAVEL T7' CARSE SAND GRAVEL COUNT COURSE SAND GRAVEL MING GREY	BORE HOLE DATA   Drilling   Method:   Depth:   12'     WELL DATA     Riser   Type:   N/A     Riser Dia.:   Riser Length:   Interval:     Screen Dia.:   Screen Dia.:   Screen Length:   Interval:   FILTER PACK   Source:   Composition:   Volume Used:   Interval:   CROUT / SEAL   Type:   Volume Used:   Interval:   WELL HEAD COMPLETION   Manhole:   YES   NO
Avn by: J. Carr Notive material Sand Pack Bentanite Portland Cement Grout avn by: J. Carr Ita bitt som Cement Grout Antice Ser Million tra Sand Sa	ce=1-10% very fine sa le=10-20% fine sand=0 medium sar coarse sand =30-50% very coarse	END and=0.6-0.13mm 0.13-0.25mm ad=0.25-0.50mm =0.5-1mm sand=1-2mm	∑ = ground water table f-gravel=2-4mm m-gravel=4-64mm c-gravel=64- 256mm	Size:

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Tyree Organization, Limited Latham, NY	WELL LO	G	BORING NAME B14
CLIENT: NYSDEC PROJECT: VALLEY FA LOCATION: VALLEY FA	us dry cleaners tus, Ny	DATE STARTED/COMF LOGGED BY: DRILLER: RIG:	MURRAY
Below Interval Reading Grade & Name (ppm)	Blow Counts/ Well Recovery Completion		BORE HOLE DATA
	(1eet) Field Descri	IND PROBE	Drilling Method: <u>6E0PRoBE</u> Hole Dia.: <u>21/4/1</u> Depth: <u>12/</u>
	(4-8') s wet,	ANDY GRAVEL AT 7'	WELL DATA Riser Type: Riser Dia.: Riser Length: Interval:
- 6 - 7 - 7 - 3.2	(872)		Screen Type: Screen Dia.: Screen Length:
- 9 - 10 - 4. D	8-10: 5, 10': LAY CR	ANDY GRAVEL ER (3") OF WHED STONE	Slot: Interval: FILTER PACK Source:
- 11	10-12: BA (L)	TY and GRAVEL	Composition: Volume Used: Interval:
13			GROUT / SEAL Type: Volume Used: Interval:
15			WELL HEAD COMPLETION Manhole: YES NO
17 s: ppm=parts per million, by: J. Carr	nd=not detected		Size: Concrete Pad:YES NO Size:
Native material	LEGEND		WELL DEVELOPMENT
Sond Pock trace Bentonite little:	=1-10% very fine sand=0.6-0.13mm =10-20% fine sand=0.13-0.25mm medium sand=0.25-0.50mm =20-30% coarse sand=0.5-1mm	$ \begin{array}{c c} \overline{\nabla} &= \text{ground} \\ \hline & \text{water table} \\ \hline & f-\text{gravel}=2-4\text{mm} \\ \hline & m-\text{gravel}=4-64\text{mm} \\ \hline & c-\text{gravel}=64- \end{array} $	Performed: YES NO Method:

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Tyree Organizat Limited Latham, NY	ion,	WELL LO	G	BORING NAME B-15
CLIENT: <u>NYSDE</u> PROJECT: <u>VAUE</u> LOCATION: <u>VAUE</u>	EC Y FAUS DR Y FAUS, N	1 CLEANERS	DATE STARTED/COM LOGGED BY: <b></b>	PLETED: 3/8/00 MURRAY
Deptn       Sample       P.I.         Below       Interval       Read         Grade       & Name       (pp)         0       1       1         2       3       1         3       4       1         5       6       3         4       5       3         6       7       3         6       7       3         9       10       4         11       12       13         12       13       14         15       16       17         Notes: ppm=parts per m       Form by: J. Carr       Carr	.D.     Blow       ding     Counts/ Recovery       (feet)	Well ompletion         Field Descr           (0-4')         B           (4-8')         S           NET         NET           (8-12')         S           8-10:         S           10-12:         S           6M	iption of Soil UND PROBE AND AND GRAVE AT 7' ANDY GRAVEL ULTY CLAYAND CAVEL	BORE HOLE DATA   Drilling   Method:   Hole Dia.:   2144"   Depth:   WELL DATA   Riser   Type:   N/A   Riser Dia.:   Riser Length:   Interval:   Screen   Type:   Screen Dia.:   Screen Length:   Slot:   Interval:   FILTER PACK   Source:   Composition:   Volume Used:   Interval:   CROUT / SEAL   Type:   Volume Used:   Interval:   WELL HEAD COMPLETION   Manhole:   YES   NO   Size:   Concrete Pad:   YES
Notive material Sand Pack Bentonite Portland Cement Grout	trace=1-10% little=10-20% some=20-30% and=30-50%	LEGEND very fine sand=0.6-0.13m ine sand=0.13-0.25mm nedium sand=0.25-0.50m coarse sand=0.5-1mm ery coarse sand=1-2mm	M = ground m water table f-gravel=2-4mm m-gravel=4-64mm c-gravel=64- 256mm	WELL DEVELOPMENT Performed: YES NO Method: Amt. Purged: Date:

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Organization, Limited Latham, NY	WELL	LOG	BORING NAME BIL
CLIENT: <u>NYSDEC</u> PROJECT: <u>VALLEY FA</u> LOCATION: <u>VALLEY FA</u>	US DRYCLEANERS	DATE STARTED/ LOGGED BY: .DRILLER: RIG:	COMPLETED: <u>2/8/00</u> J. MUKRAY ZEBER
Depth     Sample     P.I.D.       Below     Interval     Reading       Grade     & Name     (ppm)       -     1       -     2       -     3       -     4       -     5       -     6       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     8       -     7       -     10       -     11       -     12       -     13       16     -	Blow Counts/ Well Completion Field (0-4) (4-8') BROM BROM BROM BROM BROM BROM BROM SROM BROM SROM BROM SROM SROM SROM SROM SROM SROM SROM S	Description of Soil BLINDPROBE WN COARSE SAND AND GRAVE AT B' SANDY GRAVE Z' BROWN SILTY CLAY AND CAVEL, BELOMIN GRAY.	BORE HOLE DATA Drilling Method: <u>SEOPPORE</u> Hole Dia.: <u>2'/4'</u> Depth: <u>12'</u> WELL DATA Riser Type: <u>N/A</u> Riser Length: Riser Length: Interval: Screen Dia.: Screen Dia.: Screen Dia.: Screen Length: Slot: Interval: FILTER PACK Source: Composition: Volume Used: Interval: GROUT / SEAL Type: Volume Used: Interval: WELL HEAD COMPLETION
17 s: ppm=parts per million, n by: J. Carr Notive material	d=not detected	$\nabla = ground$	Size: NO Size: WELL DEVELOPMENT
ond     Pock     trace=       entanite     little=1       artland     some=2       ement     Grout     and=30	1-107         very fine sand=0.6-0.           0-207         fine sand=0.13-0.25mr           medium sand=0.25-0.5         coarse sand=0.5-1mm           -507         Very coarse sand=0.5-1mm	13mm water table n [-gravel=2-4mm 50mm m-gravel=4-64m c-gravel=64-	Performed: YES NO Method: Amt. Purged:

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Organization, Limited Latham, NY	WELL LOG	BORING NAME
CLIENT: NYSDEC PROJECT: VALLEY FA LOCATION: VALLEY FA Depth Sample PID	DATE STAR DATE STAR LOGGED BY DRILLER: RIG:	TED/COMPLETED: 3/8/00 J. MURLAY ZEBRA GEORDBE
Below Interval Reading C Grade & Name (ppm) R	Blow Sounts/ Well Scovery Completion	BORE HOLE DATA
	(0-4) BLIND PROB	Drilling Method: <u>CEOPROBE</u> Hole Dia.: <u>21/4</u> " Depth: <u>121</u>
		WELL DATA Riser
- 4	(4-B) INTERLAYE	Riser Langth
- 5	mf GRAVEL; AND	
- 6 - 7 /.9	SILTY SAND, SOME	Screen Type: 477 Screen Dia
- 8	NATURAL YARYING OBSERVED AT 8'	Screen Length:
- 9	(8-12)	Interval:
- 10 - 11 <b>33</b>	B-10: COARSE SAND AND INF GRA	Source:
12	ID': FRACTURED R ZONE (2")	Volume Used:
13	AND MF GRAVE	GROUT / SEAL
14	- 11-12': BROWN SILTY CLAY AND GR	Volume Used:
16	(RED-ORANGE ST. AT II')	WELL HEAD COMPLETION
17		Manhole: YES NO Size:
s: ppm=parts per million, n by: J. Carr	LECEND	Size:
and Pack trace=	$\nabla = \text{grour}$	WELL DEVELOPMENT
entonite little=1 Portland some=2	$\begin{array}{c c} 0-207 & \text{fine sand}=0.13-0.25\text{ mm} & \text{f-gravel}=2-2 \\ \text{medium sand}=0.25-0.50\text{ mm} & \text{m-gravel}=4-2 \\ 0-307 & \text{coarse sand}=0.5-1\text{ mm} \end{array}$	4mm Method: NO
ement Grout and=30	-50% very coarse sand=1-2mm c-gravel=64-	Amt. Purged:

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T) Org Limit Lathan	yree anization, ted n, NY	WE	CLL LO	G	BORING NAME
CLIENT: NY	SDEC			P. 22	DI8
PROJECT:	MEY FAUS	DRYCLE	ANERS	LOGGED BY:	$\frac{3}{9}/00$
LOCATION: VI	THEY FALL	5 NY			BRA
Depth Sample	P.I.D. Blow			RIG:	ROBE
Grade & Name	Reading Counts, (ppm) Recover (feet)	/ Well Y Completion	Field Descri	plice of a si	BORE HOLE DATA
		 ]	Descri	prion of Soil	Drilling Method:
			(0-4)		Hole Dia.: 21/41
			BUND	PROBE	Depth: /2/
-2  -					
				·	WELL DATA
					Riser Type: AIA
			(4-8)		Riser Dia.:
			BROWN	SAND AND	Riser Length:
			GRAVE	L, WET	Interval:
6				,	Screen
					Туре:
7					Screen Dia.:
		. (	(8-12)		Screen Length:
			<b>e</b>		Slot:
9			0-10: cop	TESESAND	Interval:
	.0		FINDM	FBRAVEL	FILTER PACK
			10": 2" LA	YER CRUSHE	D Source:
				STONE	Composition:
			10-12: G	CEYCLAY,	Volume Used:
- 12			LITT	LESILT,	Interval:
- 13			TRAC	EGRAVEL.	GROUT / SEAL
					Туре:
					Volume Used:
- 15					Interval:
┝ │ ┝──					WELL HEAD COMPLETION
- 16					Manhole: YES NO
17					Size:
Notes: ppm=pa=ta					Concrete Pad: YES NO
Drawn by: J. Carr	million, nd=not	detected			Size:
Native material		LEG	END		WELL DEVELOPMENT
Sand Pack	trace=1-10%	very fine sa	nd=0.6-0.13mm	$\nabla$ = ground water table	Performed:
Bentonite	little=10-20%	nne sand=0 medium san	13 - 0.25  mm	(-gravel=2-4mm	Method:
- Portland	some=20-30%	coarse sand	-0.5.1	m-gravel=4-64mm	

Tyree Organization, WELL LOG BORING NAME Limited Latham, NY B-19 CLIENT: NY SDEC DATE STARTED/COMPLETED: PROJECT: VALLEY FAUS DAY CLEANERS 308/00 LOGGED BY: J. MURA LOCATION: VALLEY FALLS DRILLER: ZEBRA RIG: \_\_\_\_ GEOPROBE Depth Sample P.I.D. Blow Below Interval Reading Counts/ Well BORE HOLE DATA & Name Grade Recovery Completion (ppm) (feet) Field Description of Soil Drilling 0 Method: 600000 (0-4') Hole Dia .: 214 1 BUND PROBE Depth: 121 2 WELL DATA 3 Riser Type: N/A (4-8') BROWN 4 Riser Dia.: Riser Length: SANDY GRAVEL Interval: WET AT 6' 3.7 6 Screen Type: Screen Dia.: (8 - 12)Screen Length: 8 Slot: 8-9: SAME Interval: 3.0 9 9-12: BROWN CLAY, FILTER PACK 10 Some SILT. Source: BECOMING GRAY 11 Composition: \_ WITH DEPTH Volume Used: 12 Interval: GROUT / SEAL 13 Туре: 14 Volume Used: Interval: 15 WELL HEAD COMPLETION 16 Manhole: 🗌 YES 🗌 NO Size: 17 Concrete Pad: YES NO Notes: ppm=parts per million. nd=not detected Size: Drawn by: J. Carr LEGEND Native material WELL DEVELOPMENT  $\nabla$  = ground Sand Pack trace=1-10% very fine sand=0.6-0.13mm Performed: YES NO water table fine sand=0.13-0.25mm little=10-20% I-gravel=2-4mm Bentonite medium sand=0.25-0.50mm m-gravel=4-64mm Method: some=20-30% Portland Cement Grout coarse sand=0.5-1mm Amt. Purged: c-gravel=64and=30-50% very coarse sand=1-2mm 256mm Date:

United Latham,	zation, NY	WELL LO	G	BORING NAME
PROJECT: <u>VAU</u> LOCATION: <u>VAU</u>	DEC EY FAUS DUYC EY FAUS, N	LEANERS	DATE STARTED/CC LOGGED BY: DRILLER:	J. MULRAY
Depth Sample   Below Interval Re Grade & Name (	ading Counts/ Well ppm) Recovery Compi (feet)	letion Field Descr	iption of Soil	BORE HOLE DATA
		(0-4') B	UND PROBE	Method: <u>600PROPE</u> Hole Dia.: <u>21/4</u> " Depth: <u>6</u>
		(4-8')		WELL DATA
		6-8 <sup>1</sup> : 5	ILTYSAND TNDANDGRAA	Type: N/A EL Riser Dia.:
- 5		NET AT	6'	Riser Length: Interval:
	2	(8-12) mf GRA	VEL SOME	Screen Type: Screen Dia.:
8		COARSE	SAND, WET	Screen Length: Slot:
9		(12-16')		Interval: FILTER PACK
		14-16: TA	ND AND GRAU	Source: Composition:
12		VERY MO	TACEGRAVEL	Volume Used: Interval:
-13 -14 <b>2</b> .3	5			CROUT / SEAL
- 15				Volume Used:
				Manhole: YES NO
otes: ppm=parts per 1	nillion. nd=not detected	d		Concrete Pad: YES NO
Native material		LEGEND		WELL DEVELOPMENT
] Sand Pack ] Bentonite	trace=1-10% very f little=10-20% fine sa mediu	ine sand=0.6-0.13mm and=0.13-0.25mm m sand=0.25-0.50mm	⊻ = ground water table [-gravel=2-4mm	Performed: YES NO

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Tyree Organization, WELL LOG BORING NAME Limited Latham, NY B-21. CLIENT: NYSDEC DATE STARTED/COMPLETED: PROJECT: VALLEY FALLS DRY CLEANERS 3/9/00 DRILLER: ZEBRA LOCATION: VALLEY FALLS RIC: 6EOPROBE Depth Sample P.I.D. Blow Interval Below Reading Counts/ Well BORE HOLE DATA Grade & Name Recovery Completion (ppm) (feet) Field Description of Soil Drilling 0 Method: 650PRDBE (0-4') Hole Dia .: 2/4" 1 BLINDPROBE Depth: \_\_\_\_**16** ' 2 WELL DATA (4-8') SAND AND GRAVEL 3 Riser N/A Type: WET AT S' 4 Riser Dia.: Riser Length: 1.9 Interval: (8-12') Screen MF GRAVEL, SOME Type: Screen Dia.: COARSE SAND, WET Screen Length: 8 Slot: (12-16) Interval: a 12-14: SAME FILTER PACK 10 14-16: BROWN Source: 11 Composition: CLAYEY SILT, NET Volume Used: 12 GRAY WITH DEPTH Interval: 13 GROUT / SEAL Type: 2.D 14 Volume Used: Interval: 15 WELL HEAD COMPLETION 16 Manhole: YES NO Size: 17 Concrete Pad: 🗌 YES 🗌 NO Notes: ppm=parts per million. nd=not detected Size: Drawn by: J. Carr LEGEND Notive material 7 WELL DEVELOPMENT ] Sand Pack trace=1-107 very fine sand=0.6-0.13mm Performed: YES NO water table fine sand=0.13-0.25mm little=10-207 Bentonite f-gravel=2-4mm medium sand=0.25-0.50mm m-gravel=4-64mm Method: some=20-30% Portland Cement Grout coarse sand=0.5-1mm Amt. Purged: c-gravel=64and=30-507 very coarse sand=1-2mm 256mm Date:

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Tyr Orgai Limite Latham,	ee nization, d NY	WELL	LOG		BORING NAME
CLIENT: NYS	DEC		D.	TE STARTED/CO	MPLETED: 3/9/00
LOCATION: VAU	LEY PAUS	AND ANERS	LC	CGED BY: <u>J</u> RILLER: ZE	MURRAY
Depth   Sample	P.I.D.   Blow	7	RI	G: 6EO	PROBE
Below Interval F Grade & Name	Reading Counts/ (ppm) Recovery	Well			BORE HOLE DATA
	(feet) (feet)	Field Field	d Descriptio	n of Soil	Drilling
		(0-4			Method: 600PROBE
		10 7	) Bui	ID PROBE	Hole Dia.: $2/1''$ Depth: $2/1''$
- 2 [					<u>_</u>
-    -					WELL DATA
- 3		(4-8	)SAND	y mf	Riser
- 4		1	GRAVE	L, WET	Type: <u>N/A</u>
-				•	Riser Length:
- 5					Interval:
- 6		(8-12'	) SAND	ymf GRAVE	L Screen
-					Туре:
- 7		[14]-10	.15		Screen Dia.:
- 8		· (17/E	ク		Screen Length:
		14-15	: SAME	5	Slot:
- 9		2"0F	RED-BA	DAJA	Interval:
- 10		STAT	NING A	-15'	FILTER PACK
		15-18	: Blow		Source:
- 11			Low To	Ac-ch	Composition:
12			-17. 1K	nce gravel	Interval:
13					GROUT / SEAL
14					Type:
2.7	3				Interval:
15					WELL HEAD CONFERENCE
16					ALL HEAD COMPLETION
	-+				Manhole: YES NO
s: ppm=parts per	million, nd=not de	tected			Size:
Notive		LEGEND			WELL DEVELOPMENT
	trace=1-10z	ery fine sand-o e	0.125   ⊻	= ground	- DE DEVELOPMENT
ung Pack					

CLIENT:	WEI	L LO	G	BORING NAME <b>B23</b>
PROJECT: LOCATION: Depth   Sample   P.I.D.	Blog		DATE STARTED/CO LOGCED BY: DRILLER: RIG:	DMPLETED: 3/9/00 J. MURRAY EISRA
Below       Interval & Reading (ppm)         0       0         1       0         2       0         3       0         4       0         5       0         6       0         7       0         8       0         9       0         11       250         12       0         13       0         14       0	Counts/ Well Recovery (Icet) Completion (A (A (A (A (A (A (A (A (A (A	Field Descri D-4') BUNZ -B') SANDAN WE -12') 3-11: SA WE -12: B SILTY C GRAVE COLEUR -11)	Ption of Soil TROBE ND GRAVEL, T. ME EK OF BROWN STATNING CLAY, TRACE EL. A ODORS	BORE HOLE DATA   Drilling   Method:   Loe Dia.:   Y4"   Depth:   I2'     WELL DATA   Riser   Type:   N/A   Riser Dia.:   Riser Length:   Interval:   Screen Dia.:   Screen Length:   Slot:   Interval:   FILTER PACK   Source:   Composition:   Volume Used:   Interval:   GROUT / SEAL   Type:   Volume Used:   Interval:
16 17 17 17 17 17 17 17 17 17 17	d=not detected			WELL HEAD COMPLETION Manhole: YES NO Size: Concrete Pad: YES NO Size:
and Pack trace= lentanite little=1 Portland some=2 ement Grout and=20	1-10% very fine sand= 0-20% fine sand=0.13- medium sand=0 coarse sand=0.5	0.6–0.13mm 0.25mm f 25–0.50mm n -1mm c	∑ = ground water table -gravel=2-4mm n-gravel=4-64mm -gravel=64-	WELL DEVELOPMENT Performed: YES NO Method: Amt. Purged:
Tyree Organization. WELL LOG BORING NAME Limited Latham, NY B24 CLIENT: NYSDEC DATE STARTED/COMPLETED: PROJECT: VALLEY FAUS DRY CLEANERS 3/9/00 LOGGED BY: J. MURRA LOCATION: VALLEY FAUS DRILLER: ZEBLA NY RIG: \_ 6EORDBE Depth Sample P.I.D. Blow Below Interval Reading Counts/ Well Grade & Name BORE HOLE DATA Recovery (ppm) Completion (feet) Field Description of Soil Drilling 0 Method: 6EARABE (0-4) BLIND PROBE Hole Dia .: \_ 2 1/4" 1 Depth: 12' 2 WELL DATA (4-8') SANDAND 3 Riser Туре: \_\_\_ N/A GRAVEL, NET 4 Riser Dia.: Riser Length: . 5 Interval: (B-12') 6 Screen Type: 8-11: SAME Screen Dia.: 11-12: BROWNSILTY Screen Length: 8 CLAY, TRACE GRAVEL Slot: Interval: Q 11: 2-4 FRACURED RXK FILTER PACK 10 DORS AT 11 Source: 165 11 Composition: Volume Used: 12 Interval: 13 GROUT / SEAL Type:\_\_ 14 Volume Used: Interval: 15 WELL HEAD COMPLETION 16 Manhole: 🗌 YES 🗌 NO 17 Size: Concrete Pad: YES 🗌 NO Notes: ppm=parts per million, nd=not detected Size: Drawn by: J. Carr Native material LEGEND WELL DEVELOPMENT  $\nabla$  = ground Sand Pack very fine sand=0.6-0.13mm trace = 1 - 107water table Performed: YES NO line sand=0.13-0.25mm little=10-207 Bentonite f-gravel=2-4mm medium sand=0.25-0.50mm m-gravel=4-64mm Method: some=20-30% Portland Cement Grout coarse sand=0.5-1mm Amt. Purged: c-gravel=64and=30-50% very coarse sand=1-2mm 256mm Date:

Tyree T Organization, WELL LOG Limited BORING NAME Latham, NY BZS CLIENT: NYSDEC DATE STARTED/COMPLETED: \_\_\_\_ PROJECT: VALLEY FALLS DRYCLEANERS 3/9/00 LOGGED BY: LOCATION: VALLEY FAUS J. MULK DRILLER: ZEBRA RIG: Depth Sample 6EOPROBE P.I.D. Blow Below Interval Reading Counts/ Well Grade & Name Recovery BORE HOLE DATA (ppm) Completion (feet) Field Description of Soil 0 Drilling Method: 6EDTROBE 10-4) 1 Hole Dia .: 21/4 -BUNDAROBE Depth: /2/ 2 WELL DATA 3 (4-8) Riser Type: N/A Riser Dia.: SANDY of GRAVEL Riser Length: , 5 Interval: 6 Screen (8-12) Type: Screen Dia.: 8-11 : SAME Screen Length: 11-12: SILTYCLAY, TRACEGRAVEL 8 Slot: Interval: FILTER PACK 10 Source: 1.7 11 Composition: Volume Used: - 12 Interval: 13 GROUT / SEAL Type:\_\_\_ 14 Volume Used: Interval: 15 WELL HEAD COMPLETION 16 Manhole: YES NO 17 Size: Notes: ppm=parts per million, nd=not detected Concrete Pad: 🗌 YES 🗌 NO Drawn by: J. Carr Size: Native material LEGEND WELL DEVELOPMENT Sand Pack  $\nabla = ground$ very fine sand=0.6-0.13mm trace=1-107 water table Performed: YES NO fine sand=0.13-0.25mm little=10-207 🔄 Bentonite f-gravel=2-4mm medium sand=0.25-0.50mm m-gravel=4-64mm Method: some=20-30% Portland Cement Grout coarse sand=0.5-1mm Amt. Purged: c-gravel=64very coarse sand=1-2mm and=30-50% 256mm Date:

CLIENT: NY	nization, d. . NY	WELL L	OG	BORING NAME B26
PROJECT: VA	UEY FAUS D UEY FAUS,	RY CLEANERS NY	DATE STARTED/C LOGGED BY: DRILLER: RIG:	COMPLETED: 3/9/20 I. MURRAY ZEBKA
Below Interval I	P.I.D. Blow	W . 11		BEOPROPE
Grade & Name	(ppm) Recovery C (feet) (feet)	ompletion Field Des	cription of Soul	BORE HOLE DATA
				Method
		(0-4')		Hole Dia.: 21/4
		BU	NDPROBE	Depth: /2'
				WELL DATA
		(4-8')		Riser
- 4				Type: N/A-
-    -		COMP	SESAND	Riser Length
- 5		AND	of GRAVEL,	Interval:
		WET	tts'	
				Screen
- 7		(8-12)		Some Di
-			<b>C</b> A -	Screen Dia.:
- 8		. 0-// ·	SAME	Screen Length:
·		///:z-3	S"OF FRATVA	Slot:
- 9			ROCK	Interval:
- 10		11-12:	SILTYCLAY	FILTER PACK
11 1		1.	CALEGRAVE	Source:
				Composition:
- 12				Volume Used:
				interval:
13				GROUT / SEAL
<b> </b>				Type:
14				Volume Used
15				Interval:
				WELL HEAD COMPLETION
10				Manhole:
17				Size: TES NO
s: ppm=parts per				Concrete Pad: YES NO
by: J. Carr	dete	cted		Size:
naterial	. 1	LEGEND	1	WELL DEVELOPMENT
and Pack	trace=1-10% ver	y fine sand=0.6-0 13m	$\nabla = \text{ground}$	
entonite	little=10-207	sand=0.13-0.25mm	"" water table [-gravel=2-4m-	Performed: YES NO
ortland	some=20-30% coa	num sand=0.25-0.50m. rse sand=0.5-1	mm-gravel=4-64mm	meruod:
ement Grout	and 20 FOR	0.31mm	c-gravel=64-	Amt. Purged:

# Appendix B

**Monitoring Well Boring Logs** 

C			. 4		PARSO	DNS ENGINEERING	SCIENCE, INC.		BORING/	$n\omega - 1s$
Driller:	<u>A</u> M	Pi	tri ch	1						
Lupector	- Chi	is To	11	-	PROJECT NAME	VALLEY FALL		_	Sheet /	or <u>2</u>
Rig Type	· For	e most	CT 25	Q	PROJECT NUMBER	TNUMBER 72 8724 . 01000			Location Description	see map
									h	
GRO	JUNDW/	TEROE	SERVAT		Weather	20° Lundy	,		Location Plan	/ A
Level	5.92		}			20 00 0		- (	Valo	A seteni ()
Date	4/9/96				Date/Time Start	12/19/95	11:15	_	S. R. C. T.	AL THE
Time	1530					12 10 10 0				0° /
Mean	TOP				Date/Time Finish	16/17/75 /	1.00	_		0,10 -0,
Sample	Sampie	SPT	-	PID		LD IDENTIFICATION	OF MATERIAL		SCHEMATIC	
Depth	ம.		I.c.	Reading						
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										Ferpa-deble
+ 6										(68
+1										arotictive
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- 8										+2.5-23
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10										N
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12										N.
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/3										N.
14										
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15					•					N.
16										
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		et Dura vice	THOP		COMMENTS	METHODS.	6 1/2° 11 5 4	40	010 1.0.	u.c.
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		UDER CU	TTENOS							
		C - CORE	Þ							

Contract	- Am	ri Lan	Auge	<u>~</u>	PARSONS ENGINEERING SCIENCE, INC. DRILLING RECORD	BORING/ WELL NO. MU	J-15
Driller: Inspector Rig Type	Joh Chr	n Pie	trick rell	2	PROJECT NAME VALLEY FALLS	Sheet <u>2</u> a	SEC MAD
~~6 • 7 P=		masi	61250	2	128/22:01000	· 60	low
GRO	UNDWA	TEROB	SERVAT	IONS			
Water					Weather 20 windy	Location Plan	· ^ ^
Level	5.92				2017 11 11 11 11 11 11 11 11 11	STATION	CACKI /
Time	7/9/76						TILL
MCAL	/3 30				Data/Time Finish 12/19/95 17:00	00	010- 110
From	TOC						muis
Sampia	Sample	SPT	*	71D	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	CONCHENTS
Depute	LD.		Rec.	Rending			
18		1					- c caut 0-19
14							1.00
						623 823	
70		1					- bentonite
		Ч	100		SANDY SILT, grey. some clay this wet den	Kor Kor	pellet 3.
21		5				2001 2801	
		<u>د</u>					
26		- -	100		Anatoria scadini to	·	+2.5-23
23		3	100		compare grants to		
		5					
24		3			Sard+GRAVEL, vf. some silt 1. He clay		ч". <i>d</i>
		A			Let -4, 11-icke luose		- 0.01" slot
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Costaco	ar. Am	eci / ^ ^	Auce	s	PARSONS ENGINEERING SCIENCE, INC. DRILLING RECORD	WELL NO.	W-10
Driller:		pie	trick	1			<i>K</i>
Laspector	· Ch	IS TO	rell	_	PROJECT NAME VALLEY FALLS	Sbeet /	« <u>3</u>
Rig Type:	For	e most	CT ZS	<u>o</u>	PROJECT NUMBER 72 8726 . 01000	Location Description: _	see map bebu
<b>CP</b> (	010000		CD14.7				
Water	WGNDW	LER OB	SERVAT	IONS	Weather Clear D.	Location Plan	
Level	8.59					OB.	Red and
Dese	4/1/46			1	Date/Time Start Z /13/15 . 8:15	3m	TRACK
Time	1600						DETCH
Meas.	cal				Data/Time Finish 12/17/95 10:40		· • • •
From	100						<
Brans	Sample		*	rD	FIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	CONDUCENTS
Depta	ш.	43	Loc	Konding			- Q . Barch 6 10
						1 m/P	CAP
		+2					- protective th
							luck
		+1					
5			75		SANDY CUT UE de beat + and a statut	-//H H♪	
3		1	23		topsal		- sraut
6					•		0-37'
5		2					
3			50		SILTT CLAY bra-tan . little f sand v.moist		
3		3			ctenn, plastic		-4" steel
2					, 1		CADINS
3		4		-	Chip b ( PAVEL 5 med + trace bra silt		+2.5-37
4		_	20	•	SANUFORITE, ALTER LAST		
2		د .					•
ú		6					
3			100		as above, cet, clean		
3		7					
ч							
7		8			CLANENCUT ton track of sand of clean		
7		a	20				
,		7					[
5		10					
Z.		-	00		as about, plastic, wet, clean		
2		11					
2							
2		12	10.0		a chore gradine to area		
5		13	100				
ч							
3		14			III II Joke also add		
1			100		CLAY, grey, little silt, plastic, clean, sticky		
1		15					
1							
1		16	1.1		a above arey-bra	1	
		17	100		~~~~~, g		
	5.A.M. 55	PLING ME	THOD NON		COMMENTS: <u>METHODS</u> ; 614 HSA, HO	Na coeino	

Comme	- A.		4		PARSONS ENGINEERING SCIENCE, INC.	BORING/	mut- in		
Driller:	יי <u>י</u> הב	Press	trick	j n					
Inspector	· Ch	is To	11	-	PROJECT NAME VALLEY FALLS	Sheet 2	or 3		
Rig Type:	For	e most	<u> 27 25</u>	0	PROJECT NUMBER 72 8726 . 01000	Location Description: <u>see map below</u>			
GRO	UNDW	ATEROB	SERVAT	NONS					
Water					Weather Clear O"	Location Plan	AL ALANA A		
Level	859				2 5 5 1 11216C C 15	E.	and the the		
Time	11.40				Dete/Tume Sourt (2/10/73 2 73	1 2	LO TLA ID		
Mcas.					Date/Time Finish 12/19/95 10:40		· · · · · ·		
From	TOC								
qcans	Sampie T D	Depth	* **	200	FUELD IDENTIFICATION OF MATERIAL	SCHEMA	TIC COMMENTS		
1	<u></u> .	18		, 					
1			100		LLAYEYSILT, grey little vf sand, this, wet,				
'		19			Clean				
2		20							
		20	50		to alread				
Z		21	<u> </u>	1					
3						1.1	grout		
2		72				NN I	111 0-37		
- 2		- 1	50	·	cs about				
7		2.3			SAND uf: some sitt the holes				
4		24			Since, Vi, Some Sin, Ale grey, Lor, cican		y"steel		
3	_		25		as about, som gravel, fined		(1) (1)		
٢		25					+2.5-51		
Z									
3		26		──		-[:::]			
2		27	10		1100, grey, 10050, Let				
13		<u> </u>							
15		28							
3			10		as above, v loose				
5		29					1		
- 4		30					12		
27			50	· ·	as above, fight had, moist clean				
22		31							
27							11		
35		32	40		as above and shale frags whend				
50/1"		33	10						
RB					BEDROCK AT 33.5				
		34			Zollerbit, no sanois	田三	Rack,		
		30					1 socket		
						日訓	B 33.5-37		
		36							
	Loison	37	*REC	ROD		EL.			
<u> </u>	NME	26	46	74	SHALE, grey green slightly deturned,		open hore		
		38			Oce grante stringers I to eroning		37-63		
	SAM	PLING ME	THOD		CUMMENTS: METHODS: 614 HSA HO	a Na co	eing		
	4-4	- sport sp	TINGS				•		
		C - CORE	D						

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Costrad	or: Am		Auce	r	PARSONS ENGINEERING SCIENCE, INC.	BORING/ WELL NO.	W- 1D
Driller: Inspecto	Jo (h.	n Pie	trick rell	2	PROJECT NAME VALLEY FALLS	sbeet 3	or <u>3</u>
Rig Typ	· Er	e most	27250	2	PROJECT NUMBER 72 8726 . 01000	Location Description: _	Sec map
GR	WGNDO	ATEROB	SERVAT	IONS			
Weier Level	8.59				Weather	- Locators Flas	1 CNS
Date	419/96				Date/Time Start 12/13/95 8:15	- OTATO	سي و المراسم
Neas.	1600				Dece/Time Finish 12/19/95 10:40	V ot	0310
From	TUC	4				-	Mais
SPT-Dopta	LD.	outh	The Loc	P1D Rending	PIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	CONOMENTZ
د	LOW	39	"eec	Rad			
		40					
		41					
		42			MALE AN HOUSE		
	NOWE	45	60	86	SHALE NO		
		44					-open
+		45					37-63
	NONE	47	60	75	as above		
		48					
		50		•			
		51			have fract-red		· ·
	NONE	53	30	0			
		54					1
	NONE	55	30	0	as deal		-
		57					
		58					:
							1
		60					
		61					
		62					
RB					No sample, roller bit		
<del>_</del>		63			Th-	(3.0	
					10-1	0.0	
		I		ļ			
	-	PLING ME	THOD		CONDUCENTS: <u>METHODS</u> ; 61/4 HSA	HA NA CORING	;
	13 	- IFUT IF	000N 1112H01		<u></u>		
		C - CORE	<b>D</b>				

	4		Λ		PARSONS ENGINEERING SCIENCE, INC.	BORING/	1-25			
Della	- Am	eri Lan	HUG	<u> </u>	DRILLING RECORD	WELL NO. 771	~			
Laspector	: Chi	n Pre	<u>~~~</u> []	2	PROJECT NAME VALLEY FALLS	Sheet /	ol /			
Rig Type:	For	e most	CTZ5	2	PROJECT NUMBER 72 8726 . 01000	Location Description: See mgo				
							Jos			
GRO	NUNDW/	TER OB	SERVAT	IONS		1				
Water Loui	7.55				Weather SUNNY 25	Locacce Pla Forna	ATON N			
Date	ulul46				Dave/Time Start 4/9/96 /4-30					
Time	900						• ~~			
Mcas.					Date/Time Finish 4/9/96 17:00	-				
From	TOC									
Denth	Salarbia T.D.	SPT		FID	PIELD IDENTIFICATION OF MATERIAL	SCHEMATIC	COMMENTS			
+3							- expandable			
						Les 1	COP			
+2							- protective			
+1							IOCK			
							al a pveris			
0		A					+2.5-4			
		_					- grout 0-			
1										
z										
						3827 8676	- Genton te pelle			
3						5560 1899	-z-2			
							and nack 3			
J							- Ser prove			
5		-+		·						
							•			
b							y", 2 0 01"			
							stot una Pvc			
	_		50		SAND+GRAVEL, Son 1. HILLS It + close		Seres-			
8		3					4-9'			
		5								
9		_7								
				<b></b> _	<del>1</del> -9	·				
					10- 1					
					•					
					1					
					-					
	SAM	PLENO ME		:	COMMENTS: <u>METHODS</u> ; 61/4 HSA, HO	Na coeino				
	13	- SPLIT SP								
	~~~	C = 008F			•					

Contract	x. Am		Auce	·r	PARSONS ENGINEERING SCIENCE, INC. DRILLING RECORD	BORING WELL N	ii o. M	w-2D			
Driller:	Joh	Pie	trick	2							
Inspector	<u>Ch</u>	IS TO	<u>~~//</u>	-	PROJECT NAME <u>VALLEY FALLS</u>	Sheet		seementale			
wig type:	·	L MOST	2125	2	· · · · · · · · · · · · · · · · · · ·						
GRO	WDWD	TEROB	SERVAT	TONS							
Weser Level	17.28				Weather \$7004 25	Locator Pu	fund	tion M			
Date	4/11/46				Desettine san 4/19/96 7:30		r				
Time	730							~~25			
Moss. From	TOL				Dete/Time Finish		٠	~~20			
Sampio	Sampia	SPT	- 15	100	FIELD IDENTIFICATION OF MATERIAL	SCHE	MATIC	CONCIDENTS			
Depth	LD.		Rec.	Ronding							
+>								articlice			
+2								top with			
							1 1	lack			
+1											
D											
		=	ŝ		SANDY SILT, uf; little gravel, moist, clean, ik brn			front 0-26			
-'											
ζ		3					Ň,				
		7	50	ļ	as above grading to	1					
<u> </u>		4									
Ч		ĭ			L	_ `		-u"steel			
		U	50	•	SAND + GRAVEL, F- CO, wet, clean			casing			
5		4						17.5-26			
6		3									
		4	100		es above, little bra silt	N.					
7		<u>u</u>									
8		<u>и</u>									
		۲.	50		as above						
-9		7			TILL, bra, hard, tight						
10		13			a above, srey						
		3	0		no recovery						
:1		7									
12		7				N.	• •				
		6	50		as above, grey Loose wet clean	$ \hat{\boldsymbol{x}} $					
13		2			-						
14		3			1						
		3	100	1	as abore, loose		,				
_15_		4	-								
16		3									
		4	100		as about						
17		5			4						
	1AM 15	PLING ME - 1PLIT 1P	THOD NOON	ė	COMMENTS: <u>METHODS; 614 HSA, HC</u>	n Na d	COLING	·			
	A-4	C - 0082	TT2+05								

Contract	er. Am		Auc		PARSONS ENGINEERING SCIENCE, INC.	BORING/ WELL NO. MW-ZD
Driller:	Joh	Pr T	etric	1		
Rig Type	For	e most	<u>27 25</u>	io O	PROJECT NUMBER 72 8726.01000	Location Description: Sec map 1/2 /20
GR	OUNDWA	TERO	BSERVAT	TONS		
Wetter	17 70				Weather Sunny 25"	Location Plan old in
Duie	-11/46				DeserTime Sourt 4/9/96 7:30	foundation
Time	027					• mw75
From	TOC					• mw 20
Sample	Sempie T D	SPT	<b>K</b>	71D	PIELD IDENTIFICATION OF MATERIAL	SCHEMATIC CONDIENTS
18	<u>.</u>	7				
		4			TILL, as abore	
19		7				4" steel
20		7				Casing .
		9			as above, subling tight, hard	+2.5-20
61		13	/			
Z 2		A				Crowt 0-2's
	1	50/2"			n above, vu tight hard	
23		<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>			PERRock	
74					(Glerbit, NO SANDIC)	
25						
2.6	L 055,00	-	* REC.			
20	NONE	- <u>+</u>	36	100	SHALE black crey releaseous slightly deformed.	
27					Some events stringers I to hedding	
			<u> </u>			
28						openhol;
29						26-56
	NONE		60	91	as about	
30		<u> </u>	·			
31				· ·		
32	-					
33						
34	Alexie				c close	
3	NUNE		60	100	(13 4×00 -	
36						
77						
,/						NI NI
<del>3</del> 8						
			1	1		
			THOD		COMMENTS: <u>METHODS</u> : 61/4 HSA, HO	NQ CORING
		- 11-11 SI	TTINOS			
		C - CORE	Ð			

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Contract	ar Am		Auci		PARSO	DETLING	RING SCIE	NCE, INC.		BORIN	IG/ NO. M	W-ZD	
Driller: Inspector Rig Type	<u>Joh</u> <u> </u>	n Pi is To most	etrich rell CTZS	- - -0	PROJECT NAME VAILEY FALLS PROJECT NUMBER 72 8724.01000				_ ,	Sheet 3 of 3 Location Description: <u>see map below</u>			
										·			
GRO	OUNDWA	TERO	SERVAL		Weather	Suppu	25.			Location I	the -id	1 4	
Level	17.28		[				<u> </u>		-		13	iledien "	
Dece	4/1/46				Date/Time Sourt	4/9/96	7:30		-	l			
Time	730					1						• 74425	
Mean.	TOP				Date/Time Finish	4/10/46	12:10		- (			. ~~20	
Sumple	Sample	SPT	-	700	70	LD IDENTIFICAT		FRIAL		SC H	EMATIC	CONOMENTS	
Depth	LD.		Rec.	Rending									
39	Low	C	"ex	Rad						$\left \right $			
	NONE		60"	76	SHALE,00	aloout							
40		$\rightarrow$								$\sim$		Loo hole	
41					·							or	
		-									$\mathcal{A}$	26-54	
42											1		
											P		
43													
44										$\geq$			
	NONE		12	60	as above						5		
45										$\sim$		1	
	NONE		48	82	as above					$\equiv$	$\leq$		
46													
57				· .								· .	
41		+										-	
42										=	$\mathbf{k}$		
										$\sim$			
49		-			,								
	r/one		42	00	as above					$\sim$			
50													
51		+								-			
										$\geq$	2		
52										$\sim$			
5:				_						$\square$			
		-1											
54										E		-	
	NONE		24	90	as above				-		$\sim$		
22											$\sim$	-	
66												-	
				1					2			]	
								T	0:56				
		_			1								
	5.A.M.7 55 -	-1.040 M0	ET HOD		COMMENTS:	METHOD	<u>s; 6'/</u>	HSA,	на	NQ	CORING	:	
	A - A	UOER CL	TINGS										
		c - coru	D										

					PARSONS ENGINEERING SCIENCE, INC.	BORING/		
Costraca	∽. <u>Am</u>	crila!	1 Aug	ę	DRILLING RECORD	WELL NO. MW- 53		
Driller:	Ja	n Pr	the	5				
Inspector	: <u>Ch</u>	is To	rell_	-	PROJECT NAME VALLEY FALLS	Sheet _/		
Rig Type	: For	e most	CT 25	0	PROJECT NUMBER 72 8 726 . 0/000	Location Description: 60		
			_			· · · · · · · · · · · · · · · · · · ·		
GRO	WOND	TER OB	SERVAT	IONS				
Water	- 74				WeatherJUNY J2	Locados Plas		
Date	41,0				Durting Star UNAL 15-00	The Internet		
Time	12.00							
Meas					Date/Time Finish 4/4/96 16:30			
From	TOL					1 1		
Sample	Sampin	SPT	*	TID	PUELD IDENTIFICATION OF MATERIAL	SCHEMATIC CONDEN		
Depth	ம.		Roc	Rending				
				<u> </u>		flyshow		
0		A		ļ		- Gentykk		
					see mw3D Goring log	S - S - er - tun		
						13 + srost 0-		
2								
						रसिंग मर्ग्स ०.९		
3						in Lontony		
						pellet		
4						2-2-		
						56-d PA		
5						2.2-		
,								
6						1: ', d a		
7				·		slat we		
				· -		Porcon P		
8		1				Screin		
						3-8		
					TO = 8'			
_								
-	_							
			_					
			_					
	LAMP	LING ME	HOD		COMMENTS: METHODS: 614 HSA, HQ.	NQ CORING		
	13 -	SPLIT SPC	NON		· · · ·			
	A = A	WER CUT	1 0403					

Contracto	<del>-</del> Am	ea Lan	Aug	£	PARSONS ENGINEERING SCIENCE, INC. DRILLING RECORD	BORING/ WELL NO. /	$1\omega - 3D$		
Driller:	Jo	n Pre	trick	2			3		
Inspector Rig Type:	<u>_</u> (h)	15 70	<u>(11)</u> (77)	-	PROJECT NAME VALLEY FALLS	Sheet /	a <u>s</u>		
	- For		6/65	2			See may genu		
GRO	שמאט	TEROB	SERVAT	IONS	2.20				
Water	37 91				Weather	Location Plan	se A		
Date	4110				Date/Time Start 4/4/46 8-45		Imayor)		
Time	8 30						house thouse		
Mann,					Data/Time Finish 915196 210:00		• ~~30		
From	Sample	SPT	*	mo	PIPED IDENTIFICATION OF MATPRIAL	SCHEMATIC	CONDUCTION OF		
Depth	Ъ.		Rec.	Ronding			COMPANY		
							flyshaant		
0		4	50		SANDY SILT It has uf				
1			- 0		224424 3101, 42 0107 01		espandable		
		4	-				rap		
Ζ		9							
		8	50		SAND+GRAVEL, town, bra, clean wat				
5		-7					N.		
4		7							
		2	25		to above		Ň		
5		3							
		4							
6		4	100	-	a char		u"steel casing ,		
7		5	100	1.			0.5 - 24		
		18			TILL, bry nord, -et, clean		sout		
8		32					0-29		
		38	50		asabore, vo ect				
9		5.75'							
10		A					N. Andrewski (* 1997) New York, Andrewski (* 1997) New York, Andrewski (* 1997)		
		Z7	50		a above, great				
"		sds"							
		A							
.2		A							
13		A							
		A					ŝ.		
14		<u>^</u>					8		
,		<u>^</u>					N N		
		33	50		as above, gray , vy had + tight				
16		50/3"							
		<u>^</u>					S		
17		A A							
15		A							
		A							
19		A					Š		
70		$\hat{\mathbf{a}}$							
20			<u>,</u>	<u> </u>					
	SAMI	LING HE	тнор		COMMENTS: METHODS. 61/2 USA H	a NA CADIN	Æ		
	<b>1</b>	SPLIT SPC	NOC				<u> </u>		
	A - A	NO ER CUT	TINOS						

Contractor Anna Anna					PARSONS ENGINEERING SCIENCE, INC.		BORINGI WELL NO. MW- 3D		
Driller: John Pietrich						WEL			
Impector: Chris Torell				-	PROJECT NAME VALLEY FALLS	Sheet	<u>Z</u> ar <u>3</u>		
Rig Type	lig Type: Fore most CT 250			Q	PROJECT NUMBER 72 8726 . 01000	Locatio	Description: see met		
GRO	WGNUG	TER O	SERVAT	TONS	· · · · · · · · · · · · · · · · · · ·		- below		
Water	an RI		1	T	Weather SUMAY 32"	Locate	on Plan ( loss )		
Level	32						5+		
Data	4/10				DeterTime Start 7/9/46 8:45		murs myors		
Mcas.	5-		┼───		Data/Time Finish 415/16 10:00				
From	TUC						nush		
Sampie	Sample	SPT	*	nD	FIELD IDENTIFICATION OF MATERIAL	s	CHEMATIC COMMENTS		
Depth	ம.	20	Lec.	Rending		-	E IEssel		
21		solu"			de above, sin ock trafs				
		A				N.	1 States and the second s		
22		A							
77		4	<u> </u>						
- /		~					4"steel		
24		A					casing ,		
		504"			as above		0.5-29		
.25	_	A					- contos.		
26		- <u>A</u>					29'		
	-	p.e.	-		BEDROCK coller bit no samely	Ŧ			
27					, , , , , ,	F			
16							rock socie		
28				<u> </u>			26-29		
27	به لمدن * بحما	Ŧ	THEL	200					
	MORE	٢	36	100	SHALE, gran black, calibrous, occ que to strippers	$\sim$			
30					I to bodd 1-8, occ weathered 20-23				
- 51			_─			17			
			1			6			
32						K			
32				0.0		1			
,,	NONE		60	90	a war	$\square$	op hole		
34						$\geq$	29-58		
20						$\supset$			
12	_								
36	_								
						1			
37		_			•	1			
38	NUNÉ		60	40	og share	$\square$			
						$\mathbb{Z}$			
39									
						10	X X		
40				1		$\leq$	1		
41		-+				$\leq$			
							· _ · · · · · · · · · · · · · · · · · ·		
	SAM	n only	THOD		COMMENTS: METHODS: 614 HSA, HO	Na	CORING		
	55 -	- 19LIT 11 LIOPE (7				_			
		C - 0047	₽			_			

Contractor American August					PARSONS ENGINEERING SCIENCE, INC.	BORING/ WELL NO. MW- 3 D		
Driller:	JA	a Pie	trick	2				
Laspector:	Chr	IS TO	111		PROJECT NAME VALLEY FALLS	sheet 7 of 3		
Rig Type:	For	most	LT ZS	2	PROJECT NUMBER 72 8726.01000	Location Description: 5 CC MGD		
						- Gelor		
GRO	AWG/NU	TEROS	SERVAT	IONS	5 m 32°	the second second		
Water	37 81			ĺ	Weather	Location Plan St		
Dere	ulia				Deve 500 414196 8-45			
Time	9 10							
Mose					Date/Time Finish 4/5/96 10:00	0~70		
From	TUC							
Sample	Sample	SPT	*	TD	PIELD IDENTIFICATION OF MATERIAL	SCHEMATIC CONCENTS		
Depth	LD.		Rec.	Rending				
		<u> </u>						
42		_{						
12	MARL		15	90	a clair			
-7.1	110	-1-		<u> </u>				
44								
	NUNE		60	95	as above			
15								
- /		_						
06								
41								
48			-					
49								
	NONE		00	100	as above			
50								
				<u> </u>				
5-1								
- ,								
						hole		
53				<u> </u>				
						24-38		
54								
	NONE		48	78	as above			
:5								
51								
51								
58		1		-				
	_				- <i>TD=58</i> .	σ		
					-			
	_							
	_			1	1			
					l			
	5.14 55 6 - 6	- 19117 14 - 19117 19	27 HOO MOON 17 DHOS		COMMENTS: <u>METHODS</u> ; 61/4 HSA, HO	a Na coeing		
			-					

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					PARSONS ENGINEERING SCIENCE, INC.	BORING/	
Costaci	LOUBERGOT. AMERICAN AUGU			Ś	DRILLING RECORD	WELL NO. M	$\omega - 45$
Driller:	Driller. John Pretoch			1			
Inspector	sepector (bris Torrill			-	PROJECT NAME VALLEY FALLS	Sbeet /	o( /
Rig Type	: Fre	e most	CT7C	6	PROJECT NUMBER 72 8776 OLON	Location Description:	sec man bala
			- 42				
GRO	DUNDW/	TEROS	SERVAT	TONS			
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					PARSONS ENGINEERING SCIENCE, INC.	BORING/	
Contractor: American Auger					DEILLING RECORD	WELL NO. MW-9D	
Driller: John Pretrich Laspector: Chris Torell				1	PROJECT NAME VALLEY FALLS	Shoet 2 of 3	
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Driller: John Pretrich Impector: Christorell				5	PROJECT NAME VALLEY	FALLS		Sheet	3	« <u>3</u>	
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# Appendix C

Groundwater Monitoring Well Purging and Sampling Log Form



EA Engineering PC and its Affliate, EA Science and Technology

## GROUNDWATER SAMPLING PURGE FORM

Well I.D.:	EA Personnel:	Client:
Location:	Well Condition:	Weather:
Sounding Method:	Gauge Date:	Measurement Ref:
Stick Up/Down (ft):	Gauge Time:	Well Diameter (in):

Purge Date:	Purge Time:
Purge Method:	Field Technician:

Well Volume								
A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:						
B. Depth to Water (ft):	E. Well Volume (gal) C*D):	Pump Type:						
C. Liquid Depth (ft) (A-B):	F. Five Well Volumes (gal) (E3):	Pump Designation:						

	Water Quality Parameters											
Time	DTW	Volume	Rate	рН	ORP	Temperature	Conductivity	DO	Turbidity			
(hrs)	(ft btoc)	(liters)	(Lpm)	(pH units)	(mV)	(oC)	(uS/cm)	(ug/L)	(ntu)			

Total Quantity of Water Removed (gal):	Sampling Time:
Samplers:	Split Sample With:
Sampling Date:	Sample Type:
COMMENTS AND OBSERVATIONS:	

Appendix D

# **Granular Activated Carbon Sampling Form**

# Valley Falls GAC Sampling Form

GAC Location:		Date of Visit:
Owner Name:		Telephone:
System Address:		Alt. Telephone:
City:	Zip:	Site No.:
Performed By:		Site Name:
Company:		_

Sample Information					
	Date	Time	Purge Start Time	Purge Stop Time	# of Vials
Pre					
Mid					
Post					
Bacteria (at tap)					

Visual Inspection		Ν	otes:
Cleaned the particle filter	Yes	No	
Cleaned the quartz sleeve	Yes	No	
Changed out UV light	Yes	No	
Inspected carbon vessel, UV light,			
and associated plumbing for leaks	Yes	No	

# Appendix E

**Annual Inspection Record** 

# Valley Falls Dry Cleaners Site Valley Falls, New York Site No. 4-42-028

## **Annual Inspection Record**

## A. GENERAL INFORMATION

Date: \_\_\_\_\_\_
Inspector: \_\_\_\_\_\_

# **B. INSPECTION - SOIL AND VEGETATIVE COVER**

Former Excavation Area

Component	Condition	Comments
Soil Cover (Check for erosion, unauthorized excavation, noticeable settling, etc.)		
(check for any sparse or stressed vegetation)		
<b>Fencing</b> (if applicable, inspect surrounding fenceline for damage/breaches)		
Site Use (Describe the current site use in the area of the excavation, and note any changes since the previous inspection)		
Other observations or comments		

## MW-1S

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

## MW-1D

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be			
located?			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

## MW-2S

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be located?			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

### MW-2D

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be located?			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

### MW-3S

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be			
located?			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

### MW-3D

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be located?			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

#### MW-4S

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			

### MW-4D

Component	Acceptable	Damaged/ Unacceptable	Comments
Can the well be located?			
Accessibility			
Outer Casing			
Pressure Cap			
Lock			