JOHNNY CAKE ROAD FARM SITE

TOWN OF DANUBE, HERKIMER COUNTY, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number 622016

Prepared for:
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York

Prepared by:
TRC Engineers, Inc.
3 Corporate Drive, Suite 202
Clifton Park, New York 12065

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
0	06/21/2011	Original Submittal	06/21/2011
1	01/12/2024	Update to the latest SMP template, update of Engineering Controls to include the groundwater monitoring well network, revision to the groundwater monitoring well network and sampling schedule, revision to the Periodic Review Report schedule, and removal of the Site Management Report requirement.	02/21/2024

FEBRUARY 2024

CERTIFICATION STATEMENT

I Kevin D. Sullivan certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and DER Green Remediation (DER-31).

P.E.

February 21, 2024 DATE

2/21/24

SITE MANAGEMENT PLAN

JOHNNY CAKE ROAD FARM

TOWN OF DANUBE, HERKIMER COUNTY, NEW YORK

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Acronyms

AMSL	Above Mean Sea Level
bgs	below ground surface
COC	Certificate of Completion
CP	Commissioner Policy
DCE	Dichloroethene
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
EWP	Excavation Work Plan
HASP	Health and Safety Plan
IC	Institutional Control
IHWDS	Inactive Hazardous Waste Disposal Site
IRM	Interim Remedial Measure
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules, and Regulations
O&M	Operation and Maintenance
P.E.	Professional Engineer
PCE	Tetrachloroethene
PRR	Periodic Review Report
ppm	Parts Per Million
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
ROD	Record of Decision
RSO	Remedial System Optimization
SCGs	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SI	Site Investigation
SMP	Site Management Plan
SVI	Soil Vapor Intrusion
TCE	Trichloroethene
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
TRC	TRC Engineers, Inc.
USEPA	United States Environmental Protection Agency
USMS	United States Marshals Service
VOCs	Volatile Organic Compounds

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Johnny Cake Road Farm Site (Site), as well as the inspections, monitoring, maintenance, and reporting activities required by this Site Management Plan (SMP):

Site Identification: NYSDEC Site No. 622016, Johnny Cake Road Farm Site

Institutional Controls:	1. The property may be used for Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-l.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv).
	2. The property may not be used for a higher level of use, such as Unrestricted Use, without additional remediation and amendment of the Environmental Easement, as approved by the New York State Department of Environmental Conservation (NYSDEC or Department).
	3. All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP.
	4. The use of the groundwater underlying the property as a source of potable or process water is prohibited without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH).
	5. The potential for vapor intrusion must be evaluated for any buildings developed within the Site boundary, and any potential impacts that are identified must be monitored or mitigated.
	6. The Herkimer County Highway Department was provided with all relevant reports and data to identify the location and recommendations on proper handling of potentially contaminated groundwater in the county right-of-way/dedicated public highway during future repairs and/or replacements of the section of Johnny Cake Road which runs through the Site.

Site Identification:	NYSDEC Site No. 622016, Johnny Cake Road Farm Site

Institutional Controls:	7. The Environmental Easement grantor will submit to NYSDEC a written statement that certifies: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the Department; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the Department finds acceptable.	
	8. Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns, as applicable.	
	9. Groundwater monitoring must be performed by NYSDEC (or NYSDEC's designated representative) as defined in this SMP.	
	10. Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.	
	11. All Engineering Controls (ECs) must be operated and maintained as specified in the SMP.	
	12. All ECs must be inspected at a frequency and in a manner defined in the SMP.	
Engineering Controls:	Groundwater monitoring well network	
Inspections:		Frequency
Site-wide including groundwater monitoring wells		Annually

Site Identification: NYSDEC Site No. 622016, Johnny Cake Road Farm Site

Monitoring:	
Groundwater	Every three years within 30 days before or after April 1st
Maintenance:	
Groundwater monitoring wells	As needed
Reporting:	
Periodic Review Report	Every five years

Further descriptions of the above requirements are provided in detail in the latter sections of this SMP.

1. INTRODUCTION

1.1. General

This Site Management Plan (SMP) is a required element of the remedial program at the Johnny Cake Road Farm Site (hereinafter referred to as the "Site") under the New York State Inactive Hazardous Waste Disposal Site (IHWDS) Remedial Program administered by the New York State Department of Environmental Conservation (NYSDEC). The Site was remediated by the United States Environmental Protection Agency (USEPA) through a series of Interim Remedial Measures (IRMs). A Record of Decision (ROD) indicating "No Further Action with Site Management" was issued for the Site (Site #: 6-22-016) on March 30, 2009 (NYSDEC, 2009).

NYSDEC is executing the ROD for this Site under the State Superfund Program. The Johnny Cake Road Farm Site is located in the Town of Danube, Herkimer County, New York. The Site is 3.24 acres in size. **Figure 1** illustrates location and approximate boundaries of the Site. **Figure 2** illustrates the Site Layout. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Environmental Easement (**Appendix A**).

After completion of the remedial work described in the November 2006 "Removal Action Report" prepared by the USEPA, some contamination was left at the Site, which is hereafter referred to as "remaining contamination." Institutional Controls (ICs) have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to NYSDEC, and recorded with the Herkimer County Clerk, requires compliance with this SMP and all ICs placed on the Site.

This SMP was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with Environmental Conservation Law (ECL) Article 71, Title 36. This SMP has been approved by NYSDEC, and compliance with this SMP is required by the Grantor of the Environmental Easement and the Grantor's successors and assigns. This SMP may only be revised with the approval of the Department.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP is also a violation of ECL and Title 6 of New York Codes, Rules, and Regulations (NYCRR) Part 375, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the Site is provided in **Table 1** of this SMP.

This SMP was prepared by TRC Engineers, Inc. (TRC), on behalf of NYSDEC, in accordance with the requirements of DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010 and DER-31 ("Green Remediation"), dated August 2010. This SMP addresses the means for implementing the ICs that are required by the Environmental Easement for the Site.

1.2. Revisions and Alterations

Revisions and alterations to this plan will be proposed in writing to the NYSDEC project manager. The Department can also make changes to the SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant changes to the Site conditions. All approved alterations must conform with Article 145 Section 7209 of the Education Law regarding the application of professional seals and alterations. For example, any changes to the monitoring well network or monitoring frequency must be stamped by a New York State Professional Engineer (P.E.). In accordance with the Environmental Easement for the Site, the NYSDEC project manager will provide a notice of any approved changes to the SMP and append these notices to the SMP that is retained in its files.

1.3. Notifications

Notifications will be submitted by the property owner to NYSDEC, as needed, in accordance with DER-10 for the following reasons:

1. 60-day advance notice of any proposed changes in Site use that are required under the terms of 6 NYCRR Part 375 and/or ECL.

2. 7-day advance notice of any field activity associated with the remedial program.

3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan (EWP) provided in **Appendix F**. If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above mentioned 60-day advance notice is also required.

4. Notice within 48 hours of any damage or defect to the foundation, structures or ECs that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.

5. Notice within 48 hours of any non-routine maintenance activities.

6. Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the

Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

7. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the Department within 45 days describing and documenting 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:

8. At least 60 days prior to the change, the Department will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/remedial party has been provided with a copy of all approved work plans and reports, including this SMP.

9. 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 to the Department.

Table 1 includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in **Appendix B**.

Table 1: Notifications*

Name	Contact Information	Required Notification**
Robert Strang Project Manager NYSDEC	518-402-8642 robert.strang@dec.ny.gov	All Notifications
Kristen Davidson Citizen Participation Specialist NYSDEC	716-851-7220 kristen.davidson@dec.ny.gov	All Notifications
David Storandt Region 6 Remediation Engineer NYSDEC	315-785-2524 david.storandt@dec.ny.gov	Notifications 1 and 8
Shaun J. Surani NYSDOH Bureau of Environmental Exposure Investigation	518-402-7860 BEEI@health.ny.gov	Notifications 4, 6, and 7

* Note: Notifications are subject to change and will be updated as necessary.

** Note: Numbers in this column reference the numbered bullets in the notification list in this section.

2. SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1. Site Location and Description

The Site is located in the Town of Danube, Herkimer County, New York (see **Figure 1**) and is identified as Section 127 Subsection 002 Block 4 Lot 1 (i.e., Tax Parcel 127.002-4-1) on the Herkimer County Tax Map. The owner of the Site parcel at the time of issuance of this SMP is the United States Marshal Service. The Site is comprised of 3.24 acres on a larger parcel of 35.5 acres of rural farmland. The Site is on the northern and southern sides of Johnny Cake Road and includes a portion of the Johnny Cake Road right-of-way (see **Figure 2**). The Site previously contained a farmhouse, garage, in-ground pool, stable building, and dairy barn, as depicted on **Figure 2**. The surrounding area consists primarily of active and fallow farmland and rural residences. The boundaries of the Site are more fully described in the Environmental Easement included as **Appendix A**.

2.2. Physical Setting

2.2.1. Land Use

The Site consists of vegetated land on the northern and southern sides of Johnny Cake Road that slopes from south to north. Just south of the Site boundary, a small intermittent stream meanders from west to east. The Site is currently vacant and there are no structures, paths, or access roads on-Site. The properties adjoining the Site are agricultural farm fields.

2.2.2. Geology

According to the U.S. Geological Survey, the area incorporating the Site consists of surficial deposits of lacustrine sand underlain by kame moraine and ablation till. Till extends one to 50 meters below grade. Boring logs from the installation of the groundwater monitoring wells at the Site identify surface soil and colluvium covering underlying glacial till.

2.2.3. Hydrogeology

Groundwater in the overburden aquifer follows Site topography and flows north through the Site. Depth to groundwater in the overburden aquifer ranged between 3 to 10 feet below grade in October 2008. Historically, during wet periods, perched groundwater has been observed on the south side of the Site. Artesian conditions have been observed in the bedrock aquifer. Groundwater flow as measured in October 2008 is shown on **Figure 3**.

Groundwater elevations observed in October 2008 ranged from 740.12 feet above mean sea level (AMSL) (MW-10) to 791.36 feet AMSL (MW-7). A summary of the monitoring well construction details and associated construction and boring logs are provided in **Appendix C**.

2.3. Investigations and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles of the referenced documents are included in **Section 8**.

The Johnny Cake Road Farm operated as a dairy farm prior to becoming the Site of a cocaine manufacturing and distribution operation in the mid-1980s. Drug production lasted 14 months and in 1987, the United States Marshals Service (USMS) seized the Site as part of a long-term investigation into the illegal operation. The former dairy farm operated over 377-acres but completed investigations limited Site contamination to a 3.24-acre Site boundary, as shown on **Figure 2**. Non-impacted portions of the farm were sold off by the USMS.

Significant quantities of hazardous chemicals, specifically chlorinated solvents, were used as part of the drug manufacturing process. Solvents were reportedly dumped in various locations in and around the former farmhouse, including on the dirt floor and in the driveway. Solvents were also dumped into an underground septic tank east of the farmhouse to the point of overflow, which eventually discharged into an adjacent drainage swale. Additionally, an on-Site inground swimming pool was used to rinse drug manufacturing equipment. As a result of poor chemical handling, impacts to soil and groundwater were identified during investigations.

Several Site Investigations (SIs) were performed to characterize the nature and extent of contamination at the Site between 1990 and 2008 through a cooperative agreement between the USMS and USEPA. During these SIs, a total of 23 monitoring wells were installed and dozens of soil borings were advanced. The results of these SIs are described in detail in the following reports:

- C.T. Male Associates, P.C., "Environmental Subsurface Investigation Report," June 1990;
- Roy F. Weston, Inc., "Extent of Contamination Study Report," November 1991;
- USEPA, "Removal Action Report," November 2006;
- Earth Tech Northeast, Inc., "Site Investigation Report," February 2009;
- NYSDEC, "Record of Decision," March 2009;
- "2010 Groundwater Monitoring Report," January 2011*;
- AECOM, "Periodic Review Report," September 2012;
- AECOM, "Periodic Review Report," October 2013;

- AECOM, "Periodic Review Report," December 2016; and
- TRC Engineers, Inc., "Periodic Review Report," February 2023.

*Indicates that TRC was not able to locate the report.

Relevant excerpts of the reports listed above are included in **Appendix D**.

The Site was remediated by the USEPA through a series of IRMs. These IRMs are described below:

- In 1990, the USEPA removed the contents from on-Site drums and the septic tank, both of which contained volatile organic compounds (VOCs), primarily consisting of chlorinated solvents. The contents of the septic tank and 55-gallon drums were transferred into secure on-Site containers and in March 1991, transported off-Site for disposal at a permitted facility.
- In the early 1990s, the USEPA demolished and removed all on-Site structures including the farmhouse, garage, pool, stable building, and dairy barn. After removing the pool, the excavation was backfilled with clean fill.
- In 2005, the USEPA conducted a removal action to excavate soil in exceedance of the 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for residential land use and identified as a source of contamination to groundwater. Two source areas were excavated, one by the former farmhouse and septic tank and one by the former garage. These areas were associated with the previous storage and dumping of drummed chlorinated solvents. The septic tank source area excavation measured 23 feet by 23 feet horizontally with a maximum depth of 17.5 feet. The former septic tank was removed and was found to be a degraded metal vessel. The garage source area excavation measured 25 feet by 32 feet horizontally with a maximum depth of 16.5 feet. A total of 325 cubic yards of soil considered source material was excavated, removed, and disposed of off-Site in a permitted landfill. Soil sampling was conducted to verify the level of cleanup and confirmed the removal of source soils.
- Two other suspected source areas were investigated as part of the 2005 IRM. A previously identified source area near the stable building was investigated by excavation and test pitting; however, field screening indicated no contamination above background values. The other area of investigation was the Johnny Cake Road drainage ditch just south of Johnny Cake Road. Six surface and three subsurface soil samples were taken from this area and

results indicated removal of soils was not necessary. Confirmatory soil sampling results and figures from the 2005 IRM are provided in **Appendix D4**.

Confirmation soil sampling and four quarters of groundwater sampling were completed following the 2005 IRM. Documentation of this IRM and the results of soil confirmation and groundwater sampling were presented in the November 2006 Removal Action Report prepared by the USEPA.

In October 2008, NYSDEC completed an additional groundwater investigation to determine the horizontal and vertical extents of groundwater contamination remaining following the removal of source areas. The results of this groundwater sampling were presented in the February 2009 SI Report prepared by NYSDEC. The soil confirmation sampling results and the groundwater sampling results from the November 2006 Removal Action Report and the February 2009 SI Report were used to represent current Site conditions in the March 2009 ROD. The results of the October 2008 groundwater sampling (see **Figure 3**) are considered the baseline groundwater conditions for this SMP.

The ROD specifies the remedy for this Site as No Further Action with Site Management including continued groundwater monitoring and ICs. In accordance with the ROD, the elements of the remedy to be implemented through this SMP are as follows:

1) Imposition of an IC in the form of an environmental easement that will require: (a) limiting the use and development of the property to residential use, which would also allow commercial or industrial uses. Further, due to the Site-specific nature of the contamination (i.e. VOCs in deep subsurface soil and groundwater) agricultural use will be permitted.; (b) compliance with the approved SMP; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH); and (d) the remedial party or Site owner to complete a periodic certification of ICs. The Site boundary subject to the environmental easement is shown on **Figure 5**.

2) Development of a SMP which will include the following: (a) evaluation of the potential for vapor intrusion for any buildings developed on the Site, including provision for mitigation of any impacts identified; (b) monitoring of groundwater; (c) restricting use of the Site as set forth in the environmental easement; and (d) providing the Herkimer County Highway Department with all relevant reports and data to identify the location and requirements to handle potentially contaminated groundwater in the county right-of-way/dedicated public highway during future repairs and/or replacements of the section of Johnny Cake Road which runs through the Site. Groundwater monitoring wells identified in the SMP will be sampled and analyzed for VOCs on a periodic basis. The monitoring well network could

be reduced as future delineation shows they are no longer needed. This program will allow groundwater to be monitored and will be a component of the long-term management for the Site.

3) The remedial party will provide a periodic certification of the ICs, prepared and submitted by a P.E. or such other expert acceptable to NYSDEC, until NYSDEC determines the certification is no longer needed. This submittal will: (a) contain certification that the ICs put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the Site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the SMP unless otherwise approved by the Department.

Annual groundwater sampling in October 2009 and October 2010 confirmed the results of previous SIs and the ROD. Ten monitoring wells were decommissioned in October 2009. In June 2011, a SMP was prepared and approved by NYSDEC. An Environmental Easement for the Site was filed with the Herkimer County Clerk in July 2011.

2.4. Remedial Action Objectives (RAOs)

The overall remedial requirements for the Site include the following:

- Eliminate, to the extent practicable, ingestion of groundwater impacted by the Site that does not attain NYSDOH drinking water standards.
- Eliminate, to the extent practicable, further off-Site migration of groundwater that does not attain NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Standards and Guidance Values (Class GA Values).
- Eliminate, to the extent practicable, exposure to VOC-impacted soil at the Site.

2.5. Remaining Contamination

Following the 2005 IRM, soils below the 6 NYCRR Part 375 SCOs for residential land use, but above the 6 NYCRR Part 375 SCOs for unrestricted use remained at the Site. Confirmation sampling indicated subsurface soil exceeded the unrestricted land use SCO for acetone, DCE, vinyl chloride, TCE, and toluene. The exceedances were located beneath the former septic tank at the bottom and down gradient edge of the excavation at a depth of about 16 feet bgs and appear attributed to a small sand lenses. Figures showing areas where excavation was performed as well as tables summarizing confirmation sampling results are provided in **Appendix D4**.

As discussed in **Section 2.3.2**, groundwater contamination remains at the Site. Groundwater analytical results from October 2008 are shown on **Figure 3.** The most recent groundwater analytical results, collected in July 2022, are shown on **Figure 4**. The horizontal and vertical boundaries of groundwater contamination have been delineated and are within the 3.24-acre Site boundary which is subject to an Environmental Easement. In order to account for groundwater contamination remaining at the Site, the easement shall require compliance with the approved SMP and restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH. Groundwater monitoring wells identified in this SMP will be sampled and analyzed for VOCs on a periodic basis.

In accordance with the March 2009 ROD, the Herkimer County Highway Department was provided with all relevant reports and data to identify the location and recommendations on proper handling of potentially contaminated groundwater in the county right-of-way/dedicated public highway during future repairs and/or replacement of the section of Johnny Cake Road which runs through the Site.

A summary of current Site conditions by media is included below.

2.5.1. Soil

Following completion of the 2005 IRM, six surface soil samples (RSD-01, RSD-02A, RSD-03, RSD-04A, RSD-05, and RSD-06A) were taken at a depth of 0 to 0.5 feet below ground surface (bgs) in a roadside ditch just south of Johnny Cake Road and analyzed for VOCs to evaluate if contamination from the septic tank had migrated into the sediments/surface soils in the ditch. Sample locations and sampling results are provided in **Appendix D4**. Results indicated one marginal exceedance (0.065 parts per million (ppm) at RSD-03) of the 6 NYCRR Part 375-6.8 Unrestricted Use SCO for acetone (0.05 ppm); however, this level is well below the Residential Use SCO for acetone of 100 ppm.

As part of the IRM in 2005 confirmation subsurface soil samples were collected following excavation of source areas identified during previous investigations and from a drainage ditch adjacent to Johnny Cake Road. Sample locations and sampling results are provided in **Appendix D4**. A total of 21 confirmatory samples were collected and analyzed for VOCs. Confirmation sampling exceeded the Unrestricted Use SCO for acetone, dichloroethene (DCE), vinyl chloride, trichloroethene (TCE), and toluene. The exceedances were located beneath the former septic tank bottom (about 16 feet below grade) and downgradient edge of the source soil excavation. The contamination appears to be associated with small sand lenses in the subsurface geology.

Three subsurface soil samples (RSD-02B, RSD-04B, and RSD-06B) were taken in a roadside ditch at a depth of 1.0 to 1.25 feet bgs just south of Johnny Cake Road to evaluate if contamination from

the septic tank had migrated into the sediments/surface soils in the ditch. Sample locations and sampling results are provided in **Appendix D4**. Contaminants were not detected above SCOs in the three subsurface soil samples.

No Site-related subsurface soil contamination exceeds the 6 NYCRR Part 375 SCOs for Residential Use.

2.5.2. Site-Related Groundwater

As of the March 2009 ROD, 23 monitoring wells were installed on and in the vicinity of the Site boundary. Locations of the wells are shown on **Figure 2**. A monitoring well construction summary is included as **Appendix C**. The wells ranged in depth from 12 to 40 feet bgs except for one well which extended to 101 feet bgs. The deeper wells are installed into a till unit which is a relatively impermeable unit with a large clay content.

A series of groundwater monitoring events since 1990 have documented a contaminant plume emanating from the source areas. The plume consists of VOCs, primarily chlorinated solvents tetrachloroethene (PCE) and TCE, and their bi-products DCE and vinyl chloride. Historically, other VOCs such as acetone, trans-1,2-DCE, 2-butanone, and dichlorodifluoromethane have been detected in Site wells. The groundwater plume follows the overburden aquifer north from the source areas and extends beneath Johnny Cake Road.

Following the completion of the 2005 IRM, a total of 14 monitoring wells were sampled on a quarterly basis for VOCs from summer 2005 to spring 2006 to confirm the effectiveness of the IRM. A supplemental sampling of 17 existing monitoring wells and three new monitoring wells was conducted in October 2008 to confirm the findings of previous sampling and to establish the horizontal extent of the groundwater plume. The three new monitoring wells (MW-21, MW-22, and MW-23) were installed downgradient of the suspected final extent of groundwater contamination. The results of the October 2008 groundwater investigation are shown on **Figure 3** and provided in **Appendix D5**. Groundwater results were compared to the applicable Standards, Criteria, and Guidance (SCGs) provided in **Table 2** of the "Use and Protection of Water", 6 NYCRR Part 608.

The results of the 2005-2006 quarterly groundwater monitoring event and the October 2008 groundwater monitoring event indicate that groundwater contamination for VOCs is continuing to decrease since the 2005 IRM. During these investigations five VOCs, all chlorinated solvents, exceeded the groundwater SCGs: 1,2-dichloroethane, cis-1,2-DCE, PCE, TCE, and vinyl chloride. The October 2008 sampling event, depicted on **Figure 3**, indicated lower levels of groundwater contamination than at any previous point. This confirms the continued effectiveness of the IRMs. In general, PCE and TCE were detected in higher concentrations to the south of Johnny Cake Road

near the former source areas, while cis-1,2-DCE (a product of the natural degradation of PCE and TCE) was detected both in the source areas and downgradient to north of Johnny Cake Road. This is evidence that contaminants are attenuating naturally as they migrate with groundwater.

The October 2008 groundwater investigation also established the vertical and horizontal limits of groundwater contamination. Three new monitoring wells (MW-21, MW-22, and MW-23) were installed beyond the suspected horizontal limits of groundwater contamination as shown on **Figure 3**. No VOCs were detected above SCGs in these wells. These results confirm the contaminated groundwater plume follows the overburden groundwater aquifer north from the source areas and extends approximately 200 feet to the north of Johnny Cake Road. The plume extends no more than 15 feet into the till layer underlying overburden soils and further vertical migration of the contamination plume has not been observed.

The source of groundwater contamination identified during previous SIs was addressed during the 2005 IRM. Although groundwater contamination is still present at the Site, analytical data indicates the plume is decreasing, is no longer migrating either horizontally or vertically, and is not expected to migrate beyond the Site boundary.

Annual groundwater sampling in October 2009 and October 2010 confirmed earlier conclusions made about remaining groundwater contamination, with further reductions in contaminant concentrations observed. The results of the October 2009 and October 2010 groundwater sampling are included in **Appendix D7**.

Groundwater samples were collected again in April 2012, April 2014, April 2016, and July 2022 as part of Site management activities under the 2011 SMP. Historical groundwater sampling results through July 2022 indicate that, in general, VOC concentrations in the overburden groundwater are decreasing, indicating a trend of attenuation of these compounds. However, SCGs for VOCs have not been achieved at well MW-1.

Groundwater data from 2009 to 2012, 2014, 2016, and 2022 is included in **Appendix D8**.

2.5.3. Site-Related Soil Vapor Intrusion (SVI)

The potential for soil vapor and indoor air contamination has been identified during the course of the SIs. No sampling was conducted during SIs and/or IRMs as there are presently no structures on the Site. The results of the investigations indicate that the adjacent residences are not impacted nor expected to be impacted by VOCs found on-Site. However, the potential for contaminated soil vapor above the groundwater plume must be addressed in accordance with the ROD.

3. INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1. General

Since remaining contamination exists at the Site, ICs and ECs are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC project manager.

This plan provides:

- A description of all ICs/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs such as the implementation of the EWP (as provided in **Appendix F**) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the Site remedy, as determined by the NYSDEC project manager.

3.2. Institutional Controls

A series of ICs is required by the ROD to: (1) implement, maintain, and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the Site to residential use which would allow commercial and industrial uses. Further, due to the Site-specific nature of the contamination (i.e. VOCs in deep subsurface soil and groundwater) agricultural use would be permitted. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on **Figure 2**. These ICs are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns, as applicable;

- Groundwater, soil vapor and other environmental or public health monitoring must be performed by NYSDEC (or a NYSDEC designated representative) as defined in this SMP; and

- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

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

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

- The property may be used for Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-l.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv).

- The property may not be used for a higher level of use, such as Unrestricted Use without additional remediation and amendment of the Environmental Easement, as approved by the Department.

- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP.

- The use of the groundwater underlying the property for potable or process water is prohibited without treatment rendering it safe for intended use as determined by the NYSDOH.

- The potential for vapor intrusion must be evaluated for any buildings developed within the Site boundary, and any potential impacts that are identified must be monitored or mitigated.

- The Herkimer County Highway Department was provided with all relevant reports and data to identify the location and recommendations on proper handling of potentially contaminated groundwater in the county right-of-way/dedicated public highway during future repairs and/or replacements of the section of Johnny Cake Road which runs through the Site.

- The Environmental Easement grantor will submit to NYSDEC a written statement that certifies: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by NYSDEC; and (2)

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

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns, as applicable.
- Groundwater monitoring must be performed by NYSDEC (or NYSDEC's designated representative) as defined in this SMP.
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.
- All ECs must be operated and maintained as specified in the SMP.
- All ECs must be inspected at a frequency and in a manner defined in the SMP.

3.2.1. Excavation Restrictions

The Site has been remediated for residential use, which also allows for agricultural use due to the Site-specific nature of contamination (i.e. VOCs in deep subsurface soil and groundwater). The grantor of the Environmental Easement is responsible for adherence to this use restriction. In accordance with the March 2009 ROD, the Herkimer County Highway Department was provided with all relevant reports and data to identify the location and recommendations on proper handling of potentially contaminated groundwater in the county right-of-way/dedicated public highway during future repairs and/or replacements of the section of Johnny Cake Road which runs through the Site.

In a letter dated February 11, 2010, NYSDEC provided the Herkimer County Highway Department with the requirements for handling potentially contaminated groundwater which may be encountered during future repair and/or replacement of the section of Johnny Cake Road which runs through the Site. Also included with this letter were excerpts from the February 2009 SI Report which provides the location of contaminated groundwater at the Site. Any future intrusive work that may potentially disturb the remaining groundwater contamination in the county right-of-way/dedicated public highway during future repairs and/or replacement of the section of Johnny Cake Road which runs through the Site will be performed in compliance with this letter, which is attached as **Appendix E** to this SMP. In the event that the periodic groundwater monitoring

described in **Section 4.0** indicates a significant increase in the magnitude or extent of groundwater contamination at the Site, NYSDEC will notify the Herkimer County Highway Department of any additional recommendations for handling potentially contaminated groundwater.

3.2.2. SVI Evaluation for New Construction

Prior to the construction of any enclosed structures located over areas within the Site boundary, an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

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

Preliminary (unvalidated) SVI sampling data will be forwarded to NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the property owner within 30 days of validation.

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

All provisions of the Environmental Easement and SMP relating to the evaluation of SVI shall be the responsibility of the grantor of the Environmental Easement. As identified above, and as presented in the ROD (NYSDEC, 2010), continued evaluation of the potential for vapor intrusion must be conducted for any buildings developed on the Site, including provision for mitigation of any impacts identified.

3.3. Engineering Controls

ECs are part of the remedy for the Site. **Figure 2** shows the Site boundaries where the ECs for the Site apply.

3.3.1. Monitoring Well Network

The groundwater monitoring well network consists of the following seven wells: MW-1, MW-2R, MW-6R, MW-12A, MW-13, MW-18, and MW-19. A monitoring well construction summary and monitoring well boring and construction logs are provided in **Appendix C.**

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC project manager in consultation with NYSDOH project manager, until residual groundwater concentrations are found to be consistently below ambient water quality standards, the site SCGs, or have become asymptotic at an acceptable level over an extended period. In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the monitoring will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC project manager. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the Department, additional source removal, treatment and/or control measures will be evaluated.

3.3.2. Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the RAOs identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

As discussed below, NYSDEC may approve termination of a groundwater monitoring program. When a remedial party receives this approval, the remedial party will decommission all site-related monitoring, injection and recovery wells as per NYSDEC Commissioner Policy (CP)-43 policy.

The remedial party will also conduct any needed site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the remedial party will conduct any necessary restoration of vegetation coverage, trees and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers regulations and guidance. Also, the remedial party will ensure that no ongoing erosion is occurring on the site.

4. MONITORING AND SAMPLING

4.1. General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC project manager. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of Site management for the Site are included in the Generic Quality Assurance Project Plan (QAPP) provided in **Appendix G**.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater);
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards; and
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in **Section 7.0** of this SMP.

4.2. Site-Wide Inspection

Site-wide inspections will be performed once per year. During these inspections, an inspection form will be completed as provided in **Appendix H** – Site Management Forms. The form will compile sufficient information to assess the following:

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

Inspections of all remedial components installed at the Site will be conducted. A comprehensive Site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the PRR. 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 and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If Site records are complete and up to date.

Reporting requirements are outlined in **Section 7.0** of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, verbal notice to the NYSDEC project manager must be given by noon of the following day. In addition, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the Site by a qualified environmental professional, as defined in 6 NYCRR Part 375. Written confirmation must be provided to the NYSDEC project manager within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public. The

remedial party will submit follow-up status reports to NYSDEC within 45 days of the event on actions taken to respond to any emergency event requiring ongoing responsive action, describing and documenting actions taken to restore the effectiveness of the ECs.

4.3. Post Remediation Media Monitoring and Sampling

4.3.1. Groundwater Sampling

Groundwater monitoring will be performed every three years within 30 days before or after April 1st by NYSDEC (or a NYSDEC designated representative) to assess the performance of the remedy.

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. A total of 23 monitoring wells were installed during the SIs.

The initial monitoring well network included in the 2011 SMP consisted of 11 wells. Seven wells (MW-2R, MW-6R, MW-12A, MW-19, MW-21, MW-22, and MW-23) served as horizontal perimeter monitoring wells, two wells (MW-16 and MW-18) served as vertical perimeter monitoring wells, and two wells (MW-1 and MW-13) served as mid-plume monitoring wells to assess the groundwater contaminant plume. Two monitoring wells (MW-4R and MW-17) were designated as contingency wells to remain at the Site but not be sampled as part of routine sampling. Ten monitoring wells (MW-2RR, MW-3, MW-7, MW-8, MW-9, MW-10, MW-11, MW-14, MW-15 and MW-20) were decommissioned in October 2009.

Nine wells (MW-1, MW-2R, MW-4R, MW-6R, MW-12A, MW-13, MW-18, MW-19, and MW-22) were identified during Site inspections performed in 2017 and 2022. As recommended in the NYSDEC-approved February 2023 PRR, the monitoring well network was reduced to seven wells (MW-1, MW-2R, MW-6R, MW-12A, MW-13, MW-18, and MW-19) with MW-22 and MW-4R remaining as contingency wells. The monitoring well network subject to this SMP is shown on **Figure 2**. Baseline post-remedial groundwater results from October 2008 and the most recent groundwater results from July 2022 are shown on **Figures 3** and **4**, respectively.

All available historical well documentation for the nine monitoring wells that exist at the Site is included in **Appendices D1, D2, D3,** and **D6**. For some current monitoring wells boring and/or construction logs are not available. Available monitoring well construction logs for wells which were part of the initial groundwater monitoring program (2011) are included in **Appendix C**.

Each of the seven monitoring wells identified as a part of the monitoring well network above shall be sampled periodically using standard USEPA low-flow sampling techniques and analyzed for Target Compound List (TCL) VOCs by the USEPA Method 8260. Sampling shall take place every

three years within 30 days before or after April 1st. Following each sampling event, the results of the groundwater sampling event will be reported in the PRR as described in **Section 7.0**. Results shall be compared to the groundwater SCGs. Deliverables for the groundwater monitoring program are specified in **Section 7.0**.

Based on these results the sampling frequency may be modified with the approval from NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC. Groundwater monitoring will continue until groundwater SCGs are met for all wells, or NYSDEC determines groundwater monitoring is no longer necessary.

The completion of groundwater monitoring as defined by this section of the SMP shall be solely the responsibility of the Department.

All provisions of the Environmental Easement and SMP relating to groundwater monitoring shall be the responsibility of NYSDEC (or a NYSDEC designated representative). The only responsibility of the Environmental Easement Grantor in respect to the groundwater monitoring described in this section is to provide access to the Site to NYSDEC (or a NYSDEC designated representative) for maintaining the monitoring well network and the collection of samples.

Sampling locations, required analytical parameters, and schedule are provided in **Table 2** – Post Remediations Sampling Requirements and Schedule below. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

Table 2: Post Remediation Sampling Requirements and Schedule

Sampling Locations	Analytical Parameters	Schedule
MW-1, MW-2R, MW-6R, MW-12A, MW-13, MW-18, and MW-19	USEPA method 8260 for TCL VOCs	Every three years (within 30 days before or after April 1st)

Detailed sample collection and analytical procedures and protocols are provided in **Appendix G** – QAPP and **Appendix I** – Generic Field Activities Plan.

4.3.2. Monitoring and Sampling Protocol

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

All monitoring wells subject to the groundwater sampling program shall initially be gauged for water level. Water levels shall be used to generate a groundwater contour map to be submitted with each PRR. All wells shall be sampled in accordance with USEPA low-flow groundwater sampling procedures and analyzed for TCL VOCs by USEPA Method 8260. The entity which is responsible for the implementation of the groundwater monitoring program must prepare and submit to NYSDEC for approval a QAPP, a Groundwater Monitoring Well Sampling Form, a Field Sampling Plan, and a Health and Safety Plan (HASP) which adhere to DER-10 prior to the initiation of field work. The QAPP, Groundwater Monitoring Well Sampling Form, Field Sampling Plan, and HASP prepared by TRC for this SMP are provided in **Appendix G**, **Appendix H**, **Appendix I**, and **Appendix J**, respectively.

4.3.3. Monitoring Well Repairs, Replacement, and Decommissioning

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

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance. Ten (10) monitoring wells (MW-2RR, MW-3, MW-7, MW-8, MW-9, MW-10, MW-11, MW-14, MW-15 and MW-20) were decommissioned in October 2009. Additional monitoring wells may be decommissioned in the future with NYSDEC approval if the wells no longer serve a function in the monitoring well network. The Department 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 PRR. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with CP-43: Groundwater Monitoring Well Decommissioning Policy. Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by NYSDEC.

5. OPERATION AND MAINTENANCE PLAN

5.1. General

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

6. PERIODIC ASSESMENTS/EVALUATIONS

6.1. Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given Site and associated remedial systems. Vulnerability assessments provide information so that the Site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

The Site is located in an area of minimal flooding; however, flooding has occurred during instances of severe weather. If flooding does occur in the future, it is not expected to affect the monitoring well network as currently installed. The Site and ECs will be inspected annually and after any significant weather event to evaluate the condition of the Site.

6.2. Green Remediation Evaluation

DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including Site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the Site during Site management, and as reported in the PRR.

Waste Generation

Monitoring, maintenance, and reporting activities associated with the groundwater sampling result in material consumption and the generation of waste. A summary of the current material consumption and waste generation activities for the groundwater monitoring are summarized below:

- Personal protective equipment associated with groundwater sampling, such as disposable gloves, etc.;
- Polyethylene tubing for groundwater sampling events;
- Packaging material and ice used to pack and preserve samples to be submitted for laboratory analysis;

- Paper and office supplies associated with monitoring logs, groundwater injections, and report preparation; and
- Repair and replacement of monitoring wells.

Fossil Fuel Usage

Groundwater monitoring does not directly use fossil fuels as part of its routine operation; however, fossil fuels are indirectly used during the completion of groundwater monitoring. Indirect fossil fuel use results from completion of the following Site related activities:

- Transportation to and from the Site for monitoring and sampling.
- Off-Site transportation and shipment of samples collected for laboratory analysis.

Water Usage

Minimal amounts of water are used during groundwater sampling to decontaminate sampling equipment. Efforts will be made to minimize to the extent practicable the energy consumption, waste generation and water usage for implementation of this SMP.

6.2.1. Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a Remedial System Optimization (RSO), or at any time that the NYSDEC project manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine O&M activities. Reporting of these modifications will be presented in the PRR.

6.2.2. Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site, use of consumables in relation to visiting the Site in order to conduct system checks and/or collect samples, and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Consideration shall be given to:

- Reduced sampling frequencies;
- Reduced Site visits and system checks;
- Installation of remote sensing/operations and telemetry;
- Coordination/consolidation of activities to maximize foreman/labor time; and
- Use of mass transit for Site visits, where available, and carpooling.

6.2.3. Metrics and Reporting

As discussed in **Section 7.0** and as shown in **Appendix H** – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during Site management and to identify corresponding benefits. A set of metrics has been developed.

6.3. Remedial Systems Optimization

A RSO study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. The RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the Site management to another remedial party or agency; and

- A new and applicable remedial technology becomes available.

A RSO will provide a critique of a Site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the Site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall Site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to Site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7. REPORTING REQUIREMENTS

7.1. Site Management Reports

All Site management inspection, maintenance and monitoring events will be recorded on the appropriate Site Management Forms provided in **Appendix H**. These forms are subject to NYSDEC revision. All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format to NYSDEC in accordance with the requirements of **Table 3** and summarized in the PRR.

Table 3: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Site-Wide Inspections and Reports	Annually
Groundwater Monitoring	Every three years within 30 days before or after April 1st
PRR	Every five years

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC project manager.

All routine monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- 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);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation);
- Sampling results in comparison to appropriate standards/criteria;

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

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- 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); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- 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); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2. Periodic Review

A periodic review will be conducted, and a PRR will be submitted, every five years to the NYSDEC project manager or at another frequency as may be required by the NYSDEC project manager. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site described in **Appendix A** - Environmental Easement. The report will be prepared in accordance with DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the PRR. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site.
- Results of the required annual Site inspections, fire inspections and severe condition inspections, if applicable.
- Description of any change of use, import of materials, or excavation that occurred during the certifying period.
- All applicable Site management forms and other records generated for the Site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- 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, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These tables and figures will include a presentation of past data as part of an evaluation of contaminant concentration trends, including but not limited to:
    - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;

- Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
- O&M data summary tables;
- A current plume map for Sites with remaining groundwater contamination; and
- A groundwater elevation contour map for each gauging event.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the Department. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site-specific Remedial Action Work Plan (RAWP), ROD or Decision Document;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan;
  - An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the RAWP, ROD or Decision Document; and
  - The overall performance and effectiveness of the remedy.

A quantitative and qualitative overview of the Site's environmental impacts must be provided through the completion of the Summary of Green Remediation Metrics provided in **Appendix K**.

7.2.1. Reports Certification of Institutional [and Engineering] Controls

Following the last inspection of the reporting period, a qualified environmental professional as defined in 6 NYCRR Part 375 or Professional Engineer licensed to practice and registered in New York State will prepare, and include in the PRR, the following certification as per the requirements of DER-10:

"*For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:*

- *The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;*
- *Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the Site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program; and*
- *The information presented in this report is accurate and complete.*

The signed certification will be included in the PRR.

The PRR will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The PRR may also need to be submitted in hard-copy format if requested by the NYSDEC project manager.

7.3. Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control or failure to conduct Site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager 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 Work Plan until it has been approved by the NYSDEC project manager.

7.4. Remedial Systems Optimization Report

If an RSO is to be performed (see **Section 6.3**), upon completion of an RSO, an RSO report must be submitted to the NYSDEC project manager for approval. A general outline for the RSO report is provided in **Appendix L**. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

8. REFERENCES

TRC Engineers, Inc., 2023. *Periodic Review Report, Johnny Cake Road Farm Site, NYSDEC Site No. 6-22-016, Work Assignment No. D009812-25*. (February 2023).

AECOM, 2016. *Periodic Review Report, Johnny Cake Road Farm Site, NYSDEC Site No. 6-22-016, Work Assignment No. D007626-06*. (December 2016).

AECOM, 2013. *Periodic Review Report, Johnny Cake Road Farm Site, NYSDEC Site No. 6-22-016, Work Assignment No. D007626-06*. (October 2013).

AECOM, 2012. *Periodic Review Report, Johnny Cake Road Farm Site, NYSDEC Site No. 6-22-016, Work Assignment No. D007626-06.* (September 2012).

NYSDEC, 2011. *Site Management Plan, Johnny Cake Road Farm Site, Town of Danube, Herkimer County, New York*. (June 2011).

"2010 Groundwater Monitoring Report", January 2011*.

NYSDEC, 2010. DER-31/*Green Remediation.* (August 2010).

NYSDEC, 2010. *DER-10/Technical Guidance for Site Investigation and Remediation*. (May 2010).

NYSDEC, 2009. *Record of Decision, Johnny Cake Road Farm Site, Town of Danube, Herkimer County, Site Number 6-22-016*. (March 2009).

Earth Tech Northeast, Inc., 2009. *Site Investigation Report, Johnny Cake Road Site, Site Number: 622016, Work Assignment No. D004436-22,* (February 2009).

NYSDEC, 2006. *6 NYCRR Part 375 Environmental Remediation Programs*. (December 2006).

USEPA, 2006. *Removal Action Report, Johnny Cake Road Site, Danube Township, Herkimer County, New York, Site ID# 6M.* (November 2006).

USEPA, 2006. *Superfund Contract Support Team Sampling Report for the Johnny Cake Farm Road Site in Danube, Herkimer County, New York, March 7 – 9, 2006.* (March 2006).

USEPA, 2005. *Removal Action Workplan, Johnny Cake Road Site, Danube Township, Herkimer County, New York, Site ID# 6M.* (March 2005).

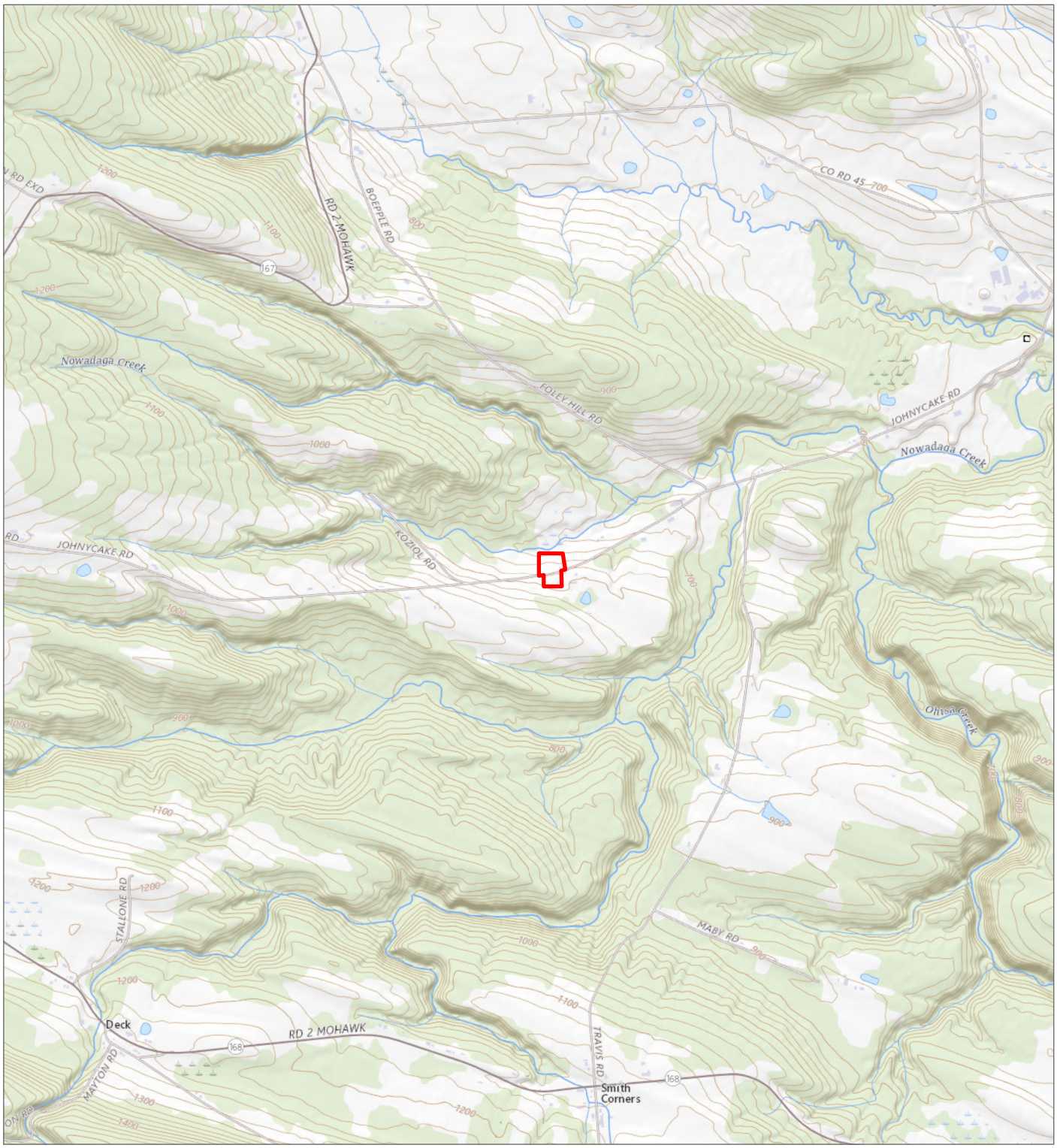
NYSDEC, 1998. *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1*. (June 1998, April 2000 addendum).

Roy F. Weston, Inc., 1991. *Extent of Contamination Study, Johnny Cake Road Site, Danube Township, Herkimer County, New York.* (November 1991).

C.T. Male Associates, P.C., 1990. *Johnny Cake Road Farm Site, Environmental Investigation, Town of Danube, Herkimer County, New York, Federal Seizure No. 87-CV-980.* (June 1990).

* Indicates that TRC was not able to locate the report.

FIGURES



LEGEND

SITE LOCATION

BASE MAP: USGS TOPOGRAPHIC MAP SERVICE
DATA SOURCES: TRC

N

0 1,000 2,000

FEET

1:24,000 1" = 2,000'

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
JOHNNY CAKE ROAD FARM SITE - SITE NO. 622016
JOHNNY CAKE ROAD
DANUBE, NEW YORK 13407

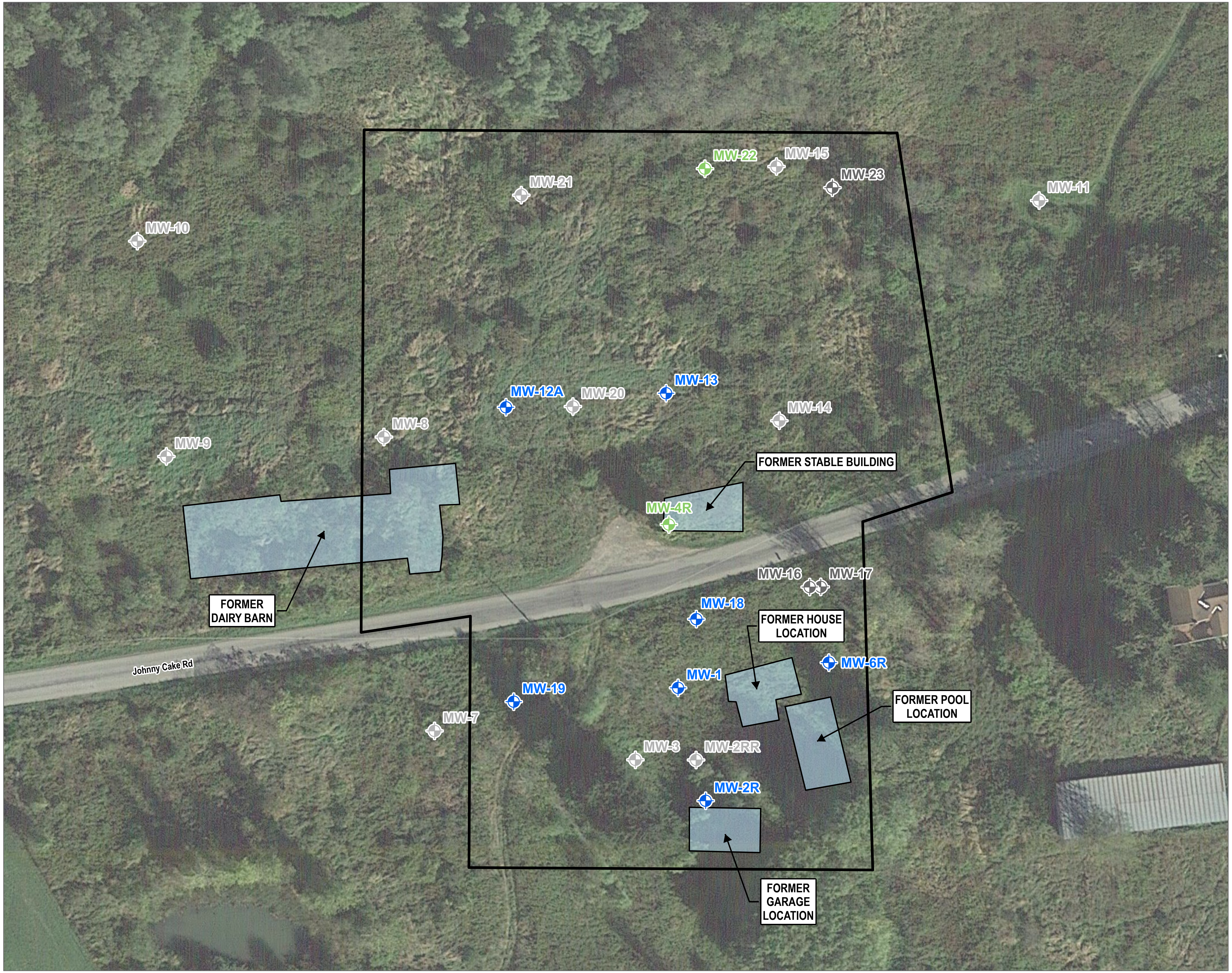
TITLE:

SITE LOCATION MAP

DRAWN BY:	L. LILL	PROJ. NO.:	470744 TASK 29
CHECKED BY:	T. SHANLEY		
APPROVED BY:	M. HOSKINS		**FIGURE 1**
DATE:	AUGUST 2023		

TRC
3 Corporate Drive
Suite 202
Clifton Park, NY 12065
Phone: 518.348.1190

FILE: 2022_PRR



LEGEND

- APPROXIMATE SITE BOUNDARY
- FORMER BUILDING
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL (2009)
- DECOMMISSIONED MONITORING WELL (2016)
- CONTINGENCY MONITORING WELL

NOTES:

1. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
2. BASE MAP FROM GOOGLE EARTH IMAGERY.
3. DATA SOURCES: TRC, SITE MANAGEMENT PLAN DATED JUNE 2011 PREPARED BY NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

N

1:720
1" = 60'
0 30 60 FEET

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
JOHNNY CAKE ROAD FARM SITE - SITE NO. 622016
JOHNNY CAKE ROAD
DANUBE, NEW YORK 13407

TITLE:
SITE LAYOUT MAP

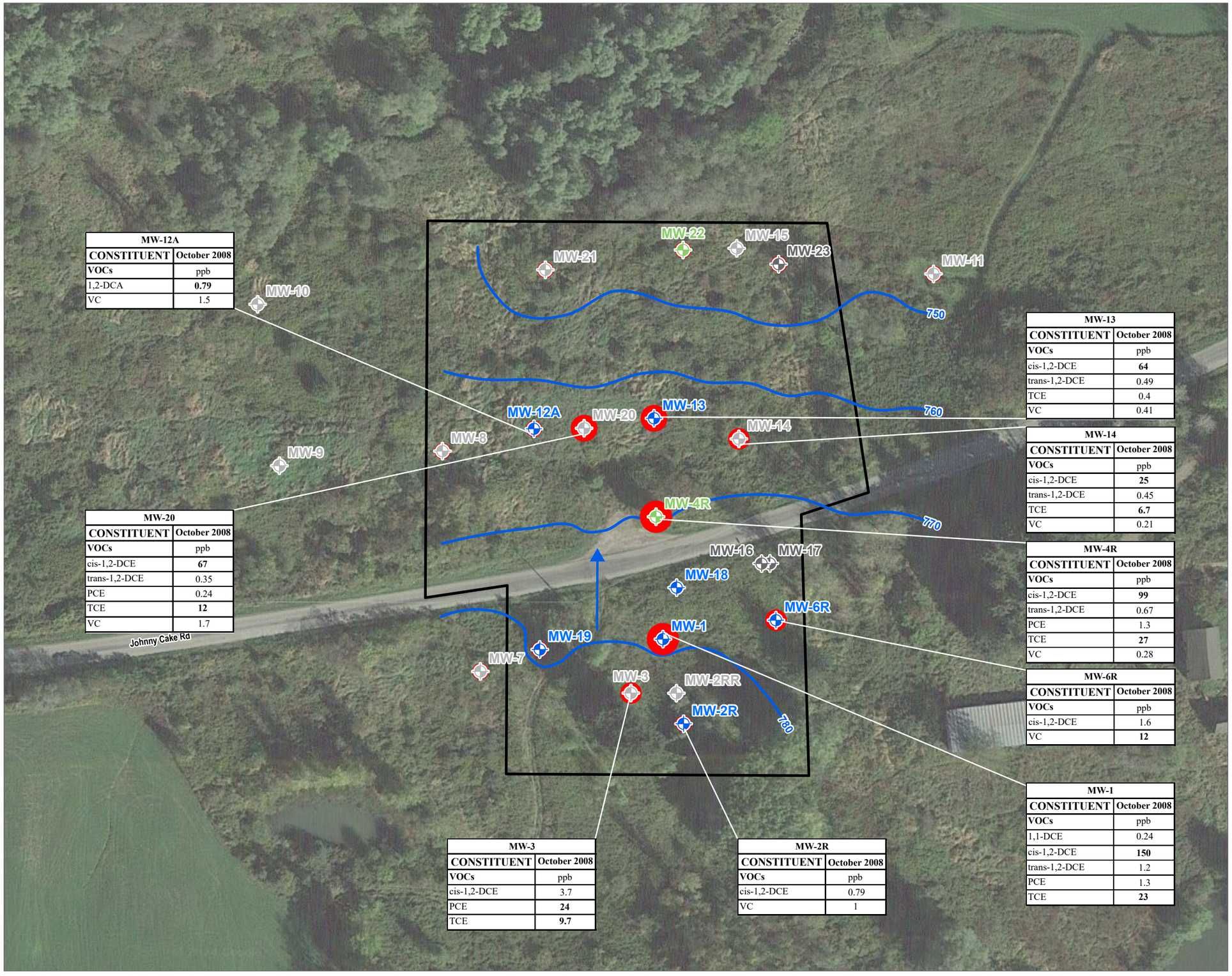
DRAWN BY:	L. LILL	PROJ. NO.:	470744 TASK 29
CHECKED BY:	T. SHANLEY	FIGURE 2	
APPROVED BY:	M. HOSKINS		
DATE:	JANUARY 2024		

TRC

3 Corporate Drive
Suite 202
Clifton Park, NY 12065
Phone: 518.348.1190

FILE: 2022_PRR.aprx

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet; Map Rotation: 0
-- Saved By: LLILL on 1/18/2024, 11:09:08 AM; File Path: T:\1-PROJECTS\NYSDEC\470744_29_JohnnyCakeRoadFarmSite\2-APRX\2022_PRR\2022_PRR.aprx; Layout Name: Figure 2 - Site Layout



LEGEND

- APPROXIMATE SITE BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (10' INTERVALS)
- GROUNDWATER FLOW DIRECTION
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL (2009)
- DECOMMISSIONED MONITORING WELL (2016)
- CONTINGENCY MONITORING WELL

TOTAL VOCs (PPB)

- < 5
- 5 - 50
- 50 - 100
- > 100

CONSTITUENT	Class GA Value*
VOCs	ppb
1,2-DCA	0.6
1,1-DCE	5
cis-1,2-DCE	5
trans-1,2-DCE	5
PCE	5
TCE	5
VC	2

NOTES:

1. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
2. ONLY DETECTED VOCs ARE SHOWN ON THIS FIGURE.
3. **VALUES SHOWN IN BOLD EXCEED THE LISTED CRITERIA.**
4. NO VOCs WERE DETECTED IN MW-15, MW-16, MW-17, OR MW-18. THESE WELLS ARE SCREENED BELOW THE LEVEL OF GROUNDWATER CONTAMINATION AND WERE NOT USED TO GENERATE GROUNDWATER CONTOURS.
5. FOR FIGURE CLARITY, LABORATORY QUALIFIERS AND DUPLICATE SAMPLE RESULTS ARE NOT INCLUDED.
6. GROUNDWATER ELEVATION UNITS IN FEET ABOVE MEAN SEA LEVEL.

ACRONYMS:
1,2-DCA - 1,2-DICHLOROETHANE
1,1-DCE - 1,1-DICHLOROETHENE
cis-1,2-DCE - cis-1,2-DICHLOROETHENE
trans-1,2-DCE - trans-1,2-DICHLOROETHENE
PCE - TETRACHLOROETHENE
PPB - PARTS PER BILLION
ND - NOT DETECTED
TCE - TRICHLOROETHENE
VC - VINYL CHLORIDE
VOCs - VOLATILE ORGANIC COMPOUNDS
* - GUIDELINES FOR SAMPLING AND ANALYSIS OF PFAS NYSDEC PART 375 REMEDIAL PROGRAMS, PROPOSED JUNE 2021
(a) - CRITERIA APPLICABLE TO THE SUM OF THE CIS AND TRANS ISOMERS

BASE MAP: GOOGLE EARTH IMAGERY
DATA SOURCES: TRC, SITE MANAGEMENT PLAN DATED JUNE 2011 PREPARED BY NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

0 40 80 FEET
1:960
1" = 80'

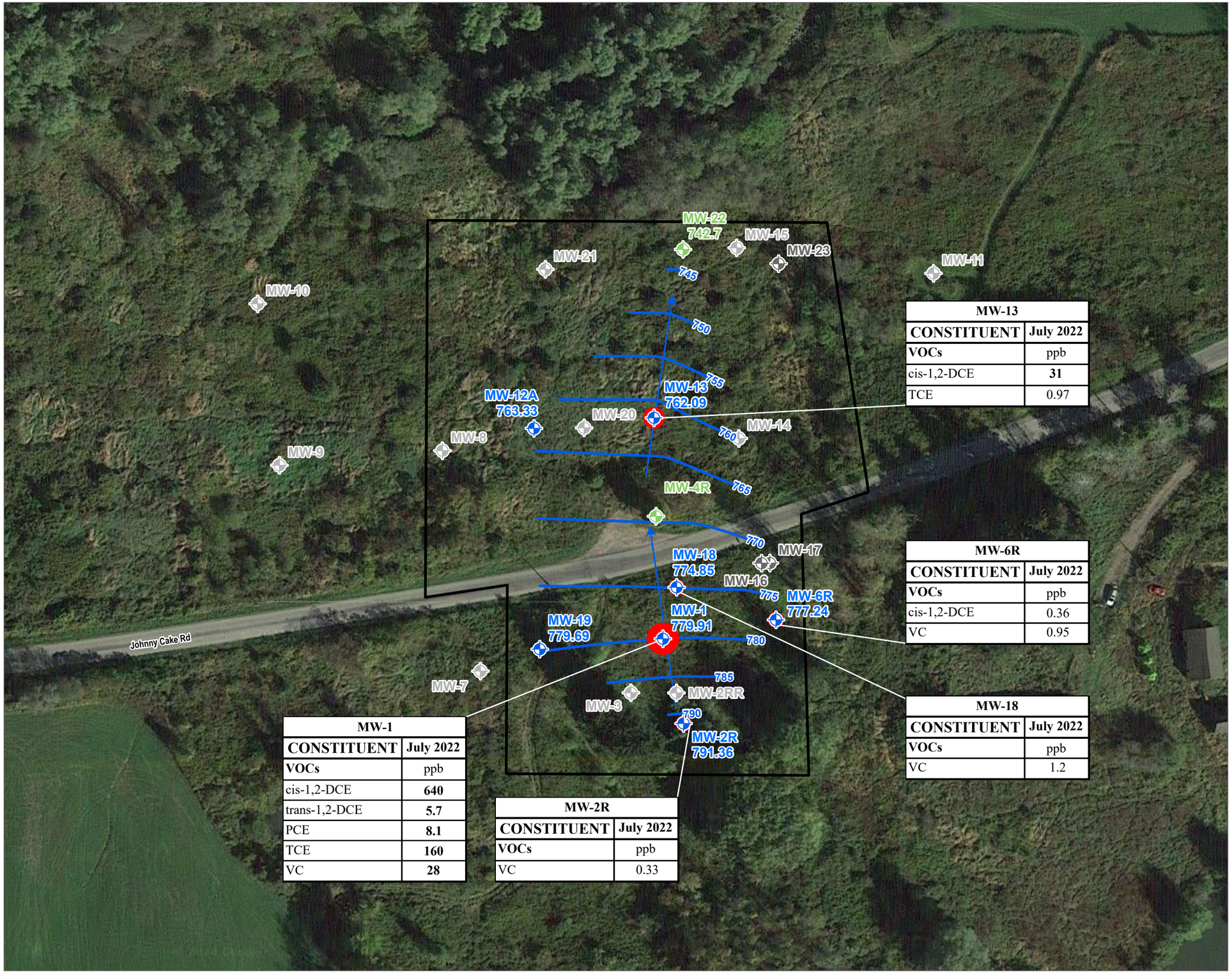
PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
JOHNNY CAKE ROAD FARM SITE - SITE NO. 622016
JOHNNY CAKE ROAD
DANUBE, NEW YORK 13407

TITLE:
OCTOBER 2008 GROUNDWATER INVESTIGATION RESULTS

DRAWN BY:	L. LILL	PROJ. NO.:	470744 TASK 29
CHECKED BY:	T. SHANLEY		
APPROVED BY:	M. HOSKINS		FIGURE 3
DATE:	JANUARY 2024		

TRC
3 Corporate Drive
Suite 202
Clifton Park, NY 12065
Phone: 518.348.1190

FILE: SMP_Update_2023.aprx



MW-13	
CONSTITUENT	July 2022
VOCs	ppb
cis-1,2-DCE	31
TCE	0.97

MW-6R	
CONSTITUENT	July 2022
VOCs	ppb
cis-1,2-DCE	0.36
VC	0.95

MW-1	
CONSTITUENT	July 2022
VOCs	ppb
cis-1,2-DCE	640
trans-1,2-DCE	5.7
PCE	8.1
TCE	160
VC	28

MW-2R	
CONSTITUENT	July 2022
VOCs	ppb
VC	0.33

MW-18	
CONSTITUENT	July 2022
VOCs	ppb
VC	1.2

LEGEND

- APPROXIMATE SITE BOUNDARY
- GROUNDWATER ELEVATION CONTOUR (5' INTERVALS)
- GROUNDWATER FLOW DIRECTION
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL (2009)
- DECOMMISSIONED MONITORING WELL (2016)
- CONTINGENCY MONITORING WELL

TOTAL VOCs (PPB)

- < 5
- 5 - 50
- 50 - 100
- > 100

CONSTITUENT	Class GA Value*
VOCs	ppb
cis-1,2-DCE	5
trans-1,2-DCE	5
PCE	5
TCE	5
VC	2

NOTES:

1. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
2. ONLY DETECTED VOCs ARE SHOWN ON THIS FIGURE.
3. VALUES SHOWN IN **BOLD** EXCEED THE LISTED CRITERIA.
4. NO VOCs WERE DETECTED IN MW-12A, MW-19, OR MW-22. THESE WELLS ARE SCREENED BELOW THE LEVEL OF GROUNDWATER CONTAMINATION AND WERE NOT USED TO GENERATE GROUNDWATER CONTOURS.
5. CONTINGENCY WELL MW-4R WAS NOT SAMPLED IN JULY 2022.
6. FOR FIGURE CLARITY, LABORATORY ANALYTICAL QUALIFIERS AND DUPLICATE SAMPLE RESULTS ARE NOT INCLUDED.
7. GROUNDWATER ELEVATION UNITS IN FEET ABOVE MEAN SEA LEVEL.

ACRONYMS:
cis-1,2-DCE - cis-1,2-DICHLOROETHENE
trans-1,2-DCE - trans-1,2-DICHLOROETHENE
PCE - TETRACHLOROETHENE
PPB - PARTS PER BILLION
ND - NOT DETECTED
TCE - TRICHLOROETHENE
VC - VINYL CHLORIDE
VOCs - VOLATILE ORGANIC COMPOUNDS
* - GUIDELINES FOR SAMPLING AND ANALYSIS OF PFAS NYSDEC PART 375 REMEDIAL PROGRAMS, PROPOSED JUNE 2021
(a) - CRITERIA APPLICABLE TO THE SUM OF THE CIS AND TRANS ISOMERS

BASE MAP: GOOGLE EARTH IMAGERY
DATA SOURCES: TRC, SITE MANAGEMENT PLAN DATED JUNE 2011 PREPARED BY NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

0 40 80 FEET
1:960
1" = 80'

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
JOHNNY CAKE ROAD FARM SITE - SITE NO. 622016
JOHNNY CAKE ROAD
DANUBE, NEW YORK 13407

TITLE:
JULY 2022 GROUNDWATER MONITORING RESULTS

DRAWN BY:	L. LILL	PROJ. NO.:	470744 TASK 29
CHECKED BY:	T. SHANLEY		
APPROVED BY:	M. HOSKINS		**FIGURE 4**
DATE:	JANUARY 2024		

TRC
3 Corporate Drive
Suite 202
Clifton Park, NY 12065
Phone: 518.348.1190

FILE: SMP_Update_2023.aprx

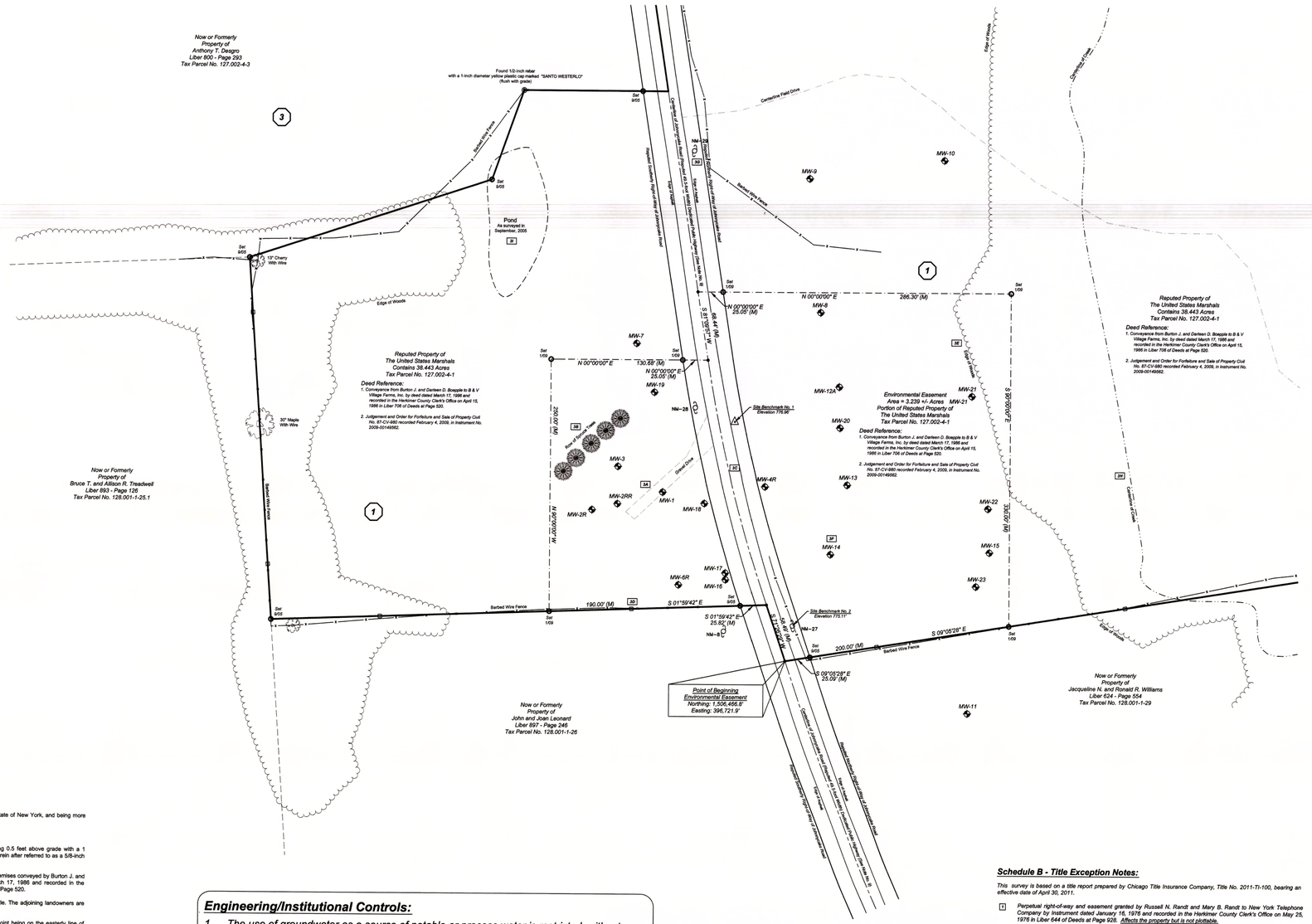


Figure 5

Environmental Easement Description

All that tract or parcel of land situate in the Town of Danube, County of Herkimer, State of New York, and being more precisely described as follows:

Statements:

1. All set monuments are 5/8-inch by 30-inch reinforcement rod, extending 0.5 feet above grade with a 1 1/4-inch diameter red plastic cap, marked "J. Thew, L.S. No. 050226" (herein after referred to as a 5/8-inch rebar).
2. The parcel of land described herein is intended to a portion of the same premises conveyed by Burton J. and Darleen D. Boepple to B & V Village Farms, Inc. by deed dated March 17, 1986 and recorded in the Herkimer County Clerk's Office on April 15, 1986 in Liber 706 of Deeds at Page 520.
3. Reference to an adjoining landowner does not necessarily imply senior title. The adjoining landowners are cited for reference only, unless otherwise noted.

Beginning at a point in the centerline of Johnnycake Road (49.5-foot width), said point being on the easterly line of Subdivision Lot No. 1 as shown on a map titled "Survey & Map of Johnny Cake Ridge" dated June 1, 1990, prepared by Santo Associates, and recorded in the Herkimer County Clerk's Office on January 29, 1991 as Map No. JJ14A34, said point also being at the southwesterly corner of a parcel of land conveyed by Grace E. Nelson to Jacqueline N. and Ronald R. Williams by deed dated November 2, 1972 and recorded in the Herkimer County Clerk's Office on November 3, 1972 in Liber 624 of Deeds at Page 554, said point having New York State plane coordinates (NAD83 - East Zone) of 1,506,466.8 feet North and 396,721.9 feet East;

thence South 71 degrees 26 minutes 29 seconds West, along the centerline of Johnnycake Road a distance of 58.49 feet to the northwesterly corner of a parcel of land conveyed by Harry J. and Agnes Kollmer to John and Joan Leonard by deed dated August 24, 2001 and recorded in the Herkimer County Clerk's Office on August 27, 2001 in Liber 897 of Deeds at Page 246;

thence along the westerly line of John and Joan Leonard, the following courses and distances:

South 01 degrees 59 minutes 42 seconds East a distance of 25.82 feet to a 5/8-inch rebar set on the southerly right-of-way of Johnnycake Road;

continuing South 01 degrees 59 minutes 42 seconds East a distance of 190.00 feet to set 5/8-inch rebar;

thence through the reputed property of The United States Marshals (no recorded documentation found), the following courses and distances:

North 90 degrees 00 minutes 00 seconds West a distance of 250.00 feet to a set 5/8-inch rebar;

North 00 degrees 00 minutes 00 seconds East a distance of 130.68 feet to a 5/8-inch rebar set on the southerly right-of-way of Johnnycake Road;

continuing North 00 degrees 00 minutes 00 seconds East a distance of 25.05 feet to a point in the centerline of Johnnycake Road;

South 81 degrees 09 minutes 57 seconds West, along the centerline of Johnnycake Road, a distance of 68.44 feet to a point;

North 00 degrees 00 minutes 00 seconds East a distance of 25.05 feet to a 5/8-inch rebar set on the northerly right-of-way of Johnnycake Road;

continuing North 00 degrees 00 minutes 00 seconds East a distance of 286.30 feet to a set 5/8-inch rebar;

South 90 degrees 00 minutes 00 seconds East a distance of 330.00 feet to a 5/8-inch rebar set on the easterly line of Subdivision Lot No. 1, said rebar also being on the westerly line of Jacqueline N. and Ronald R. Williams;

thence along the easterly line of Subdivision Lot No. 1 and along the westerly line of Jacqueline N. and Ronald R. Williams, the following courses and distances:

South 09 degrees 05 minutes 28 seconds East a distance of 200.00 feet to a 5/8-inch rebar set on the northerly right-of-way of Johnnycake Road;

continuing South 09 degrees 05 minutes 28 seconds East a distance of 25.09 feet to the **Point of Beginning.**

To contain 3.239 acres of land, more or less, as surveyed by Robert H. Korosec, Licensed Land Surveyor No. 050578.

A map of the above described parcel of land was prepared by Thew Associates PE-LS, PLLC, dated February 2, 2009, last revised on May 17, 2011, and is distinguished as Drawing No. UK233-10-08.

Engineering/Institutional Controls:

1. *The use of groundwater as a source of potable or process water is restricted, without necessary water quality treatment as determined by New York State Department of Health (NYSDOH).*
2. *The potential for vapor intrusion must be evaluated for any buildings developed on-site and any potential impacts that are identified must be monitored or mitigated.*
3. *All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the Site Management Plan.*
4. *The use and development of the property is limited to residential use, which also allows for commercial and industrial uses. Furthur, due to the specific nature of contamination, agricultural use will be permitted.*
5. *The NYSDEC or their agents may access the environmental easement area as shown hereon upon the existing Right-of-Way/Dedicated Public Highway of Johnnycake Road.*

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). A copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

Property Information:

Site Address:	Johnnycake Road Town of Danube, New York 13365
Tax Parcel No.:	127.002-4-1
Deed Reference:	B & V Village Farms, Inc. to United States of America
Instrument No.:	2009-00149562
Dated:	January 21, 2009
Recorded:	February 4, 2009

Schedule B - Title Exception Notes:

This survey is based on a title report prepared by Chicago Title Insurance Company, Title No. 2011-TI-100, bearing an effective date of April 30, 2011.

1	Perpetual right-of-way and easement granted by Russell N. Randt and Mary B. Randt to New York Telephone Company by Instrument dated January 16, 1976 and recorded in the Herkimer County Clerk's Office on May 25, 1976 in Liber 644 of Deeds at Page 928. Affects the property but is not plottable.
2	Subject to a street dedication of Johnnycake Road (County Route 136/Town Route 2 - Mohawk) as a public highway by Instrument recorded on June 22, 1833 in Book 2 of the Town of Danube's Clerk's Minutes at Page 79. Affects the property but is not plottable.
3A	Gravel drive located along the southerly portion of the Environmental Easement Area extending from Johnnycake Road to the southerly portion of the Environmental Easement Area. Affects the property and is plotted hereon.
3B	Row of spruce trees located along the southwest portion of the Environmental Easement Area. Affects the property and is plotted hereon.
3C	Johnnycake Road (reputed 49.5 foot width) dedicated public highway, crosses through the Environmental Easement Area. Affects the property and is plotted hereon.
3D	Barbed wire fence located along the easterly line of the premises at variance with lines of the premises and Environmental Easement Area. Affects the property and is plotted hereon.
3E	Edge of woods along the northerly portion of the Environmental Easement Area. Affects the property and is plotted hereon.
3F	Monitoring Wells located at various points within and without the Environmental Easement Area. Affects the property and is plotted hereon.
3G	Utility poles located along Johnnycake Road. Affects the property and is plotted hereon.
3H	Centerline of creek located outside the bounds of the Environmental Easement Area along the northerly line thereof. Affects the property and is plotted hereon.
3I	Pond located outside the bounds of the Environmental Easement Area, and southwest there from. Affects the property and is plotted hereon.

ALTA / ACSM Land Title Survey

I hereby certify to New York State Department of Environmental Conversation:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys" jointly established and adopted by ALTA and NSPS in 2005. Pursuant to the accuracy standards as adopted by ALTA and NSPS and in effect on the date of this certification, the undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of New York, the relative positional accuracy of this survey does not exceed that which is specified therein.

Robert H. Korosec, PLS
Registration Number: 050578
Within the State of: New York
Date of Field Survey: January 14, 2009
Date of Survey: February 2, 2009
Date of Last Revision: May 17, 2011

U.S.G.S. Quadrangle
Little Falls, New York
1" = 2000' +/-

General Notes:

1. This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane Coordinate System (East Zone), and vertically to the North American Vertical Datum of 1988 (NAVD88).
2. North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).
3. The reference horizontal control station is a GPS Continuously Operating Reference Station (CORS) designated as "HERKIMER CORS ARP" (NYHM). NYHM is a horizontal and vertical Control Station established by the National Geodetic Survey (NGS) in 2006.

   The reference benchmark is a Coast and Geodetic Survey (CGS) disc distinguished as "E 316", established in 1942. V 281 RESET is a third order benchmark. Elevation 604.19 feet
4. A title report prepared by Chicago Title Insurance Company, Title No. 2011-TI-100, bearing an effective date of April 30, 2011 was utilized in the preparation of this survey.
5. The information shown hereon is based on an instrument survey completed on September 13, 2005.
6. The location of the centerline of creek shown hereon is based on aerial photography.
7. Monitoring well locations and elevations were obtained by Thew Associates PE-LS, PLLC on October 28, 2008.
8. At the time of the survey there were not any buildings on site.
9. Based on conversations with with representatives of Herkimer County Department of Transportation, Johnnycake Road (A.K.A. County Route 136) is a dedicated public highway with a width of four rods (66 feet). They referenced Book No. 2 of the Town of Danube's Clerk's Minutes, at Page 79 which presumably states how the County acquired the road. However, after review of the document, it is unclear as to who the grantor was, if there was any consideration, and under what method was the acquisition taken (i.e. Fee acquisition, right-of-way, eminent domain, easement, etc.). Therefore, it appears that that the ownership of Johnnycake Road (A.K.A. County Route 136) lies with the private landowners adjacent to the road and the public, Town Highway Department and County Highway Department has the right to use, maintain and repair the highway.

Reference Drawings:

1. Titled "Survey & Map of Johnny Cake Ridge" dated June 1, 1990, prepared by Santo Associates, and recorded in the Herkimer County Clerks Office on January 29, 1991 as Map Number JJ14A34.
2. Titled "Proposed Subdivision Map of Lands of Robert D. Johnson, Estate to be Conveyed to Charles Soukup" dated October 5, 2003, and prepared by Charles R. Ackerbauer, PE LS.
3. Titled "Figure 2 Soil Boring Locations and Soil Sample Results Johnny Cake Road Site Danube, New York" dated May 13, 2004, and prepared by Weston Solutions, Inc.
4. Titled "Map Showing Lands of Michaels Associates, Inc. and J. Michael Sanders" dated September 15, 2005, last revised September 20, 2005, prepared by Thew Associates PE-LS, PLLC, and distinguished as UK075-08-05.

Site Benchmarks:

Site Benchmark No. 1
Set 5/8-inch rebar with a 1 1/4-inch diameter orange plastic cap marked "THEW BASELINE", located on the northerly side of Johnnycake Road, approximately 71 feet westerly of MW-4R. Elevation 776.96 feet.

Site Benchmark No. 2
Railroad spike set 1-foot above grade in the southerly face of Utility Pole NM-27, located on the northerly side of Johnnycake Road, approximately 80 feet southeasterly of MW-14. Elevation 775.11 feet.

Legend:

━━━━━	Boundary Line
— — · — — · —	Environmental Easement line
— · · — · · —	Adjoiner Deed Line
—— – —— – ——	Traveled Centerline
—x——x—	Barbed Wire Fence
○○○○○○○○	Stone Wall
‿‿‿‿‿‿	Edge of Woods/Brush
— · · — · · —	Centerline of Creek
— — · — — · —	Edge of Water
- - - - - -	Edge of Gravel
- · - · - · -	Centerline of Field Drive
○	Set 5/8-inch Rebar with a 1 1/4-inch diameter red plastic cap marked "J. Thew, L.S. No. 050226"
◉	Found Iron (Pipe Rebar, et cetera) as Noted
⊡	Set 5-foot Metal Fence Post
3C	Schedule B Title Exception Identifier
MW-8 ⊕	Monitoring Well and Identifier
⬡1	Subdivision Lot Number
☌	Utility Pole
✿	Deciduous Tree
✹	Coniferous Tree
△	Site Benchmark
(M)	Measured Distance

GRAPHIC SCALE
15.24 0 7.62 15.24 30.48 45.72
(IN METERS)
1 inch : 15.24 meters

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

REV	DESCRIPTION	DATE
2	Revised Environmental Notes and Updated Map per Title Commitment	5/17/11
1	Revised Environmental Notes	10/22/10

050578
5/18/11

DRAWN: R.D.S.
CHECKED: R.H.K.
SCALE: 1" = 50'
DATE: 2/2/09
PROJECT NUMBER: UK233-10-08

ALTA/ACSM Land Title Survey
Tax Parcel No. 127.002-4-1
Environmental Easement Description
DEC Site No. 6-22-016

Town of Danube
County of Herkimer
State of New York

P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2776
F: 315/386-1012

Thew Associates
LAND SURVEYORS
www.ThewAssociates.com

9478 River Road
Marcy, New York 13403
T: 315/733-7278
F: 315/797-1957

N:\Projects Civil 3D\2008\UK233\dwg\UK233-10-08(Revised 5-17-2011).dwg, 5/17/2011 5:09:55 PM, 1:1

APPENDIX A
ENVIRONMENTAL EASEMENT

60 2011 00166171

Herkimer County
Honorable Sylvia M Rowan County Clerk
109 Mary Street Suite 1111
Herkimer, New York 13350-2923

ORIGINAL

Instrument Number: 2011- 00166171

As

Recorded On: July 27, 2011 **Easement**

Parties: UNITED STATES OF AMERICA

To

PEOPLE OF THE STATE OF NEW YORK

Billable Pages: 11

Recorded By: UNITED STATES MARSHAL SERVICE **Num Of Pages:** 12

Comment:

**** Examined and Charged as Follows: ****

Easement	95.00	Coversheet	5.00	TP584 Affidavit	5.00		
Recording Charge:	**105.00**						
	Amount	Consideration Amount	RS#/CS#				
Tax-Transfer	0.00	0.00	RS 1820	Basic	0.00		
DANUBE T/O				Local	0.00	Special Additional	0.00
				Additional	0.00	Transfer	0.00
Tax Charge:	**0.00**						

STATE OF NEW YORK, COUNTY OF HERKIMER SS:
I, Sylvia M. Rowan, Clerk of the County of Herkimer of the County Court of said County and of the Supreme Court, both being Courts of Record having a common seal,
DO HEREBY CERTIFY that I have compared this copy with the original filed, recorded, or entered in this office and that the same is a correct transcript thereof and of the whole of said original.
IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said County and Courts on

Date 7-27-2011

Sylvia M. Rowan

Facsimile signature used pursuant to Sec. 903 County Law

Herkimer County Clerk

**** THIS PAGE IS PART OF THE INSTRUMENT ****

I hereby certify that the within and foregoing was recorded in the Clerk's Office For: Herkimer County, NY

File Information:

Document Number: 2011- 00166171
Receipt Number: 163822
Recorded Date/Time: July 27, 2011 12:57:24P
Book-Vol/Pg: Bk-R VI-1405 Pg-277
Cashier / Station: M Murphy / Cashier Station 3

Record and Return To:

UNITED STATES MARSHAL SERVICE
100 SOUTH CLINTON STREET
SYRACUSE NY 13261

HERKIMER COUNTY 1791 STATE OF NEW YORK

Sylvia M. Rowan

Sylvia M Rowan Herkimer County Clerk

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 1ST day of July, 2011, between Owner(s) The United States of America, having an office at James M Hanley Federal Building & Courthouse, 100 South Clinton Street-PO Box 7260, Syracuse, NY 13261, Town of Danube, County of Herkimer, New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233.

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the Johnny Cake Road, Mohawk, NY 13407 in the Town of Danube, County of Herkimer and State of New York, known and designated on the tax map of the County Clerk of Herkimer as tax map parcel numbers: Section 127.002 Block 4 Lot 1, being the same as that property conveyed to Grantor by Judgment and Forfeiture and Sale of Property dated February 27, 1990 and recorded on February 4, 2009 in the Herkimer County Clerk's Office in Instrument No. 2009-00149562, and by Deed dated March 17, 1986 recorded on April 15, 1986 in Book 706 Page 520, comprising approximately 3.239 ± acres, and hereinafter more fully described in the Land Title Survey dated January 21, 2009 and revised on October 22, 2010 and again on May 17, 2011, prepared by Thew Associates PE-LS, PLLC, which will be attached to the Site Management Plan. The property description (the "Controlled Property") is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of human health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order Number: None, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.

(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(5) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(6) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(7) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP.

(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP.

(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for raising livestock or producing animal products for human consumption, and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Regional Remediation Engineer
NYSDEC – Region 6
Division of Environmental Remediation
317 Washington Street
Watertown, NY 13601-3787,
Phone: (315) 785-2238

or

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her 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; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a

defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 6-22-016
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. I f there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Grantors Name: The United States of America
U.S. Marshal Service

By: Jennifer Crane

Print Name: Jennifer Crane

Title: Acting Assistant Program Manager

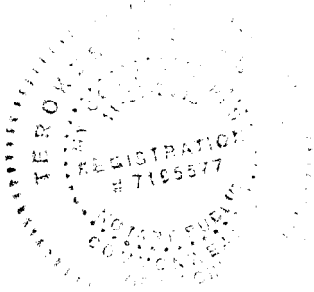
Date: June 24, 2011

Grantor=s Acknowledgment

STATE OF ~~NEW YORK~~ VIRGINIA)
) ss:
COUNTY OF ARLINGTON

On the 24th day of JUNE, in the year 2011, before me, the undersigned, personally appeared Jennifer Crane, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Terokesha S. Gregory
Notary Public - State of ~~New York~~ Virginia
My commission expires, this 30th day of November, 2013. I was commissioned a Notary Public as Terokesha S. Purce.



THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner.

By: _____
Dale A. Desnoyers, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Albany)

On the 1ST day of July, in the year 2014, before me, the undersigned, personally appeared Dale Desnoyers personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2014

SCHEDULE "A"
ENVIRONMENTAL EASEMENT
PROPERTY DESCRIPTION

Johnny Cake Road Site No. 6-22-016
Town of Danube, County of Herkimer, State of New York
Tax Map Number: 127.002 – 4 – 1

All that tract or parcel of land situate in the Town of Danube, County of Herkimer, State of New York, and being more precisely described as follows:

Statements:

1. All set monuments are 5/8 –inch by 30-inch reinforcement rod, extending 0.5 feet above grade with a 1 1/4 –inch diameter red plastic cap, marked "J. Thew, L.S. No. 050226" (herein after referred to as a 5/8-inch rebar).

2. The parcel of land described herein is intended to a portion of the same premises conveyed by Burton J. and Darleen D. Boepple to B & V Village Farms, Inc. by deed dated March 17, 1986 and recorded in the Herkimer County Clerk's Office on April 15, 1986 in Liber 706 of Deeds at Page 520.

3. Reference to an adjoining landowner does not necessarily imply senior title. The adjoining landowners are cited for reference only, unless otherwise noted.

Beginning at a point in the centerline of Johnnycake Road (49.5-foot width), said point being on the easterly line of Subdivision Lot No. 1 as shown on map entitled "Survey & Map of Johnny Cake Ridge" dated June 1, 1990, prepared by Santo Associates, and recorded in the Herkimer County Clerk's Office on January 29, 1991 as Map No. JJ14A34, said point also being at the southwesterly corner of a parcel of land conveyed by Grace E. Nelson to Jacqueline N. and Ronald R. Williams by deed dated November 2, 1972 and recorded in the Herkimer County Clerk's Office on November 3, 1972 in Liber 624 of Deeds at Page 554, said point having New York State plane coordinates (NAD83 – East Zone) of 1,506,466.8 feet North and 396,721.9 feet East;

thence South 71degrees 26 minutes 29 seconds West, along the centerline of Johnnycake Road a distance of 58.49 feet to the northwesterly corner of a parcel of land conveyed by Harry J. and Agnes Kollmer to John and Joan Leonard by deed dated August 24, 2001 and recorded in the Herkimer County Clerk's Office on August 27, 2001 in Liber 897 at Page 246;

Thence along the westerly line of John and Joan Leonard, the following courses and distances:

South 01 degrees 59 minutes 42 seconds East a distance of 25.82 feet to a 5/8-inch rebar set on the southerly right-of-way of Johnnycake Road;

continuing South 01 degrees 59 minutes 42 seconds East a distance of 190.00 feet to set 5/8-inch rebar;

thence through the reputed property of The United States Marshals (no recorded documentation found), the following courses and distances:

North 90 degrees 00 minutes 00 seconds West a distance of 250.00 feet to a set 5/8–inch rebar;

North 00 degrees 00 minutes 00 seconds East a distance of 130.68 feet a 5/8-inch rebar set on the southerly right-of-way of Johnnycake Road;

continuing North 00 degrees 00 minutes 00 seconds East a distance of 25.05 feet to a point in the centerline of Johnnycake Road;

South 81 degrees 09 minutes 57 seconds West, along the centerline of Johnnycake Road, a distance of 68.44 feet to a point;

North 00 degrees 00 minutes 00 seconds East a distance of 25.05 feet to a 5/8-inch rebar set on the northerly right-of-way of Johnnycake Road;

continuing North 00 degrees 00 minutes 00 seconds East a distance of 286.30 feet to a set 5/8-inch rebar;

South 90 degrees 00 minutes 00 seconds East a distance of 330.00 feet to a 5/8-inch rebar set on the easterly line of Subdivision Lot No. 1, said rebar also being on the westerly line of Jacqueline N. and Ronald R. Williams;

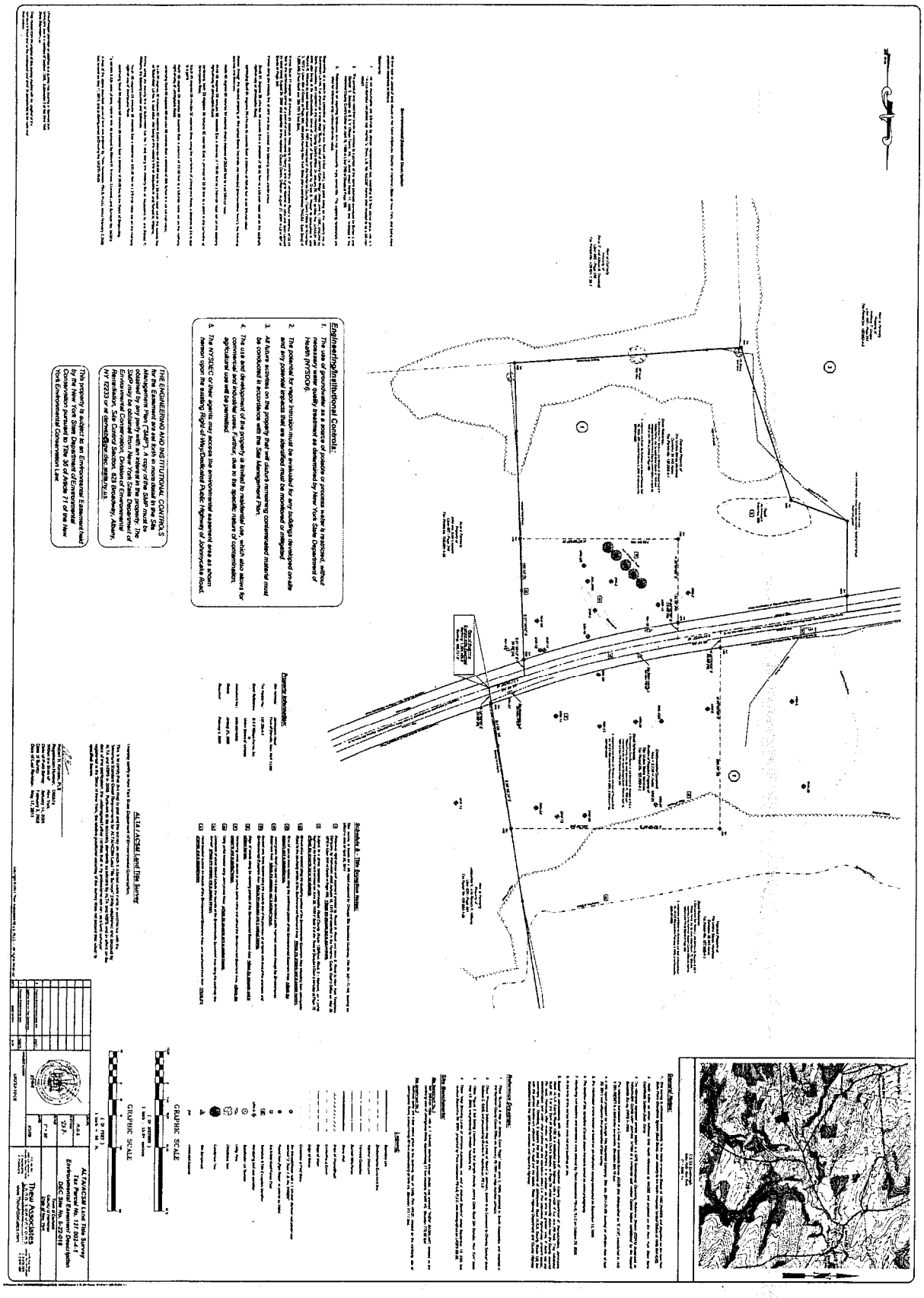
thence along the easterly line of Subdivision Lot No. 1 and along the westerly line of Jacqueline N. and Ronald R. Williams, the following courses and distances:

South 09 degrees 05 minutes 28 seconds East a distance of 200.00 feet to a 5/8- inch rebar set on the northerly right-of-way of Johnnycake Road;

continuing South 09 degrees 05 minutes 28 seconds East a distance of 25.09 feet to the **Point of Beginning**.

To contain 3.239 acres of land, more or less, as surveyed by Robert H. Korosec, Licensed Land Surveyor No. 050578.

SURVEY



APPENDIX B
LIST OF SITE CONTACTS

APPENDIX B

LIST OF SITE CONTACTS

Name	Phone/Email Address
Matthew Hoskins, P.G. Senior Project Manager TRC Engineers, Inc.	(315) 454-7539 mhoskins@trccompanies.com
Robert Strang Project Manager NYS Department of Environmental Conservation	(518) 402-8642 robert.strang@dec.ny.gov
Kristen Davidson Citizen Participation Specialist NYS Department of Environmental Conservation	(716) 851-7220 kristen.davidson@dec.ny.gov
David Storandt Region 6 Remediation Engineer NYS Department of Environmental Conservation	(315) 785-2524 david.storandt@dec.ny.gov
Shaun J. Suarani NYS Department of Health Bureau of Environmental Exposure Investigation	(518) 402-7860 shaun.surani@health.ny.gov

APPENDIX C

MONITORING WELL NETWORK CONSTRUCTION SUMMARY AND BORING LOGS

Table 1
New York State Department of Environmental Conservation
Johnny Cake Road Farm Site - Site No. 622016
Town of Danube, New York
Monitoring Well Construction Summary

Well ID	Installation Date	Well Dia. (inches)	Well Material	Total Depth (feet bgs)	Screened Formation	*Screen*			*Elevation (feet AMSL)*			*Location* [3]	
						Top (feet bgs)	Bottom (feet bgs)	Length (feet)	Top of Casing	Screen Top	Screen Bottom	Northing (ft)	Easting (ft)
MW-1	4/19/1990	2	PVC	12	Overburden	2	12	10	785.55	780.55	770.50	1506345.56	396552.00
MW-2R	7/25/2005	4	PVC	23	Overburden	3	23	20	791.40	786.40	766.40	1506275.61	396569.08
MW-2RR[1]	7/27/2005	2	PVC	25	Overburden	4.5	24.5	20	NA	NA	NA	1506300.87	396563.15
MW-3[1]	4/20/1990	2	PVC	13	Overburden	3	13	10	NA	NA	NA	1506300.99	396525.56
MW-4R	7/26/2005	4	PVC	23.5	Overburden	3.5	23.5	20	778.99	773.00	753.00	1506446.74	396546.32
MW-6R	7/25/2005	4	PVC	23	Overburden	3	23	20	785.46	780.10	760.10	1506361.20	396645.38
MW-7[1]	1990	NA	PVC	24	Overburden	4	24	20	NA	NA	NA	1506318.88	396401.19
MW-8[1]	1990	NA	PVC	NA	Overburden	NA	NA	NA	NA	NA	NA	1506500.97	396369.83
MW-9[1]	1990	NA	PVC	12	Overburden	2	12	10	NA	NA	NA	1506488.92	396235.11
MW-10[1]	1990	NA	PVC	18	Overburden	2.5	17.5	15	NA	NA	NA	1506622.32	396217.12
MW-11[1]	5/21/1991	4	PVC	20	Overburden	5	20	15	NA	NA	NA	1506647.47	396775.57
MW-12A	5/17/1991	4	PVC	20	Overburden	10	20	10	769.44	757.20	747.20	1506519.39	396445.45
MW-13	5/21/1991	4	PVC	15	Overburden	5	15	10	768.71	761.60	751.60	1506528.08	396544.61
MW-14[1]	5/20/1991	4	PVC	21	Overburden	6	21	15	NA	NA	NA	1506511.05	396614.72
MW-15[1]	5/23/1991	2	PVC	101	Overburden	91	101	10	NA	NA	NA	1506668.54	396612.96
MW-16[2]	9/23/2003	4	PVC	25	Overburden	15	25	10	NA	NA	NA	15607763.70	1678739.49
MW-17[2]	9/25/2003	4	PVC	40	Overburden	30	40	10	NA	NA	NA	15607763.36	1678734.80
MW-18	9/29/2003	4	PVC	25	Overburden	15	25	10	784.12	766.50	756.50	15607743.73	1678664.82
MW-19	9/29/2003	4	PVC	25	Overburden	15	25	10	788.22	770.60	760.60	15607691.13	1678557.56
MW-20[1]	10/1/2003	4	PVC	24	Overburden	14	24	20	NA	NA	NA	1506519.86	396486.88
MW-21[2]	9/29/2008	2	PVC	23	Overburden	8	23	15	NA	NA	NA	1506650.81	396454.89
MW-22	9/30/2008	2	PVC	21	Overburden	6	21	15	748.77	740.30	725.30	1506667.21	396568.63
MW-23[2]	9/30/2008	2	PVC	20	Overburden	5	20	15	NA	NA	NA	1506655.43	396647.60

Notes:

AMSL : above mean sea level
feet bgs : feet below ground surface
PVC : polyvinyl chloride
NA : Not Available
Well information from 2011 SMP prepared by NYSDEC.
[1]Decommissioned in 2009.
[2]Decommissioned in 2016.
[3]Universal Transverse Mercator, 18 North, WGS 1984 Datum

DATE
STARTED 4/19/90
FINISHED 4/19/90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV.
G. W. DEPTH See Note #1

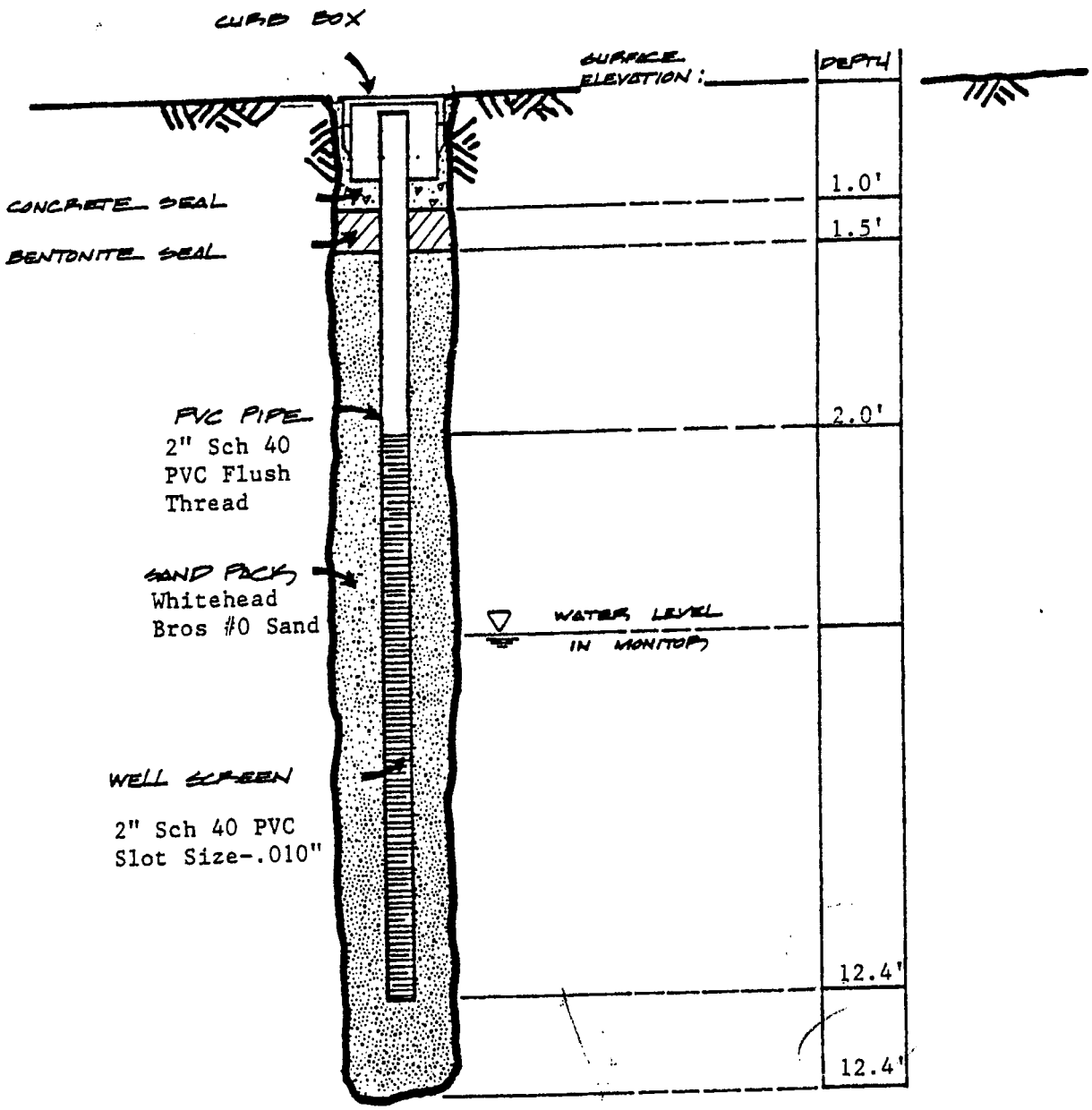
PROJECT Environmental Site Assessment
LOCATION Johny Cake Road
Town of Stark, NY

DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	3	7		17		Brown SILT & CLAY, Some Gravel	Note #1: At completion of boring, a 2" PVC ground water monitoring well was installed as per attached monitoring well detail
			10	5					
		2	3	2		5		-grades trace gravel	
			3	7					
		3	6	8		18			
5			10	14				(Wet-Soft to Stiff)	
		4	12	16		34		Brown Galcial Till	
			18	24					
		5	100/.5					-little recovery: rock fragments	
10		6	50	26		49		-grades gray (Moist-Compact)	
			23	20					
								End of Boring @ 12.4'	
15									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Driller

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers



WELL No

B-1

EMPIRE
SOILS INVESTIGATIONS INC.

MONITORING WELL DETAILS

JOHNY CAKE ROAD E.S.A.
TOWN OF STARK, N.Y.

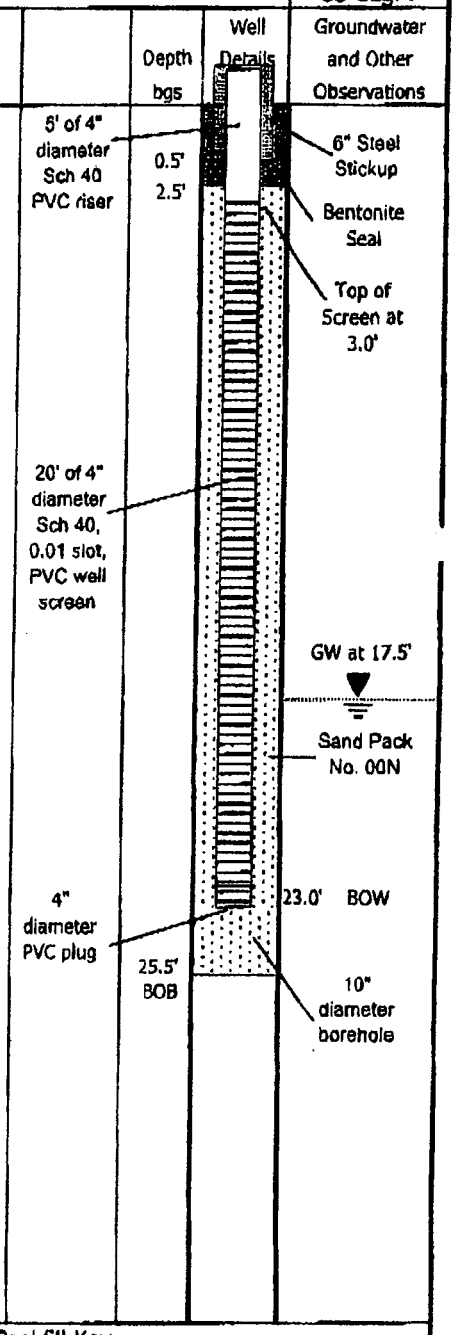
DR.BY: J.H.	SCALE: N.T.S.	PROJ. NO. AD-90-36
CK'D.BY:	DATE: 5/23/90	DRWG.NO.

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-2R	Date started: 7/25/05
		Sheet 1 of 1	Date Finished: 7/25/05

Client: Earth Tech, Inc.	Method of Investigation:	Well Depth:	23.0' bgs
Location: Johnny Cake Road, Town of Danube, NY	6 1/4" Hollow-Stem Auger	Depth to Screen:	3.0' bgs

Project No.: 86361	Drilling Co.: SDS	Driller: J. Grant D. Helper: C. Ross	Weather: Sunny 85 deg. F
Project Mgr.: Pete Johnson	Geologist: N/A	Drill Rig: Mobile B-59	

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-5.5': Moist, brown fine to coarse sand; some fine gravel; trace silt; trace clay; trace organics.
10						5.5'-12.5': Wet, brown silt and clay; trace fine to coarse sand; trace organics.
15						12.5'-25.5': Wet, gray silt and clay; some fine to coarse gravel; trace fine to coarse sand.
20						
25						
30						
35						



Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

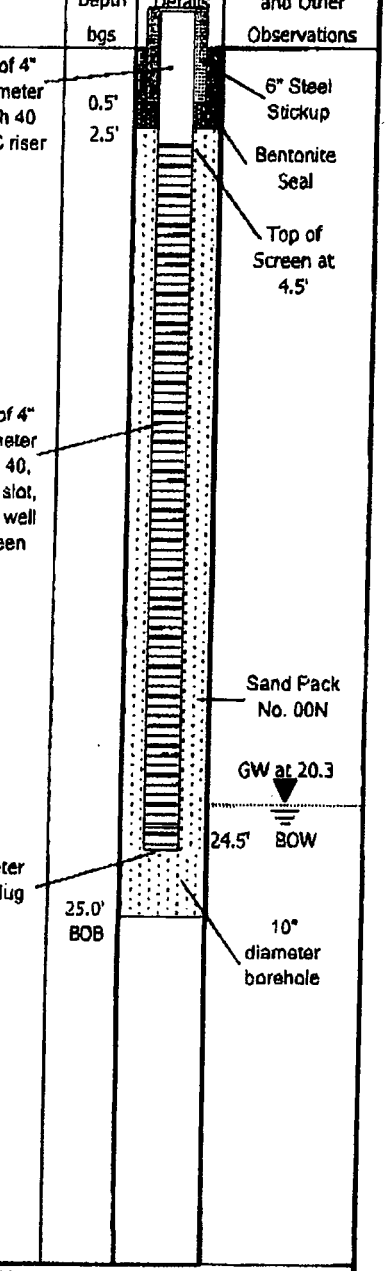
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-2RR	Date started: 7/27/05
		Sheet 1 of 1	Date Finished: 7/27/05

Client: Earth Tech, Inc.	Method of investigation:	Well Depth: 24.5' bgs
Location: Johnny Cake Road, Town of Danube, NY	6 1/4" Hollow-Stem Auger	Depth to Screen: 4.5' bgs

Project No.: 86361	Drilling Co.: SDS	Driller: J. Grant D. Helper: C. Ross	Weather: M-Sunny 80 deg. F
Project Mgr.: Pete Johnson	Geologist: N/A	Drill Rig: Mobile B-59	

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-1.5': Moist, brown fine sand; some fine gravel; little medium to coarse sand; trace clay; trace organics.
10						1.5'-7.0': Wet, brown silt and fine sand; little coarse to medium sand; trace clay; trace organics. 7.0'-11.0': Wet, brown silt and fine sand; little clay; trace medium to coarse sand.
15						15.0'-25.0': Wet, gray silt and fine sand; little fine gravel; trace medium to coarse sand; trace clay.
20						
25						
30						
35						



Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

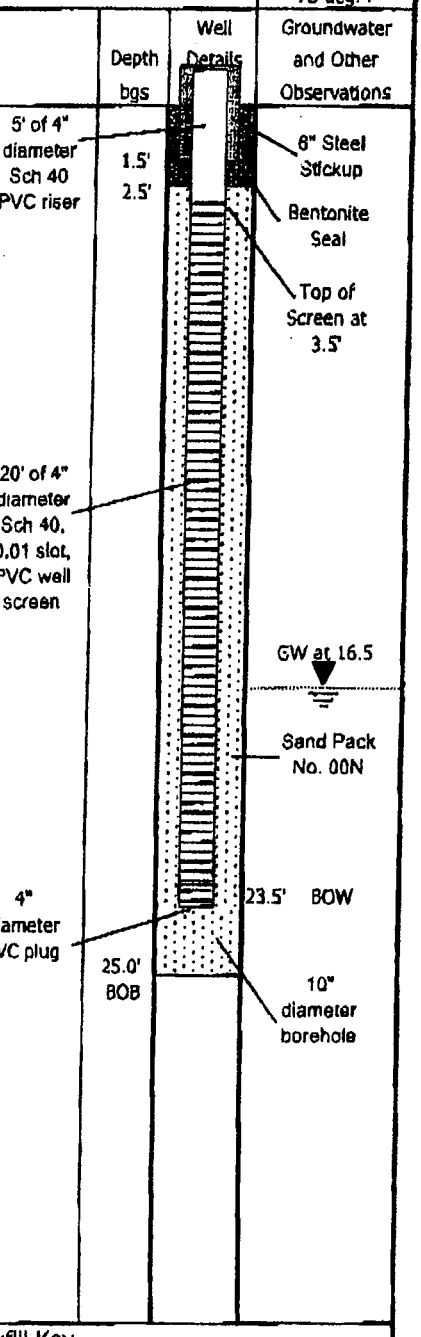
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-4R	Date started: 7/26/05
		Sheet 1 of 1	Date Finished: 7/26/05

Client: Earth Tech, Inc.	Method of investigation:	Well Depth:	23.5' bgs
Location: Johnny Cake Road, Town of Danube, NY	6 1/4" Hollow-Stem Auger	Depth to Screen:	3.5' bgs

Project No.: 86361	Drilling Co.: SDS	Driller: J. Grant	Weather: Overcast, rain 75 deg. F
Project Mgr.: Pete Johnson	Geologist: N/A	D. Helper: C. Ross Drill Rig: Mobile B-59	

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-4.0': Moist, brown fine sand; little fine gravel little medium to coarse sand; trace organics.
						4.0'-7.5': Wet, brown silt and fine sand; trace coarse to medium sand; trace organics.
10						7.5'-15.0': Wet, brown silt; little fine sand and clay.
15						15.0'-25.0': Wet, brown silt; little fine sand and clay; trace cobbles.
20						
25						
30						
35						

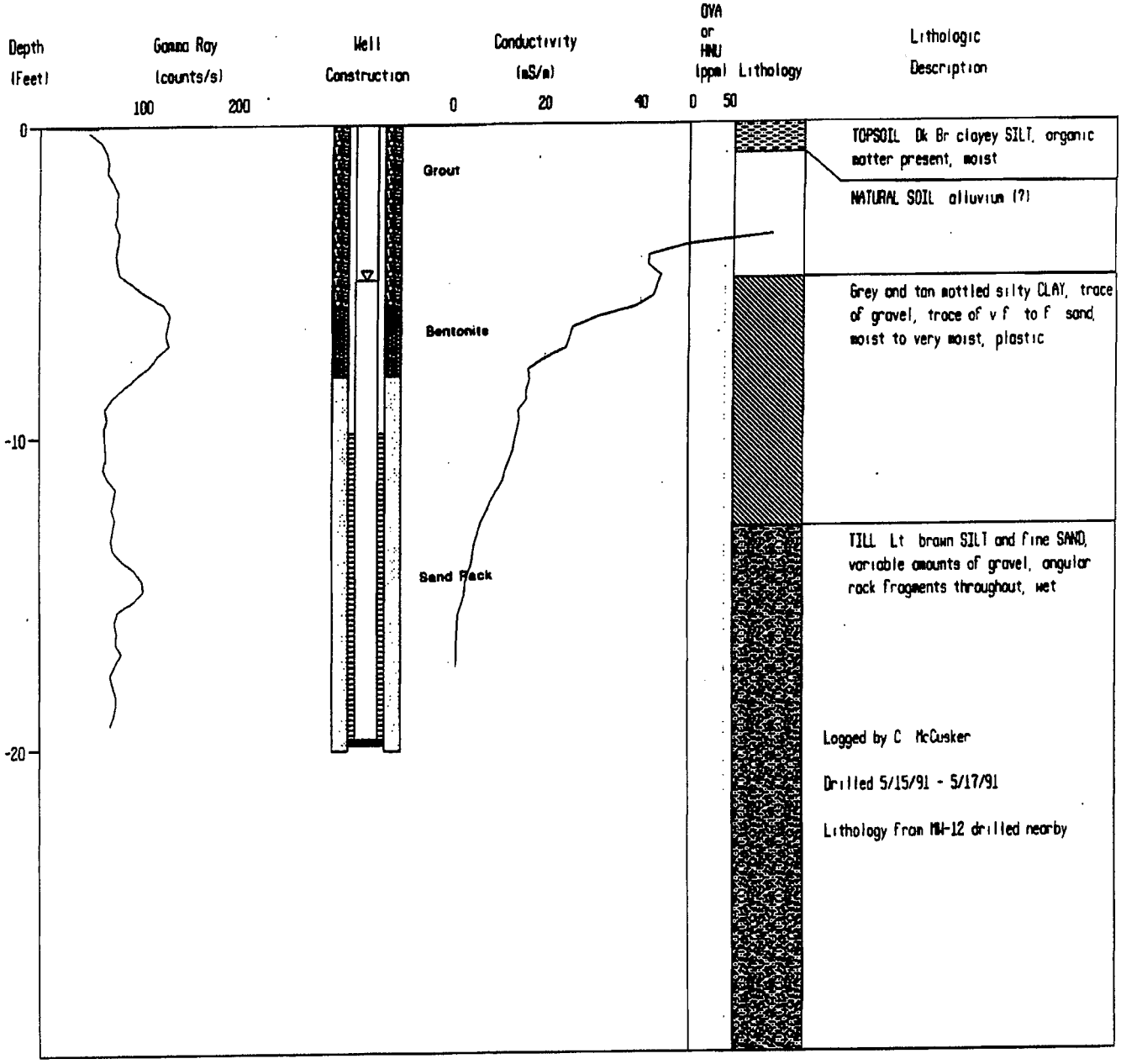


Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

Well Backfill Key
Cement
Native Fill
Sand
Bentonite

Figure 28

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-12A

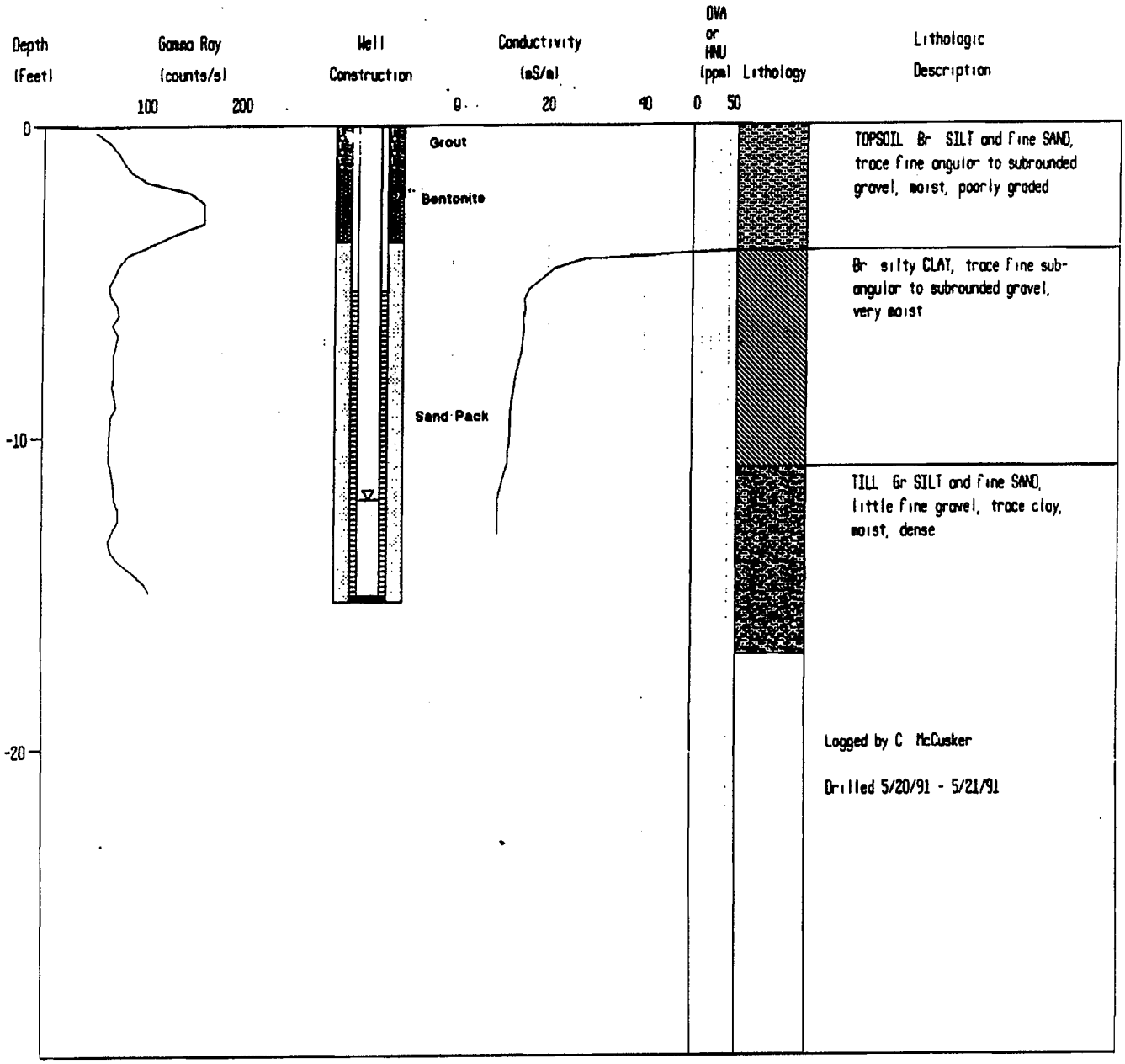


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 29

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-13



U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-16
PROJECT NAME: Johnny Cake Road	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
NAME OF DRILLER: Bill Bosworth	SITE LOCATION: Herkimer County, NY	
NAME OF GEOLOGIST: R. Moult	HOLE LOCATION: North - 4757246.377 (m); East – 511679.797 (m)	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	SIGNATURE OF GEOLOGIST:	
	DATE STARTED: 9/23/03	DATE COMPLETED: 9/23/03
	SURFACE ELEVATION: 237.748 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 26.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-16

TES BORING LOG (CONTINUATION SHE

PROJE: Johnny Cake Road | GEOLOG: R. Moult | HOLE NUMBER 3 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		1						
		3			Colluvium; CL, clay, silty, low plasticity,	4.5		
		25			brown, soft to firm, v. moist, small angular	4.2		
		25			gravels (10 % + 4) to cobbles			
2								
		4						
		4				11.2		
		3				5.7		Sample MW-16A
		5				4.4		
4								
		3						
		5						
		4				1.4		
		4			Wet to saturated	0.4		
6						0.5		
		10						
		12						
		15				12.8		
		25				5.2		Sample MW-16B
8								
		3			Till; CL, clay, silty, low to moderate			
		11			plasticity, firm to stiff, wet to saturated			
		12				22.3		
		10				36.8		
10						5.0		Sample MW-16C
		22						
		9						
		9						
		14				5.4		
12						2.7		
		8						
		12				3.5		
		12			Fine sand lenses	3.9		
		15				1.8		Sample MW-16D
14						1.4		
		21						
		18						
		19						
		22						
16								

PROJECT NAME: Johnny Cake Road | HOLE NO.: MW-16

BORING LOG (CONTINUATION SH

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-16

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		12			hard, grey, moist			
		14				0		
		14				0		
18		15				0		
						0		
		12						
		15						
		14				0		
20		15				0		
						0		
		21						Sample MW-16E
		18						
		16				3.4		
22		20				4.4		
						11.1		
		18						Sample MW-16F
		25				2.5		
		25				3.0		
		30/0				2.9		
24						1.7		
		22						
		24						
		25						
		43						
26					Total Depth 26 ft.; groundwater at 6 ft.	0.1		
						0		Sample MW-16G
28								
30								
32								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-16

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY	HOLE NUMBER: MW-17
	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 4
PROJECT NAME: Johnny Cake Road		SITE LOCATION: Herkimer County, NY
NAME OF DRILLER: Bill Bosworth		HOLE LOCATION: North - 4757246.271 (m); East – 511679.367 (m)
NAME OF GEOLOGIST: R. Moult		SIGNATURE OF GEOLOGIST
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount		DATE STARTED: 9/24/03 / DATE COMPLETED: 9/25/03
		SURFACE ELEVATION: 237.233 (m)
		DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK		DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
DEPTH DRILLED INTO BEDROCK		OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
TOTAL DEPTH OF HOLE: 40.0'		TOTAL FLUID LOSSES

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-17

TES ORING LOG (CONTINUATION SHE

PROJE Johnny Cake Road GEOLOG R. Moult HOLE NUMBER

SHEET: 2 of 4

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0					Colluvium; CL, clay, silty, low plasticity, brown, soft to firm, v. moist, small angular gravels (10 % + 4) to cobbles			
		Auger to 24'						
2								
4								
6					Wet to saturated			
8					Till; CL, clay, silty, low to moderate plasticity, firm to stiff, wet to saturated			
10								
12					Fine sand lenses			
14								
16								

PROJECT NAME: Johnny Cake Road HOLE NO.: MW-17

TE[illegible]BORING LOG (CONTINUATION SHE[illegible]

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-17

SHEET: 3 of 4

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
					hard, grey, moist			
18								
20								
22								
24					Same as above; rock fragments			
		10						
		18						
		15						
		17				0		
26						0		
		10						Sample MW-17F
		17						
		22						
		30				0		
28						0		
		2						
		7						
		11						
		15				0		
30						0		
		9						
		25						
		31						
		28				0.9		
32						0		Sample MW-17G

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-17

TE[illegible] BORING LOG (CONTINUATION SHE[illegible]

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-17

SHEET: 4 of 4

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		10			hard, grey, moist	0		
		26				0		
		33				0.3		
		21				0		Sample MW-17H
34								
		9						
		35				0		
		34				0		
		28				0		
36								
		14						
		37						
		29				0		
		32				0.1		Sample MW-17I
38								
		12				0		
		42				0		
		48				0		
		37				0		Sample MW-17J
40					Total Depth 40 feet; groundwater at 6 ft.			
42								
44								
46								
48								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-17

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-18
PROJECT NAME: Johnny Cake Road	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
NAME OF DRILLER: ill Bosworth	SITE LOCATION: Herkimer County, NY	
NAME OF GEOLOGIST: R. Moult	HOLE LOCATION: North – 4757240.290 (m); East – 511657.038 (m)	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	SIGNATURE OF GEOLOGIST:	
	DATE STARTED: 9/26/03	DATE COMPLETED: 9/29/03
	SURFACE ELEVATION: 237.444 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 9 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 25.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-18

TES[illegible]ORING LOG (CONTINUATION SHE[illegible]

PROJE[illegible]: Johnny Cake Road | GEOLOG[illegible]: R. Moult | HOLE NUMBER: 3 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		2			Colluvium; CL, clay, silty, low plasticity,	0		
		3			brown, soft to firm, v. moist, small angular	0		
		3			gravels (5 % + 4) to cobbles	0		
2		3				0		
		3				0		
		4				0		
4		4				0		
		2				0		Sample MW-18A
		2						
		2			Wet	0		
		2				0		
6						0		
		1						
		1				0		
		2				0		
		2				0		
8						0		
		2						Sample MW-18B
		6			Colluvium; CL, clay, silty, low plasticity,	4.5		
		8			mottled, brown to black, stiff to hard, moist	1.5		Sample MW-18C
		13			gravels (10 % + 4)	0.4		
10						0.6		
		4						
		22				2.6		
		22				0.7		
		25				0.7		
12						0.7		
		3						
		11						
		12			Till; ML, silt, low plasticity, fine sand	0.3		
		11			Lenses, firm to stiff, saturated	1.3		
14						0.7		Sample MW-18D
		11						
		13						
		14				0		
		13				0		
16						0		

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-18

TE BORING LOG (CONTINUATION SHE

PROJECT ...ME:

GEOLOGIST:

HOLE NUMBER MW-18

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		11			hard, grey, wet to saturated			
		12						
		12						
		14				0		
18						0		
		8						
		12						
		11				0		
		14				0		Sample MW-18E
20						0		
		9						
		14						
		18						
		18				0		
22						0		
		16						
		20						
		16						
		22				0		
24						0		Sample MW-18F
26					Total Depth 25 ft.; groundwater at 9 ft.			
28								
30								
32								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-18

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-19
PROJECT NAME: Johnny Cake Road	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
NAME OF DRILLER: ill Bosworth	SITE LOCATION: Herkimer County, NY	
NAME OF GEOLOGIST: R. Moult	HOLE LOCATION: North – 4757224.257 (m); East – 511624.344 (m)	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	SIGNATURE OF GEOLOGIST:	
	DATE STARTED: 9/29/03	DATE COMPLETED: 9/29/03
	SURFACE ELEVATION: 239.616 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 24.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-19

TE BORING LOG (CONTINUATION SH

PROJ: Johnny Cake Road | GEOLOG: R. Moult | HOLE NUMBER: 9 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		1			Colluvium; CL, clay, silty, low plasticity, brown, soft to firm, v. moist, small angular gravels (10 % + 4)	0		
		2				0		
		2				0		
		3				0		
2		2				0		Sample MW-19A
		4				0		
		4				0		
		5				0		
4		1				0		
		1				0		
		2				0		
		2				0		
6		2				0		Sample MW-19B
		2						
		3				0		
		3				0		
8		5			Till; CL, clay, silty, low to moderate plasticity, firm to stiff, wet to saturated	0		Sample MW-19C
		8				0		
		11				0		
		12				0		
10		7				0		
		8						
		7						
		10				0		
12		10				0		
		8						
		11						
		13				0		
14		5				0		Sample MW-19D
		12						
		15						
16		9				0		

PROJECT NAME: Johnny Cake Road | HOLE NO.: MW-19

TE BORING LOG (CONTINUATION SH

PROJEC. ME:

GEOLOGIST:

HOLE NUMBER: MW-19

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		15			hard, grey, moist			
		14						
		13						
		16						
18 ---						0		
		8						Sample MW-19E
		8						
		5				0		
		12				0		
20 ---						0		
		10						
		19				0		
		18				0		
		17						
22 ---						0		
		12						
		15				0		
		22				0		
		25				0		
24 ---						0		
					Total Depth 24 feet; groundwater at 6 ft.			Sample MW-19F
26 ---								
28 ---								
30 ---								
32 ---								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-19

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-21

PROJECT: Johnny Cake Road Site	10. HOLE LOCATION	SHEET 1 OF 2	SHEETS
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic NY, Inc.	14. SURFACE ELEVATION AT HOLE: NA	15. ELEVATION DATUM: NAVD 88	
4. MANUFACTURER'S DESIGNATION OF DRILL: CME 45B track-mounted rig	17. DATE HOLE STARTED: 9/28/2008	18. DATE HOLE COMPLETED: 9/28/2008	
5. SIZE AND TYPE OF EQUIPMENT: 6" HAS	16. DEPTH OF GROUNDWATER ENCOUNTERED: NA		
6. NAME OF DRILLER: Scott Breeds	19. WEATHER: Cloudy, light rain		
7. THICKNESS OF OVERBURDEN: 23+ ft	20. DISPOSITION OF HOLE		
8. DEPTH DRILLED INTO ROCK: NA ft	21. NAME OF INSPECTOR: Dino Zack		
9. TOTAL DEPTH OF HOLE: 23 ft	22. SIGNATURE OF INSPECTOR		

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (int)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	1		0-1" TOPSOIL 1-8" brown SILT, trace f.sand, trace clay (moist)	8	NA	0.0	1 2 3 3	
	2		0-8" light brown SILT, trace f.sand, trace organics (moist)	8	NA	0.0	2 3 3 3	
	4		0-10" light brown SILT, trace f.sand (moist) 10-19" light brown SILT, little angular medium rock fragments, trace f.-c.sand, trace clay (moist)	19	NA	0.0	5 4 3 3	
	6		0-20" light brown SILT, little f.gravel, little f.-c.sand, trace clay - stiffening with depth (moist) 20-22" dark grey SILT, some f.sand, little f.m.-gravel, little f.-c.sand, trace clay (moist-dry) TILL	22	NA	0.0	3 5 7 14	Top of till at ~7.5' bgs
	8		0-7" light brown SILT, some f.sand, little f.-m.gravel, trace clay (moist) sluff? 20-22" dark grey SILT, some f.sand, little f.m.-gravel, little f.-c.sand, trace clay (moist-dry) TILL	9	NA	0.0	9 12 17 22	
	10							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-21

PROJECT: Johnny Cake Road Site

SHEET 2 OF SHEETS 2

1. LOCATION: Danube, New York

21. NAME OF INSPECTOR:

2. COMPANY: Earth Tech Northeast, Inc.

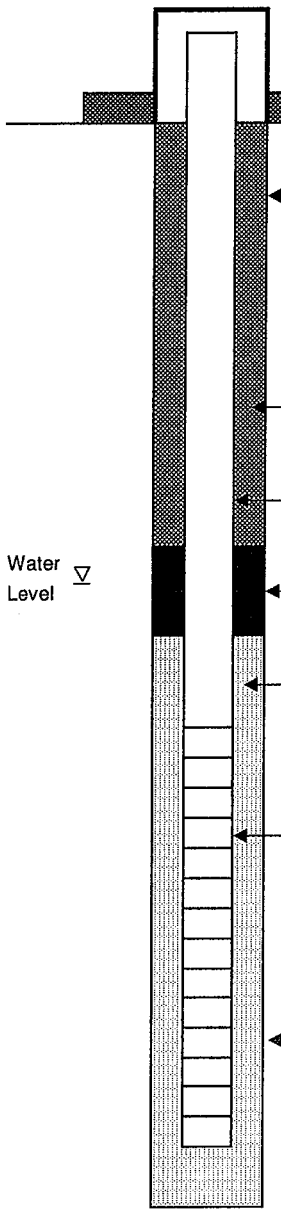
22. SIGNATURE OF INSPECTOR:

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (ft)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	10		0-2" sluff 2-20" dark grey SILT, some f.-m. angular gravel, little f.-c.sand, trace clay (moist-dry) stiff TILL	20	NA	0.0	19 25 29 42	
	12		0-22" dark grey SILT, some f.-m.gravel, little f.-c.sand, trace clay (dry) crumbly TILL	22	NA	0.0	47 84 100/.4	
	14		0-4" sluff 4-10" dark grey SILT, some f.-m.gravel, little f.-c.sand, trace clay (dry-moist) TILL 10-14" SHALE in shoe	14	NA	0.0	57 100/.4	
	16		0-12" dark grey SILT, little f.-m.gravel, trace f.-c.sand, trace clay (dry) TILL	12	NA	0.0	65 100/.3	
	18		0-15" medium grey SILT and F.-SAND (thinly layered), trace clay (moist) soft	15	NA	0.0	52 35 32 20	
	20		0-6" medium grey SILT and F.SAND (thinly layered), trace clay (moist) soft 6-24" medium grey SILT and F.SAND (thinly layered), trace clay (dry) dense	24	NA	0.0	23 40 47 90	
	22		0-8" medium grey SILT and F.SAND (thinly layered), trace clay (moist) dense 8-12" dark grey SILT and F.SAND (thinly layered), trace f.-m.gravel (moist-dry) dense End of boring at 23' - refer to well installation diagram for additonal details.	12	NA	0.0	17 22	
	23							

Earth Tech Northeast, Inc.

Overburden Well Diagram **Well No. MW-21**

Project: Johnny Cake Road Site			Location: Danube, New York		Page 1 of 1		
Earth Tech Project No.: 105999			Subcontractor: GeoLogic NY, Inc.		Water Levels		
Surface Elevation:	NA	ft	Driller: Scott Breeds		Date	Time	Depth
Top of PVC	NA	ft	Well Permit No.: NA		9/30/08	09:00hrs	5.5' btoc
Casing Elevation:	NA	ft	Earth Tech Rep.: Dino Zack		9/30/08	14:40hrs	5.5' btoc
					10/7/08	12:00hrs	5.5' btoc
Datum: NAVD 1988			Date of Completion: 9/29/2008				



Locking protective stickup with concrete pad

Inner casing stickup 2.5 ft to -23.0 ft

Ground Surface

Borehole diameter 6 inches

Cement-bentonite grout from 0.0 ft to -5.0 ft

Riser Pipe from 2.75 ft to -8.0 ft

Bentonite seal from -5.0 ft to -7.0 ft

Filter pack from -7.0 ft to -23.0 ft

Sand Size 0

Well screen from -8.0 ft to -23.0 ft

Diameter 2 inches

Slot size 0.010 inches

Type PVC

Borehole diameter 6 inches

Bottom Cap at -23.0 ft

Bottom of Borehole at -23.0 ft

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-22

PROJECT: Johnny Cake Road Site

SHEET 2 OF SHEETS 2

1. LOCATION: Danube, New York

21. NAME OF INSPECTOR:

2. COMPANY: Earth Tech Northeast, Inc.

22. SIGNATURE OF INSPECTOR:

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (ft)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	10		0-10" medium grey SILT, little f.sand, trace m.-c.sand, trace f.-m.gravel (moist)	10	NA	0.0	13 15 17 16	
	12		0-6" medium grey SILT, little f.sand, trace m.-c.sand, trace f.-m.gravel (moist) 6-14" medium grey SILT and F.SAND, trace m.-c.sand, trace f.-m.gravel (wet) 14-20" grey SILT, little f.-c.sand, f.-m.gravel, trace clay (moist)	20	NA	0.0	13 9 10 14	
	14		SLUFF - rock in shoe	0	NA	NA	14 9 10 10	
	16		SLUFF - rock in shoe - auger to 18'	0	NA	NA	12 13 14 12	
	18		0-12" grey SILT and F.-SAND (thinly layered), little m.-c.sand, little f.-m.gravel, trace clay (moist) soft	12	NA	0.0	7 7 8 8	
	20		0-12" grey SILT and F.-SAND (thinly layered), little m.-c.sand, little f.-m.gravel, trace clay (moist) soft End of boring at 21' - refer to well installation diagram for additonal details.	12	NA	0.0	9 9	
	22							
	23							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-22

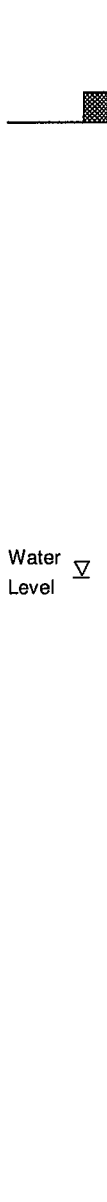
PROJECT: Johnny Cake Road Site	10. HOLE LOCATION:	SHEET 1 OF SHEETS 2	
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic NY, Inc.	14. SURFACE ELEVATION AT HOLE: NA	15. ELEVATION DATUM: NAVD 88	
4. MANUFACTURER'S DESIGNATION OF DRILL: CME 45B track-mounted rig	17. DATE HOLE STARTED: 9/29/2008	18. DATE HOLE COMPLETED: 9/29/2008	
5. SIZE AND TYPE OF EQUIPMENT: 6" HAS	16. DEPTH OF GROUNDWATER ENCOUNTERED: NA		
6. NAME OF DRILLER: Scott Breeds	19. WEATHER: Sunny; 60F		
7. THICKNESS OF OVERBURDEN: 21+ ft	20. DISPOSITION OF HOLE:		
8. DEPTH DRILLED INTO ROCK: NA ft	21. NAME OF INSPECTOR: Dino Zack		
9. TOTAL DEPTH OF HOLE: 21 ft	22. SIGNATURE OF INSPECTOR:		

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (in)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	1		0-1" TOPSOIL 1-8" tan SILT, little f.sand, trace m.-c.sand, trace f.gravel (moist)	8	NA	0.0	2 3 3 6	
	2		0-4" tan SILT, little f.sand, trace m.-c.sand, trace f.gravel (moist) 4-18" tan-light brown SILT, little f.sand (moist; wet at 16-18")	18	NA	0.0	2 3 2 1	
	4		0-6" tan-light brown SILT, little f.sand (moist) 6-12" light brown SILT, little f.sand, trace f.-m.sand, trace f.-m.gravel (moist) 12-16" brown-grey SILT, little f.sand, trace f.-m.sand, trace f.-m.gravel (moist-wet) TILL	16	NA	0.0	1 2 4 4	Top of till at ~5.5' bgs
	6		0-12" grey SILT, some f.sand, little m.-c.sand, littlef.-m.gravel, trace clay (moist-wet) TILL	12	NA	0.0	3 4 5 5	
	8		SLUFF - rock in shoe	8	NA	0.0	8 13 13 15	
	10							

Earth Tech Northeast, Inc.

Overburden Well Diagram **Well No. MW-22**

Project: Johnny Cake Road Site	Location: Danube, New York	Page 1 of 1	
Earth Tech Project No.: 105999	Subcontractor: GeoLogic NY, Inc.	Water Levels	
Surface Elevation: NA ft	Driller: Scott Breeds	Date	Time / Depth
Top of PVC NA ft	Well Permit No.: NA	10/1/08	08:00hrs / 18.84' btoc
Casing Elevation: NA ft	Earth Tech Rep.: Dino Zack	9/30/08	14:40hrs / 5.5' btoc
		10/8/08	12:00hrs / 5.49' btoc
Datum: NAVD 1988	Date of Completion: 9/30/2008		



Locking protective stickup with concrete pad

Inner casing stickup 2.45 ft to -21.0 ft

Ground Surface

Borehole diameter 6 inches

Cement-bentonite grout from 0.0 ft to -3.0 ft

Riser Pipe from 3.00 ft to -8.0 ft

Water Level ▽

Bentonite seal from -3.0 ft to -5.0 ft

Filter pack from -5.0 ft to -21.0 ft

Sand Size 0

Well screen from -6.0 ft to -21.0 ft

Diameter 2 inches

Slot size 0.010 inches

Type PVC

Borehole diameter 6 inches

Bottom Cap at -21.0 ft

Bottom of Borehole at -21.0 ft

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-23

PROJECT: Johnny Cake Road Site	10. HOLE LOCATION	SHEET 1 OF 2	SHEETS
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic NY, Inc.	14. SURFACE ELEVATION AT HOLE: NA	15. ELEVATION DATUM: NAVD 88	
4. MANUFACTURER'S DESIGNATION OF DRILL: CME 45B track-mounted rig	17. DATE HOLE STARTED: 9/29/2008	18. DATE HOLE COMPLETED: 9/29/2008	
5. SIZE AND TYPE OF EQUIPMENT: 6" HAS	16. DEPTH OF GROUNDWATER ENCOUNTERED: NA		
6. NAME OF DRILLER: Scott Breeds	19. WEATHER: Sun and clouds; 60F		
7. THICKNESS OF OVERBURDEN: 21+ ft	20. DISPOSITION OF HOLE		
8. DEPTH DRILLED INTO ROCK: NA ft	21. NAME OF INSPECTOR: Dino Zack		
9. TOTAL DEPTH OF HOLE: 21 ft	22. SIGNATURE OF INSPECTOR		

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (in)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	1		0-1" TOPSOIL 1-11" tan-light brown SILT, trace f.sand, trace clay (dry-moist)	11	NA	0.0	1 1 2 3	
	2		0-4" light brown SILT, little f.-c.sand, trace f.gravel (dry)	4	NA	0.0	6 12 9 4	
	4		0-8" light brown SILT, little f.-c.sand, trace f.gravel (dry) 8-14" grey SILT, little f.sand, trace f.gravel (moist) TILL	14	NA	0.0	2 4 6 7	Top of till at ~5.0' bgs
	6		0-4" SLUFF 4-13" grey SILT and F.SAND, little f.-m.gravel, little m.-c.sand (moist)	13	NA	0.0	8 9 14 14	
	8		0-6" brown SILT, little f.-c.sand, trace f.-m.gravel (dry) sluff? 6-20" grey SILT and F.SAND, trace clay (dry)	20	NA	0.0	6 7 9 14	
	10							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-23

PROJECT: Johnny Cake Road Site

SHEET 2 OF 2 SHEETS

1. LOCATION: Danube, New York

21. NAME OF INSPECTOR:

2. COMPANY: Earth Tech Northeast, Inc.

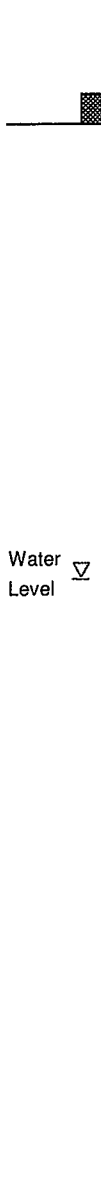
22. SIGNATURE OF INSPECTOR:

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (ft)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	10		0-18" grey SILT and F.SAND, trace clay (dry)	18	NA	0.0	7 10 12 20	
	12		0-18" grey SILT and F.SAND, trace clay (dry)	18	NA	0.0	14 16 12 16	
	14		0-6" grey SILT, little f.sand, trace m.-c.sand, trace f.-m.gravel, trace clay (moist) 6-24" grey SILT and F.SAND, trace clay, trace f.-m.gravel (moist)	24	NA	NA	10 14 16 21	
	16		0-18" grey SILT and F.SAND, trace clay, trace f.-m.gravel (moist)	18	NA	NA	21 20 23 24	
	18		0-24" grey SILT and F.SAND, trace clay, trace f.-m.gravel (moist) End of boring at 20' - refer to well installation diagram for additonal details.	24	NA	0.0	17 24 22 28	
	20							
	21							
	22							
	23							

Earth Tech Northeast, Inc.

Overburden Well Diagram **Well No. MW-23**

Project: Johnny Cake Road Site			Location: Danube, New York		Page 1 of 1		
Earth Tech Project No.: 105999			Subcontractor: GeoLogic NY, Inc.		Water Levels		
Surface Elevation:	NA	ft	Driller: Scott Breeds		Date	Time	Depth
Top of PVC	NA	ft	Well Permit No.: NA		10/1/08	07:30 hrs	19.4' btoc
Casing Elevation:	NA	ft	Earth Tech Rep.: Dino Zack		10/1/08	13:22 hrs	19.1' btoc
					10/2/08	07:02 hrs	18.5' btoc
Datum: NAVD 1988			Date of Completion: 9/30/2008		10/8/08	08:00 hrs	6.90' btoc



Locking protective stickup with concrete pad

Inner casing stickup 2.60 ft to -21.0 ft

Ground Surface

Borehole diameter 6 inches

Cement-bentonite grout from 0.0 ft to -2.0 ft

Riser Pipe from 2.80 ft to -8.0 ft

Bentonite seal from -2.0 ft to -4.0 ft

Filter pack from -4.0 ft to -20.0 ft

Sand Size 0

Well screen from -5.0 ft to -20.0 ft

Diameter 2 inches
Slot size 0.010 inches
Type PVC

Borehole diameter 6 inches

Bottom Cap at -20.0 ft

Bottom of Borehole at -20.0 ft

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

APPENDIX D
EXCERPTS FROM NYSDEC SITE FILES

Appendix D1: Historic Well Information from Environmental Subsurface Investigation Report – June 1990

DATE
STARTED 4/19/90
FINISHED 4/19/90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV.
G. W. DEPTH See Note #1

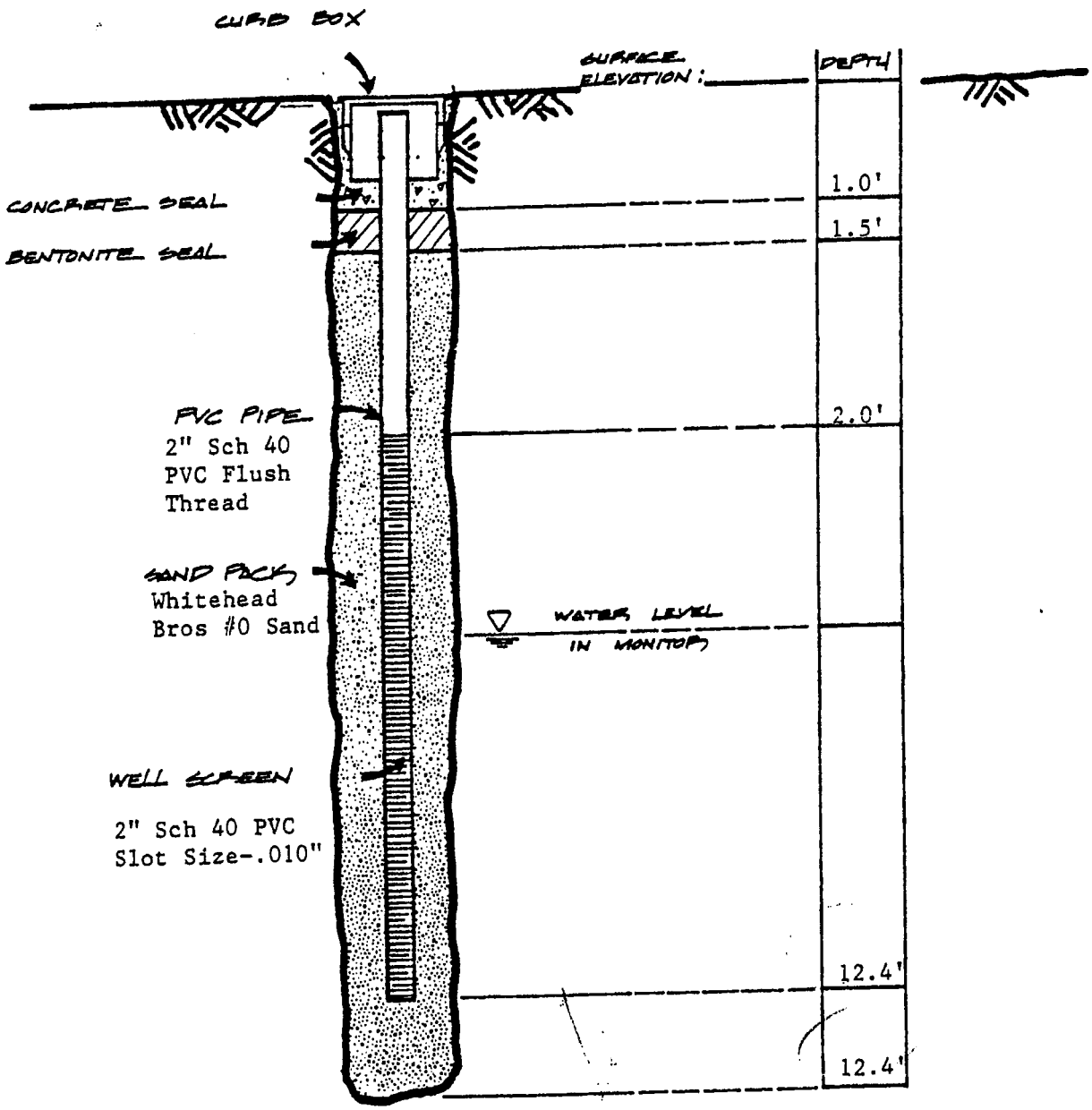
PROJECT Environmental Site Assessment
LOCATION Johny Cake Road
Town of Stark, NY

DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	3	7		17		Brown SILT & CLAY, Some Gravel	Note #1: At completion of boring, a 2" PVC ground water monitoring well was installed as per attached monitoring well detail
			10	5					
		2	3	2		5		-grades trace gravel	
			3	7					
		3	6	8		18			
5			10	14				(Wet-Soft to Stiff)	
		4	12	16		34		Brown Galcial Till	
			18	24					
		5	100/.5					-little recovery: rock fragments	
10		6	50	26		49		-grades gray (Moist-Compact)	
			23	20					
								End of Boring @ 12.4'	
15									

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Driller

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers



WELL No

B-1

EMPIRE
SOILS INVESTIGATIONS INC.

MONITORING WELL DETAILS

JOHNY CAKE ROAD E.S.A.
TOWN OF STARK, N.Y.

DR.BY: J.H.	SCALE: N.T.S.	PROJ. NO. AD-90-36
CK'D.BY:	DATE: 5/23/90	DRWG.NO.

DATE
STARTED 4/19/90
FINISHED 4/19/90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. **SUBSURFACE LOG**

HOLE NO. B-2
SURF. ELEV. ____
G. W. DEPTH See Note #1

PROJECT Environmental Site Assessment

LOCATION Johny Cake Road
Town of Stark, N.Y.

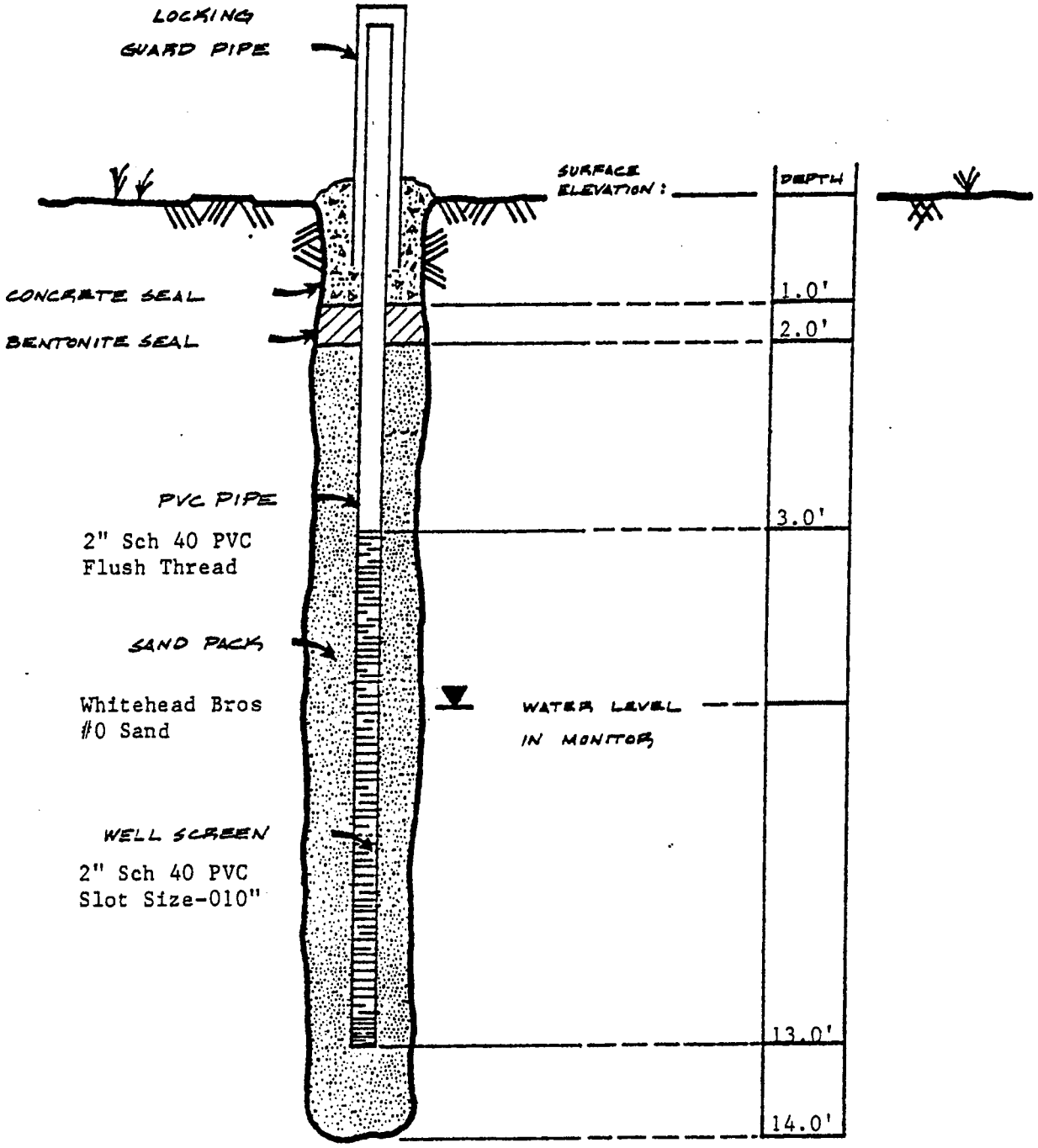
DEPTH IN FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	3	4		10		Brown SILT, SAND & GRAVEL	Note #1: At completion of borings a 2" PVC groundwater Monitoring Well was installed as per attached Monitoring Well Detail.
			6	4					
		2	5	2		5			
			3	3					
5		3	4	2		5			
			3	3					
		4	-	-		-			
			-	-				(Moist - Loose)	
		5	14	6		14		Gray Glacial Till	
10			8	11					
		6	7	11		21			
			10	14					
		7	22	26		44			
			18	18				(Moist-Firm to Compact)	
15								End of Boring @ 14.0'	

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Driller

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers



WELL No

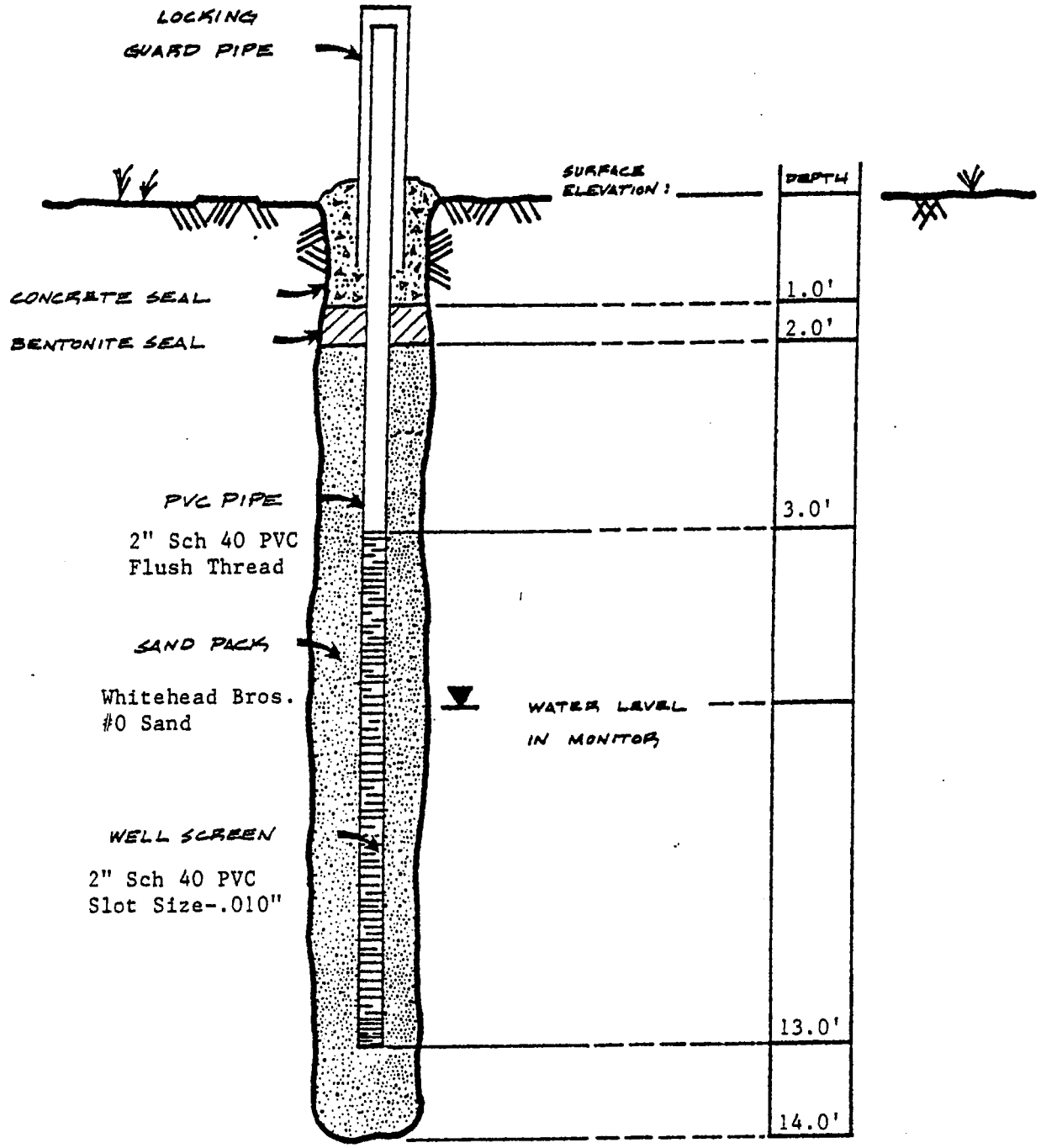
B-2

EMPIRE
SOILS INVESTIGATIONS INC

MONITORING WELL DETAILS

Johny Cake Road E.S.A.
TOWN OF STARK, N.Y.

DR BY JH	SCALE: N.T.S.	PROJ. NO. AD-90-36
CK'D BY	DATE 5-23-90	DRWG NO.



WELL No

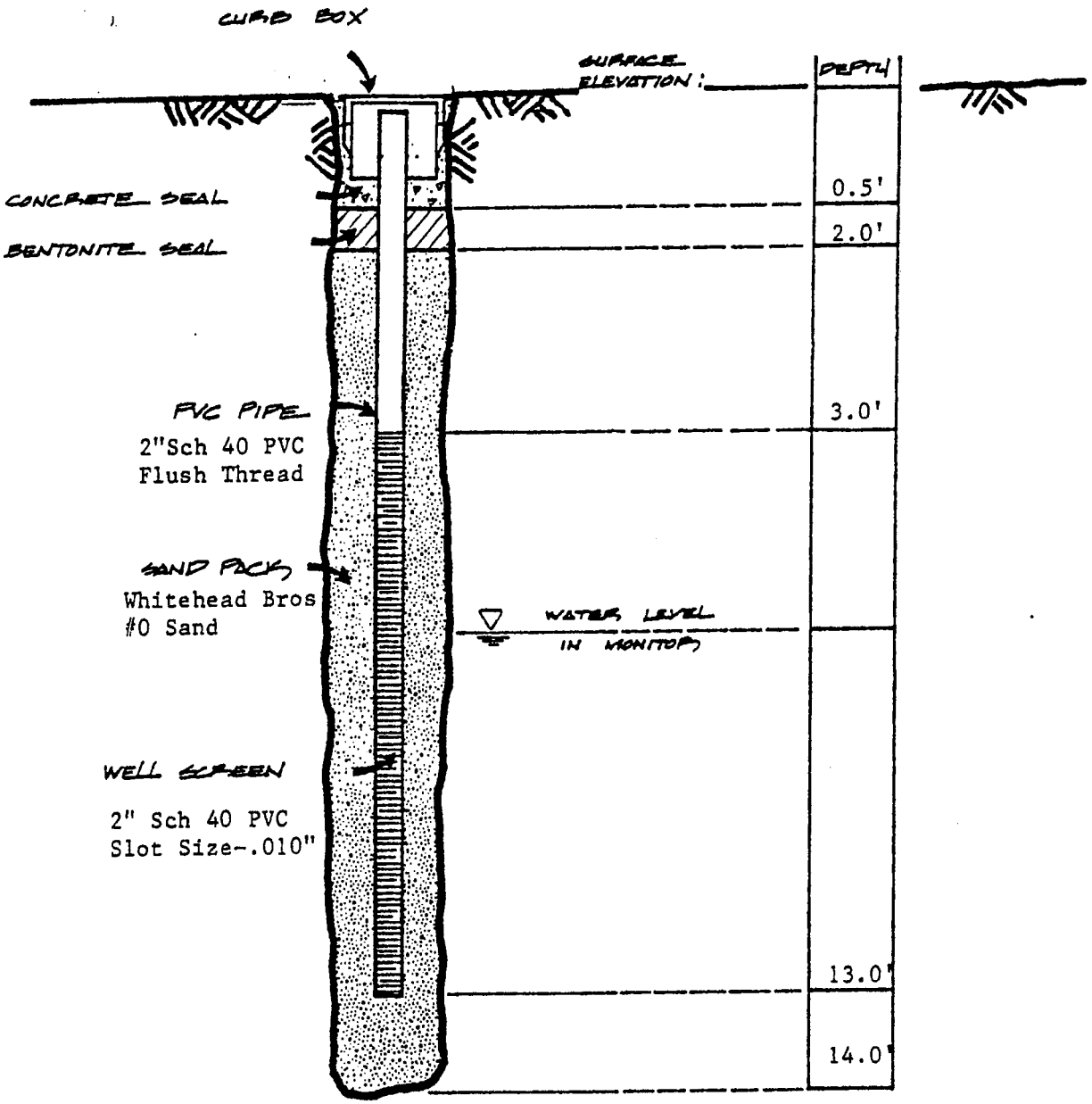
B-3

EMPIRE SOILS INVESTIGATIONS INC

MONITORING WELL DETAILS

JOHNY CAKE ROAD E.S.A.
TOWN OF STARK, N.Y.

DR BY J.H.	SCALE N.T.S.	PROJ. NO AD-90-36
CK'D BY RWD	DATE 5/23/90	DRWG NO



WELL No

B-4

EMPIRE
SOILS INVESTIGATIONS INC

MONITORING WELL DETAILS

JOHNY CAKE ROAD E.S.A.
TOWN OF STARK, N.Y.

DR.BY: J.H.	SCALE: N.T.S.	PROJ. NO. AD-90-36
CK'D.BY:	DATE: 5/23/90	DRWG.NO.

DATE
STARTED 4/23/90
FINISHED 4/23/90
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. MW-6
SURF. ELEV.
G. W. DEPTH

PROJECT Environmental Site Assessment

LOCATION Johny Cake Road
Town of Stark, NY

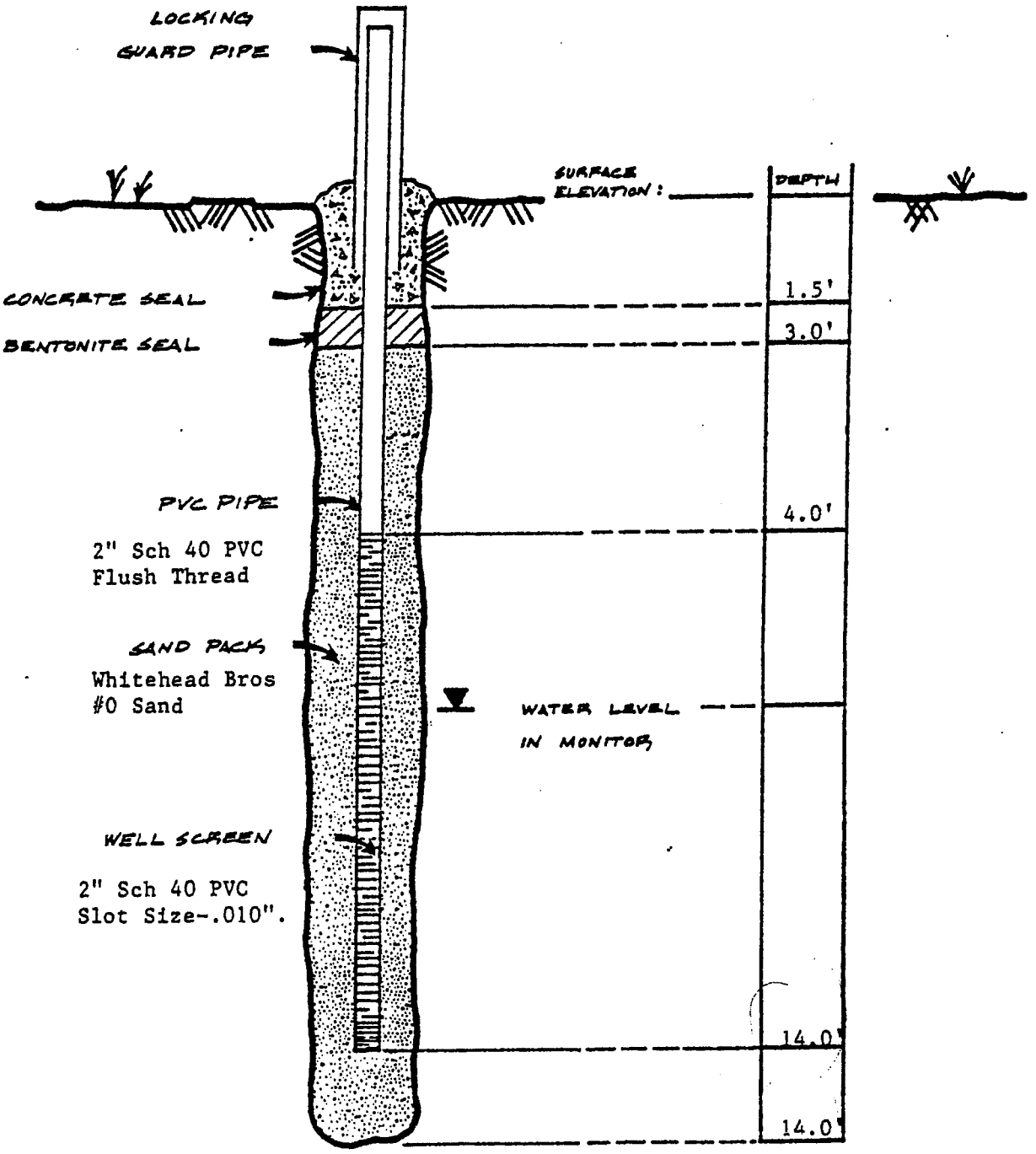
DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	1	1		4		Brown SILT, SAND & GRAVEL, trace clay	Note #1: At completion of boring, a 2" PVC groundwater Monitoring Well was installed as per attached Monitoring Well Detail.
			3	4					
		2	6	25		32			
			7	9					
5		3	10	6		9			
			3	2				-rock fragments	
		4	2	3		5			
			2	9				(Moist to Wet-Loose to Compact)	
								Augers advanced w/o sampling to 14.0'.	
10									
15								End of Boring @ 14.0'	

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Driller

METHOD OF INVESTIGATION 4¼" I.D. Hollow Stem Augers



WELL No

MW-6

EMPIRE
SOILS INVESTIGATIONS INC

MONITORING WELL DETAILS

JOHNY CAKE ROAD E.S.A.
TOWN OF STARK, N.Y.

DR BY J.H.	SCALE: N.T.S.	PROJ. NO AD-90-36
CK'D BY	DATE 5/23/90	DRWG NO

Appendix D2: Historic Well Information from Extent of Contamination Study Report – November 1991

The following is a summary of well depths and screened interval of the wells installed by ERT/REAC:

Monitor Well	Depth (feet below grade)	Screened Interval (feet below grade)
MW-11	22	5 to 20
MW-12A	20	10 to 20
MW-13	17	5.3 to 15.3
MW-14	21	6 to 21
MW-15	101	91 to 101

The information pertaining to these monitor wells are indicated in the Monitor Well Drilling and Installation Logs, which appear in Appendix G.

In general, below the few inches of clayey topsoil, borings encountered a moist, brown silty clay to a depth of approximately two to three feet. Below this layer, wet, brown fine sand and silt with traces of fine angular gravel were encountered to depths of approximately ten feet. This layer was underlain by a wet, dense, gray, fine sand and silt with little fine and, coarse angular gravel layer, interpreted as glacial till. This unit was found to be 32 feet (from 10 to 42 feet depth in MW-15) to 40 feet thick (from 15 to 55 feet depth in B-12). Below the till layer, a moist, plastic, gray clay was found to the deeper portion of the borings. This unit was found to be at least 59 feet in MW-15 and at least 55 feet in B-12.

One day after the completion of MW-15, water from the well was found to be flowing slightly and consistently over the two-foot "stickup" (i.e., artesian condition). This indicates that the well was screened in an aquifer under confined conditions.

A total of 28 split spoon samples were recovered in acetate sleeves. These samples are summarized in Table 5.

3.2 Hydrogeology

Water level measurements were converted using resurveyed top of casing elevation data to formulate water table elevations at each of the monitor well locations. These data are reported in Table 6. Water table depths ranged on November 15, 1990 from 0.5 feet (MW-1) to 9.75 feet (MW-6) and on May 22, 1991 from 1.61 feet (MW-1) to 7.77 feet (MW-8). No water table depths were collected at the REAC installed wells (monitor wells MW-11 to MW-15) due to the water levels not having sufficient time to stabilize.

Water table elevations for both sets of sampling events, September 11, 1990 and May 22, 1991 were plotted on the site map (Figures 5 and 6, respectively), were contoured, and then interpreted for groundwater flow direction. During both dates, overburden groundwater was found to be flowing from south to north consistent with the downslope of the hillside. It appears that the stream lying in the topographic low (i.e., stream valley) receives its source of water from the overburden aquifer, and the small tributaries that also feed it.

Table 6

Summary of Ground Water Table Data
For November 15, 1990 and May 22, 1991

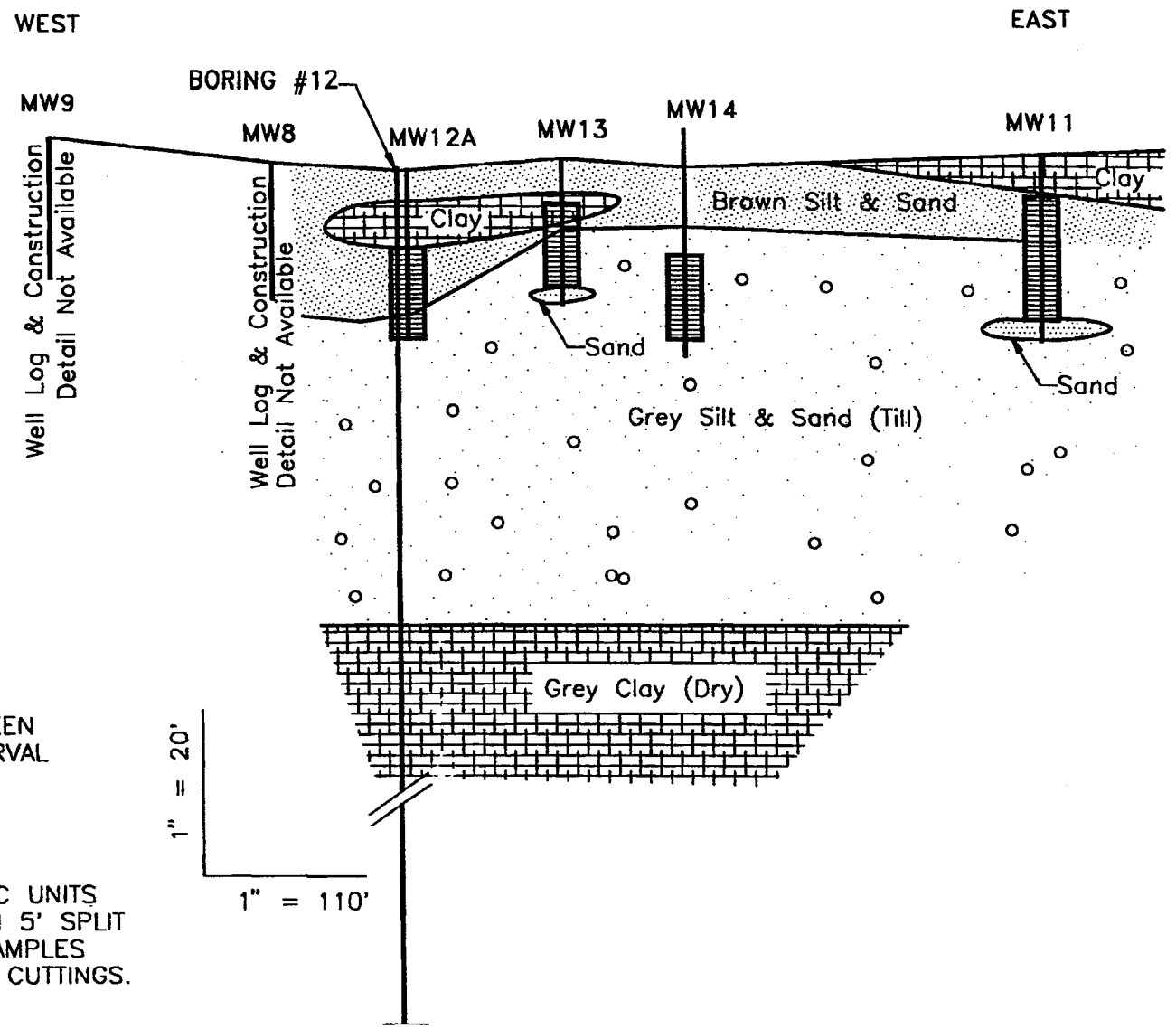
Johnny Cake Road Site
Danube, New York

October, 1991

Monitor Well	11/15/90			5/22/91		
	Top of Casing (F.A.D.)	Depth to Water (feet)	Elevation of Water Table (F.A.D.)	Top of Casing (F.A.D.)	Depth to Water (feet)	Elevation of Water Table (F.A.D.)
MW-1	177.51	0.50	177.01	177.51	1.61	175.90
MW-2	191.04	3.72	187.32	191.04	5.14	185.90
MW-3	186.77	3.62	183.15	186.06	5.72	180.34
MW-4	172.62	3.12	169.50	172.10	3.35	168.75
MW-6	185.50	9.75	175.75	184.92	6.95	177.97
MW-7	187.02	1.88	185.14	186.49	3.38	183.11
MW-8	164.59	6.37	158.22	164.17	7.77	156.40
MW-9	167.52	4.52	163.00	167.12	5.79	161.33
MW-10	146.90	6.00	140.90	146.50	6.19	140.31
MW-11	----	----	----	145.57	ND	ND
MW-12A	----	----	----	164.30	ND	ND
MW-13	----	----	----	163.60	ND	ND
MW-14	----	----	----	164.22	ND	ND
MW-15	----	----	----	126.45	ND	ND
Upper Pond	204.15	204.15	204.15	ND	ND	ND
Lower Pond	150.00	150.00	150.00	ND	ND	ND

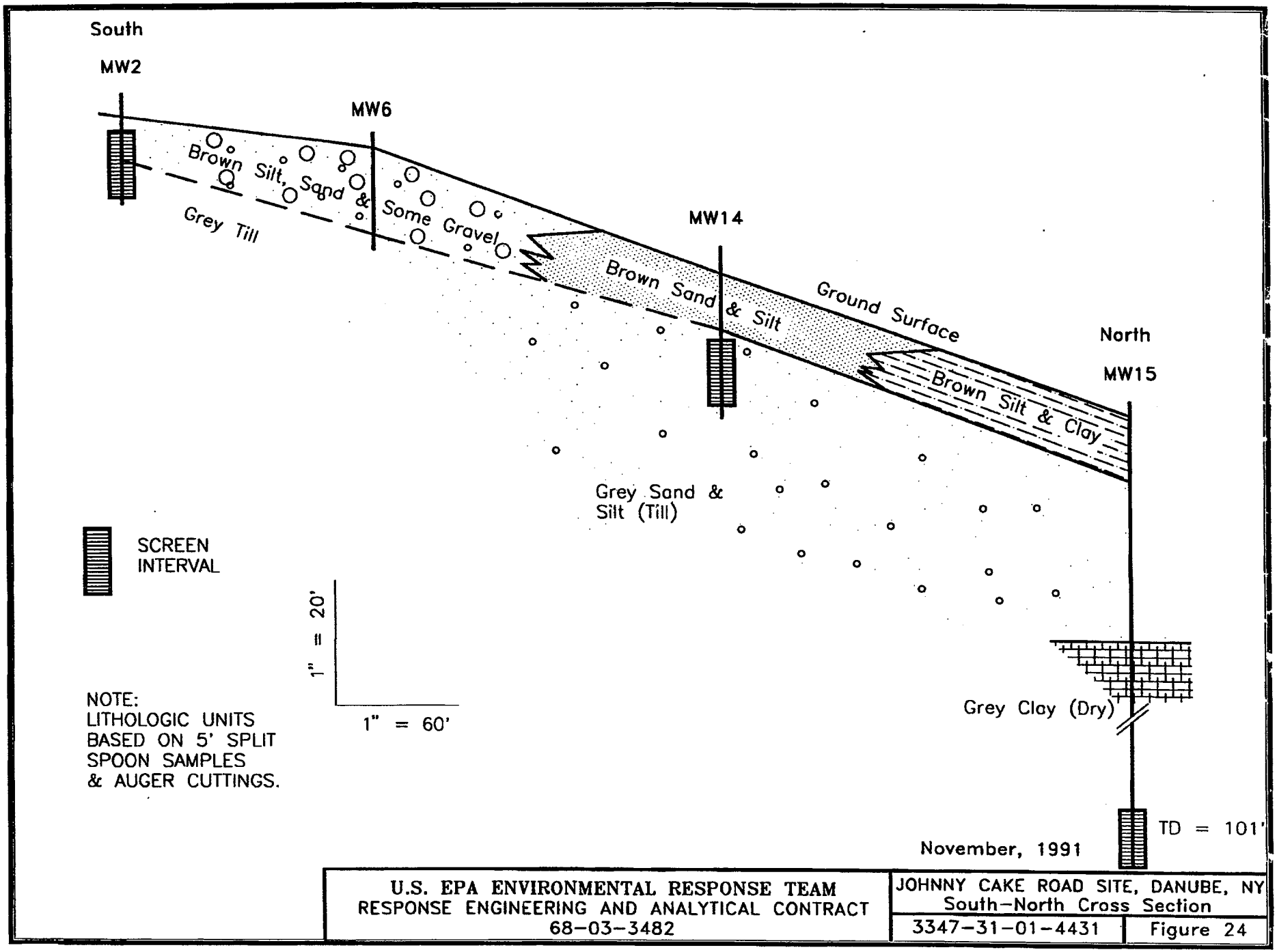
Note: Change in arbritary datums between sampling events.
NR = Not Recorded; ND = No data
F.A.D. = Feet above site datum

JC-WT.WK3



November, 1991

U.S. EPA ENVIRONMENTAL RESPONSE TEAM RESPONSE ENGINEERING AND ANALYTICAL CONTRACT 68-03-3482	JOHNNY CAKE ROAD SITE, DANUBE, NY West-East Cross Section 3347-31-01-4431 Figure 23

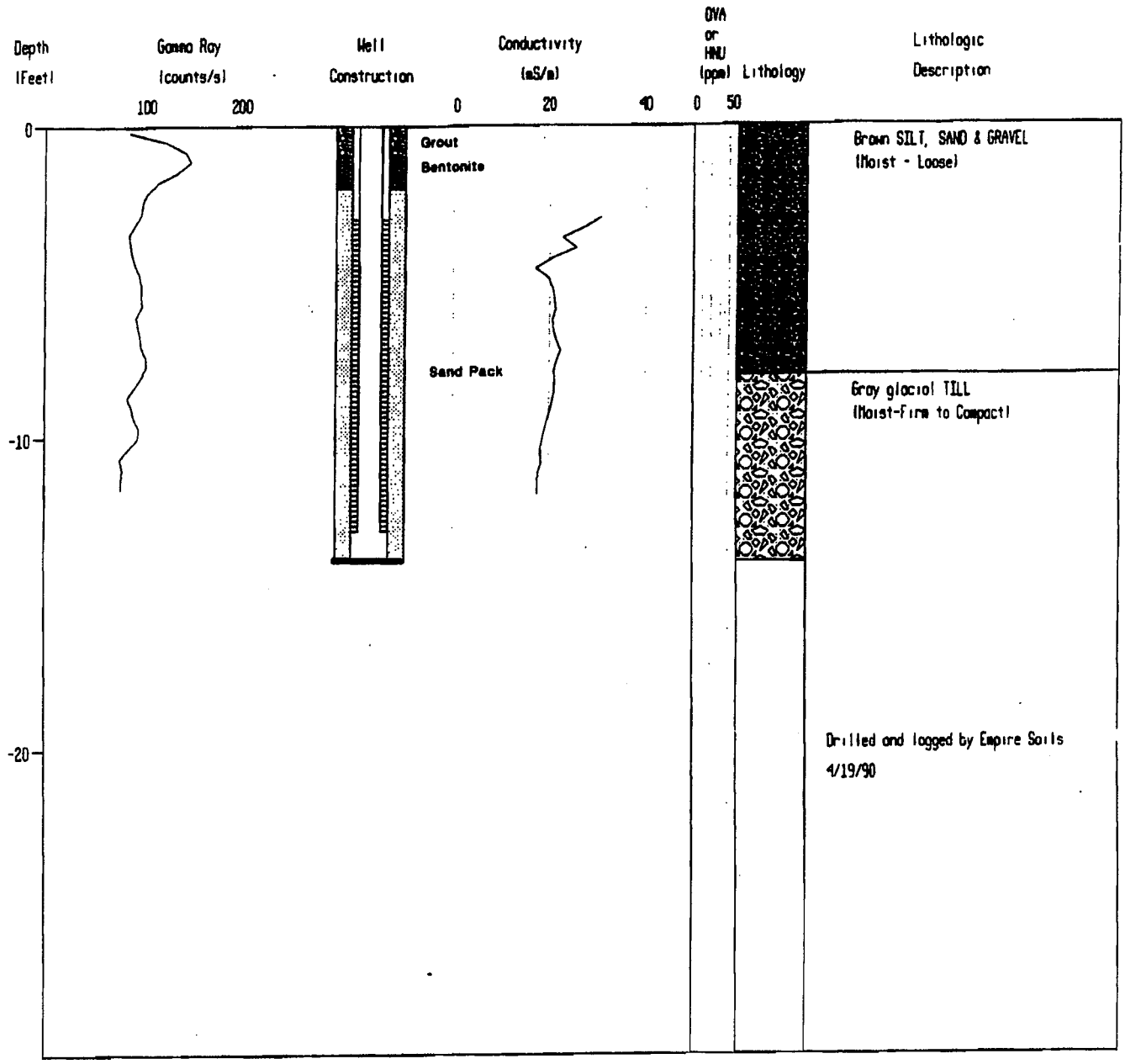


U.S. EPA ENVIRONMENTAL RESPONSE TEAM
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-03-3482

JOHNNY CAKE ROAD SITE, DANUBE, NY
South-North Cross Section
3347-31-01-4431 | Figure 24

Figure 25

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-2

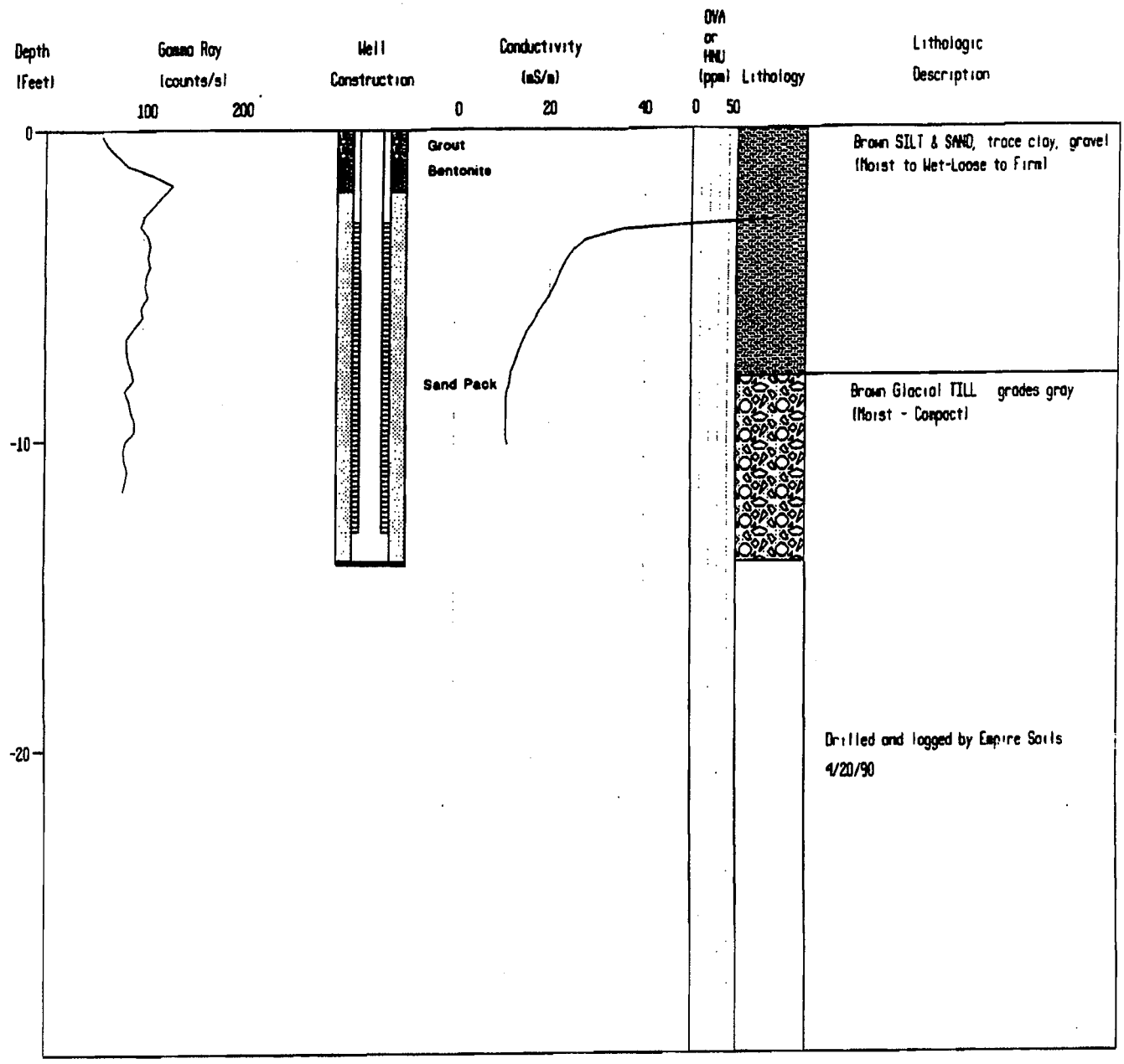


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 26

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-3

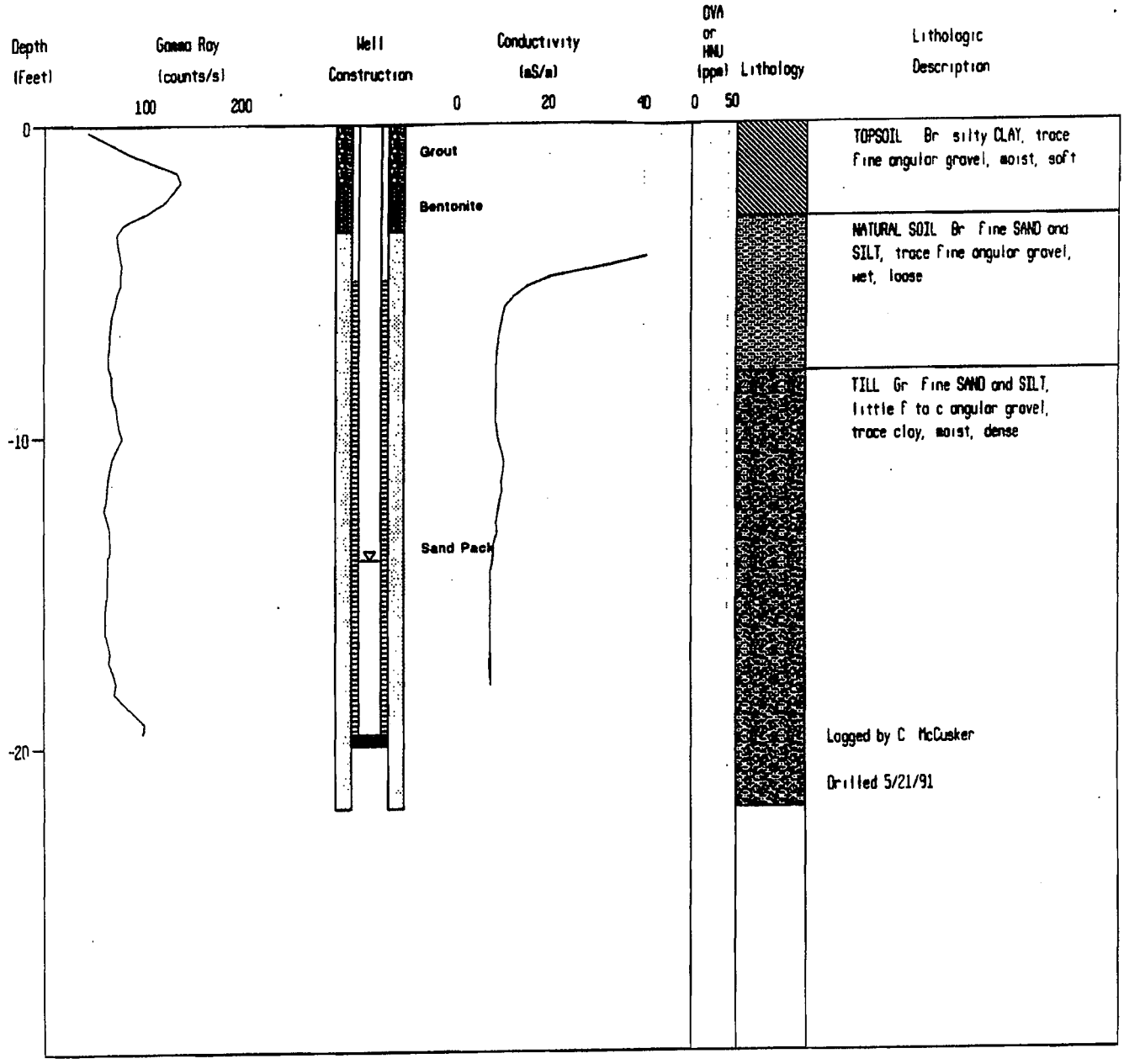


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 27

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-11

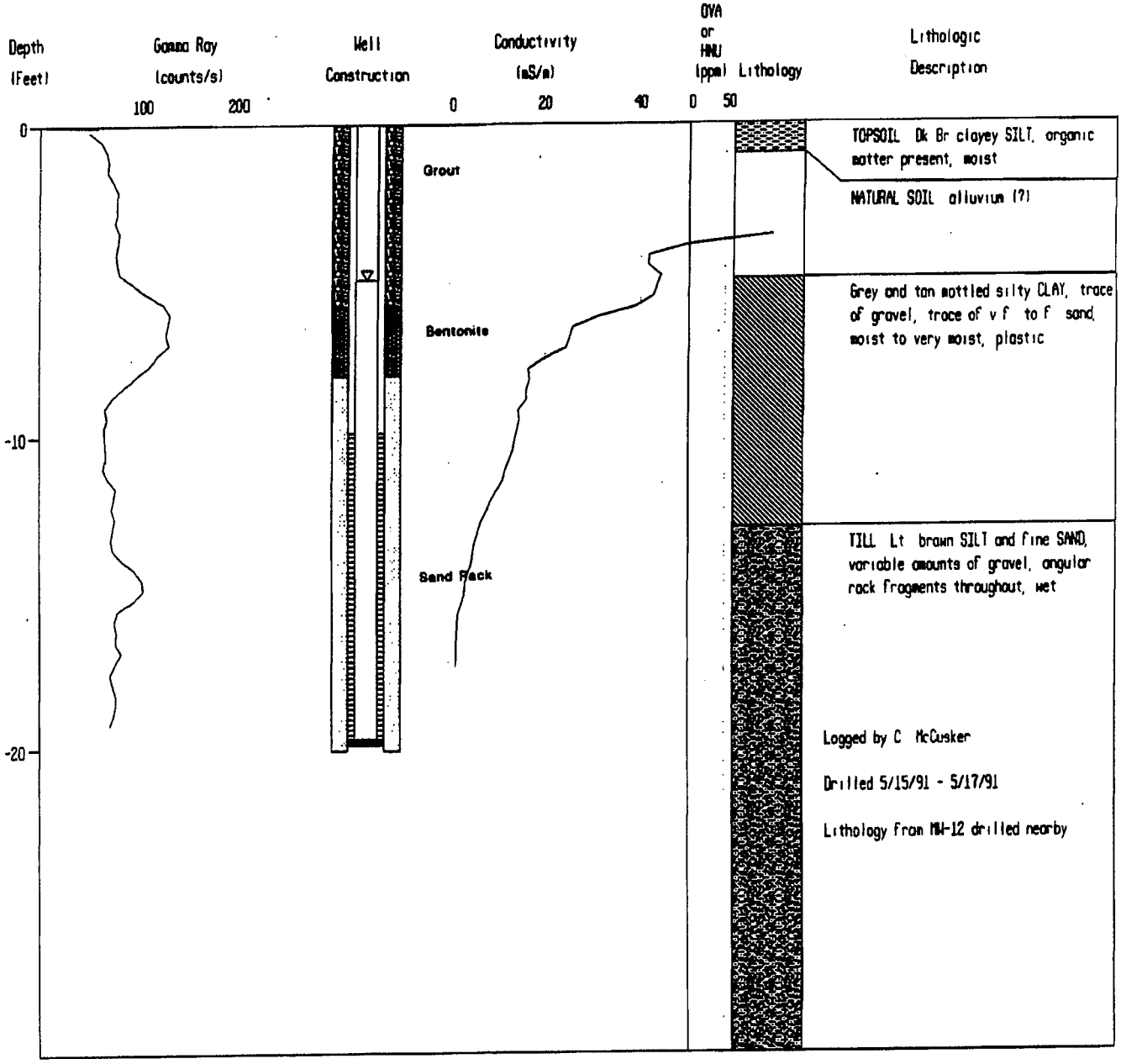


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 28

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-12A

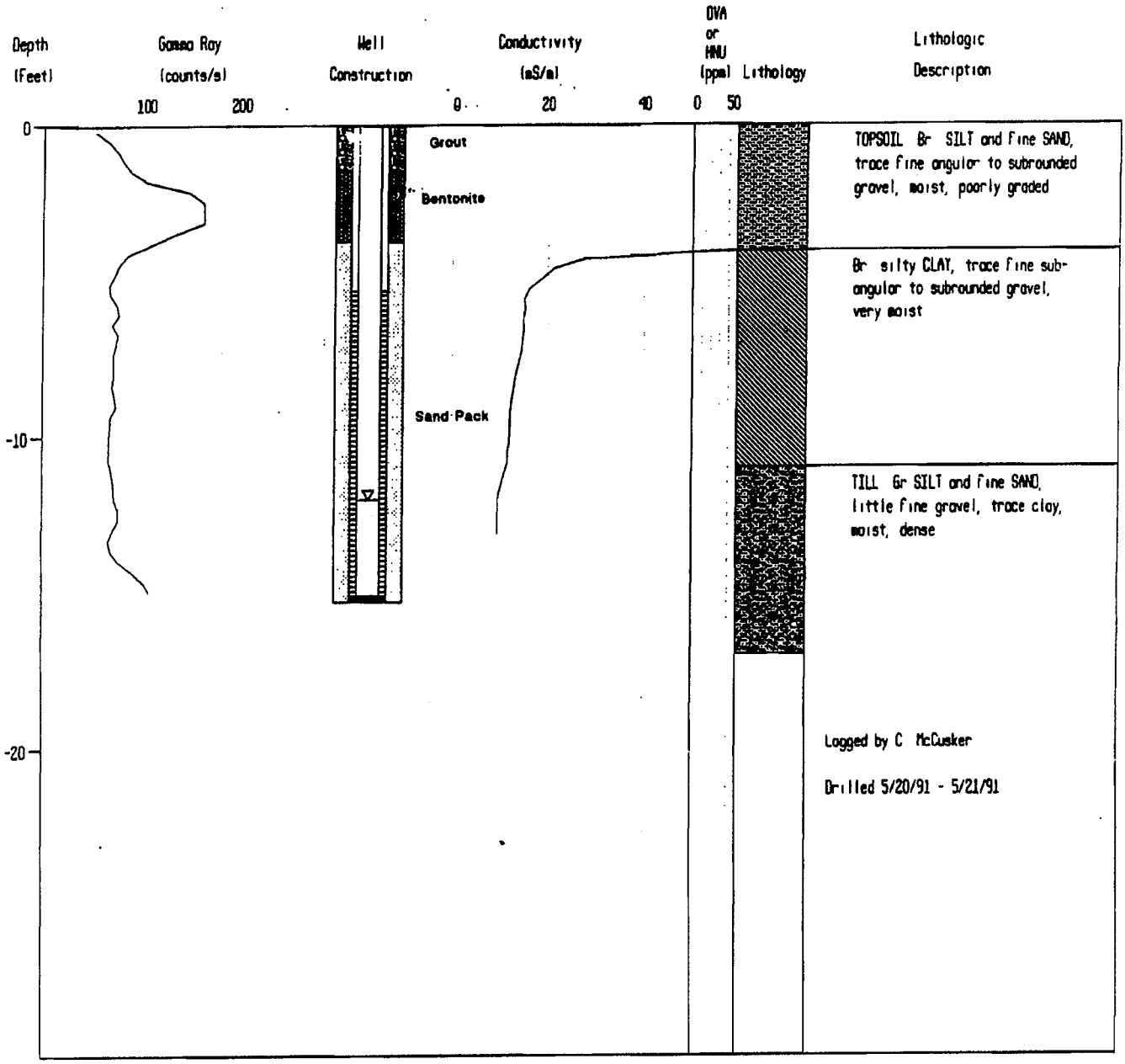


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 29

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-13

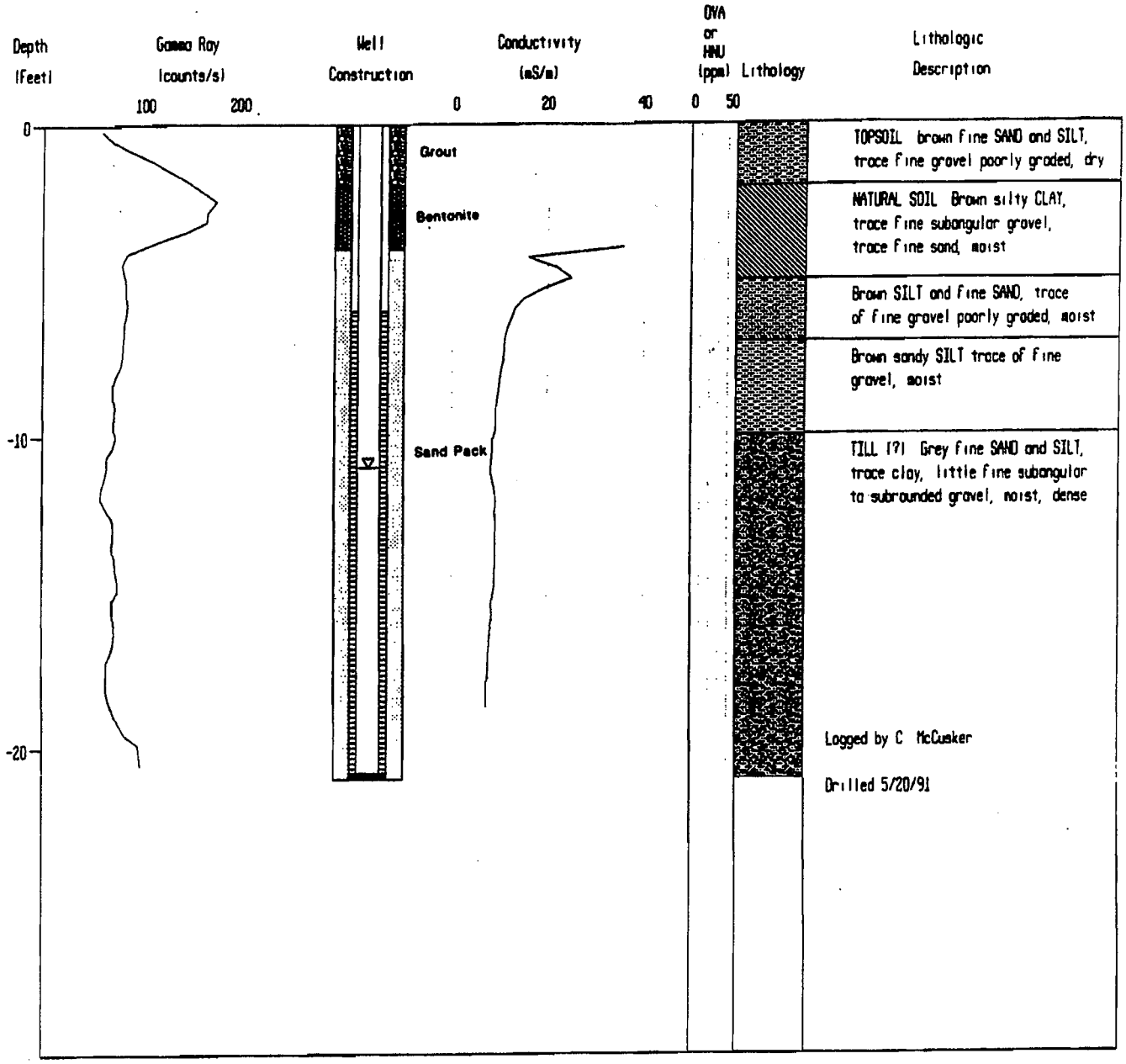


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 30

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-14

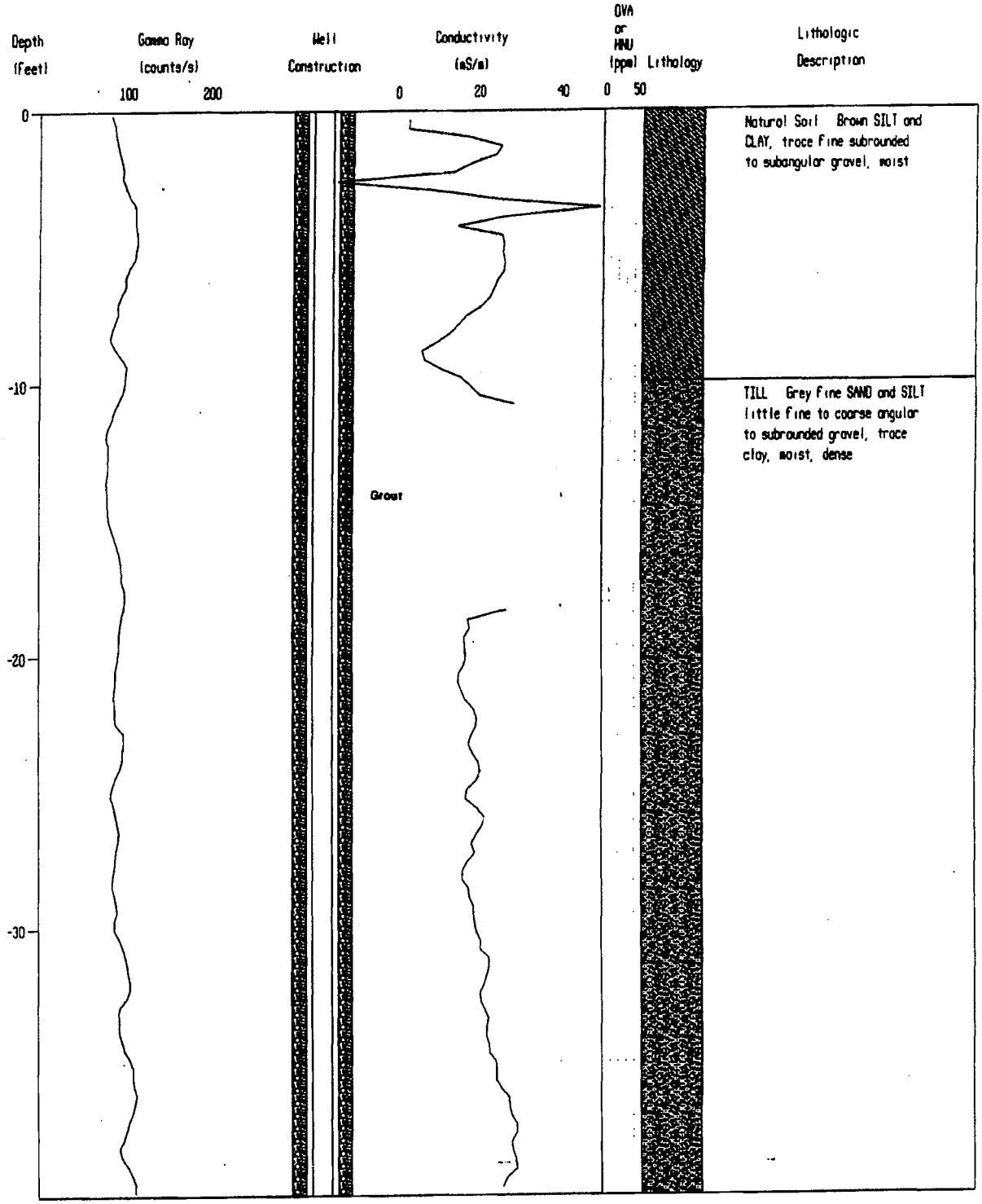


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 31

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-15 (0-40 Feet)

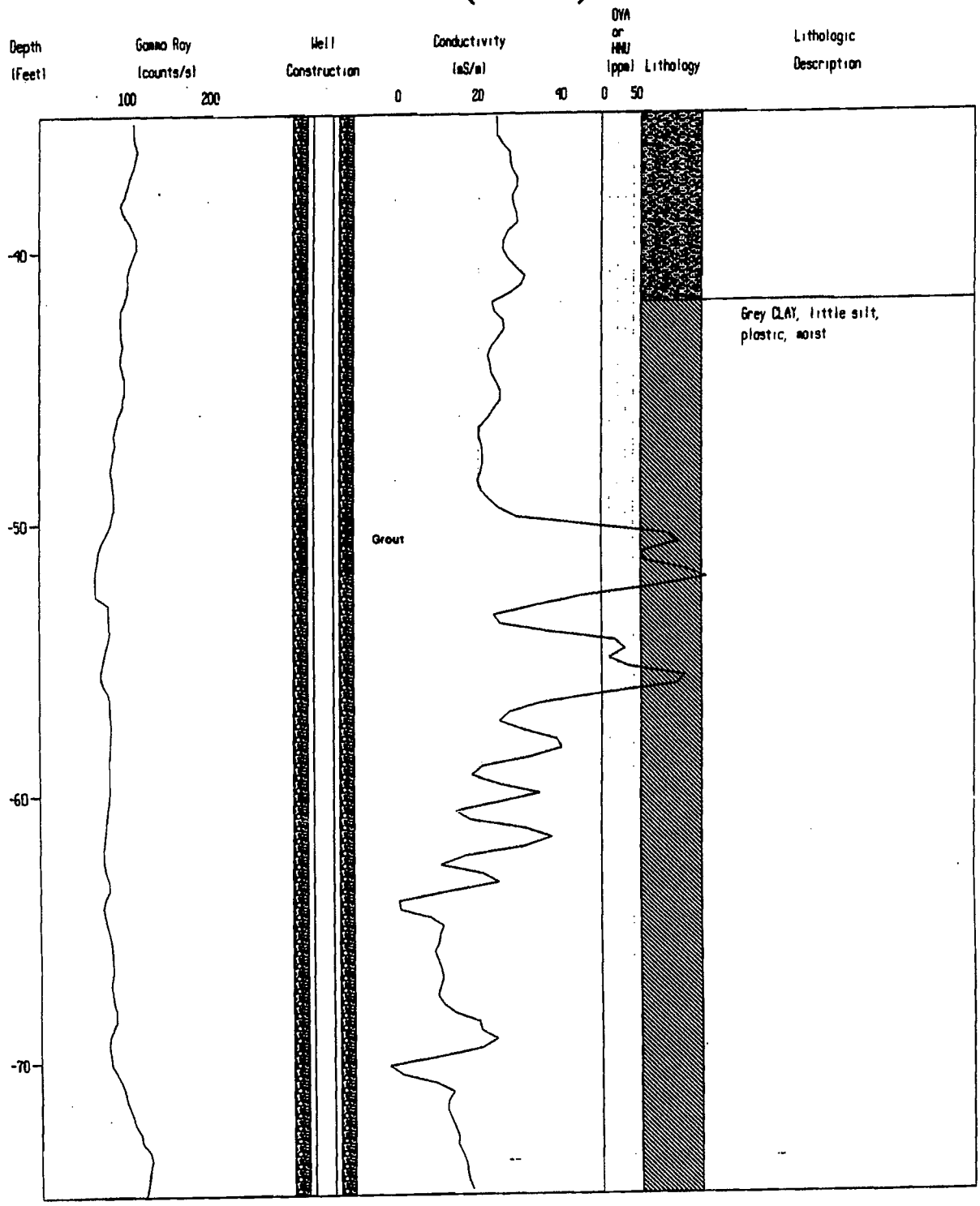


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 31 Continued

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-15 (35-75 Feet)

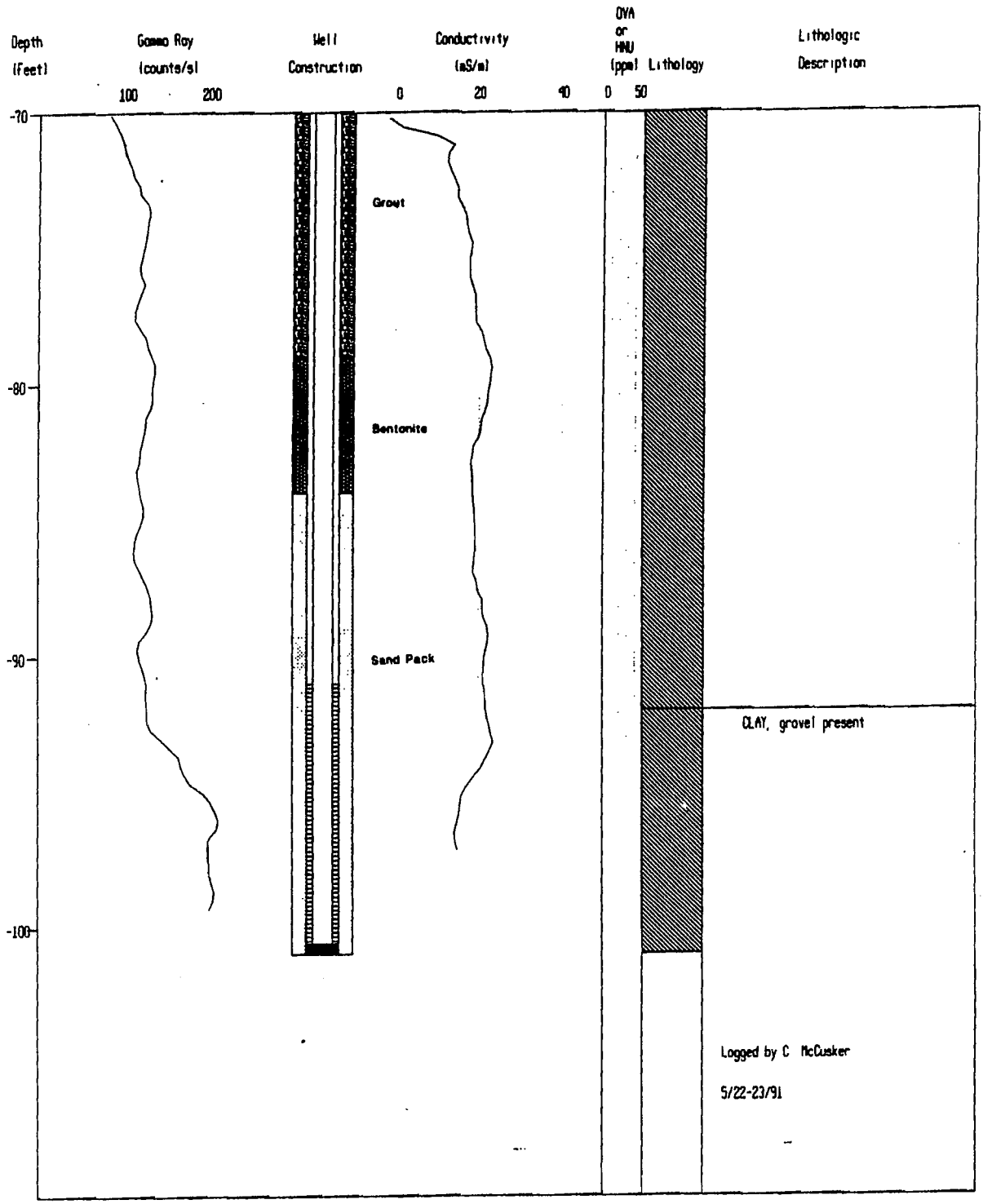


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

Figure 31 Continued

Geophysical Well Logs, Well Construction, and Soil Stratigraphy For Monitor Well MW-15 (70-110 Feet)



U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

Johnny Cake Road Site
Danube, New York
WA #3347-31-01-4431
October, 1991

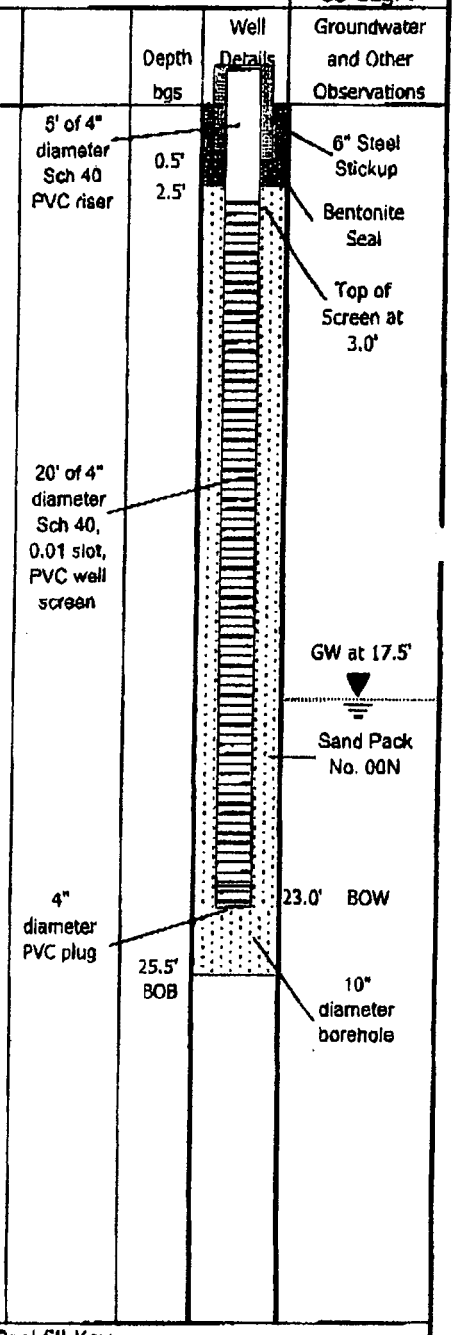
Appendix D3: Historic Well Information from Removal Action Report – November 2006

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-2R	Date started: 7/25/05
		Sheet 1 of 1	Date Finished: 7/25/05

Client: Earth Tech, Inc.	Method of Investigation:	Well Depth:	23.0' bgs
Location: Johnny Cake Road, Town of Danube, NY	6 1/4" Hollow-Stem Auger	Depth to Screen:	3.0' bgs

Project No.: 86361	Drilling Co.: SDS	Driller: J. Grant D. Helper: C. Ross	Weather: Sunny 85 deg. F
Project Mgr.: Pete Johnson	Geologist: N/A	Drill Rig: Mobile B-59	

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-5.5': Moist, brown fine to coarse sand; some fine gravel; trace silt; trace clay; trace organics.
10						5.5'-12.5': Wet, brown silt and clay; trace fine to coarse sand; trace organics.
15						12.5'-25.5': Wet, gray silt and clay; some fine to coarse gravel; trace fine to coarse sand.
20						
25						
30						
35						



Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

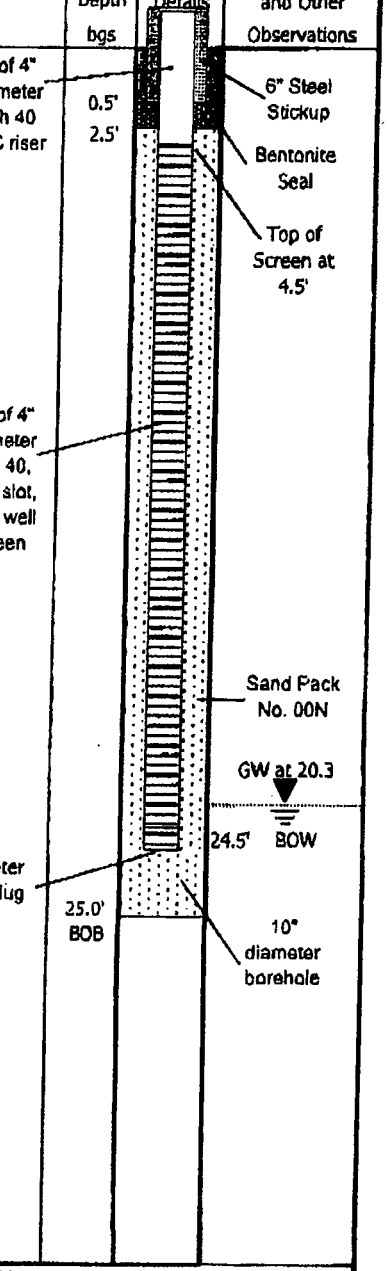
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-2RR	Date started: 7/27/05
		Sheet 1 of 1	Date Finished: 7/27/05

Client: Earth Tech, Inc.	Method of investigation:	Well Depth: 24.5' bgs
Location: Johnny Cake Road, Town of Danube, NY	6 1/4" Hollow-Stem Auger	Depth to Screen: 4.5' bgs

Project No.: 86361	Drilling Co.: SDS	Driller: J. Grant D. Helper: C. Ross	Weather: M-Sunny 80 deg. F
Project Mgr.: Pete Johnson	Geologist: N/A	Drill Rig: Mobile B-59	

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-1.5': Moist, brown fine sand; some fine gravel; little medium to coarse sand; trace clay; trace organics.
10						1.5'-7.0': Wet, brown silt and fine sand; little coarse to medium sand; trace clay; trace organics. 7.0'-11.0': Wet, brown silt and fine sand; little clay; trace medium to coarse sand.
15						15.0'-25.0': Wet, gray silt and fine sand; little fine gravel; trace medium to coarse sand; trace clay.
20						
25						
30						
35						



Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

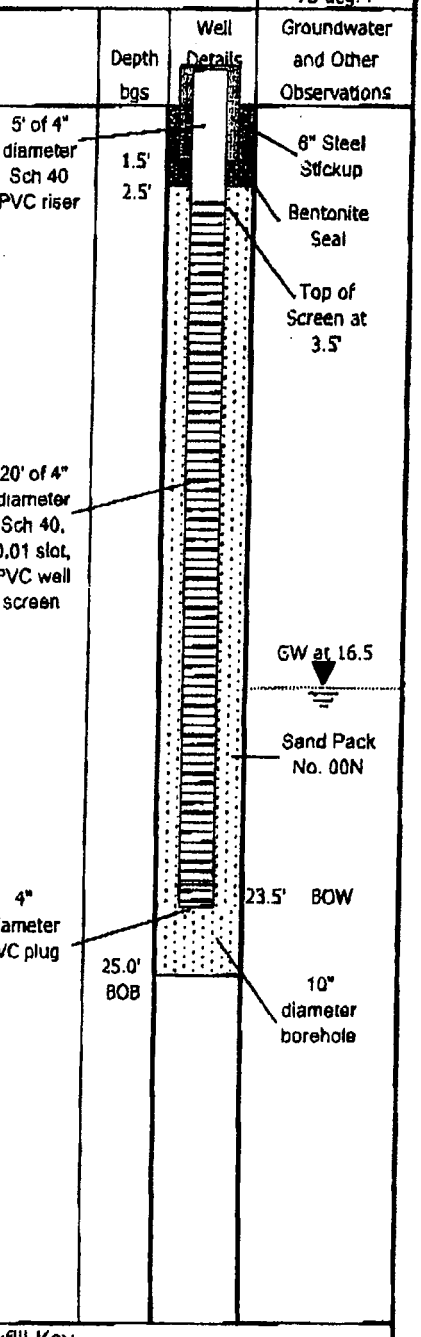
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-4R	Date started: 7/26/05
		Sheet 1 of 1	Date Finished: 7/26/05

Client: Earth Tech, Inc.	Method of investigation:	Well Depth:	23.5' bgs
Location: Johnny Cake Road, Town of Danube, NY	6 1/4" Hollow-Stem Auger	Depth to Screen:	3.5' bgs

Project No.: 86361	Drilling Co.: SDS	Driller: J. Grant	Weather: Overcast, rain 75 deg. F
Project Mgr.: Pete Johnson	Geologist: N/A	D. Helper: C. Ross Drill Rig: Mobile B-59	

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-4.0': Moist, brown fine sand; little fine gravel little medium to coarse sand; trace organics.
						4.0'-7.5': Wet, brown silt and fine sand; trace coarse to medium sand; trace organics.
10						7.5'-15.0': Wet, brown silt; little fine sand and clay.
15						15.0'-25.0': Wet, brown silt; little fine sand and clay; trace cobbles.
20						
25						
30						
35						



Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

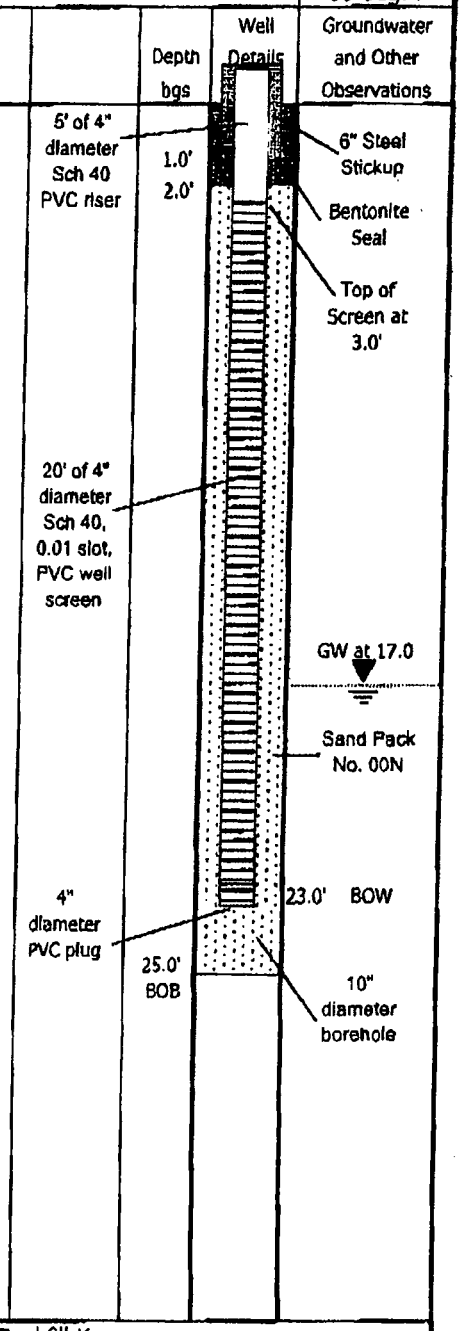
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

SUBSURFACE Drilling Solutions	Subsurface Log	Hole No.: MW-6R	Date started: 7/25/05
		Sheet 1 of 1	Date Finished: 7/25/05

Client: Earth Tech, Inc. Location: Johnny Cake Road Town of Danube, NY	Method of investigation: 6 1/4" Hollow-Stem Auger	Well Depth: 23.0' bgs Depth to Screen: 3.0' bgs
Project No.: 86361 Project Mgr.: Pete Johnson	Drilling Co.: SDS Geologist: N/A	Driller: J. Grant D. Helper: C. Ross Drill Rig: Mobile B-59

Weather: Sunny 85 deg. F

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows per 6"	Sample "N"	Sample Recovery (ft.)	Sample Description
5						0.0-5.0': Moist, brown fine sand; some fine gravel little medium to coarse sand; trace organics.
						5.0'-8.0': Wet, brown fine to coarse sand; trace clay; trace silt; trace organics.
10						8.0'-14.5': Wet, brown fine to coarse sand; little fine gravel; trace clay; trace silt; trace organics.
15						14.5'-25.0': Wet, gray fine sand; little medium to coarse sand; trace clay; trace silt; trace organics.
20						
25						
30						
35						



Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

Well Backfill Key
Cement
Native Fill
Sand
Bentonite

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-16
PROJECT NAME: Johnny Cake Road	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
NAME OF DRILLER: Bill Bosworth	SITE LOCATION: Herkimer County, NY	
NAME OF GEOLOGIST: R. Moult	HOLE LOCATION: North - 4757246.377 (m); East – 511679.797 (m)	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	SIGNATURE OF GEOLOGIST:	
	DATE STARTED: 9/23/03	DATE COMPLETED: 9/23/03
	SURFACE ELEVATION: 237.748 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 26.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-16

TES BORING LOG (CONTINUATION SHE

PROJE: Johnny Cake Road | GEOLOG: R. Moult | HOLE NUMBER 3 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		1						
		3			Colluvium; CL, clay, silty, low plasticity,	4.5		
		25			brown, soft to firm, v. moist, small angular	4.2		
		25			gravels (10 % + 4) to cobbles			
2								
		4						
		4				11.2		
		3				5.7		Sample MW-16A
		5				4.4		
4								
		3						
		5						
		4				1.4		
		4			Wet to saturated	0.4		
6						0.5		
		10						
		12						
		15				12.8		
		25				5.2		Sample MW-16B
8								
		3			Till; CL, clay, silty, low to moderate			
		11			plasticity, firm to stiff, wet to saturated			
		12				22.3		
		10				36.8		
10						5.0		Sample MW-16C
		22						
		9						
		9						
		14				5.4		
12						2.7		
		8						
		12				3.5		
		12			Fine sand lenses	3.9		
		15				1.8		Sample MW-16D
14						1.4		
		21						
		18						
		19						
		22						
16								

PROJECT NAME: Johnny Cake Road | HOLE NO.: MW-16

BORING LOG (CONTINUATION SH

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-16

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		12			hard, grey, moist			
		14				0		
		14				0		
18		15				0		
						0		
		12						
		15						
		14				0		
20		15				0		
						0		
		21						Sample MW-16E
		18						
		16				3.4		
22		20				4.4		
						11.1		
		18						Sample MW-16F
		25				2.5		
		25				3.0		
		30/0				2.9		
24						1.7		
		22						
		24						
		25						
		43						
26					Total Depth 26 ft.; groundwater at 6 ft.	0.1		
						0		Sample MW-16G
28								
30								
32								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-16

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY	HOLE NUMBER: MW-17
	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 4
PROJECT NAME: Johnny Cake Road		SITE LOCATION: Herkimer County, NY
NAME OF DRILLER: Bill Bosworth		HOLE LOCATION: North - 4757246.271 (m); East – 511679.367 (m)
NAME OF GEOLOGIST: R. Moult		SIGNATURE OF GEOLOGIST
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount		DATE STARTED: 9/24/03 / DATE COMPLETED: 9/25/03
		SURFACE ELEVATION: 237.233 (m)
		DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK		DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
DEPTH DRILLED INTO BEDROCK		OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
TOTAL DEPTH OF HOLE: 40.0'		TOTAL FLUID LOSSES

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-17

TES ORING LOG (CONTINUATION SHE

PROJE Johnny Cake Road GEOLOG R. Moult HOLE NUMBER

SHEET: 2 of 4

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0					Colluvium; CL, clay, silty, low plasticity, brown, soft to firm, v. moist, small angular gravels (10 % + 4) to cobbles			
		Auger to 24'						
2								
4								
6					Wet to saturated			
8					Till; CL, clay, silty, low to moderate plasticity, firm to stiff, wet to saturated			
10								
12					Fine sand lenses			
14								
16								

PROJECT NAME: Johnny Cake Road HOLE NO.: MW-17

TE[illegible]BORING LOG (CONTINUATION SHE[illegible]

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-17

SHEET: 3 of 4

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
					hard, grey, moist			
18								
20								
22								
24					Same as above; rock fragments			
		10						
		18						
		15						
		17				0		
26						0		
		10						Sample MW-17F
		17						
		22						
		30				0		
28						0		
		2						
		7						
		11						
		15				0		
30						0		
		9						
		25						
		31						
		28				0.9		
32						0		Sample MW-17G

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-17

TE[illegible] BORING LOG (CONTINUATION SHE[illegible]

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-17

SHEET: 4 of 4

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		10			hard, grey, moist	0		
		26				0		
		33				0.3		
		21				0		Sample MW-17H
34								
		9						
		35				0		
		34				0		
		28				0		
36								
		14						
		37						
		29				0		
		32				0.1		Sample MW-17I
38								
		12				0		
		42				0		
		48				0		
		37				0		Sample MW-17J
40					Total Depth 40 feet; groundwater at 6 ft.			
42								
44								
46								
48								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-17

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-18
PROJECT NAME: Johnny Cake Road	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
NAME OF DRILLER: ill Bosworth	SITE LOCATION: Herkimer County, NY	
NAME OF GEOLOGIST: R. Moult	HOLE LOCATION: North – 4757240.290 (m); East – 511657.038 (m)	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	SIGNATURE OF GEOLOGIST:	
	DATE STARTED: 9/26/03	DATE COMPLETED: 9/29/03
	SURFACE ELEVATION: 237.444 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 9 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 25.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-18

TES[illegible]ORING LOG (CONTINUATION SHE[illegible]

PROJE[illegible]: Johnny Cake Road | GEOLOG[illegible]: R. Moult | HOLE NUMBER: 3 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		2			Colluvium; CL, clay, silty, low plasticity,	0		
		3			brown, soft to firm, v. moist, small angular	0		
		3			gravels (5 % + 4) to cobbles	0		
2		3				0		
		3				0		
		4				0		
4		4				0		
		2				0		Sample MW-18A
		2						
		2			Wet	0		
		2				0		
6						0		
		1						
		1				0		
		2				0		
		2				0		
8						0		
		2						Sample MW-18B
		6			Colluvium; CL, clay, silty, low plasticity,	4.5		
		8			mottled, brown to black, stiff to hard, moist	1.5		Sample MW-18C
		13			gravels (10 % + 4)	0.4		
10						0.6		
		4						
		22				2.6		
		22				0.7		
		25				0.7		
12						0.7		
		3						
		11						
		12			Till; ML, silt, low plasticity, fine sand	0.3		
		11			Lenses, firm to stiff, saturated	1.3		
14						0.7		Sample MW-18D
		11						
		13						
		14				0		
		13				0		
16						0		

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-18

TE BORING LOG (CONTINUATION SHE

PROJECT ...ME:

GEOLOGIST:

HOLE NUMBER MW-18

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		11			hard, grey, wet to saturated			
		12						
		12						
		14				0		
18						0		
		8						
		12						
		11				0		
		14				0		Sample MW-18E
20						0		
		9						
		14						
		18						
		18				0		
22						0		
		16						
		20						
		16						
		22				0		
24						0		Sample MW-18F
26					Total Depth 25 ft.; groundwater at 9 ft.			
28								
30								
32								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-18

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-19
PROJECT NAME: Johnny Cake Road	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
NAME OF DRILLER: ill Bosworth	SITE LOCATION: Herkimer County, NY	
NAME OF GEOLOGIST: R. Moult	HOLE LOCATION: North – 4757224.257 (m); East – 511624.344 (m)	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	SIGNATURE OF GEOLOGIST:	
	DATE STARTED: 9/29/03	DATE COMPLETED: 9/29/03
	SURFACE ELEVATION: 239.616 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 24.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS SCALE: Not To Scale

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-19

TE BORING LOG (CONTINUATION SH

PROJ: Johnny Cake Road | GEOLOG: R. Moult | HOLE NUMBER: 9 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		1			Colluvium; CL, clay, silty, low plasticity, brown, soft to firm, v. moist, small angular gravels (10 % + 4)	0		
		2				0		
		2				0		
		3				0		
2		2				0		Sample MW-19A
		4				0		
		4				0		
		5				0		
4		1				0		
		1				0		
		2				0		
		2				0		
6		2				0		Sample MW-19B
		2						
		3				0		
		3				0		
8		5			Till; CL, clay, silty, low to moderate plasticity, firm to stiff, wet to saturated	0		Sample MW-19C
		8				0		
		11				0		
		12				0		
10		7				0		
		8						
		7						
		10				0		
12		10				0		
		8						
		11						
		13				0		
14		5				0		Sample MW-19D
		12						
		15						
16		9				0		

PROJECT NAME: Johnny Cake Road | HOLE NO.: MW-19

TE BORING LOG (CONTINUATION SH

PROJEC. ME:

GEOLOGIST:

HOLE NUMBER: MW-19

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		15			hard, grey, moist			
		14						
		13						
		16						
18 ---						0		
		8						Sample MW-19E
		8						
		5				0		
		12				0		
20 ---						0		
		10						
		19				0		
		18				0		
		17						
22 ---						0		
		12						
		15				0		
		22				0		
		25				0		
24 ---						0		
					Total Depth 24 feet; groundwater at 6 ft.			Sample MW-19F
26 ---								
28 ---								
30 ---								
32 ---								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-19

TEST BORING LOG

COMPANY NAME: Weston Solutions	AGENCY:	HOLE NUMBER: MW-20
	DRILL SUBCONTRACTOR: SJB Services	SHEET: 1 of 3
PROJECT NAME: Johnny Cake Road	SITE LOCATION: Herkimer County, NY	
NAME OF DRILLER: Bill Bosworth	HOLE LOCATION: North – 4757280.234 (m); East – 511634.312 (m)	
NAME OF GEOLOGIST: R. Moult	SIGNATURE OF GEOLOGIST:	
TYPE AND SIZE OF DRILLING AND SAMPLING EQUIPMENT: CME 850 track mount	DATE STARTED: 9/30/03	DATE COMPLETED: 10/01/03
	SURFACE ELEVATION: 233.239 (m)	
	DEPTH TO FIRST ENCOUNTERED WATER: 6 ft.	
OVERBURDEN THICKNESS/ DEPTH TO BEDROCK:	DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:	
DEPTH DRILLED INTO BEDROCK:	OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	
TOTAL DEPTH OF HOLE: 24.0'	TOTAL FLUID LOSSES:	

GEOTECHNICAL SAMPLES	SAMPLE DEPTH	UNDISTURBED/DISTURBED	TOTAL NUMBER OF CORE BOXES

ENVIRONMENTAL SAMPLES	SAMPLE DEPTH	ANALYTES	TOTAL CORE RECOVERY %

DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	CASING TYPE	WELL DEPTH	SCREENED INTERVAL

DATE	START TIME	FINISH TIME	DRILLING DEPTH	DESCRIPTION

SKETCH OF DRILLING LOCATION/ADDITIONAL COMMENTS **SCALE:** **Not To Scale**

See Soil Boring Location Map

PROJECT	HOLE NO.
Johnny Cake Road	MW-20

TES BORING LOG (CONTINUATION SHE

PRO E: Johnny Cake Road | GEOLO R. Moult | HOLE NUMBER .0 | SHEET: 2 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	DRILLING REMARKS
0		1						
		2			Colluvium; CL, clay, silty, low plasticity,			
		3			brown, soft to firm, v. moist, small angular			
		3			gravels (5 % + 4)	0		
2						0		
		3						
		3						
		4						
		5				0		
4						0		
		3						Sample MW-20A
		3						
		3						
		3				0		
6						0		
		4						
		3				0		
		3				0		
		3				0		
8						0		
		1			Thin sand lense, micaceous, saturated			Sample MW-20B
		4				0		
		4				3.0		
		4				3.4		
10						1.7		Sample MW-20C
		1						
		3				0		
		4			Till; CL, clay, silty, low to moderate			
		5			plasticity, firm to stiff, wet to saturated	0.5		
12						0.8		
		14						
		15				0		
		17				0		
		21				0		
14						0		
		5						
		9						
		9				5.3		
		8				5.0		Sample MW-20D
16						5.2		

PROJECT NAME: Johnny Cake Road | HOLE NO.: MW-20

TE BORING LOG (CONTINUATION SH

PROJECT NAME:

GEOLOGIST:

HOLE NUMBER: MW-20

SHEET: 3 of 3

DEPTH	INTERVAL/ RECOVERY/ TIME	BLOW COUNT	USCS SYMBOL	MUNSELL COLOR	DESCRIPTION OF MATERIALS	PID READINGS	LITHOLOGY	REMARKS
		22			hard, grey, moist , rock fragments			
		22						
		13						
		15						
18								
		18						
		16						
		15				3.8		
		12				1.3		Sample MW-20E
20						0		
		95			Cobbles at 20 ft.			
		25						
		33						
		53						
22						0		
						0		
		31						
		31						
		49						
		52						
24					Total Depth 24 feet; groundwater at 6 ft.			Sample MW-20F
26								
28								
30								
32								

PROJECT NAME: Johnny Cake Road

HOLE NO.: MW-20

TABLE 12 - GPS DATA

JOHNNY CAKE ROAD SITE
DANUBE, NY

October 14, 2003

Table Reference North/East Coordinates for Universal Transverse Mercator, 18 North, WGS 1984 Datum

LOCATION ID	NORTH (m)	EAST (m)	ALTITUDE (m) (MSL)	COMMENTS
MW-16	4757246.377	511679.797	238.113*	Groundwater monitoring well
MW-17	4757246.271	511678.367	238.046*	Groundwater monitoring well
MW-18	4757240.290	511657.038	238.890*	Groundwater monitoring well
MW-19	4757224.257	511624.344	240.069*	Groundwater monitoring well
MW-20	4757280.234	511634.312	234.510*	Groundwater monitoring well
JCRS-029	4757255.629	511618.363	234.399	Soil boring
JCRS-030	4757260.770	511637.922	235.899	Soil boring
JCRS-031	4757263.007	511645.359	235.906	Soil boring
JCRS-032	4757291.190	511675.318	230.511	Soil boring
JCRS-033	4757277.829	511681.285	232.276	Soil boring
JCRS-034	4757266.103	511668.529	235.858	Soil boring
JCRS-035	4757256.340	511641.826	235.969	Soil boring
JCRS-036	4757242.478	511692.323	236.805	Soil boring
JCRS-037	4757236.415	511694.202	237.907	Soil boring
JCRS-038	4757225.848	511692.692	239.362	Soil boring
JCRS-039	4757232.055	511681.332	239.301	Soil boring
JCRS-040	4757243.501	511666.606	237.493	Soil boring
JCRS-041	4757233.112	511653.415	238.946	Soil boring
JCRS-042	4757213.058	511657.582	240.514	Soil boring
JCRS-043	4757220.914	511671.142	240.336	Soil boring

Table 1
Monitor Well Information
Johnny Cake Road
October 2006

Monitor Well	Ref. Point Elevation (feet-AMSL)	Diameter (inches)	Screen Interval (feet-bgs)
MW-1	782.49	2	2 - 12
* MW-2 *	793.01	2	3 - 13
MW-2R	NA	2	3 - 23
MW-2RR	NA	2	4.5 - 24.5
MW-3	791.16	2	3 - 13
* MW-4 *	NA	NA	NA
MW-4R	NA	2	3.5 - 23.5
* MW-6 *	789.55	2	3 - 13
MW-6R	NA	2	3 - 23
MW-7	791.27	NA	4 - 24
MW-8	768.87	NA	NA
MW-9	769.27	NA	2 - 12
MW-10	752.25	NA	2.5 - 17.5
MW-11	750.29	4	5 - 20
MW-12A	768.91	4	10 - 20
MW-13	768.25	4	5 - 15
MW-14	768.91	4	6 - 21
MW-15	746.65	2	91 - 101
MW-16	781.21	4	15 - 25
MW-17	780.99	4	30 - 40
MW-18	783.76	4	15 - 25
MW-19	787.63	4	15 - 25
MW-20	769.39	4	14 - 24

AMSL - above mean sea level
bgs - below ground surface
NA - data not available
MW-15 - sand packed to 83 feet bgs

* Note: MW-2 and MW-6 no longer exist. They were removed during soil excavation activities in June/July 2005. MW-4 could not be found. The preceding wells were replaced with the "R" series wells in July 2005.

Appendix D4: Soil Data Tables & Figures from Removal Action Report – November 2006

TABLE 1
JOHNNY CAKE ROAD SITE
, Herkimer County, New York

Septic Tank Excavation

Sample Number	NYSDEC TAGM* (ppm)	ST-01	ST-01	ST-02	ST-02	ST-03	ST-03	ST-04	ST-04	ST-05	ST-05
Sample Depth (ft)		17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5	17.0-17.5
Date Sampled		07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005
Dilution Factor		1.02	3.68	1.01	4.27	1.01	4.42	1.02	4.31	500	2000
VOLATILE ORGANICS (ppm)											
Acetone	0.11	0.032	0.065	0.022	0.051	0.025	0.059	0.028	0.055	ND	ND
Carbon disulfide	2.7	0.0012 J	ND	0.00068 J	ND	0.0017 J	ND	0.039	0.073	ND	ND
Cis-1,2-dichloroethene	0.2	0.046	0.004 J	ND	ND	0.014	0.0082 J	0.0057	0.004 J	37 E	60
Methylene Chloride	0.1	0.00087 J	0.0033 J	0.0084 J	0.0037 J	0.0012 J	0.0044 J	0.0018 J	0.0034 J	ND	ND
Trans-1,2-dichloroethene	0.2	0.00067 J	ND	ND	ND	ND	ND	ND	ND	0.3 J	0.48 J
Vinyl Chloride	0.12	0.0092	ND	ND	ND	0.01	0.0038 J	0.0029 J	ND	3.1	1.9 J
Tetrachloroethene	1.4	ND	ND	ND	ND	0.0038	0.0043 J	ND	ND	0.53 J	1 J
Trichloroethene	0.7	ND	ND	ND	ND	0.00078 J	ND	0.00087 J	ND	1.1 J	2.2 J
Toluene	1.5	ND	ND	ND	ND	ND	ND	ND	ND	14	26
2-Butanone	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes(total)	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Number	NYSDEC TAGM* (ppm)	ST-06	ST-07	ST-08	ST-08	ST-08	ST-09
Sample Depth (ft)		8.0-8.5	6.0-6.5	7.5-8.0	7.5-8.0	7.5-8.0	7.5-8.0
Date Sampled		07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005	07/06/2005
Dilution Factor		1	1.02	9.8	10.2	500	500
VOLATILE ORGANICS (ppm)							
Acetone	0.11	0.0094 J	0.0042 J	0.84 J	0.084 J	ND	ND
Carbon disulfide	2.7	ND	ND	0.049	0.02 J	ND	ND
Cis-1,2-dichloroethene	0.2	0.11	0.035	21	5.7 E	5.2	12
Methylene Chloride	0.1	ND	ND	0.006 J	0.0066 J	ND	ND
Trans-1,2-dichloroethene	0.2	0.0027	0.00054 J	0.0065 J	0.059	ND	ND
Vinyl Chloride	0.12	0.077	ND	0.18	0.09	ND	0.59 J
Tetrachloroethene	1.4	0.00083 J	0.062	ND	0.047	ND	ND
Trichloroethene	0.7	0.0032	0.057	0.0013 J	0.2	0.22 J	0.16 J
Toluene	1.5	0.007	ND	ND	ND	ND	ND
2-Butanone	0.3	0.0016 J	ND	ND	ND	ND	ND
Ethylbenzene	5.5	0.00055 J	ND	ND	ND	ND	ND
Xylenes(total)	1.2	0.0013 J	ND	ND	ND	ND	ND

NOTES:
* - Soil Cleanup Objectives to Protect GW Quality
ppm - parts per million
ND - not detected
J - Analyte Detected Below Quantitation Limits
E - Value Above Quantitation Range
Shading - result exceed cleanup criteria

TABLE 2
JOHNNY CAKE ROAD SITE
Danube, Herkimer County, New York

GARAGE AREA EXCAVATION

Sample Number Sample Depth (ft) Date Sampled Dilution Factor	NYSDEC TAGM* (ppm)	GAR-01 1.5-2.0 07/06/2005 0.99	GAR-02 1.5-2.0 07/06/2005 1.01	GAR-02 1.5-2.0 07/06/2005 10.2	GAR-03 1.5-2.0 07/06/2005 1.01	GAR-04 1.5-2.0 07/06/2005 1	GAR-05 5.5-6.0 07/06/2005 9.61	GAR-06 5.5-6.0 07/06/2005 1	GAR-06 5.5-6.0 07/06/2005 10	GAR-07 5.5-6.0 07/06/2005 1.01	GAR-08 6.5-7.0 07/07/2005 1	GAR-08 6.5-7.0 07/07/2005 10	GAR-09 16.0-16.5 07/06/2005 1	GAR-09 16.0-16.5 07/06/2005 4.54
VOLATILE ORGANICS (ppm)														
Acetone	0.11	0.0052 J	0.0066 J	0.079 J	0.0061 J	0.0058 J	0.068 J	0.0078 J	0.058 J	0.014	0.011 J	0.066 J	0.022	0.061
Carbon disulfide	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.085	ND	0.002 J	0.0058 J
Cis-1,2-dichloroethene	0.2	0.0008 J	0.0075	0.0074 J	0.0048	0.0027 J	0.022 J	0.075	0.053	0.0034	0.074	0.018 J	0.0032	ND
Methylene Chloride	0.1	ND	ND	ND	ND	ND	ND	0.0006 J	ND	ND	ND	ND	0.0013 J	0.0047 J
Trans-1,2-dichloroethene	0.2	ND	ND	ND	ND	ND	ND	0.0024 J	ND	0.0013 J	0.0037	ND	ND	ND
Vinyl Chloride	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0022 J	ND
Tetrachloroethene	1.4	0.038	1 E	1.9	0.2	0.063	0.61	0.98 E	1.3	0.0084	0.41 E	0.22	0.0019 J	ND
Trichloroethene	0.7	0.0015 J	0.085	0.083	0.11	0.039	0.38	0.5 E	0.48	0.063	0.61 E	0.23	0.001 J	ND
Toluene	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	0.3	ND	ND	ND	ND	ND	ND	ND	ND	0.0028 J	0.0023 J	ND	ND	ND
2-hexanone	1.2	ND	ND	ND	ND	ND	ND	ND	ND	0.0013 J	0.0033 J	ND	ND	ND

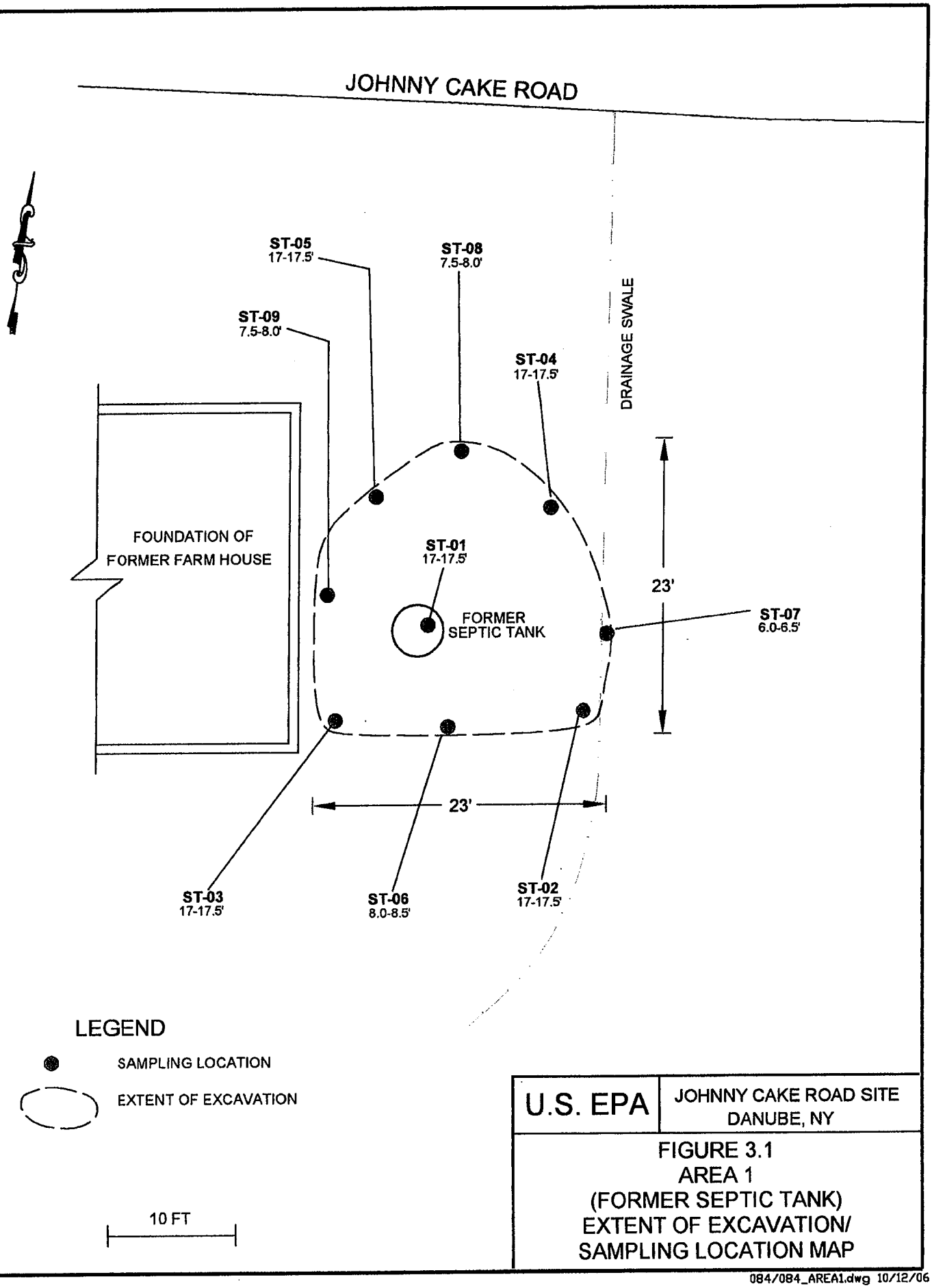
NOTES:
* - Soil Cleanup Objectives to Protect GW Quality
ppm - parts per million
ND - not detected
J - Analyte Detected Below Quantitation Limits
E - Value Above Quantitation Range
Shading - result exceed cleanup criteria

TABLE 3
JOHNNY CAKE ROAD SITE
Danube, Herkimer County, New York

ROAD SIDE DITCH SAMPLES

Sample Number Sample Depth (ft) Date Sampled Dilution Factor	NYSDEC TAGM* (ppm)	RSD-01 0.0-0.5 07/12/2005 1.01	RSD-02A 0.0-0.5 07/12/2005 1	RSD-02B 1.0-1.25 07/12/2005 0.99	RSD-03 0.0-0.5 07/12/2005 0.99	RSD-04A 0.0-0.5 07/12/2005 1	RSD-04B 1.0-1.25 07/12/2005 0.99	RSD-05 0.0-0.5 07/12/2005 0.99	RSD-06A 0.0-0.5 07/12/2005 1.01	RSD-06B 1.0-1.25 07/12/2005 1.01
VOLATILE ORGANICS (ppm)										
Acetone	0.11	0.0069 J	0.018	0.016	0.065	0.0068 J	0.0068 J	0.005 J	0.011	0.024
Carbon disulfide	2.7	ND	ND	0.033	0.001 J	ND	ND	ND	0.0046	0.065
Cis-1,2-dichloroethene	0.2	0.0018 J	0.0018 J	0.039	0.002 J	0.017	0.0034	0.00084 J	0.0013 J	0.0036
Methylene Chloride	0.1	0.001 J	ND	ND	0.00084 J	0.00088 J	0.0079 J	0.00089 J	ND	ND
Trans-1,2-dichloroethene	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.12	ND	0.0035 J	0.052	ND	0.00074 J	ND	ND	0.001 J	0.022
Tetrachloroethene	1.4	0.004	ND	0.0015 J	ND	0.0053	0.013	0.00075 J	0.00089 J	ND
Trichloroethene	0.7	0.0051	ND	0.001 J	0.0033	0.0098	0.029	0.0016 J	ND	0.00087 J
Toluene	1.5	ND	0.0024 J	ND	ND	ND	ND	ND	ND	0.00011 J
2-Butanone	0.3	ND	0.0052 J	0.0047 J	0.16	ND	ND	ND	0.0026 J	0.0088 J
2-hexanone	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenxene	5.5	ND	0.00088 J	0.0033	ND	ND	ND	ND	ND	ND
Xylenes (total)	1.2	ND	0.0021 J	0.016	ND	ND	ND	ND	ND	ND

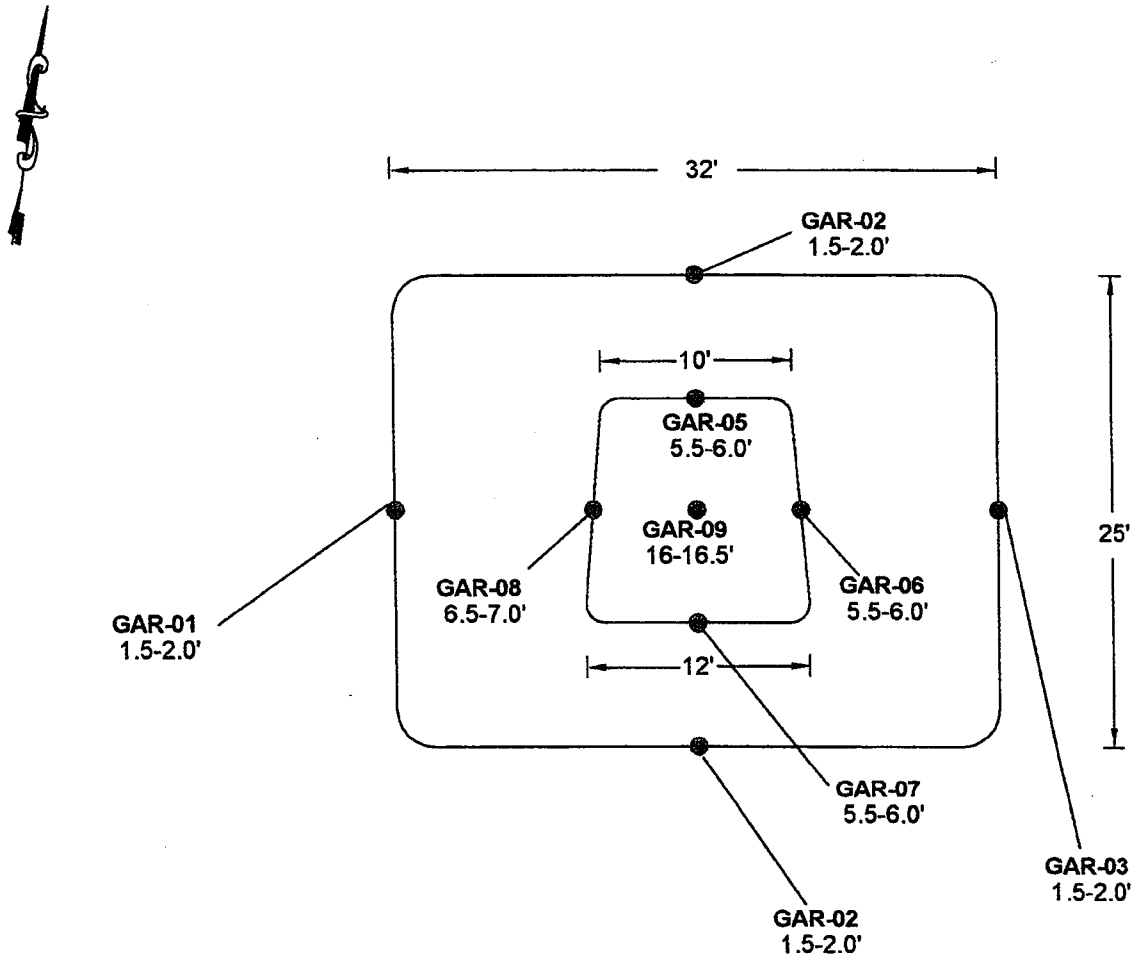
NOTES:
* - Soil Cleanup Objectives to Protect GW Quality
ppm - parts per million
ND - not detected
J - Analyte Detected Below Quantitation Limits
E - Value Above Quantitation Range
Shading - result exceed cleanup criteria



U.S. EPA	JOHNNY CAKE ROAD SITE DANUBE, NY

FIGURE 3.1
AREA 1
(FORMER SEPTIC TANK)
EXTENT OF EXCAVATION/
SAMPLING LOCATION MAP

084/084_AREA1.dwg 10/12/06



LEGEND

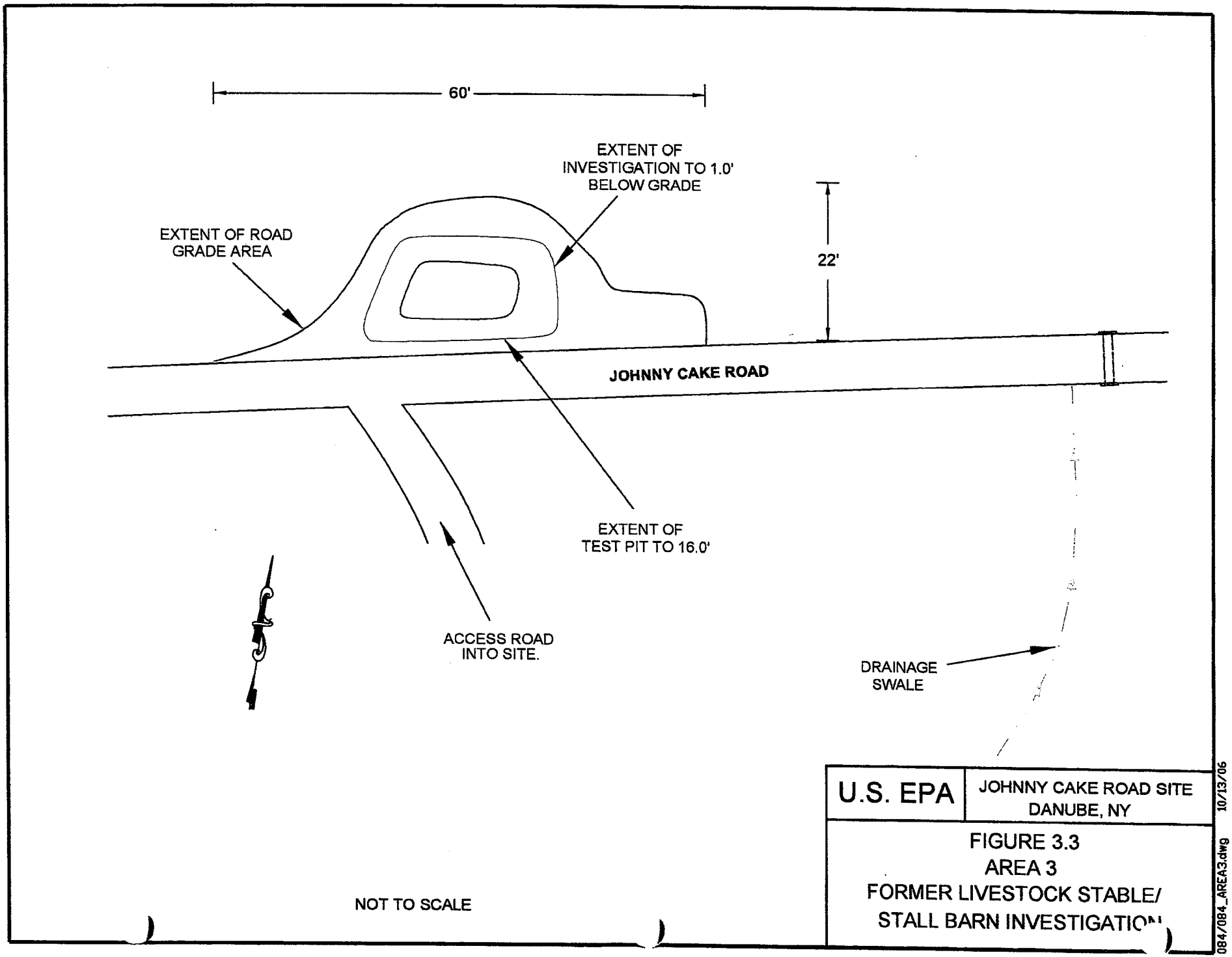
● SAMPLING LOCATION

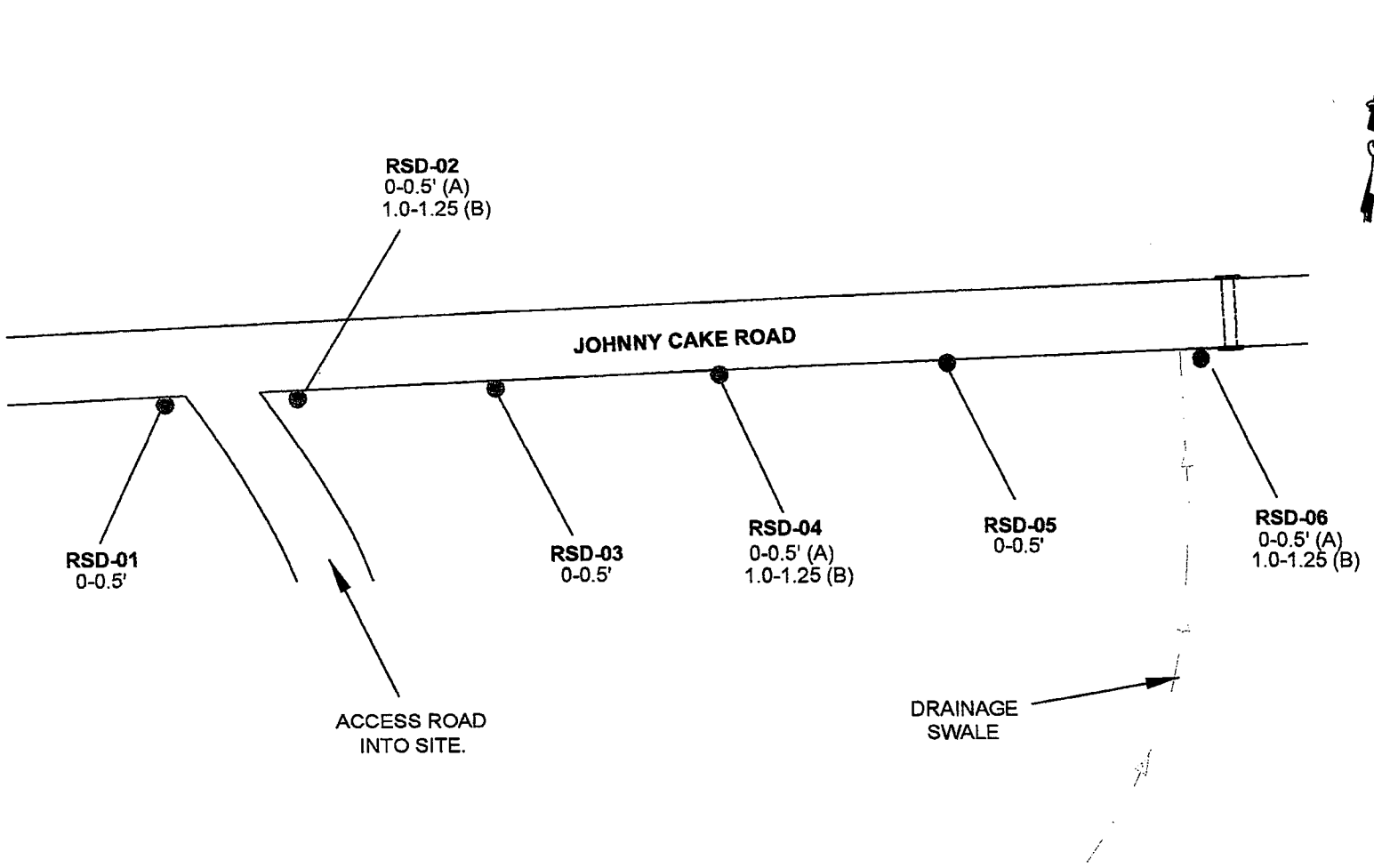
10 FT

U.S. EPA	JOHNNY CAKE ROAD SITE DANUBE, NY

FIGURE 3.2
AREA 2
(FORMER GARAGE)
EXTENT OF EXCAVATION/
SAMPLING LOCATION MAP

084/084_AREA2.dwg 10/12/06


60'
EXTENT OF INVESTIGATION TO 1.0' BELOW GRADE
EXTENT OF ROAD GRADE AREA
22'
JOHNNY CAKE ROAD
EXTENT OF TEST PIT TO 16.0'
ACCESS ROAD INTO SITE.
DRAINAGE SWALE
NOT TO SCALE
U.S. EPA
JOHNNY CAKE ROAD SITE
DANUBE, NY
FIGURE 3.3
AREA 3
FORMER LIVESTOCK STABLE/
STALL BARN INVESTIGATION
10/13/06
084/084_AREA3.dwg



LEGEND

● SAMPLE LOCATION

NOT TO SCALE

U.S. EPA	JOHNNY CAKE ROAD SITE DANUBE, NY

FIGURE 3.4
AREA 4
ROADSIDE DITCH
SAMPLE LOCATION MAP

10/13/06

084/084_AREA4.dwg

Appendix D5: Historic Groundwater Data & Attenuation Analysis – October 2008

TABLE 1
HISTORIC PCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08
MW-1	25.1	0	140		0		10	1	9.8	2.4	0.9	0.67	0		0	1.3
MW-2	40000	470	19000		39000	1300	34000	5200	5300	12000	5400					
MW-2R												1.3	0	0	0	0
MW-2RR												0	0	0	0	
MW-3	6000	730	510			620	4	40	23	17		16	11	38	27	24
MW-4																
MW-4R												0.69	1.3	8.1	7.3	1.3
MW-5																
MW-6	30000	28000	13000		18000	6200	620	210	680	240	67					
MW-6R												0	0	0	0	0
MW-7	0	0								0						0
MW-8	0	0														0
MW-9	0	0								0	0					
MW-10	0	0								0.56	0					
MW-11		0	0			0	3	0	0	0						0
MW-12A										2.7	1.1	0	0	0	0	0
MW-13		0				0	0	0	0.4	1.1	0.9	0	0	0	0	0
MW-14		0				0	0	0	0	5.4	0	0	0	0	0	0
MW-15		0	0	0	0	0	6	0	0	0	0					0
MW-16										0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0
MW-18										0	0	0	0	0	0	0
MW-19										4	0	0	0	0	0	0
MW-20										4.6	0	0	0.78	0.24	0	0.24
MW-21																0
MW-22																0
MW-23																0

Notes:
0 - Non Detect
Blank - No Data

TABLE 2
HISTORIC TCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08
MW-1	51.2	26	190				28	11	14	8.1	8.4	2.4	1		4.3	23
MW-2	870	1200	5400		4700	620	4900	710	1900	1500	710					
MW-2R												1.3	0.84	0	0	0
MW-2RR												0	0	0	0	
MW-3	360	150	58			170	0	21	5.2	4.6		11	1.7	8.6	5.5	9.7
MW-4																
MW-4R												35	20	200	110	27
MW-5																
MW-6	6600	8300	13000		24000	5300	290	300	1200	650	360					
MW-6R												0	0.84	0	0	0
MW-7	0	0								0						0
MW-8	0	0														0
MW-9	0	0								0	0					
MW-10	0	0								0	0					
MW-11		0	0			0	0	0	0	0						0
MW-12A										0	0	0	0	0	0	0
MW-13		0				0	0	1	2.1	1.9	2.7	0.63	1.3	1.2	2.2	0.4
MW-14		0				0	2	11	7.6	5.1	4.6	4.3	2.8	2.5	3.4	6.7
MW-15		0	0	0	0	0	0	0	0	0	0					0
MW-16										0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0
MW-18										0	0	0	0	0	0	0
MW-19										0.4	0	0	0	0	0	0
MW-20										0.56	0.9	7.4	10	8.6	4.9	12
MW-21																0
MW-22																0
MW-23																0

Notes:
0 - Non Detect
Blank - No Data

TABLE 3
HISTORIC TOTAL DCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08
MW-1	320	1100	2209.8				98	38	27.3	16	36.6	4.3	8.4		11	151.2
MW-2	980	630	3232		3431	400	495	110	183.8	451	222					
MW-2R												6.6	4.8	**0**	4.5	0.79
MW-2RR												**0**	**0**	**0**	**0**	
MW-3	**0**	80	13			37	**0**	4	2.1	1.4		12	0.6	**0**	2.5	3.7
MW-4																
MW-4R												57.91	50	303.3	171.8	97.175
MW-5																
MW-6	6400	10000	24200		32000	**0**	190	280	664.6	1600	686					
MW-6R												1.6	3.15	2.1	2.4	1.6
MW-7		**0**								**0**						**0**
MW-8		**0**														**0**
MW-9		**0**								**0**	**0**					
MW-10		**0**								**0**	**0**					
MW-11		**0**	**0**			**0**	**0**	**0**	**0**	**0**						**0**
MW-12A										0.59	**0**	0.83	**0**	**0**	**0**	**0**
MW-13		**0**				14	86	57	39	64.41	45.1	35.57	19	100	31	64.49
MW-14		3.5				88	29	60	49	29	33.7	30.71	96	19	20	25.45
MW-15		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					**0**
MW-16										**0**	**0**	**0**	**0**	**0**	**0**	**0**
MW-17										**0**	**0**	**0**	**0**	**0**	**0**	**0**
MW-18										6.2	4.6	34	5.6	2.6	2.1	**0**
MW-19										**0**	**0**	**0**	**0**	**0**	**0**	**0**
MW-20										1	16	42	35	34	22.81	67.35
MW-21																**0**
MW-22																**0**
MW-23																**0**

Notes:
0 - Non Detect
Blank - No Data

TABLE 3a
HISTORIC cis-1,2 DCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08
MW-1	0	0	2200				98	38	27	16	36	4.3	8.4		11	150
MW-2	0	0	3200		3400		495	110	180	440	210					
MW-2R												6.6	4.8	0	4.5	0.79
MW-2RR												0	0	0	0	
MW-3	0	0	13				0	4	2.1	1.4		12	0.6	0	2.5	3.7
MW-4																
MW-4R												57	50	300	170	96.5
MW-5																
MW-6	0	0	23000		32000		190	280	660	1600	670					
MW-6R												1.6	3.15	2.1	2.4	1.6
MW-7	0	0								0						0
MW-8		0														0
MW-9		0								0	0					
MW-10		0								0	0					
MW-11		0	0			0	0	0	0	0						0
MW-12A										0.59	0	0.83	0	0	0	0
MW-13		0					86	57	39	64	44	35	19	100	31	64
MW-14		0					29	60	48	29	33	30	96	19	20	25
MW-15		0	0	0	0	0	0	0	0	0	0					0
MW-16										0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0
MW-18										6.2	4.6	34	5.6	2.6	2.1	0
MW-19										0	0	0	0	0	0	0
MW-20										1	16	42	35	34	22	67
MW-21																0
MW-22																0
MW-23																0

Notes:
0 - Non Detect
Blank - No Data

TABLE 3b
HISTORIC trans-1,2 DCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08
MW-1	320	1100	9.8				0	0	0.3	0	0.6	0	0		0	1.2
MW-2	980	630	32		31		0	0	3.8	11	12					
MW-2R												0	0	0	0	0
MW-2RR												0	0	0	0	
MW-3	0	80	0				0	0	0	0		0	0	0	0	0
MW-4																
MW-4R												0.91	0	3.3	1.8	0.675
MW-5																
MW-6	6400	10000	1200		0		0	0	4.6	0	16					
MW-6R												0	0	0	0	0
MW-7										0						0
MW-8																0
MW-9										0	0					
MW-10										0	0					
MW-11		0	0			0	0	0	0	0						0
MW-12A										0	0	0	0	0	0	0
MW-13		0					0	0	0	0.41	1.1	0.57	0	0	0	0.49
MW-14		3.5					0	0	1	0	0.7	0.71	0	0	0	0.45
MW-15		0	0	0	0	0	0	0	0	0	0					0
MW-16										0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0
MW-18										0	0	0	0	0	0	0
MW-19										0	0	0	0	0	0	0
MW-20										0	0	0	0	0	0.81	0.35
MW-21																0
MW-22																0
MW-23																0

Notes:
0 - Non Detect
Blank - No Data

TABLE 4
HISTORIC VC CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08
MW-1	0	0	0				65	30	8.5	4.6	30	0	18		4.5	0
MW-2	0	0	0		0	0	0	0	0	0	0					
MW-2R												0	0	0	3.2	1
MW-2RR												0	0	0	0	
MW-3	0	0	0		0	0	0	0	0.3	0.88		18	0	0	0	0
MW-4																
MW-4R												0.65	3	0	5.4	0.27
MW-5																
MW-6	3.4	0	44		28	3000	7	16	26	350	72					
MW-6R												1.3	0	0	12	12
MW-7										0						0
MW-8																0
MW-9										0	0					
MW-10										0	0					
MW-11		0	0		0	0	0	0	0	0						0
MW-12A										1	0	2.5	0.77	0	1.5	1.5
MW-13		0	0		0	0	0	0	0	0	0	0	0	0	0	0.41
MW-14		0	0		0	0	0	0	0	0	0	0	0	0	0	0.21
MW-15		0	0	0	0	0	0	0	0	0	0					0
MW-16										0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0
MW-18										16	11	43	14	0	6	0
MW-19										0	0	0	0	0	0	0
MW-20										0	0.6	2.5	2.4	0	2.1	1.7
MW-21																0
MW-22																0
MW-23																0

Notes:
0 - Non Detect
Blank - No Data

TABLE 5
NATURAL ATTENUATION REGRESSION STATISTICS (10/1/08)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

PCE Attenuation						
	k (days^{-1})	R^2	Coeff	Half Life (days)	Current C (ug/L)	Time to C = 5
MW-1	0.000717	0.689	28.041	1395	0.64	–
MW-2/2R	0.000532	0.132	27.339	1880	496.16	23.66
MW-3	0.000790	0.701	33.310	1266	6.89	1.11
MW-6/6R	0.001152	0.958	48.809	868	21.10	3.42
MW-13	-0.000826	0.640	-31.627	-1211	3.27	increasing
MW-14	All Non-Detect					
MW-18	All Non-Detect					
MW-20	0.001633	0.719	62.943	612	0.15	–

Total DCE Attenuation						
	k (days^{-1})	R^2	Coeff	Half Life (days)	Current C (ug/L)	Time to C = 5 (yrs)
MW-1	0.000683	0.613	29.400	1464	9.68	2.65
MW-2/2R	0.000962	0.671	40.123	1040	6.76	0.86
MW-3	0.000537	0.591	21.630	1862	1.35	–
MW-6/6R	0.001446	0.728	58.640	692	3.33	–
MW-13	-0.000150	0.110	-1.903	-6667	57.70	increasing
MW-14	-0.000155	0.107	-2.375	-6452	43.90	increasing
MW-18	0.000822	0.077	33.411	1217	2.14	–
MW-20	-0.002033	0.613	-75.740	-492	150.63	increasing

TCE Attenuation						
	k (days^{-1})	R^2	Coeff	Half Life	Current C (ug/L)	Time to C = 5
MW-1	0.000437	0.487	18.717	2288	3.89	–
MW-2/2R	0.000784	0.308	34.562	1276	30.57	6.32
MW-3	0.000644	0.794	26.693	1553	3.04	–
MW-6/6R	0.001105	0.630	46.755	905	17.50	3.10
MW-13	0.000327	0.182	12.793	3058	0.82	–
MW-14	0.000050	0.008	3.385	20000	4.05	–
MW-18	All Non-Detect					
MW-20	-0.001755	0.582	-66.528	-570	24.15	increasing

VC Attenuation						
	k (days^{-1})	R^2	Coeff	Half Life	Current C (ug/L)	Time to C = 2 (yrs)
MW-1	0.000650	0.302	27.310	1538	4.44	3.36
MW-2/2R	0.001400	1.000	54.613	714	0.37	–
MW-3	-0.003390	–	-128.212	-295	629.91	increasing
MW-6/6R	0.000152	0.024	8.881	6579	17.17	38.73
MW-13	Insufficient data					
MW-14	Insufficient data					
MW-18	0.000546	0.071	23.698	1832	7.46	6.60
MW-20	-0.000293	0.064	-10.873	-3413	2.15	increasing

Notes:
Current C (Concentration) and Years to Goal From 10/1/2008

Appendix D6: Historic Well Information from Site Investigation Report – February 2009

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-21

PROJECT: Johnny Cake Road Site	10. HOLE LOCATION	SHEET 1 OF 2	SHEETS
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic NY, Inc.	14. SURFACE ELEVATION AT HOLE: NA	15. ELEVATION DATUM: NAVD 88	
4. MANUFACTURER'S DESIGNATION OF DRILL: CME 45B track-mounted rig	17. DATE HOLE STARTED: 9/28/2008	18. DATE HOLE COMPLETED: 9/28/2008	
5. SIZE AND TYPE OF EQUIPMENT: 6" HAS	16. DEPTH OF GROUNDWATER ENCOUNTERED: NA		
6. NAME OF DRILLER: Scott Breeds	19. WEATHER: Cloudy, light rain		
7. THICKNESS OF OVERBURDEN: 23+ ft	20. DISPOSITION OF HOLE		
8. DEPTH DRILLED INTO ROCK: NA ft	21. NAME OF INSPECTOR: Dino Zack		
9. TOTAL DEPTH OF HOLE: 23 ft	22. SIGNATURE OF INSPECTOR		

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (int)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	1		0-1" TOPSOIL 1-8" brown SILT, trace f.sand, trace clay (moist)	8	NA	0.0	1 2 3 3	
	2		0-8" light brown SILT, trace f.sand, trace organics (moist)	8	NA	0.0	2 3 3 3	
	4		0-10" light brown SILT, trace f.sand (moist) 10-19" light brown SILT, little angular medium rock fragments, trace f.-c.sand, trace clay (moist)	19	NA	0.0	5 4 3 3	
	6		0-20" light brown SILT, little f.gravel, little f.-c.sand, trace clay - stiffening with depth (moist) 20-22" dark grey SILT, some f.sand, little f.m.-gravel, little f.-c.sand, trace clay (moist-dry) TILL	22	NA	0.0	3 5 7 14	Top of till at ~7.5' bgs
	8		0-7" light brown SILT, some f.sand, little f.-m.gravel, trace clay (moist) sluff? 20-22" dark grey SILT, some f.sand, little f.m.-gravel, little f.-c.sand, trace clay (moist-dry) TILL	9	NA	0.0	9 12 17 22	
	10							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-21

PROJECT: Johnny Cake Road Site

SHEET 2 OF SHEETS 2

1. LOCATION: Danube, New York

21. NAME OF INSPECTOR:

2. COMPANY: Earth Tech Northeast, Inc.

22. SIGNATURE OF INSPECTOR:

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (ft)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	10		0-2" sluff 2-20" dark grey SILT, some f.-m. angular gravel, little f.-c.sand, trace clay (moist-dry) stiff TILL	20	NA	0.0	19 25 29 42	
	12		0-22" dark grey SILT, some f.-m.gravel, little f.-c.sand, trace clay (dry) crumbly TILL	22	NA	0.0	47 84 100/.4	
	14		0-4" sluff 4-10" dark grey SILT, some f.-m.gravel, little f.-c.sand, trace clay (dry-moist) TILL 10-14" SHALE in shoe	14	NA	0.0	57 100/.4	
	16		0-12" dark grey SILT, little f.-m.gravel, trace f.-c.sand, trace clay (dry) TILL	12	NA	0.0	65 100/.3	
	18		0-15" medium grey SILT and F.-SAND (thinly layered), trace clay (moist) soft	15	NA	0.0	52 35 32 20	
	20		0-6" medium grey SILT and F.SAND (thinly layered), trace clay (moist) soft 6-24" medium grey SILT and F.SAND (thinly layered), trace clay (dry) dense	24	NA	0.0	23 40 47 90	
	22		0-8" medium grey SILT and F.SAND (thinly layered), trace clay (moist) dense 8-12" dark grey SILT and F.SAND (thinly layered), trace f.-m.gravel (moist-dry) dense End of boring at 23' - refer to well installation diagram for additonal details.	12	NA	0.0	17 22	
	23							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-22

PROJECT: Johnny Cake Road Site	10. HOLE LOCATION:	SHEET 1 OF SHEETS 2	
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic NY, Inc.	14. SURFACE ELEVATION AT HOLE: NA	15. ELEVATION DATUM: NAVD 88	
4. MANUFACTURER'S DESIGNATION OF DRILL: CME 45B track-mounted rig	17. DATE HOLE STARTED: 9/29/2008	18. DATE HOLE COMPLETED: 9/29/2008	
5. SIZE AND TYPE OF EQUIPMENT: 6" HAS	16. DEPTH OF GROUNDWATER ENCOUNTERED: NA		
6. NAME OF DRILLER: Scott Breeds	19. WEATHER: Sunny; 60F		
7. THICKNESS OF OVERBURDEN: 21+ ft	20. DISPOSITION OF HOLE:		
8. DEPTH DRILLED INTO ROCK: NA ft	21. NAME OF INSPECTOR: Dino Zack		
9. TOTAL DEPTH OF HOLE: 21 ft	22. SIGNATURE OF INSPECTOR:		

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (in)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	1		0-1" TOPSOIL 1-8" tan SILT, little f.sand, trace m.-c.sand, trace f.gravel (moist)	8	NA	0.0	2 3 3 6	
	2		0-4" tan SILT, little f.sand, trace m.-c.sand, trace f.gravel (moist) 4-18" tan-light brown SILT, little f.sand (moist; wet at 16-18")	18	NA	0.0	2 3 2 1	
	4		0-6" tan-light brown SILT, little f.sand (moist) 6-12" light brown SILT, little f.sand, trace f.-m.sand, trace f.-m.gravel (moist) 12-16" brown-grey SILT, little f.sand, trace f.-m.sand, trace f.-m.gravel (moist-wet) TILL	16	NA	0.0	1 2 4 4	Top of till at ~5.5' bgs
	6		0-12" grey SILT, some f.sand, little m.-c.sand, littlef.-m.gravel, trace clay (moist-wet) TILL	12	NA	0.0	3 4 5 5	
	8		SLUFF - rock in shoe	8	NA	0.0	8 13 13 15	
	10							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-22

PROJECT: Johnny Cake Road Site

SHEET 2 OF SHEETS 2

1. LOCATION: Danube, New York

21. NAME OF INSPECTOR:

2. COMPANY: Earth Tech Northeast, Inc.

22. SIGNATURE OF INSPECTOR:

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (ft)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	10		0-10" medium grey SILT, little f.sand, trace m.-c.sand, trace f.-m.gravel (moist)	10	NA	0.0	13 15 17 16	
	12		0-6" medium grey SILT, little f.sand, trace m.-c.sand, trace f.-m.gravel (moist) 6-14" medium grey SILT and F.SAND, trace m.-c.sand, trace f.-m.gravel (wet) 14-20" grey SILT, little f.-c.sand, f.-m.gravel, trace clay (moist)	20	NA	0.0	13 9 10 14	
	14		SLUFF - rock in shoe	0	NA	NA	14 9 10 10	
	16		SLUFF - rock in shoe - auger to 18'	0	NA	NA	12 13 14 12	
	18		0-12" grey SILT and F.-SAND (thinly layered), little m.-c.sand, little f.-m.gravel, trace clay (moist) soft	12	NA	0.0	7 7 8 8	
	20		0-12" grey SILT and F.-SAND (thinly layered), little m.-c.sand, little f.-m.gravel, trace clay (moist) soft End of boring at 21' - refer to well installation diagram for additonal details.	12	NA	0.0	9 9	
	22							
	23							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-23

PROJECT: Johnny Cake Road Site	10. HOLE LOCATION	SHEET 1 OF 2	SHEETS
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic NY, Inc.	14. SURFACE ELEVATION AT HOLE: NA	15. ELEVATION DATUM: NAVD 88	
4. MANUFACTURER'S DESIGNATION OF DRILL: CME 45B track-mounted rig	17. DATE HOLE STARTED: 9/29/2008	18. DATE HOLE COMPLETED: 9/29/2008	
5. SIZE AND TYPE OF EQUIPMENT: 6" HAS	16. DEPTH OF GROUNDWATER ENCOUNTERED: NA		
6. NAME OF DRILLER: Scott Breeds	19. WEATHER: Sun and clouds; 60F		
7. THICKNESS OF OVERBURDEN: 21+ ft	20. DISPOSITION OF HOLE		
8. DEPTH DRILLED INTO ROCK: NA ft	21. NAME OF INSPECTOR: Dino Zack		
9. TOTAL DEPTH OF HOLE: 21 ft	22. SIGNATURE OF INSPECTOR		

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (in)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	1		0-1" TOPSOIL 1-11" tan-light brown SILT, trace f.sand, trace clay (dry-moist)	11	NA	0.0	1 1 2 3	
	2		0-4" light brown SILT, little f.-c.sand, trace f.gravel (dry)	4	NA	0.0	6 12 9 4	
	4		0-8" light brown SILT, little f.-c.sand, trace f.gravel (dry) 8-14" grey SILT, little f.sand, trace f.gravel (moist) TILL	14	NA	0.0	2 4 6 7	Top of till at ~5.0' bgs
	6		0-4" SLUFF 4-13" grey SILT and F.SAND, little f.-m.gravel, little m.-c.sand (moist)	13	NA	0.0	8 9 14 14	
	8		0-6" brown SILT, little f.-c.sand, trace f.-m.gravel (dry) sluff? 6-20" grey SILT and F.SAND, trace clay (dry)	20	NA	0.0	6 7 9 14	
	10							

Earth Tech Northeast, Inc.

HTW DRILLING LOG

HOLE NO. MW-23

PROJECT: Johnny Cake Road Site

SHEET 2 OF 2 SHEETS

1. LOCATION: Danube, New York

21. NAME OF INSPECTOR:

2. COMPANY: Earth Tech Northeast, Inc.

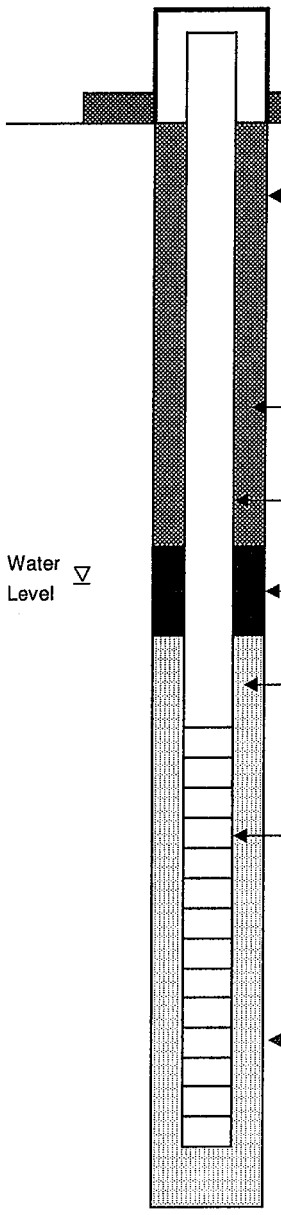
22. SIGNATURE OF INSPECTOR:

ELEV-ATION	DEPTH (FEET)	LEGEND	CLASSIFICATION OF MATERIAL	REC. (ft)	SAMPLE No. (TIME)	PID (ppm)	BLOW COUNT	REMARKS
	10		0-18" grey SILT and F.SAND, trace clay (dry)	18	NA	0.0	7 10 12 20	
	12		0-18" grey SILT and F.SAND, trace clay (dry)	18	NA	0.0	14 16 12 16	
	14		0-6" grey SILT, little f.sand, trace m.-c.sand, trace f.-m.gravel, trace clay (moist) 6-24" grey SILT and F.SAND, trace clay, trace f.-m.gravel (moist)	24	NA	NA	10 14 16 21	
	16		0-18" grey SILT and F.SAND, trace clay, trace f.-m.gravel (moist)	18	NA	NA	21 20 23 24	
	18		0-24" grey SILT and F.SAND, trace clay, trace f.-m.gravel (moist) End of boring at 20' - refer to well installation diagram for additonal details.	24	NA	0.0	17 24 22 28	
	20							
	21							
	22							
	23							

Earth Tech Northeast, Inc.

Overburden Well Diagram **Well No. MW-21**

Project: Johnny Cake Road Site			Location: Danube, New York		Page 1 of 1		
Earth Tech Project No.: 105999			Subcontractor: GeoLogic NY, Inc.		Water Levels		
Surface Elevation:	NA	ft	Driller: Scott Breeds		Date	Time	Depth
Top of PVC	NA	ft	Well Permit No.: NA		9/30/08	09:00hrs	5.5' btoc
Casing Elevation:	NA	ft	Earth Tech Rep.: Dino Zack		9/30/08	14:40hrs	5.5' btoc
					10/7/08	12:00hrs	5.5' btoc
Datum: NAVD 1988			Date of Completion: 9/29/2008				



Locking protective stickup with concrete pad

Inner casing stickup 2.5 ft to -23.0 ft

Ground Surface

Borehole diameter 6 inches

Cement-bentonite grout from 0.0 ft to -5.0 ft

Riser Pipe from 2.75 ft to -8.0 ft

Bentonite seal from -5.0 ft to -7.0 ft

Filter pack from -7.0 ft to -23.0 ft

Sand Size 0

Well screen from -8.0 ft to -23.0 ft

Diameter 2 inches

Slot size 0.010 inches

Type PVC

Borehole diameter 6 inches

Bottom Cap at -23.0 ft

Bottom of Borehole at -23.0 ft

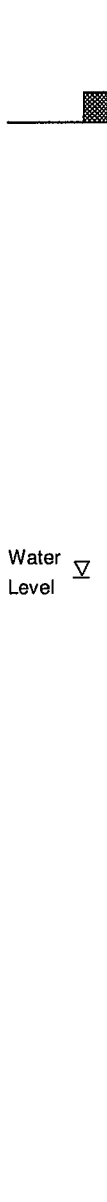
Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

Earth Tech Northeast, Inc.

Overburden Well Diagram **Well No. MW-22**

Project: Johnny Cake Road Site	Location: Danube, New York	Page 1 of 1	
Earth Tech Project No.: 105999	Subcontractor: GeoLogic NY, Inc.	Water Levels	
Surface Elevation: NA ft	Driller: Scott Breeds	Date	Time / Depth
Top of PVC NA ft	Well Permit No.: NA	10/1/08	08:00hrs / 18.84' btoc
Casing Elevation: NA ft	Earth Tech Rep.: Dino Zack	9/30/08	14:40hrs / 5.5' btoc
		10/8/08	12:00hrs / 5.49' btoc
Datum: NAVD 1988	Date of Completion: 9/30/2008		



Locking protective stickup with concrete pad

Inner casing stickup 2.45 ft to -21.0 ft

Ground Surface

Borehole diameter 6 inches

Cement-bentonite grout from 0.0 ft to -3.0 ft

Riser Pipe from 3.00 ft to -8.0 ft

Water Level ▽

Bentonite seal from -3.0 ft to -5.0 ft

Filter pack from -5.0 ft to -21.0 ft

Sand Size 0

Well screen from -6.0 ft to -21.0 ft

Diameter 2 inches

Slot size 0.010 inches

Type PVC

Borehole diameter 6 inches

Bottom Cap at -21.0 ft

Bottom of Borehole at -21.0 ft

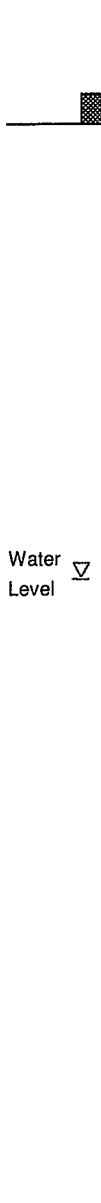
Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

Earth Tech Northeast, Inc.

Overburden Well Diagram **Well No. MW-23**

Project: Johnny Cake Road Site			Location: Danube, New York		Page 1 of 1		
Earth Tech Project No.: 105999			Subcontractor: GeoLogic NY, Inc.		Water Levels		
Surface Elevation:	NA	ft	Driller: Scott Breeds		Date	Time	Depth
Top of PVC	NA	ft	Well Permit No.: NA		10/1/08	07:30 hrs	19.4' btoc
Casing Elevation:	NA	ft	Earth Tech Rep.: Dino Zack		10/1/08	13:22 hrs	19.1' btoc
					10/2/08	07:02 hrs	18.5' btoc
Datum: NAVD 1988			Date of Completion: 9/30/2008		10/8/08	08:00 hrs	6.90' btoc



Locking protective stickup with concrete pad

Inner casing stickup 2.60 ft to -21.0 ft

Ground Surface

Borehole diameter 6 inches

Cement-bentonite grout from 0.0 ft to -2.0 ft

Riser Pipe from 2.80 ft to -8.0 ft

Bentonite seal from -2.0 ft to -4.0 ft

Filter pack from -4.0 ft to -20.0 ft

Sand Size 0

Well screen from -5.0 ft to -20.0 ft

Diameter 2 inches
Slot size 0.010 inches
Type PVC

Borehole diameter 6 inches

Bottom Cap at -20.0 ft

Bottom of Borehole at -20.0 ft

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

Appendix D7: Historic Groundwater Data & Attenuation Analysis - January 2011

TABLE 1
HISTORIC PCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08	20-Oct-09	20-Oct-10
MW-1	25.1	0	140		0		10	1	9.8	2.4	0.9	0.67	0		0	1.3	0	0.36
MW-2	40000	470	19000		39000	1300	34000	5200	5300	12000	5400							
MW-2R												1.3	0	0	0	0	0	0
MW-2RR												0	0	0	0			
MW-3	6000	730	510			620	4	40	23	17		16	11	38	27	24		
MW-4																		
MW-4R												0.69	1.3	8.1	7.3	1.3		
MW-5																		
MW-6	30000	28000	13000		18000	6200	620	210	680	240	67							
MW-6R												0	0	0	0	0	0	0
MW-7	0	0								0						0		
MW-8	0	0														0		
MW-9	0	0								0	0							
MW-10	0	0								0.56	0							
MW-11		0	0			0	3	0	0	0						0		
MW-12A										2.7	1.1	0	0	0	0	0	0	0
MW-13		0				0	0	0	0.4	1.1	0.9	0	0	0	0	0	0	0
MW-14		0				0	0	0	0	5.4	0	0	0	0	0	0		
MW-15		0	0	0	0	0	6	0	0	0	0					0		
MW-16										0	0	0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0		
MW-18										0	0	0	0	0	0	0	0	0
MW-19										4	0	0	0	0	0	0	0	0
MW-20										4.6	0	0	0.78	0.24	0	0.24		
MW-21																0	0	0
MW-22																0	0	0
MW-23																0	0	0

Notes:
0 - Non Detect
Blank - No Data

TABLE 2
HISTORIC TCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08	20-Oct-09	20-Oct-10
MW-1	51.2	26	190				28	11	14	8.1	8.4	2.4	1		4.3	23	5.1	6.8
MW-2	870	1200	5400		4700	620	4900	710	1900	1500	710							
MW-2R												1.3	0.84	0	0	0	0	0.4
MW-2RR												0	0	0	0			
MW-3	360	150	58			170	0	21	5.2	4.6		11	1.7	8.6	5.5	9.7		
MW-4																		
MW-4R												35	20	200	110	27		
MW-5																		
MW-6	6600	8300	13000		24000	5300	290	300	1200	650	360							
MW-6R												0	0.84	0	0	0	0	0
MW-7	0	0								0						0		
MW-8	0	0														0		
MW-9	0	0								0	0							
MW-10	0	0								0	0							
MW-11		0	0			0	0	0	0	0						0		
MW-12A										0	0	0	0	0	0	0	0.79	0
MW-13		0				0	0	1	2.1	1.9	2.7	0.63	1.3	1.2	2.2	0.4	0.42	0.39
MW-14		0				0	2	11	7.6	5.1	4.6	4.3	2.8	2.5	3.4	6.7		
MW-15		0	0	0	0	0	0	0	0	0	0					0		
MW-16										0	0	0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0		
MW-18										0	0	0	0	0	0	0	0	0
MW-19										0.4	0	0	0	0	0	0	0	0
MW-20										0.56	0.9	7.4	10	8.6	4.9	12		
MW-21																0	0	0
MW-22																0	0	0
MW-23																0	0	0

Notes:
0 - Non Detect
Blank - No Data

TABLE 3
HISTORIC TOTAL DCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08	20-Oct-09	20-Oct-10
MW-1	320	1100	2209.8				98	38	27.3	16	36.6	4.3	8.4		11	151.2	51.42	38.41
MW-2	980	630	3232		3431	400	495	110	183.8	451	222							
MW-2R												6.6	4.8	0	4.5	0.79	0.27	0.23
MW-2RR												0	0	0	0			
MW-3	0	80	13			37	0	4	2.1	1.4		12	0.6	0	2.5	3.7		
MW-4																		
MW-4R												57.91	50	303.3	171.8	97.175		
MW-5																		
MW-6	6400	10000	24200		32000	0	190	280	664.6	1600	686							
MW-6R												1.6	3.15	2.1	2.4	1.6	0.6	0.27
MW-7		0								0						0		
MW-8		0														0		
MW-9		0								0	0							
MW-10		0								0	0							
MW-11		0	0			0	0	0	0	0						0		
MW-12A										0.59	0	0.83	0	0	0	0	0	0.57
MW-13		0				14	86	57	39	64.41	45.1	35.57	19	100	31	64.49	32.32	9.7
MW-14		3.5				88	29	60	49	29	33.7	30.71	96	19	20	25.45		
MW-15		0	0	0	0	0	0	0	0	0	0					0		
MW-16										0	0	0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0		
MW-18										6.2	4.6	34	5.6	2.6	2.1	0	0	0
MW-19										0	0	0	0	0	0	0	0	0
MW-20										1	16	42	35	34	22.81	67.35		
MW-21																0	0	0
MW-22																0	0	0
MW-23																0	0	0

Notes:
0 - Non Detect
Blank - No Data

TABLE 3a
HISTORIC cis-1,2 DCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08	20-Oct-09	20-Oct-10
MW-1	0	0	2200				98	38	27	16	36	4.3	8.4		11	150	51	38
MW-2	0	0	3200		3400		495	110	180	440	210							
MW-2R												6.6	4.8	0	4.5	0.79	0.27	0.23
MW-2RR												0	0	0	0			
MW-3	0	0	13				0	4	2.1	1.4		12	0.6	0	2.5	3.7		
MW-4																		
MW-4R												57	50	300	170	96.5		
MW-5																		
MW-6	0	0	23000		32000		190	280	660	1600	670							
MW-6R												1.6	3.15	2.1	2.4	1.6	0.6	0.27
MW-7	0	0								0						0		
MW-8		0														0		
MW-9		0								0	0							
MW-10		0								0	0							
MW-11		0	0			0	0	0	0	0						0		
MW-12A										0.59	0	0.83	0	0	0	0	0	0.57
MW-13		0					86	57	39	64	44	35	19	100	31	64	32	9.7
MW-14		0					29	60	48	29	33	30	96	19	20	25		
MW-15		0	0	0	0	0	0	0	0	0	0					0		
MW-16										0	0	0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0		
MW-18										6.2	4.6	34	5.6	2.6	2.1	0	0	0
MW-19										0	0	0	0	0	0	0	0	0
MW-20										1	16	42	35	34	22	67		
MW-21																0	0	0
MW-22																0	0	0
MW-23																0	0	0

Notes:
0 - Non Detect
Blank - No Data

TABLE 3b
HISTORIC trans-1,2 DCE CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08	20-Oct-09	20-Oct-10
MW-1	320	1100	9.8				0	0	0.3	0	0.6	0	0		0	1.2	0.42	0.41
MW-2	980	630	32		31		0	0	3.8	11	12							
MW-2R												0	0	0	0	0	0	0
MW-2RR												0	0	0	0			
MW-3	0	80	0				0	0	0	0		0	0	0	0	0		
MW-4																		
MW-4R												0.91	0	3.3	1.8	0.675		
MW-5																		
MW-6	6400	10000	1200		0		0	0	4.6	0	16							
MW-6R												0	0	0	0	0	0	0
MW-7										0						0		
MW-8																0		
MW-9										0	0							
MW-10										0	0							
MW-11		0	0			0	0	0	0	0						0		
MW-12A										0	0	0	0	0	0	0	0	0
MW-13		0					0	0	0	0.41	1.1	0.57	0	0	0	0.49	0.32	0
MW-14		3.5					0	0	1	0	0.7	0.71	0	0	0	0.45		
MW-15		0	0	0	0	0	0	0	0	0	0					0		
MW-16										0	0	0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0		
MW-18										0	0	0	0	0	0	0	0	0
MW-19										0	0	0	0	0	0	0	0	0
MW-20										0	0	0	0	0	0.81	0.35		
MW-21																0	0	0
MW-22																0	0	0
MW-23																0	0	0

Notes:
0 - Non Detect
Blank - No Data

TABLE 4
HISTORIC VC CONCENTRATIONS (ug/L)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

Date/Well	Nov-90	May-91	Oct-93	12-Nov-93	29-Nov-93	Aug-95	Apr-00	May-01	May-02	Dec-03	Mar-05	29-Aug-05	29-Nov-05	7-Mar-06	8-Jun-06	1-Oct-08	20-Oct-09	20-Oct-10
MW-1	0	0	0				65	30	8.5	4.6	30	0	18		4.5	0	0.84	2.6
MW-2	0	0	0		0	0	0	0	0	0	0							
MW-2R												0	0	0	3.2	1	0.49	0.56
MW-2RR												0	0	0	0			
MW-3	0	0	0		0	0	0	0	0.3	0.88		18	0	0	0	0		
MW-4																		
MW-4R												0.65	3	0	5.4	0.27		
MW-5																		
MW-6	3.4	0	44		28	3000	7	16	26	350	72							
MW-6R												1.3	0	0	12	12	4.3	0.77
MW-7										0						0		
MW-8																0		
MW-9										0	0							
MW-10										0	0							
MW-11		0	0		0	0	0	0	0	0						0		
MW-12A										1	0	2.5	0.77	0	1.5	1.5	1.0	1.1
MW-13		0	0		0	0	0	0	0	0	0	0	0	0	0	0.41	0	0
MW-14		0	0		0	0	0	0	0	0	0	0	0	0	0	0.21		
MW-15		0	0	0	0	0	0	0	0	0	0					0		
MW-16										0	0	0	0	0	0	0	0	0
MW-17										0	0	0	0	0	0	0		
MW-18										16	11	43	14	0	6	0	0.36	0.69
MW-19										0	0	0	0	0	0	0	0	0
MW-20										0	0.6	2.5	2.4	0	2.1	1.7		
MW-21																0	0	0
MW-22																0	0	0
MW-23																0	0	0

Notes:
0 - Non Detect
Blank - No Data

TABLE 5
NATURAL ATTENUATION REGRESSION STATISTICS (1/1/11)
JOHNNY CAKE ROAD, SITE NO. 6-22-016, TOWN OF DANUBE, HERKIMER COUNTY

PCE Attenuation							
	k ($days^{-1}$)	R^2	Coeff	Half Life (days)	Current C (ug/L)	Time to C = 5	Actual C (ug/L)
MW-1	0.000719	0.743	28.107	1391	0.35	--	0.36
MW-2/2R	0.000532	0.132	27.339	1880	320.41	21.41	0
MW-6/6R	0.001152	0.958	48.809	868	12.46	2.17	0
MW-13	-0.000826	0.640	-31.627	-1211	4.76	increasing	0
MW-18	All Non-Detect						0

Total DCE Attenuation							
	k ($days^{-1}$)	R^2	Coeff	Half Life (days)	Current C (ug/L)	Time to C = 5 (yrs)	Actual C (ug/L)
MW-1	0.000540	0.508	24.298	1852	11.07	4.03	34.81
MW-2/2R	0.001160	0.751	47.118	862	1.09	--	0.23
MW-6/6R	0.001536	0.790	61.872	651	0.67	--	0.27
MW-13	0.000041	0.008	5.210	24390	34.73	129.43	9.7
MW-18	0.000822	0.077	33.411	1217	1.47	--	0

TCE Attenuation							
	k ($days^{-1}$)	R^2	Coeff	Half Life	Current C (ug/L)	Time to C = 5	Actual C (ug/L)
MW-1	0.000385	0.482	16.854	2597	3.47	--	6.8
MW-2/2R	0.001010	0.465	42.523	990	4.82	--	0.4
MW-6/6R	0.001105	0.630	46.755	905	10.56	1.85	0
MW-13	0.000471	0.473	18.260	2123	0.43	--	0.39
MW-18	All Non-Detect						0

VC Attenuation							
	k ($days^{-1}$)	R^2	Coeff	Half Life	Current C (ug/L)	Time to C = 2 (yrs)	Actual C (ug/L)
MW-1	0.000835	0.628	34.273	1198	1.52	--	2.6
MW-2/2R	0.001200	0.920	47.681	833	0.38	--	0.56
MW-6/6R	0.000340	0.135	15.604	2941	6.17	9.07	0.77
MW-13	Insufficient data						0
MW-18	0.001712	0.809	68.502	584	0.40	--	0.69

Notes:
Current C (Concentration) and Years to Goal From 1/1/2010
PCE has been ND at MW-2R, MW-6R, or MW-13 since 2005, and the trends are biased based on previous high concentrations.
DCE has been stable at MW-13 since 1995, and this trend is likely the result of the decay process.

Appendix D8: Historic and Recent Groundwater Data – 2009 to 2012, 2014, 2016, and 2022

Table 1

Johnny Cake Road Site
Summary of Laboratory Analytical Data Detections for Groundwater
2009-2012

Sample ID		MW-1		MW-1		MW-1		MW-1		MW-2R		MW-2R		MW-2R		MW-2R		MW-6R		MW-6R		MW-6R		MW-6R		MW-12A		MW-12A		MW-12A		MW-12A		MW-13		MW-13		MW-13		MW-13	
Sampling Date		10/8/08		10/20/09		10/18/10		4/25/12		10/06/08		10/20/09		10/19/10		4/25/12		10/02/08		10/21/09		10/20/10		4/25/12		10/02/2008		10/20/09		10/20/10		4/25/12		10/02/2008		10/21/09		10/20/10		4/26/12	
Lab Sample ID		G1734-13A		H2093-07A		J2119-01		L0864-01		G1734-03A		H2093-06A		J2119-06		L0864-02		G1709-07H		H2093-11A		J2119-11		L0864-03		G1709-08H		H2093-04A		J2119-07		L0864-04		G1709-09H		H2093-12A		J2119-08		L0864-05	
Volatiles	AWQS/GV Values																																								
trans-1,2-Dichloroethene	5		1.2		0.42	J	0.41	J	0.74	<	0.50	UJ	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U		0.49	J	0.32	J	<	0.50	U	<	0.50	U
Cyclohexane	NL	<	0.50	U	<	0.50	U	<	0.50	U	0.53		<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Toluene	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Tetrachloroethene (PCE)	5		1.3		<	0.50	U		0.36	J	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
1,2-Dichloroethane	0.6	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U		0.79		<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
1,1-Dichloroethene	5		0.24	J	<	0.50	U	<	0.50	U		2.10		<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
cis-1,2-Dichloroethene (DCE)	5		150			51			38			150			0.79	J		0.27	J		0.23	J		0.23	J		1.6			0.6			0.27	J		0.60	J	<	0.50	U	<	0.50	U		64	J		32			9.7			4.9	
Trichloroethene (TCE)	5		23.0			5.1			6.8			4.3		<	0.50	U	<	0.50	U		0.40	J	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U		0.79		<	0.50	U	<	0.50	U		0.40	J		0.42	J		0.39	J		0.60	
Vinyl chloride (VC)	2	<	0.50	U		0.84	J		2.6			39.0			1.00			0.49	J		0.56			0.62			12.0			4.3			0.77			2.60			1.5			1.0			1.1			0.73			0.41	J	<	0.50	U	<	0.50	U	<	0.50	U
Dichlorodifluoromethane	5	<	0.50	U		0.31	J		0.35	J		7.10		<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U

Sample ID		MW-16		MW-16		MW-16		MW-16		MW-18		MW-18*		MW-18*		MW-18*		MW-19		MW-19		MW-19		MW-19		MW-21		MW-21		MW-21		MW-21		MW-22		MW-22		MW-22		MW-22	
Sampling Date		10/01/08		10/20/09		10/20/10		4/26/12		10/02/08		10/20/09		10/20/10		4/26/12		10/06/08		10/20/09		10/19/10		4/26/12		10/07/08		10/19/09		10/19/10		4/26/12		10/08/08		10/19/09		10/19/10		4/26/12	
Lab Sample ID		G1709-01H		H2093-08A		J2119-09		L0864-07		G1709-10H		H2093-09A		J2119-10		L0864-08		G1734-01A		H2093-05A		J2119-05		L0864-10		G1734-11A		H2093-01A		J2119-04		L0864-12		G1734-14A		H2093-02A		J2119-03		L0864-13	
Volatiles	AWQS/GV Values																																								
trans-1,2-Dichloroethene	5	<	0.50	UJ	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Cyclohexane	NL	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Toluene	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U		0.21	J	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U		0.25	J	<	0.50	U	<	0.50	U	<	0.50	U
Tetrachloroethene (PCE)	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
1,2-Dichloroethane	0.6	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
1,1-Dichloroethene	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
cis-1,2-Dichloroethene (DCE)	5	<	0.50	UJ	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Trichloroethene (TCE)	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Vinyl chloride (VC)	2	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50/0.47J			0.69/0.63		<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Dichlorodifluoromethane	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U

Sample ID		MW-23		MW-23		MW-23		MW-23	
Sampling Date		10/08/08		10/19/09		10/19/10		4/26/12	
Lab Sample ID		G1734-15A		H2093-03A		J2119-02		L0864-14	
Volatiles	AWQS/GV Values								
trans-1,2-Dichloroethene	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Cyclohexane	NL	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Toluene	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Tetrachloroethene (PCE)	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
1,2-Dichloroethane	0.6	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
1,1-Dichloroethene	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
cis-1,2-Dichloroethene (DCE)	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Trichloroethene (TCE)	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Vinyl chloride (VC)	2	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U
Dichlorodifluoromethane	5	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U	<	0.50	U

Notes:
AWQS/GV Values - New York State Ambient Water Quality Standards/guidance values (TOGs 1.1.1).
NL - Not Listed
Units are µg/L
Detected concentrations and qualifiers shown in **bold** font.
Shaded cell indicates exceedances of AWQS/GV.
U - Compound not detected at or above the instrument detection limit (IDL).
J - Estimated concentration above the IDL but less than the contract required detection limits (CRDL).
* - Duplicate sample produced equivalent results, save those given otherwise

AECOM

Table 3

Summary of April 2014 Analytical Groundwater Data
Johnny Cake Road Farm Site
NYSDEC Site Code No. 622016
Danube, New York

Sample ID	Groundwater	MW-1-041514	MW-2R-041514	MW-6R-041514	MW-12A-041414	MW-13-041414	MW-16-041514
Date Collected	NYCRR	04/15/14	04/15/14	04/15/14	04/14/14	04/15/14	04/15/14
Lab Sample ID	Criteria	N0571-01A	N0571-02A	N0571-03A	N0571-05A	N0571-06A	N0571-08A
Volatile Organic Compounds by Method 8260 (µg/L)							
1,1-Dichloroethene	5	**1.2**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	5	**250**	< 0.5 U	< 0.5 U	< 0.5 U	**3.2**	< 0.5 U
Dichlorodifluoromethane	5	**3.4**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Tetrachloroethene	5	**1.4**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	5	**32**	< 0.5 U	< 0.5 U	< 0.5 U	**0.4 J**	< 0.5 U
trans-1,2-Dichloroethene	5	**0.82**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vinyl chloride	2	**58**	**0.52**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Total Volatile Organic Compounds	NA	346.8	0.52	0.0	0.0	3.6	0.0

Sample ID	Groundwater	MW-18-041514	MW-19-041514	MW-21-041414	MW-22-041414	MW-23-041414
Date Collected	NYCRR	04/15/14	04/15/14	04/14/14	04/14/14	04/14/14
Lab Sample ID	Criteria	N0571-09A	N0571-10A	N0571-11A	N0571-12A	N0571-13A
Volatile Organic Compounds by Method 8260 (µg/L)						
1,1-Dichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Tetrachloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vinyl chloride	2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Total Volatile Organic Compounds	NA	0.0	0.0	0.0	0.0	0.0

Notes:

NYCRR - New York Code of Rules and Regulations, Title 6, Part 702.15(a)(2) and 703.5.
Bolded values indicate detection above practical quantitation limit.
Bolded values and bold outline indicate exceedance of standard.
J - Analyte detected at a level less than the reporting limit and greater than or equal to the method detection limit. Concentrations within this range are estimated.
U - Not detected at or above reporting limit.
µg/L - Micrograms per liter

Table 4

Summary of April 2016 Analytical Groundwater Data
Johnny Cake Road Farm Site
NYSDEC Site Code No. 622016
Danube, New York

Sample ID	Groundwater	MW-1-041916	MW-2R-041816	MW-6R-041916	MW-12A-041816	MW-13-041816	MW-16-041916
Date Collected	NYCRR	04/19/16	04/18/16	04/19/16	04/18/16	04/18/16	04/19/16
Lab Sample ID	Criteria	R0327-01	R0327-02	R0327-03	R0327-04	R0327-05	R0327-06
Volatile Organic Compounds by Method 8260 (µg/L)							
1,1-Dichloroethene	5	**1.5**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	5	**260**	**0.23 J**	**0.54**	**0.23**	**4.7**	< 0.5 U
Dichlorodifluoromethane	5	**1.7**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Tetrachloroethene	5	**4.7**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	5	**72**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	5	**1.7**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vinyl chloride	2	**27**	**0.49 J**	**1.1**	**0.34 J**	**0.67**	< 0.5 U
Total Volatile Organic Compounds		368.6	0.7	1.6	0.6	5.4	0.0

Sample ID	Groundwater	MW-18-041916	MW-19-041916	MW-21-041816	MW-22-041816	MW-23-041816
Date Collected	NYCRR	04/19/16	04/19/16	04/18/16	04/18/16	04/18/16
Lab Sample ID	Criteria	R0327-07	R0327-08	R0327-09	R0327-10	R0327-11
Volatile Organic Compounds by Method 8260 (µg/L)						
1,1-Dichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Dichlorodifluoromethane	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Tetrachloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Trichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
trans-1,2-Dichloroethene	5	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vinyl chloride	2	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Total Volatile Organic Compounds		0.0	0.0	0.0	0.0	0.0

Notes:

NYCRR - New York Code of Rules and Regulations, Title 6, Part 702.15(a)(2) and 703.5.
Bolded values indicate detection above practical quantitation limit.
Bolded values and bold outline indicate exceedance of standard.
J - Analyte detected at a level less than the reporting limit and greater than or equal to the method detection limit. Concentrations within this range are estimated.
U - Not detected at or above reporting limit.
µg/L - Micrograms per liter

Table 3
New York State Department of Environmental Conservation
Johnny Cake Road Farm Site - Site No. 622016
Town of Danube, New York
Summary of Groundwater Sampling Results - July 2022

Sample Location:		MW-1	MW-2R	MW-6R	MW-12A	MW-13	MW-18		MW-19	MW-22
Sample Name:		MW-1	MW-2R	MW-6R	MW-12A	MW-13	MW-18	DUP-01	MW-19	MW-22
Lab Sample ID:		22G0742-03	22G0742-07	22G0742-08	22G0742-02	22G0742-09	22G0742-04	22G0742-05	22G0742-06	22G0742-10
Sample Date:		7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022
VOCs	Class GA Values*	Results (µg/L)								
Acetone	50	250 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
Acrylonitrile	NC	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
tert-Amylmethyl Ether (TAME)	NC	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	1	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	5	5 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Bromodichloromethane	50	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	50	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	5	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	**9.9 J**	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
tert-Butyl Alcohol	NC	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
n-Butylbenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylethyl Ether (TBEE)	NC	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	60	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	5	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	5	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	7	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloromethane	5	10 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
2-Chlorotoluene	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	50	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane (DBCP)	0.04	25 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,2-Dibromoethane	0.0006	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	3	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,4-Dichloro-2-Butene	NC	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dichlorodifluoromethane (Freon 12)	5	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.6	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethylene	5	**1.8 J**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethylene	5	**640**	1 U	**0.36 J**	1 U	**31**	1 U	**0.21 J**	1 U	1 U
trans-1,2-Dichloroethylene	5	**5.7**	1 U	1 U	1 U	**0.49 J**	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NC	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	NC	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	0.4(b)	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.4(b)	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Diethyl Ether	NC	10 U	2 U	**1.6 J**	2 U	**5.5**	**8.8 JH**	**29 JH**	2 U	2 U
Diisopropyl Ether (DIPE)	NC	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dioxane	0.35**	250 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Ethyl Benzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	0.5	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Hexanone (MBK)	50	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene (Cumene)	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene (p-Cymene)	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl Acetate	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-Butyl Ether (MTBE)	10	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl Cyclohexane	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	5	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	NC	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	10 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
n-Propylbenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	5	**8.1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrahydrofuran	NC	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	25 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,2,4-Trichlorobenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trichlorobenzene	NC	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethylene	5	**160**	1 U	1 U	1 U	**0.97 J**	1 U	1 U	1 U	1 U
Trichlorofluoromethane (Freon 11)	5	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	0.04	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	2	**28**	**0.33 J**	**0.95 J**	2 U	2 U	**1.2 JH**	**4.2 JH**	2 U	2 U
m/p Xylene	5(a)	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
o-Xylene	5(a)	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
SVOCs										
1,4-Dioxane	0.35**	0.22 U	0.21 UJ	0.21 U	0.21 U	0.23 U	0.19 U	0.21 U	0.22 U	0.19 U
PFAS		Results (ng/L)								
Perfluorobutanoic Acid (PFBA)	NC	**1.1 J**	1.8 U	**2.3**	**1.4 J**	**1 J**	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorobutanesulfonic Acid (PFBS)	NC	**0.4 J**	1.8 U	1.8 U	**0.45 J**	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoropentanoic Acid (PFPeA)	NC	**0.84 J**	1.8 U	1.8 U	**0.59 J**	**0.6 J**	1.9 U	1.7 U	1.9 U	1.8 U

Table 3
New York State Department of Environmental Conservation
Johnny Cake Road Farm Site - Site No. 622016
Town of Danube, New York
Summary of Groundwater Sampling Results - July 2022

Sample Location:		MW-1	MW-2R	MW-6R	MW-12A	MW-13	MW-18		MW-19	MW-22
Sample Name:		MW-1	MW-2R	MW-6R	MW-12A	MW-13	MW-18	DUP-01	MW-19	MW-22
Lab Sample ID:		22G0742-03	22G0742-07	22G0742-08	22G0742-02	22G0742-09	22G0742-04	22G0742-05	22G0742-06	22G0742-10
Sample Date:		7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022
Perfluorohexanoic Acid (PFHxA)	NC	**0.81 J**	**2.8**	**0.45 J**	1.9 U	**0.37 J**	1.9 U	1.7 U	1.9 U	1.8 U
11Cl-PF3OUdS (F53B Minor)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
9Cl-PF3ONS (F53B Major)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
4,8-dioxa-3H-perfluorononanoic Acid (ADONA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
HFPO-DA (GenX)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 UJ	1.7 UJ	1.9 U	1.8 U
8:2 Fluorotelomer Sulfonate (8:2 FTS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorodecanoic Acid (PFDA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorododecanoic Acid (PFDoA)	NC	1.7 UJ	1.8 U	1.8 UJ	1.9 UJ	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoroheptanesulfonic Acid (PFHpS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
N-EtFOSAA	NC	1.7 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 UJ	1.8 UJ
N-MeFOSAA	NC	1.7 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 UJ	1.8 UJ
Perfluorotetradecanoic Acid (PFTeA)	NC	R	1.8 U	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 U	1.8 UJ
Perfluorotridecanoic Acid (PFTriA)	NC	R	1.8 U	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 U	1.8 UJ
4:2 Fluorotelomer Sulfonate (4:2 FTS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorodecanesulfonic Acid (PFDS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorooctane Sulfonamide (FOSA)	NC	1.7 UJ	1.8 UJ	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorononanesulfonic Acid (PFNS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorohexanesulfonamide (FHxSA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorobutylsulfonamide (FBSA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorohexanesulfonic Acid (PFHxS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoro-3-methoxypropanoic Acid (PFMPA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoro(4-methoxybutanoic) Acid (PFMBA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
6:2 Fluorotelomer Sulfonate (6:2 FTS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoropentanesulfonic Acid (PFPeS)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoroundecanoic Acid (PFUnA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	NC	1.7 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 UJ	1.8 UJ
Perfluoroheptanoic Acid (PFHpA)	NC	**0.4 J**	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorooctanoic Acid (PFOA)	6.7**	**0.72 J**	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorooctanesulfonic Acid (PFOS)	2.7**	**3**	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U
Perfluorononanoic Acid (PFNA)	NC	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.7 U	1.9 U	1.8 U

Notes:

ng/L - nanograms per liter.

ug/L - micrograms per liter.

J - Estimated value.

JH - Estimated value; biased high.

NA - Sample not analyzed for the listed analyte.

NC - No NYSDEC standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed the listed Guidance value.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

PFAS - Per- and Polyfluoroalkyl Substances.

* - NYSDEC Ambient Water Quality Standards and Guidance Values

** - Guidelines for Sampling and Analysis of PFAS NYSDEC Part 375 Remedial Programs, proposed June 2021.

for Class GA water, June 1998 with the April 2000 Addendum.

(a) - criteria applicable to xylene (total), the sum of the xylene isomers.

(b) - criteria applicable to the sum of the cis and trans isomers.

APPENDIX E

LETTER TO HERKIMER COUNTY HIGHWAY DEPARTMENT DATED FEBRUARY 11, 2010

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **Fax:** (518) 402-9679
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

February 11, 2010

Herkimer County Highway Department
Jay W. Ewanyk
313 3rd Avenue
Herkimer, NY 13350

Re: Johnny Cake Road Farm Site, Site No. 6-22-016, Town of Danube, Herkimer County
Groundwater Contamination in County Right-of-Way

Dear Mr. Ewanyk,

The purpose of this letter is to notify the Herkimer County Highway Department of the presence of contaminated groundwater beneath a county road and county right-of-way in the Town of Danube, Herkimer County.

The New York State Department of Environmental Conservation (Department) in March 2009 issued a Record of Decision (ROD) for the Johnny Cake Road Farm Site, Site No. 6-22-016. The ROD outlines a remedy for the site which includes placing an Environmental Easement on the site due to the presence of contaminated groundwater. As required by the ROD groundwater will be monitored by the Department. The ROD also includes a provision requiring notification of the Herkimer County Highway Department with all relevant reports and data to identify the location and requirements to handle potentially contaminated groundwater in the county right-of-way during future repairs and/or replacements of the section of Johnny Cake Road which runs through the site.

Therefore, as required by the ROD please find enclosed with this letter the following excerpts from documents concerning the Johnny Cake Road Site:

- "Record of Decision", March 2009 – Figure 7: Groundwater Investigation & Site Boundary
- "Site Investigation Report", February 2009 – Attachment H: Site Survey
- "Site Investigation Report", February 2009 – Table 2: Summary of Laboratory Analytical Data for Groundwater

Figure 7 of the Record of Decision and Attachment H: Site Survey of the Site Investigation Report identify and illustrate the boundary of the 3.24 acre Johnny Cake Road Farm site. Figure 7 of the Record of Decision and Table 2 of the Site Investigation Report contain recent groundwater data for contaminants of concern in groundwater at the site. Contaminants of concern include Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2-Dichloroethene

(DCE), and Vinyl chloride (VC). The 3.24 acre boundary of the Johnny Cake Road Farm site is currently a portion of the larger Herkimer County tax parcel 127.002-4-1.

The site boundary shown on Figure 7 and Attachment H represents the area which is currently or may potentially be underlain by contaminated groundwater. This site boundary includes a county right of way approximately 375 feet in length through which Johnny Cake Road passes. Site investigations indicate groundwater may be between 3 and 10 feet below grade in the county right of way, and thus groundwater could potentially be encountered during repairs or replacements of the section of Johnny Cake Road which runs through the site. The Department therefore requests the Herkimer County Highway Department take the following precautions for repairs of this section of Johnny Cake Road which could potentially expose contaminated groundwater:

> Prior to the start of any activity that is anticipated to encounter remaining groundwater contamination in the county right-of-way, the Herkimer County Highway Department will notify the Department. Currently, this notification will be made to:

William Bennett, Project Manager
NYSDEC
Division of Environmental Remediation
Remedial Bureau C, Remedial Section B
625 Broadway
Albany, NY 12233-7014
1-800-520-2334

This notification will include:

- A schedule for the work during which groundwater may be encountered
- A plan to screen and manage contaminated groundwater
- A Health & Safety Plan (HSP) and Community Air Monitoring Plan (CAMP)

A copy of this letter will be including in a Site Management Plan (SMP) for the site. The Site Management Plan describes the long term requirements including institutional controls and monitoring that are required to protect public health and the environment. A copy of the final SMP will be provided to the Herkimer County Highway Department upon completion.

If you have any questions or concerns do not hesitate to contact me at (518) 402-9662.

Sincerely,

William Bennett

William Bennett
Environmental Engineer 1
Remedial Bureau C
Division of Environmental Remediation

Attachments (3)

cc: W. Snider, USMS
A. Deminski, USMS

ec: G. Rys, NYSDOH
A. Confortini, EPA

APPENDIX F
EXCAVATION WORK PLAN

APPENDIX F – EXCAVATION WORK PLAN

F-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the New York State Department of Environmental Conservation (NYSDEC). Currently, this notification will be made to:

Robert Strang, Project Manager
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7017
Phone: (518) 402-8642
E-mail: Robert.Strang@dec.ny.gov

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements, or utilities to be installed below the ground surface, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this Excavation Work Plan (EWP);
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the Contractor's Health and Safety Plan (HASP), in electronic format, if it differs from the HASP Addendum provided as **Appendix J** of this SMP;
- A copy of the Contractor's Community Air Monitoring Plan (separate plan, not embedded in the HASP), prepared in accordance with NYSDEC DER-10 / Technical Guidance for Site Investigation and Remediation (DER-10);
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

F-2 SOIL SCREENING METHODS

Prior to intrusive soil screening, on-Site utilities shall be field located and appropriate notifications to public utility locating services shall be made. Soil screening is to take place prior to any

excavation or disposal of soil from within the Site boundaries. Soil boring methods or test pit methods may be used to screen soils in advance of excavation. Soil samples shall be collected at a minimum of 5-6 per 500 yd^3 of planned soil excavation (per NYSDEC DER-10, Table 5.4(e)10) and analyzed for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260 or per the disposal facility's requirements, if applicable.

Visual, olfactory, and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after completion of the Remedial Action (RA).

Soils will be segregated based on previous environmental data and screening results into materials that require off-Site disposal, materials that require testing, materials that can be returned to the subsurface, and materials that can be used as cover soil.

F-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay or straw bales will be used as needed near catch basins, surface waters, and other discharge points.

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

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

F-4 MATERIALS EXCAVATION AND LOAD OUT

Surface features such as asphalt or concrete shall be saw-cut, removed, and stockpiled prior to excavation of underlying soil. Surficial stone shall also be removed prior to excavation of underlying soil. Excavated underlying soil shall be stockpiled separate from asphalt, concrete, stone, or other debris prior to load out. Excavations left open overnight or longer shall be surrounded by temporary construction fencing. A qualified environmental professional or person under their supervision will oversee all invasive work, and the excavation and load-out of all excavated material. The owner of the Property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Excavation Work Plan. The contractor shall prepare and implement a Community Air Monitoring Plan (CAMP) in accordance with DER-10. The CAMP shall be implemented on a full-time basis during any and all ground intrusive work at the Site.

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

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation requirements (and all other applicable transportation requirements).

If Site conditions during excavation activities require that trucks drive over bare soil, a truck wash will be operated on-Site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at a truck wash before leaving the Site until the activities performed under this section are complete. Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

F-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site if necessary. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

F-6 MATERIALS DISPOSAL OFFSITE

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

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

F-7 MATERIALS REUSE ONSITE

Analytical results from soil screening activities, which are completed in accordance with Section 1.2 of this EWP, will be used to determine if reuse is appropriate. Only material meeting the requirements of NYSDEC DER-10 Table 5.4(e)4, and applicable constituent levels in 6 NYCRR Part 375, Table 375-6.8(b), shall be considered appropriate for reuse. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material is not reused on-Site. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval.

F-8 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported, and disposed in accordance with applicable local, state, and federal regulations. Dewatering, purge, and development fluids will not be recharged back to the land surface or subsurface of the Site, and will be managed off-Site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream, or river) would be subject to NYSDEC SPDES permitting.

F-9 STORMWATER POLLUTION PREVENTION

Sediment barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook, maintained at the Site, and available for inspection by the NYSDEC. All necessary repairs to these erosion and sediment controls shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in this plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

All sediment and erosion controls implemented at the Site shall be constructed and maintained in accordance with New York Standards and Specifications for Erosion and Sediment Control, November 2016.

F-10 COMMUNITY AIR MONITORING PLAN

Continuous air monitoring will be conducted for protection of the downwind community during Site work activities, per the New York State Department of Health (NYSDOH) generic Community Air Monitoring Plan in DER-10 Appendix 1A. Continuous monitoring for volatile

organic compound (VOC) and particulate levels at the perimeter of the work area using approved instrumentation will be required during ground intrusive activities, which include excavation and handling of Site soil, test pitting, trenching, and the installation of soil borings. Monitoring stations will be located both upwind and downwind of the work and shall be approved by NYSDEC. If total VOC levels exceed 5 parts per million (ppm) above background at the work area perimeter or 25 ppm (whichever is lower), work activities will be halted and monitoring continued. All readings will be recorded and available to the NYSDEC and NYSDOH personnel to review.

Exceedances of action levels listed in the Community Air Monitoring Plan will be reported to NYSDEC and NYSDOH Project Managers.

F-11 ODOR CONTROL PLAN

Specific odor control methods to be used on a routine basis will include odor-masking agents, covering stockpiles and exposed excavation edges with tarps, and timely loading of excavated soils and other wastes into sealable containers, drums, or dump trucks for off-Site disposal. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted, and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated.

NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the Site developer, and any measures that are implemented will be discussed in the subsequent Periodic Review Report.

All necessary means will be employed to prevent on-Site and off-Site nuisances. At a minimum, these measures will include:

(a) limiting the area of open excavations and size of soil stockpiles;

(b) shrouding open excavations with tarps and other covers; and

(c) using foams to cover exposed odorous soils.

If odors develop and cannot be adequately controlled, additional means to eliminate odor nuisances will include:

(a) direct load-out of soils to trucks for off-Site disposal;

(b) use of chemical odorants in spray or misting systems; and,

(c) use of staff to monitor odors in surrounding properties/neighborhoods.

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

F-12 DUST CONTROL PLAN

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Section C-10. If particulate levels at the Site exceed the thresholds listed in the CAMP or if airborne dust is observed on the Site or leaving the Site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the Site. A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing, or topsoil stripping will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel, with watering/wetting, as needed, will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water truck wetting/watering.
- be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX G

GENERIC QUALITY ASSURANCE PROJECT PLAN

(Under separate cover)

APPENDIX H
SITE MANAGEMENT FORMS

NYSDEC **Division of Environmental Remediation**					**Contract No.** **DEC Insp. –** **DEC PM -** **Contractor Supt. –** **Engineer PM -** **Engineer Insp. –**
Site Location:					
Weather Conditions					
General Description		AM		PM	
Temperature		AM		PM	
Wind		AM		PM	

Health & Safety **If any box below is checked "Yes", provide explanation under "Health & Safety Comments".**			
Were there any changes to the Health & Safety Plan?	*Yes	No	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	NA
Were there any nuisance issues reported/observed on this date?	*Yes	No	NA

Health & Safety Comments

Summary of Work Performed	Arrived at site:		Departed Site:	

Equipment/Material Tracking **If any box below is checked "Yes", provide explanation under "Material Tracking Comments".**			
Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No	NA
Were there any vehicles which were not tarped?	* Yes	No	NA
Were there any vehicles which were not decontaminated prior to exiting the work site?	* Yes	No	NA

Personnel and Equipment

Individual	Company	Trade	Total Hours

Equipment Description	Contractor/Vendor	Quantity	Used

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

Visitors to Site

Name	Representing	Entered Exclusion/ CRZ Zone	
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No

Site Representatives

Name	Representing

Project Schedule Comments

Issues Pending

Interaction with Public, Property Owners, Media, etc.

Include (insert) figures with markups showing location of work and job progress

Site Photographs (Descriptions Below)	

Comments	
Site Inspector(s):	**Date:**

Videos of discreet operations have been provided to the DEC Project Manager to facilitate understanding of the ongoing work? Yes ☐ No ☐

On-Site Waste Storage

Drums, roll offs and piles are staged in secure areas?	Yes ☐	No ☐	N/A☐
Liners and berms have been installed if necessary to prevent cross contamination of clean areas?	Yes ☐	No ☐	N/A☐
Containers are in good condition or properly overpacked?	Yes ☐	No ☐	N/A☐
Waste materials are scheduled to be properly characterized and disposed of prior to demobilization?	Yes ☐	No ☐	N/A☐
Complying with RCRA 90 day storage limitation for hazardous waste?	Yes ☐	No ☐	N/A☐
Piles are securely covered when not in use?	Yes ☐	No ☐	N/A☐
Containers are closed when not in use?	Yes ☐	No ☐	N/A☐
Staging areas should be inspected periodically and any issues addressed immediately?	Yes ☐	No ☐	N/A☐
Signage and labeling comply with RCRA requirements for all staging areas and containers?	Yes ☐	No ☐	N/A☐
If any issues noted, has Contractor been notified?	Yes ☐	No ☐	N/A☐
Comments:			

NUISANCE CHECKLIST

Were there any community complaints related to work on this date?	Yes ☐	No ☐	N/A☐
Were there any odors detected on this date?	Yes ☐	No ☐	N/A☐
Was noise outside specification and/or above background on this date?	Yes ☐	No ☐	N/A☐
Were vibration readings outside specification and/or above background on this date?	Yes ☐	No ☐	N/A☐
Any visible dust observed beyond the work perimeter on this date?	Yes ☐	No ☐	N/A☐
Any visible contrast (turbidity) beyond engineering controls observed on this date?	Yes ☐	No ☐	N/A☐
Was turbidity checked at the outfall(s)?	AM ☐	PM ☐	N/A☐
Were any property owners NOT provided advance notice for work performed on this property on this date?	Yes ☐	No ☐	N/A☐
Was the temporary fabric structure closed at the end of the day?	Yes ☐	No ☐	N/A☐
Has Contractor failed to protect all foundations and structures adjacent to and adjoining the site which are affected by the excavations or other operations connected with performance of the Work?	Yes ☐	No ☐	N/A☐
If yes, has Contractor been notified?	Yes ☐	No ☐	N/A☐
Comments:			

RESILIENCE/GREEN REMEDIATION CHECKLIST

Is site power procured from renewable energy sources (e.g., solar, wind, geothermal, biomass and biogas)?	Yes ☐	No ☐	N/A☐
Is the Contractor employing 2007 or newer or retrofitted (BART*) diesel on-road trucks and non-road equipment?	Yes ☐	No ☐	N/A☐
Is vehicle idling adequately reduced per 6NYCRR Part 217-3?	Yes ☐	No ☐	N/A☐
Have equipment operators been trained in the idling requirements of 6NYCRR Part 217-3?	Yes ☐	No ☐	N/A☐
Is BART-equipped equipment properly maintained and working?	Yes ☐	No ☐	N/A☐
Is work being sequenced to avoid double handling?	Yes ☐	No ☐	N/A☐
Is there an onsite recycling program for CONTRACTOR-generated wastes and is it complied with?	Yes ☐	No ☐	N/A☐
Are office trailer heating and cooling systems maintained at efficient set points, have programable thermostats been installed?	Yes ☐	No ☐	N/A☐
Are products and materials used in performance of the work appropriately certified (e.g., LEED, Energy Star, Sustainable Forestry Initiative®, etc.)?	Yes ☐	No ☐	N/A☐
Are resiliency features included in the design, or completed remedy properly installed and/or maintained (flood control, storm water controls, erosion measures, etc.)?	Yes ☐	No ☐	N/A☐
Are green remediation elements included in the design, or completed remedy properly installed and/or maintained (e.g., porous pavement, geothermal, variable speed drives, native plantings, natural stream bank restoration, etc.)?	Yes ☐	No ☐	N/A☐
Has Contractor been notified of any deficiencies?	Yes ☐	No ☐	N/A☐
Comments:			

* BART – Best Available Retrofit Technology

LOW FLOW GROUNDWATER SAMPLING LOG

PROJECT NAME		LOCATION ID	DATE
PROJECT NUMBER		START TIME	END TIME
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE OF

WELL DIAMETER (INCHES) ☐ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☐ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

INITIAL DTW (BMP)	FT	**FINAL DTW (BMP)**	FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	GAL	**PID WELL MOUTH**	PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	GAL	**DRAWDOWN/ TOTAL PURGED**		**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	BEGIN PURGING									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☐ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ _____
- ☐ WATTERA
- ☐ OTHER _____
- ☐ OTHER _____

DECON FLUIDS USED
- ☐ LIQUINOX
- ☒ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☒ OTHER ALCONOX

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☐ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER _____
- ☐ OTHER _____

- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER _____
- ☐ OTHER _____
- ☐ OTHER _____

EQUIPMENT USED
- ☐ WL METER _____
- ☐ PID _____
- ☐ WQ METER _____
- ☐ TURB. METER _____
- ☐ PUMP _____
- ☐ OTHER _____
- ☐ FILTERS NO. ___ TYPE _____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☐								
☐								
☐								
☐								
☐								
☐								
☐								

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED — YES ☐ NO ☐

NUMBER OF GALLONS GENERATED _____

NO-PURGE METHOD UTILIZED — YES ☐ NO ☐

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name:

Checked By: Date:

TRC

LOW FLOW GROUNDWATER SAMPLING RECORD

3 Corporate Drive, Suite 202, Clifton Park, NY 12065

APPENDIX I

GENERIC FIELD ACTIVITIES PLAN

(Under separate cover)

APPENDIX J

GENERIC HEALTH AND SAFETY PLAN

(Under separate cover)

APPENDIX K
GREEN REMEDIATION METRICS

Summary of Green Remediation Metrics for Site Management

Site Name: _____Site Code: _____
Address: _____City: _____
State: _____ Zip Code: _____County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g., natural gas (cf))		
Fuel Type 2 (e.g., fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g., geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CONTRACTOR CERTIFICATION
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of _____ (**Contractor Name**), which is responsible for the work documented on this form. According to my knowledge and belief, all of the information provided in this form is accurate and the site management program complies with the DER-10, DER-31, and CP-49 policies. _____ **Date** **Contractor**

APPENDIX L

REMEDIAL SYSTEMS OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR JOHNNY CAKE ROAD FARM

TABLE OF CONTENTS