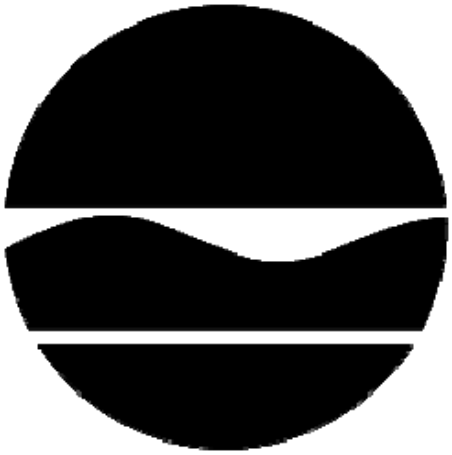
Johnny Cake Road Farm Site

TOWN OF DANUBE, HERKIMER COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: 6-22-016



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CERTIFICATION

I David A. Crosby certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

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

1.1.1 General

The NYSDEC is executing the ROD for this Site under the State Superfund Program. The Johnny Cake Road Farm Site, Site #: 6-22-016 is located in the Town of Danube, Herkimer County, New York. The site is 3.24 acres in size. Figure 1 shows the site location, and Figure 2 shows the site boundaries. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement (Appendix B).

After completion of the remedial work described in the November 2006 "Removal Action Report," prepared by the EPA, some contamination was left in the subsurface at this site, which is hereafter referred to as "remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by NYSDEC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated

May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and groundwater monitoring that is required by the Environmental Easement for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. An Environmental Easement granted to the NYSDEC, and recorded with the Herkimer County Clerk, will require compliance with this SMP and all ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ICs. This SMP specifies the methods necessary to ensure compliance with all ICs required by the Environmental Easement for contamination that remains at the site. This plan has been approved by the NYSDEC and execution of this plan is the responsibility of the NYSDEC. The grantor of the Environmental Easement shall satisfy their responsibility for compliance with the Site Management Plan by adhering to all Institutional Controls specified in the Site Management Plan. Compliance with ICs is required by the grantor of the Environmental Easement and the grantor's successors and assigns, as applicable. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action, including: (1) implementation and management of all Institutional Controls; (2) groundwater monitoring; (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (4) defining criteria for termination of groundwater monitoring.

To address these needs, this SMP includes two plans: (1) an Institutional Control Plan for implementation and management of ICs; (2) a Monitoring Plan for implementation of Site Monitoring.

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

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement;
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 NYCRR Part 375 and thereby subject to applicable penalties.

1.1.3 Responsibilities

The grantor of the Environmental Easement is responsible for adhering to the Institutional Controls specified in Section 2, and certification of Institutional Controls specified in Section 5. The grantor of the Environmental Easement satisfies their responsibility under the Environmental Easement and Site Management Plan through the certification of Institutional Controls.

The NYSDEC (or the NYSDEC's designated representative) is responsible for the implementation of all remaining tasks specified in this Site Management Plan including but not limited to the monitoring of groundwater and site inspection.

1.1.4 Revisions

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

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The site is located in the Town of Danube County of Herkimer, New York and is identified as a portion of Section 127 Subsection 002 Block 4 and Lot 1 on the Herkimer County Tax Map. The site is comprised of 3.24 acres of rural farmland along the northern and southern side of Johnny Cake Road and was formerly the site of a farmhouse, garage, inground pool, stable building and dairy barn (see Figure 2). The area surrounding the site consists primarily of active and fallow farmland, as well as scattered

residences. The boundaries of the site are more fully described in Appendix B – Environmental Easement.

1.2.2 Site History

The site was a diary farm that became the site of an illegal drug manufacturing operation in the mid-1980's. The illegal drug manufacturing operation lasted 14 months. In 1987 the United States Marshals Service (USMS) took possession of the site as part of a long-term drug investigation which identified the site as involved in the manufacturing and distribution of cocaine. At the time of the seizure, the site consisted of a 377 acre dairy farm, however over the course of the project, non-impacted portions of the 377 acres of farmland have been sold off by the USMS. An October 2008 Groundwater Investigation concluded that site contamination was limited to the 3.24 acre site boundary shown on Figure 2.

As part of the drug manufacturing operations, significant quantities of chlorinated solvents were used to refine the cocaine. The spent solvents were then dumped outside the farmhouse, in an underground septic tank just east of the farmhouse, and in the farmhouse driveway. Effluent from the overtopped septic tank discharged directly into an adjacent drainage swale. The on-site inground swimming pool was also used to rinse filters used in the drug production process. It is also believed that direct discharge repeatedly occurred on the dirt floor of the farmhouse.

1.2.3 Geologic Conditions

The site slopes from south to north. Just south of the site boundary, a small intermittent stream meanders from west to east. 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 several dozen feet below grade. Groundwater in the overburden aquifer follows site topography and flows south to north through the site. Depth to groundwater in the overburden aquifer ranged between 3 and 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. A groundwater flow figure is shown in Figure 3.

1.3 SUMMARY OF SITE INVESTIGATION FINDINGS

Several Site Investigations (SIs) were performed to characterize the nature and extent of contamination at the site between 1990 and 2008. The results of these SIs are described in detail in the following reports:

"Environmental Subsurface Investigation Report", June 1990;

"Extent of Contamination Study Report", November 1991;

"Removal Action Report", October 2006;

"Site Investigation Report", February 2009;

"Record of Decision", March 2009; and

"2010 Groundwater Monitoring Report", January 2011.

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

The Site was subject to several SIs throughout the 1990's and early 2000's through a cooperative agreement between the USMS and EPA. During these SIs a total of twenty-three (23) monitoring wells were installed and dozens of soil borings were advanced. The Site has been remediated through a series of IRMs performed by EPA which removed all site sources of contamination. Source areas included on-site drums located in the former garage, the septic tank, and two areas of soil contamination, one in the area of the former farmhouse and septic tank and one in the area of the former garage. In addition, all on-site buildings were also demolished and removed as part of an IRM.

The final IRM completed by the EPA in 2005 included the removal of the septic tank and two areas of soil contamination. Confirmation soil sampling and four quarters of groundwater sampling were completed following the IRM. Documentation of this IRM and the results of soil confirmation and groundwater sampling were presented in the October 2006 Removal Action Report prepared by the EPA.

In October 2008, the 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 Site Investigation Report

prepared by the NYSDEC. The soil confirmation sampling results from the October 2006 Removal Action Report and the groundwater sampling results from the October 2006 Removal Action Report and the February 2009 Site Investigation Report were used to represent current site conditions in the March 2009 Record of Decision. The results of the October 2008 groundwater sampling (see Figure 3) are considered the baseline groundwater conditions for this SMP.

Annual groundwater sampling in October 2009 and October 2010 confirmed the results of previous site investigations and the Record of Decision.

Below is a summary of current site conditions by media:

1.3.1 Soil

Following completion of the 2005 IRM, six (6) surface soil samples were taken and analyzed for Volatile Organic Compounds (VOCs) in a road side ditch 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 A4. There was only one marginal exceedence of the 6 NYCRR Part 375-6.8 Unrestricted land use Soil Cleanup Objective (SCO) for acetone (0.065 parts per million (ppm) at RSD-02B), however this level is well below the residential land 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 A4. A total of twenty-one (21) confirmatory samples were collected and analyzed for VOCs. Confirmation sampling exceeded the unrestricted land use SCO for acetone, dicholoroethene (DCE), vinyl chloride, trichloroethene (TCE), and toluene. The exceedences were located beneath the former septic tank at the bottom and down gradient edge of the source soil excavation at a depth of about 16 feet below grade. The contamination appears to be associated with small sand lenses in the subsurface geology.

Three (3) subsurface soil samples were taken in a road side ditch 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 A4.There was only one marginal exceedence of the unrestricted land use SCOs for acetone.

No site-related subsurface soil contamination exceeds the 6 NYCRR Part 375 SCOs for residential land use.

1.3.2 Site-Related Groundwater

As of the March 2009 Record of Decision, Twenty three (23) monitoring wells were installed on and in the vicinity of the site boundary. Figure 2 shows the locations of all wells, and Table 1 summarizes well specifications for all wells. The wells ranged in depth from 12 to 40 feet below ground surface except for one well which extended to 101 feet below ground surface. 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 fourteen (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 seventeen (17) existing monitoring wells and three (3) 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. Monitoring wells MW-21, MW-22, and MW-23 were installed down gradient of the suspected final extent of groundwater contamination. The results of the October 2008 groundwater investigation are shown on Figure 3 and summarized in Tables 2 and 3. Historical groundwater data including the results of the

October 2008 groundwater investigation are provided in Appendix A5. Groundwater results are compared to the applicable Standards, Criteria, and Guidance (SCGs) which is the "Use and Protection of Water", 6 NYCRR Part 608, in Table 2.

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 (5) 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 are 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 down gradient 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 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' 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 site investigations 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 the conclusions made about remaining groundwater contamination above, with further

reductions in contaminant concentrations observed. The results of the October 2009 and October 2010 groundwater sampling are given in Appendix A7.

1.3.3 Site-Related Soil Vapor Intrusion

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 (see Section 2.2 of this SMP).

1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated by the United States Environmental Protection Agency (EPA) through a series of Interim Remedial Measures (IRMs). These IRMs are described below:

- In 1990, the EPA removed the contents from on-site drums and the septic tank, both of which contained 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 EPA demolished and removed all on-site structures including the farmhouse, garage, pool, stable building, and dairy barn. The pool was filled with clean fill.
- In 2005, the EPA conducted a removal action to excavate and dispose off-site soil identified as a source contamination to groundwater. Two source areas were excavated, one in the area of the former farmhouse and septic tank and one in the area of the former garage. These areas were associated with the previous storage and dumping of drums of chlorinated solvents. The septic tank source area excavation measured twenty-three (23) feet by twenty-three (23) feet horizontally, and was to a maximum depth 17.5 feet. The former septic tanks were removed and were found to be degraded metal vessels. The garage source area excavation

measured twenty-five (25) feet by thirty-two (32) feet horizontally, and was to a maximum depth of 16.5 feet. A total of 325 cubic yards of soil considered source material because of VOC contamination 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 this IRM. A source area in the vicinity of the stable building identified previously 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 (6) surface and three (3) subsurface 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 A4.

The NYSDEC March 2009 ROD specifies the remaining remedy for this site as No Further Action with Site Management including continued groundwater monitoring and institutional controls. In accordance with the ROD, the elements of the remedy to be implemented through this Site Management Plan are as follows:

1) Imposition of an institutional control 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 Site Management Plan (SMP); (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by New York State Department of Health (NYSDOH); and (d) the remedial party or site owner to complete a periodic certification of institutional controls. The site boundary subject to the environmental easement is shown on Figure 4.

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 institutional controls, prepared and submitted by a professional engineer or such other expert acceptable to the NSYDEC, until the NYSDEC determines the certification is no longer needed. This submittal will: (a) contain certification that the institutional controls 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 NYSDEC 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 NYSDEC.

1.4.1 Removal of Contaminated Materials from the Site

The 2005 IRM removed all soils in exceedence of the 6 NYCRR Part 375 SCOs for residential land use. This removal action included excavation and off-site disposal of 325 cubic yards of soil considered source material because of VOC contamination from two areas, one in the area of the former farmhouse and septic tank and one in the area of the former garage. The 2005 IRM is documented in the October 2006, “Removal Action Report” prepared by the EPA. Figures showing areas where excavation was performed

as well as tables summarizing confirmation sampling results are provided in Appendix A4.

1.4.2 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, dicholoroethene (DCE), vinyl chloride, TCE, and toluene. The exceedences were located beneath the former septic tank at the bottom and down gradient edge of the excavation at a depth of about 16 feet below grade and appear attributed to a small sand lenses. Figures showing areas where excavation was preformed as well as tables summarizing confirmation sampling results are provided in Appendix A4.

As discussed in Section 1.3.2, groundwater contamination remains at the site. The extent of groundwater contamination as of October 2008 is shown on Figure 3. 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 New York State Department of Health (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 Record of Decision, 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 (see Section 2.2.1).

2.0 INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

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

2.1.2 Purpose

This plan provides:

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

2.2 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required by the ROD to: (1) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (2) 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 Institutional Controls on the site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns, as applicable;
- Groundwater monitoring must be performed by the NYSDEC (or the 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;

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

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

- The property may only be used for residential use which would allow commercial and industrial uses provided that the long-term Institutional Controls included in this SMP are employed. Further, due to the site specific nature of the contamination (i.e. VOCs in deep subsurface soil and groundwater) agricultural use would be permitted.
- 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 NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property as a source of potable or process water is prohibited without necessary water quality treatment as determined by 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 the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.2.1 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 Record of Decision, 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 the 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 though the site. Also included with this letter were excerpts from the February 2009 Site Investigation 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 C to this SMP.

In the event that the periodic groundwater monitoring described in Section 3 indicates a significant increase in the magnitude or extent of groundwater contamination at the site, the NYSDEC will notify the Herkimer County Highway Department of any additional recommendations for handling potentially contaminated groundwater.

2.2.2 Soil Vapor Intrusion Evaluation

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

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

All provisions of the Environmental Easement and Site Management Plan relating to the evaluation of Soil Vapor Intrusion shall be the responsibility of the grantor of the Environmental Easement.

2.3 INSPECTIONS AND NOTIFICATIONS

2.3.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. The inspections will be conducted by the NYSDEC (or NYSDEC's designated representative). The inspections will determine and document the following:

- Compliance with requirements of this SMP and the Environmental Easement;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the monitoring system;

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

If an emergency occurs, such as a natural disaster, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the ICs implemented at the site by the NYSDEC (or NYSDEC's designated representative).

2.3.2 Notifications

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

- 60-day advance notice of any proposed changes in site use that are required under the terms of 6 NYCRR Part 375 and/or Environmental Conservation Law (ECL).

Any change in the ownership of the site will include the following notifications:

- The NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.4 CONTINGENCY PLAN

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

2.4.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or the remedial party should contact the appropriate party from the contact list below (Table 4). For emergencies, appropriate emergency response personnel should be contacted (see Appendix E). Prompt contact should also be made to NYSDEC Project Manager.

Table 4: Site Contacts*

William Bennett, Project Manager NYSDEC Division of Environmental Remediation Remedial Bureau C, Remedial Section B 625 Broadway Albany, NY 12233-7014	Phone: 1-866-520-2334
Pete Taylor, Regional Hazardous Waste Engineer NYSDEC Division of Environmental Remediation 317 Washington Street Watertown, NY 13601	Phone: 315-785-2513
Greg Rys, NYSDOH Project Manager NYSDOH Field Office 5665 State Route 5 Herkimer, NY 13350	Phone: 315-866-6879

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

2.4.2 Map and Directions to Nearest Health Facility

Emergency contact information as well as a map and directions to the nearest health facility are provided in Appendix E.

2.4.3 Response Procedures

As appropriate, the fire department and other emergency response groups will be notified immediately by telephone of the emergency. The emergency telephone number list is found in Appendix E.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy for all affected site media identified below. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater);
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards;
- Assessing achievement of the remedial performance criteria;
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

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

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Periodic inspection and periodic certification.

Periodic monitoring of on-site groundwater and site inspection will be conducted by the NYSDEC (or NYSDEC's designated representative). Contaminant levels in on-site groundwater will be evaluated to determine if the groundwater contamination plume continues to be stable. The site inspection conducted with the groundwater sampling will confirm that all ICs are being adhered to. Monitoring programs are summarized in Table 1 and Table 5 and outlined in detail in Sections 3.2 below.

Table 5: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Groundwater	Periodically, within 30 days before of after April 1st.	Water	CLP Trace VOC method (SOM 01.2)
Site Inspection	Periodically, within 30 days before of after April 1st.	N/A	N/A

* The frequency of events will be conducted as specified by NYSDEC and NYSDOH. Initially, groundwater sampling and site inspections will be annual starting in 2012, however this schedule may be revised based on the findings and results.

3.2 MEDIA MONITORING PROGRAM

3.2.1 Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis by the NYSDEC (or NYSDEC's 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. The network of on-site wells has been designed based on the following criteria:

The initial monitoring well network shall consist of eleven (11) wells. All eleven (11) wells shall be initially sampled on a periodic basis. Seven (7) wells (MW-2R, MW-6R, MW-12A, MW-19, MW-21, MW-22, and MW-23) shall serve as horizontal perimeter monitoring wells for the groundwater contaminant plume. Two (2) wells (MW-16 and MW-18) shall serve as vertical perimeter monitoring wells for the groundwater contaminant plume. Two (2) wells (MW-1 and MW-13) shall serve as mid-plume monitoring wells to assess the attenuation of the groundwater contaminant plume.

Two (2) monitoring wells (MW-4R and MW-17) shall remain at the site as contingency wells, but shall not be sampled. These wells may be incorporated into the monitoring well network if deemed necessary at a later date. 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.

The monitoring well network subject to this Site Management Plan is shown on Figure 5. Baseline post-remedial groundwater quality conditions from October 2008 are shown on Figure 3. Table 1 summarizes key well elevations and parameters as well as the availability of documentation for the thirteen (13) monitoring wells that exist at the site.

All available historical well documentation for the thirteen (13) monitoring wells that exist at the site as of Record of Decision issuance in March 2009 is included in Appendices A1, A2, A3, and A6. For some current monitoring wells boring and/or construction logs are not available. Available monitoring well construction logs for wells which are a part of the initial groundwater monitoring program are included in Appendix D.

Each of the eleven monitoring wells identified as a part of the monitoring well network above shall be sampled periodically using standard EPA low flow sampling techniques and analyzed for VOCs by the USEPA CLP Trace method (SOM 01.2). Sampling shall take place within 30 days before or after April 1st.

Following each sampling event the results of the groundwater sampling event will be reported in the Periodic Review Report as described in Section 3.5. Results shall be compared to the groundwater SCGs. Deliverables for the groundwater monitoring program are specified in Section 3.5.

Based on these results the sampling frequency may be modified with the approval 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 the 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 NYSDEC.

All provisions of the Environmental Easement and Site Management Plan relating to groundwater monitoring shall be the responsibility of the NYSDEC (or NYSDEC's 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 the NYSDEC (or NYSDEC's designated representative) for maintaining the monitoring well network and the collection of samples.

3.2.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log. 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 Periodic Review Report. All wells shall be sampled in accordance with EPA low-flow groundwater sampling procedures and analyzed for VOCs by the USEPA CLP Trace method (SOM 01.2). The entity which is responsible for the implementation of the groundwater monitoring program must prepare and submit to the NYSDEC for approval a Field Sampling Plan, Quality Assurance Project Plan, Health and Safety and Community Air Monitoring Plan, and a Groundwater Monitoring Well Sampling Form which adhere to the NYSDEC's DER-10 prior to the initiation of field work.

3.2.1.2 Monitoring Well Repairs, Replacement and Decommissioning

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

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

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 NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's 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 the NYSDEC.

3.3 SITE-WIDE INSPECTION

Periodic site inspections shall take place within 30 days before or after April 1st and should be performed concurrently with groundwater sampling by the NYSDEC (or the NYSDEC's designated representative). The site wide inspection shall be documented in the Periodic Review Report as discussed in Section 3.5 and all necessary information shall be collected to complete the Periodic Certification for the site as discussed in Section 5. Site-wide inspections will also be performed after all severe weather conditions that may affect monitoring devices by the NYSDEC (or the NYSDEC's designated representative). During these inspections, an inspection form will be completed (Appendix F). The form will compile sufficient information to assess the following:

- Compliance with the Environmental Easement and all ICs, including site usage;
- General site conditions at the time of the inspection;
- The site management activities being conducted including health and safety inspection;

- Confirm that site records are up to date.

The findings of the site wide inspection conducted by the NYSDEC (or the NYSDEC's designated representative) will be included in the Periodic Review Report and provided to the site owner for certification as described in Section 5. An example Site Inspection Report for 2009 is provided in Appendix F.

3.4 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site by the entity executing this Site Management Plan. Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.

- Analytical Procedures;
- Internal QC and Checks;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.5 MONITORING REPORTING REQUIREMENTS

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

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

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., groundwater);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type, sampling locations, groundwater contours, and contaminant concentrations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and

- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 6 below.

Table 6: Monitoring/Inspection Report Schedule

Task	Reporting Frequency*
Periodic Review Report – Groundwater Sampling Plan and Institutional Control Certification	Groundwater Sampling and Site Inspection to be conducted periodically, 30 days before or after April 1st of each year. Periodic Review Report must be submitted to or completed by the NYSDEC no later than November 15st of the same year.

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

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

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

5. SITE MANAGEMENT REPORTING PLAN

5.1 INTRODUCTION

A Periodic Review Report will be submitted by the NYSDEC's designated representative or prepared by the NYSDEC every year, beginning with the initial round of groundwater sampling and corresponding site inspection. The initial round of groundwater sampling under this SMP will be conducted 30 days before or after April 1st, 2012. The Periodic Review Report shall be submitted to or completed by NYSDEC no later than November 15, 2012. The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 "Technical Guidance for site Investigation and Remediation" requirements. The frequency of submittal of the Periodic Review Report may be modified with the approval of the NYSDEC.

This report will include the following:

- Identification of all ICs required by the Record of Decision for the site;
- An assessment of the effectiveness of all Institutional Controls for the site;
- An evaluation of the Institutional Control Plan and the Monitoring Plan for adequacy in meeting remedial goals;
- Results of the required site inspections and severe condition inspections, if any; and
- A compilation of all deliverables generated during the reporting period, as specified in Section 2 IC Plan and Section 3 Monitoring Plan.

In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix B (Environmental Easement).

5.2 CERTIFICATION OF INSTITUTIONAL CONTROLS

Information on ICs can be found in the Institutional Control Plan portion of the SMP. Inspection of the ICs will occur at a frequency described in Section 3 Monitoring Plan. After the last inspection of the reporting period, the NYSDEC will provide the site

owner with the Periodic Review Report. The site owner acting as the grantor of the Environmental Easement will sign and certify the Property Owner Certification. The document will certify that:

- On-site ICs are unchanged from the previous certification;
- Site use is compliant with the environmental easement;
- the inspection of the site to confirm the effectiveness of the ICs was performed by the NYSDEC and is accurate;
- to the best of their knowledge and belief, the work and conclusions described in the certification are in accordance with the requirements of the site remedial program; and
- the information presented is accurate and complete.

The signed certification will be amended to the Periodic Review Report (see Section 5.4) during the NYSDEC's Periodic Review of the site.

5.3 SITE INSPECTIONS

5.3.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan of this SMP. Periodic site inspections shall take place within 30 days before or after April 1st and should be performed concurrently with groundwater sampling. Inspections of remedial components will also be conducted whenever a severe condition has taken place, such as erosion or flooding.

5.3.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms. A general site-wide inspection form will be completed during the site-wide inspection (see Appendix F). These forms are subject to NYSDEC revision.

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

5.3.3 Evaluation of Records and Reporting

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

- ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented; and,
- The site remedy continues to be protective of public health and the environment in accordance with the ROD (the groundwater contaminant plume is stable and not migrating).

5.4 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted periodically, beginning with the initial round of groundwater sampling and corresponding site inspection. The initial round of groundwater sampling under this SMP will be conducted 30 days before or after April 1st, 2012. The first Periodic Review Report shall be submitted to or completed by NYSDEC no later than November 15, 2012. The report will include:

- All applicable inspection forms and other records generated for the site during the reporting period;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data sufficient for the Department to evaluate contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific ROD (ICs in place, the groundwater contaminant plume is stable and not migrating);

- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation. Current site contacts are listed in Table 4.

Following completion of the Periodic Review Report the NYSDEC will provide the site owner with the Periodic Review Report. The site owner will sign and certify the Property Owner Certification. The signed certification will be amended to the Periodic Review Report.

5.5 CORRECTIVE MEASURES PLAN

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

Figures

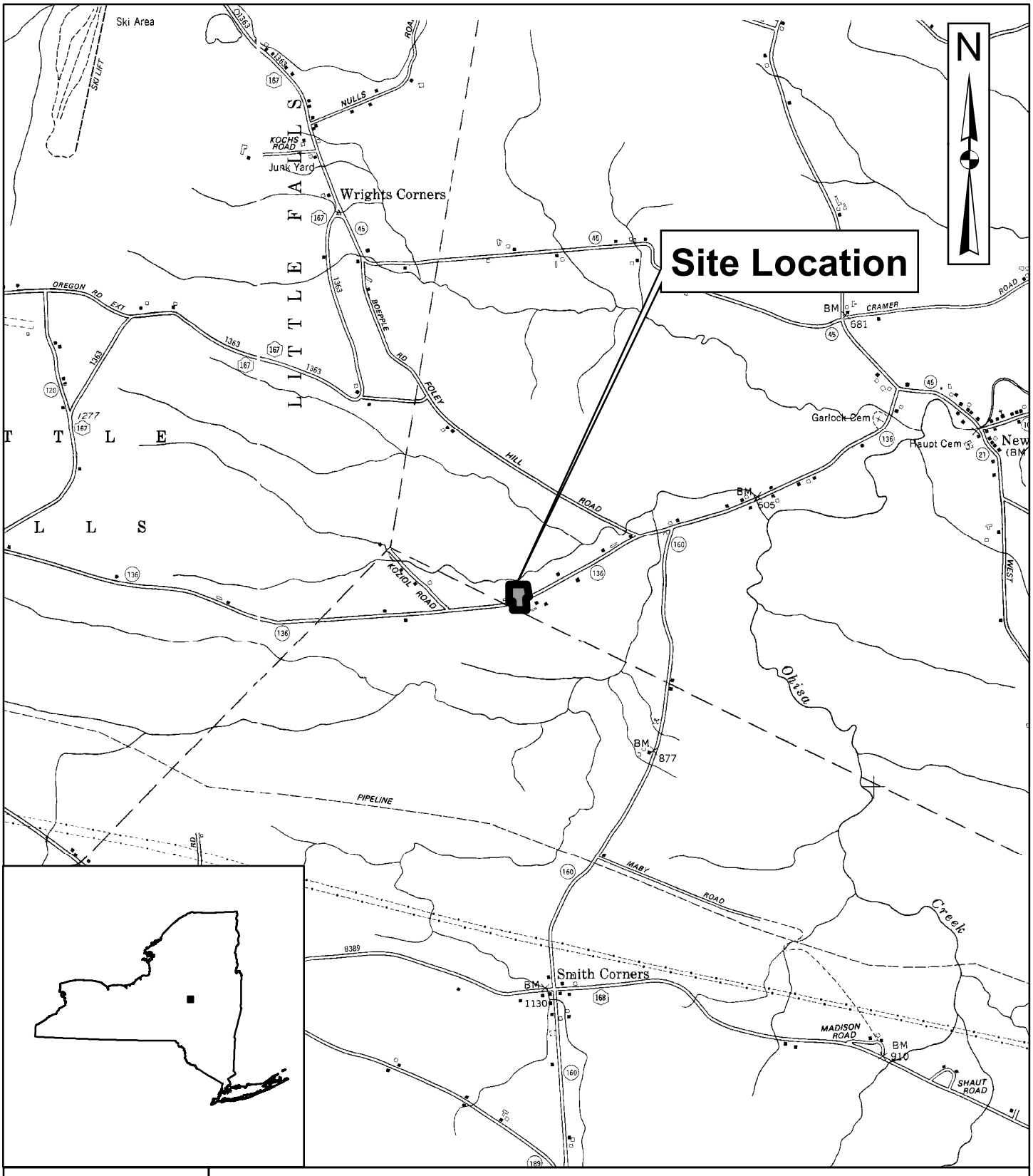


Figure 1 - Site Location Map

Johnny Cake Road Site

Site No. 6-22-016

Town of Danube, Herkimer County, New York

1:30,000

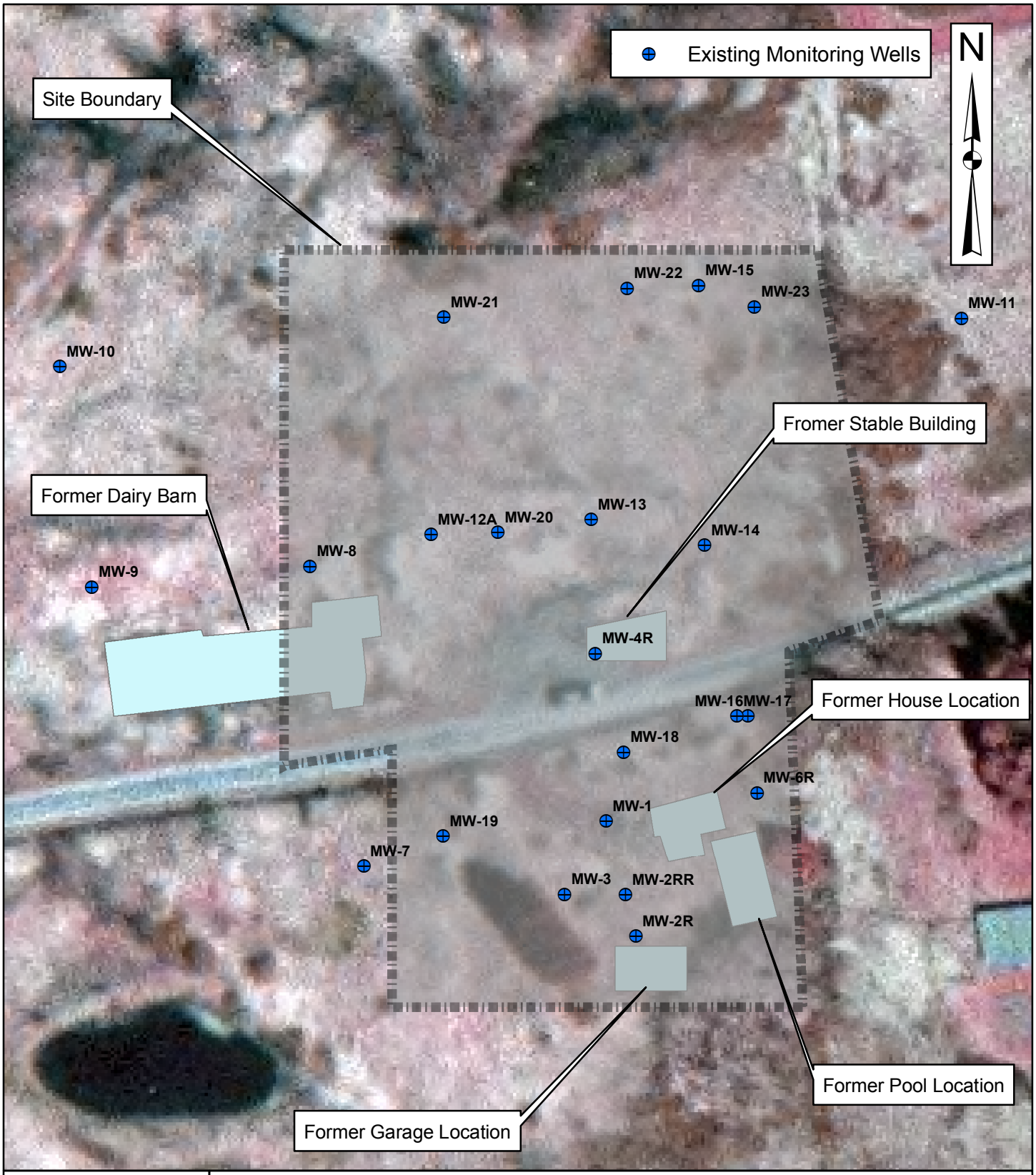
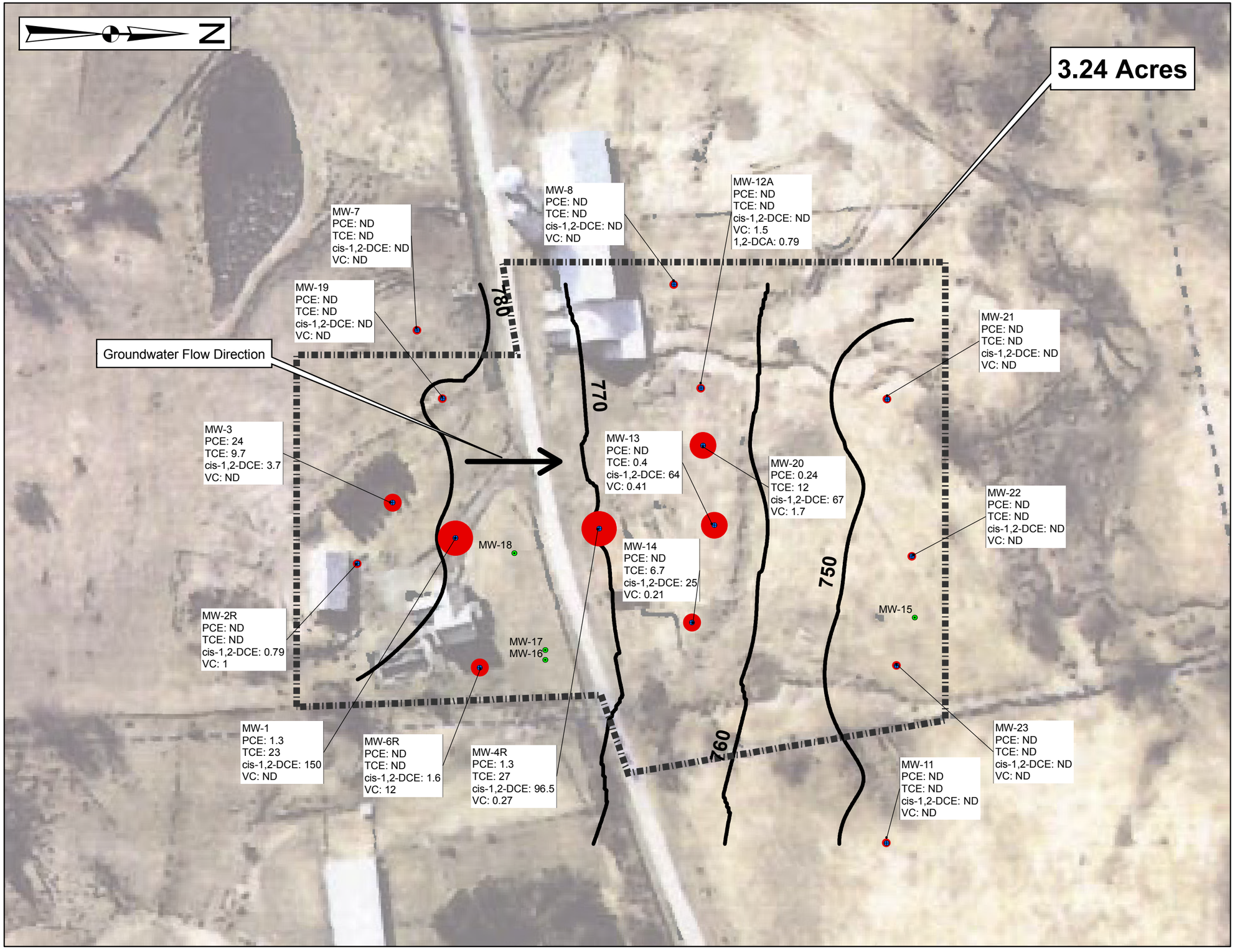


Figure 2 - Site Parcel Map
Johnny Cake Road Site
Site No. 6-22-016
Town of Danube, Herkimer County, New York
1:1,000

Figure 3
Johnny Cake Road Site
Site No. 6-22-016
October 2008
Groundwater Investigation & Site Boundary

1991 Aerial Photo
1:800



Legend

- Proposed Site Boundary
- Plume Monitoring Wells
- Deeper Monitoring Wells

Total VOCs

- < 5 ppb
- 5 - 50 ppb
- 50 - 100 ppb
- > 100 ppb
- GW Contour Lines

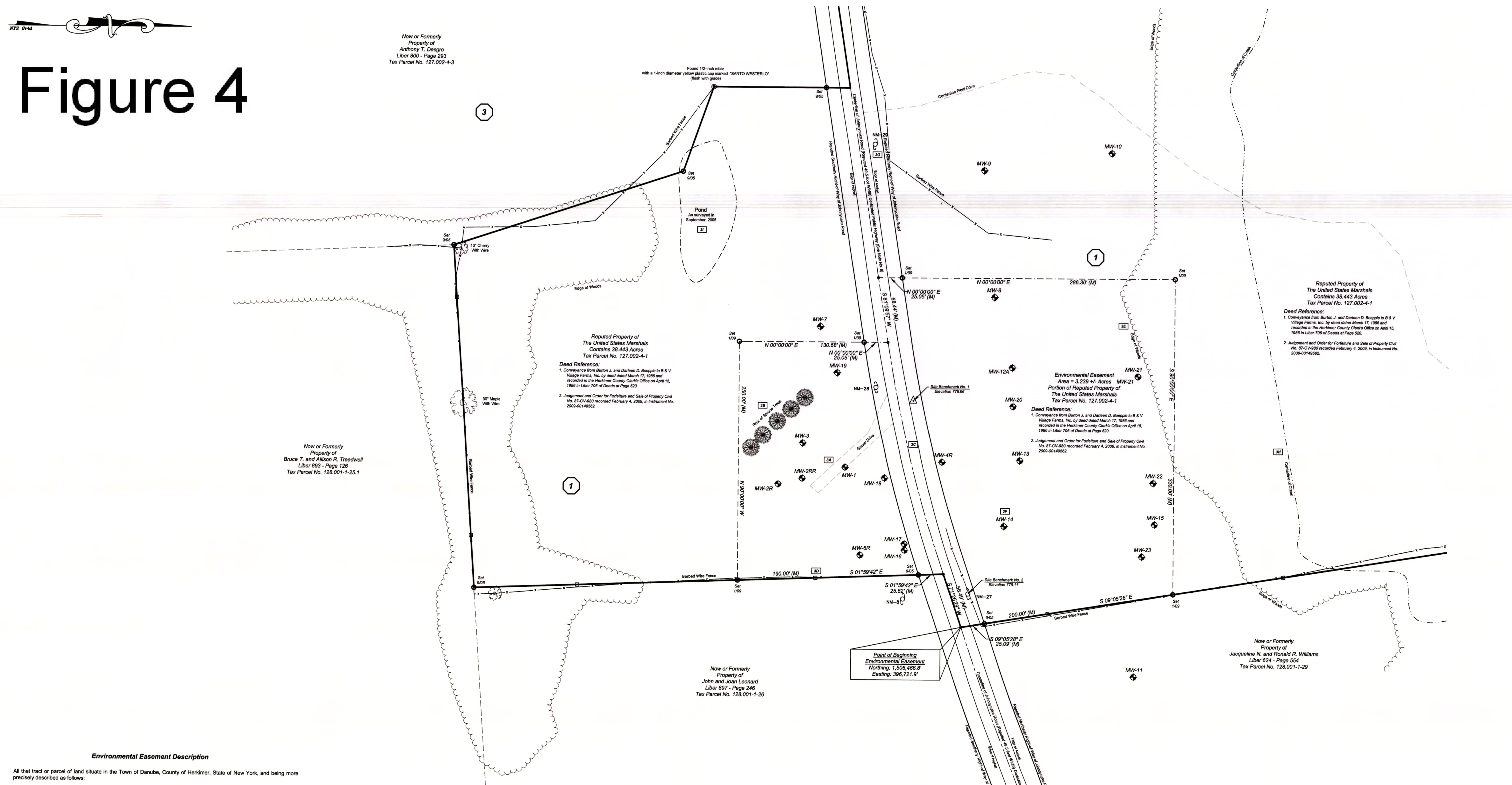
Notes:

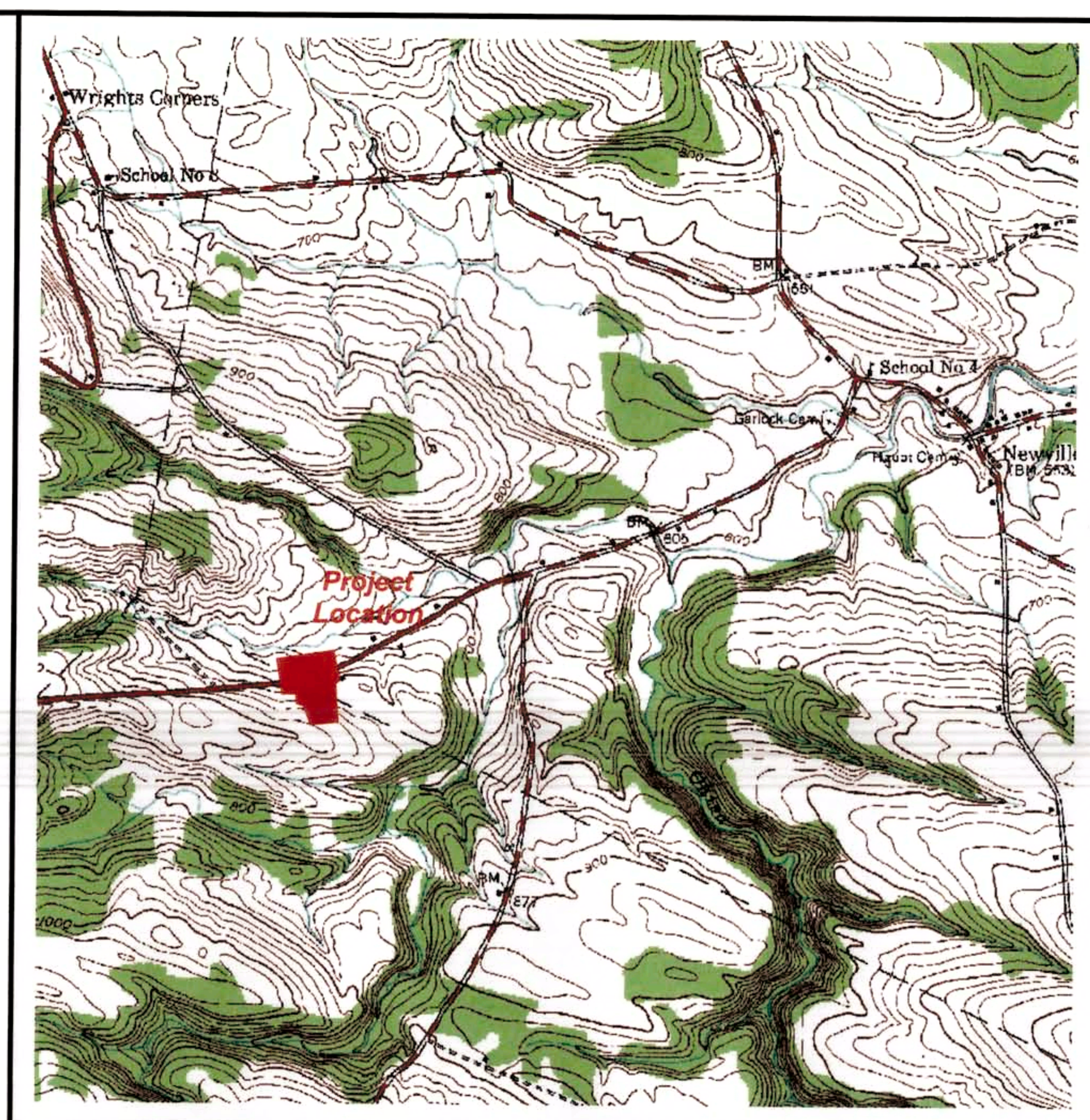
1. PCE = Tetrachloroethene
   TCE = Trichloroethene
   cis-1,2-DCE = cis-1,2-Dichloroethene
   VC = Vinyl Chloride
   1,2-DCA = 1,2-Dichloroethane
   ND = Not Detected

2. All concentrations in parts per billion (ppb)

3. No Volatile Organic Compounds (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.

Figure 4





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

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.

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

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.

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

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
- 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
- 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	5/17/11
	Updated Map per Title Commitment	
1	Revised Environmental Notes	10/22/10

STATE OF NEW YORK · ROBERT H. KOROSEC · 050578 · LICENSED LAND SURVEYOR
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
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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

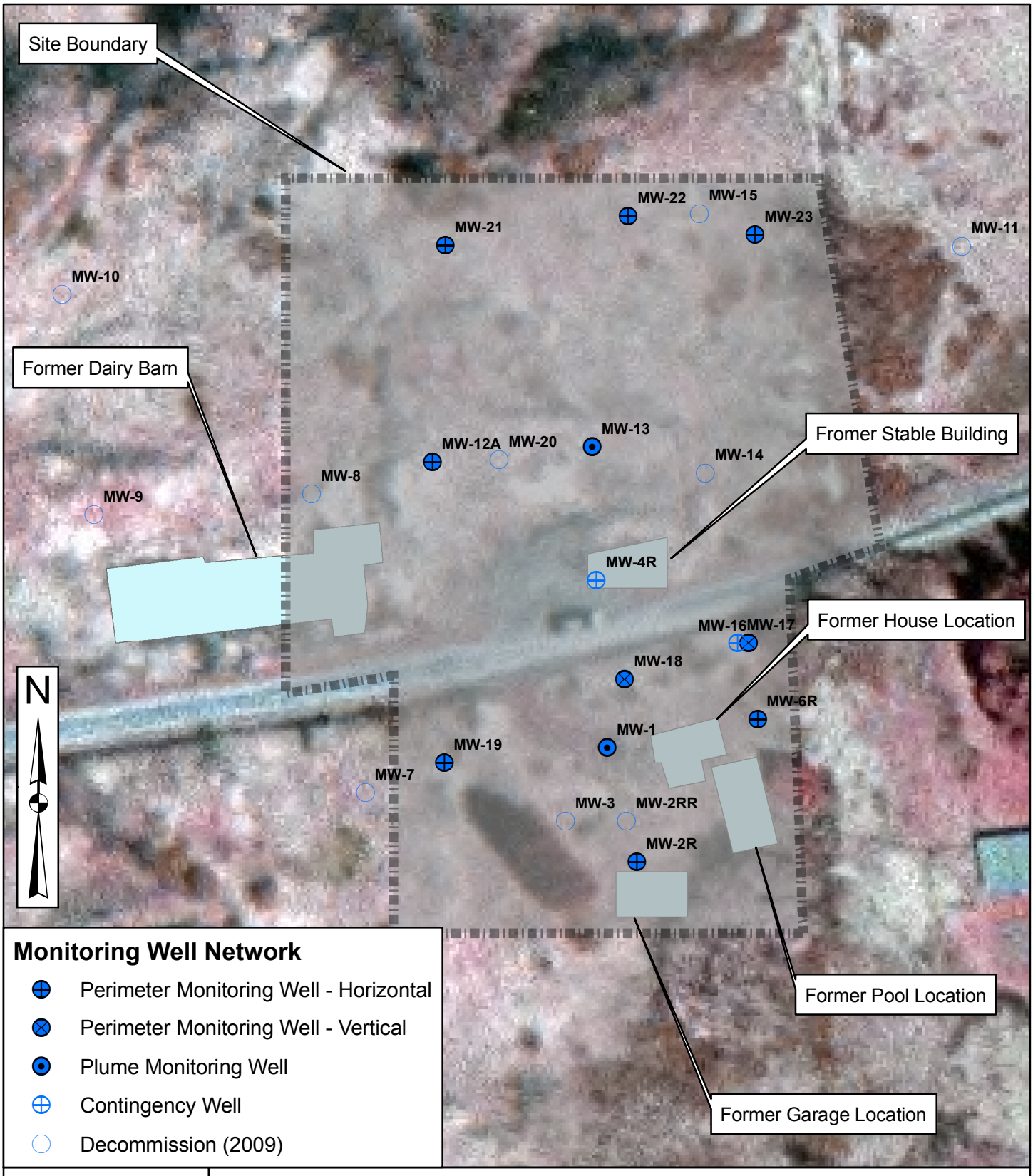


Figure 5 - Groundwater Monitoring Well Network

Johnny Cake Road Site
Site No. 6-22-016
Town of Danube, Herkimer County, New York

1:1,000

Tables

Johnny Cake Road Site, Site No.: 6-22-016, Town of Danube, Herkimer County

Table 1 - Active Monitoring Well Summary[1]

Well	TOC Elev	TIC Elev	Ground Elev	Well Screen (bgs)	Oct-08 Well Depth (bgs)	Screen Top Elev	Screen Bot Elev	Oct 08 Water Elev	Date Installed	Well Dia (in)	Status	Documentation[2]	Boring Log	Const Log
MW-1	785.55	782.59	782.5	2' - 12'	9.2	780.5	770.5	778.94	4/19/1990	2	Network - Plume	ESI	Yes	Yes
MW-2R	791.40	791.15	789.4	3' - 23'	22.3	786.4	766.4	785.45	7/25/2005	4	Network - Perimeter	RAR	Yes	Yes
MW-6R	785.46	785.35	783.1	3' - 23'	23	780.1	760.1	777.11	7/25/2005	4	Network - Perimeter	RAR	Yes	Yes
MW-12A	769.44	769.08	767.2	10' - 20'	19.8	757.2	747.2	762.12	May-91	4	Network - Perimeter	ECS	Yes	Yes
MW-13	768.71	768.44	766.6	5' - 15'	15.3	761.6	751.6	761.94	May-91	4	Network - Plume	ECS	Yes	Yes
MW-16	781.85	781.39	778.9	15' - 25'	25.4	763.9	753.9	771.83	9/23/2003	4	Network - Vertical	RAR	Yes	No
MW-18	784.12	783.95	781.5	15' - 25'	24.4	766.5	756.5	774.44	9/29/2003	4	Network - Vertical	RAR	Yes	No
MW-19	788.22	787.83	785.6	15' - 25'	24.9	770.6	760.6	779.51	9/29/2003	4	Network - Perimeter	RAR	Yes	No
MW-21	747.46	747.33	744.6	8' - 23'	23	736.6	721.6	741.83	9/29/2008	2	Network - Perimeter	SIR	Yes	Yes
MW-22	748.77	748.52	746.3	6' - 21'	21	740.3	725.3	743.03	9/30/2008	2	Network - Perimeter	SIR	Yes	Yes
MW-23	747.65	747.44	744.9	5' - 20'	20	739.9	724.9	740.54	9/30/2008	2	Network - Perimeter	SIR	Yes	Yes
MW-17	782.10	781.17	778.9	30' - 40'	39	748.9	738.9	776.17	9/25/2003	4	Contingency	RAR	Yes	No
MW-4R	778.99	778.70	776.5	3.5' - 23.5'	23.8	773.0	753.0	769.88	7/26/2005	4	Contingency	RAR	Yes	Yes
MW-2RR	790.92	790.62	788.8	4.5' - 24.5'	23.4	784.3	764.3	787.11	7/27/2005	4	Decommission	RAR	Yes	Yes
MW-3	790.26	790.08	787.7	3' - 13'	10.1	784.7	774.7	783.18	4/19/1990	2	Decommission	ESI, ECS	Yes	Yes
MW-7	791.50	791.48	788.4	4' - 24'	19.7	784.4	764.4	787.78	6/6/1990	2	Decommission	ECS	No	No
MW-8	769.00	769.11	765.9	N/A	14.1	N/A	N/A	761.16	6/6/1990	2	Decommission	ECS	No	No
MW-9	N/A	769.44	768.6	2' - 12'	11.5	766.6	756.6	765.51	6/6/1990	2	Decommission	ECS	No	No
MW-10	752.59	752.67	748.4	2.5' - 17.5'	14	745.9	730.9	740.12	6/6/1990	2	Decommission	ECS	No	No
MW-11	750.99	750.51	748.9	5' - 20'	20.1	743.9	728.9	748.61	May-91	4	Decommission	ECS	Yes	Yes
MW-14	769.23	769.11	767.4	6' - 21'	11.1	761.4	746.4	762.86	May-91	4	Decommission	ECS	Yes	Yes
MW-15	746.83	746.64	744.5	91' - 101'	100.7	653.5	643.5	Artesian	May-91	2	Decommission	ECS	Yes	Yes
MW-20	769.90	769.54	767.4	14' - 24'	23.6	753.4	743.4	759.89	10/1/2003	4	Decommission	RAR	Yes	No

Notes:

bgs = below ground surface

1. Elevations Above Mean Sea Level (AMSL) unless otherwise noted.

2. Documentation : ESI = Environmental Subsurface Investigation, June 1990 (Appendix A1); ESC = Extent of Contamination Study, November 1991 (Appendix A2); RAR = Removal Action Report, October 2006 (Appendix A3); SIR = Site Investigation Report, February 2009 (Appendix A6)

Table 3

Johnny Cake Road Site
Monitored Natural Attenuation Data Summary

Parameter	MW-1	MW-2R	MW-3	MW-4R	MW-6R	MW-8	MW-12A	MW-13	MW-14
Alkalinity	1	-	-	1	1	-	1	1	-
BTEX	-	-	-	-	-	-	-	-	-
Carbon Dioxide	NM	NM	NM	NM	NM	NM	NM	NM	NM
Carbon Tetrachloride	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	2	-	-	2	-	2
Chloroethane	-	-	-	-	-	-	-	-	-
Chloroform	-	-	-	-	-	-	-	-	-
DCA	-	-	-	-	-	-	-	-	-
DCE	2	2	2	2	2	-	-	2	2
Dichloromethane	-	-	-	-	-	-	-	-	-
Dissolved Oxygen	-3	3	-	-	-	-	3	3	-
Ethene/Ethane	-	-	-	-	-	-	-	-	-
Ferrous Iron	NM	NM	NM	NM	NM	NM	NM	NM	NM
Hydrogen	NM	NM	NM	NM	NM	NM	NM	NM	NM
Methane	0	0	0	0	3	0	3	0	0
Nitrate	2	2	2	2	2	2	2	2	2
PCE	0	0	0	0	0	0	0	0	0
pH	0	0	0	0	0	0	0	0	0
ORP	-	1	-	-	1	-	1	-	-
Sulfate	-	-	-	-	-	2	2	-	-
Sulfide	-	-	-	-	-	-	-	-	-
1,1,1-TCA	-	-	-	-	-	-	-	-	-
Temperature	-	-	-	-	-	-	-	-	-
TOC	-	-	-	-	-	-	-	-	-
TCE	2	-	2	2	-	-	-	2	2
VC	-	2	-	2	2	-	2	2	2
Volatile Fatty Acids	NM	NM	NM	NM	NM	NM	NM	NM	NM
Total	4	10	6	11	11	4	16	12	10
Biodegradation Potential	Inadequate	Limited	Limited	Limited	Limited	Inadequate	Adequate	Limited	Limited

Table 2

Johnny Cake Road Site
Summary of Laboratory Analytical Data for Groundwater

Sample ID Date Collected Lab Sample ID	Groundwater NYCRR Criteria	MW-1 10/08/08 G1734-13A	MW-2R 10/06/08 G1734-03A	MW-3 10/06/08 G1734-04A	MW-4R 10/06/08 G1734-05A	MW-54R 10/06/08 G1734-02A	MW-6R 10/02/08 G1709-07A	MW-7 10/07/08 G1734-09A	MW-8 10/07/08 G1734-10A
CLP VOC by Method SOM 01.2 (µg/L)									
trans-1,2-Dichloroethene	5	**1.2**	< 0.50 UJ	< 0.50 U	**0.67**	**0.68**	< 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
Tetrachloroethene (PCE)	5	**1.3**	< 0.50 U	**24**	**1.3**	**1.3**	< 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
1,1-Dichloroethene (DCE)	5	**0.24 J**	< 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	5	**150**	**0.79 J**	**3.7**	**99 J**	**94 J**	**1.6**	< 0.50 U	< 0.50 U
Trichloroethene (TCE)	5	**23**	< 0.50 U	**9.7**	**27**	**27**	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride (VC)	2	< 0.50 U	**1**	< 0.50 U	**0.28 J**	**0.26 J**	**12**	< 0.50 U	< 0.50 U
MNA Parameters	**Units**	MW-1	MW-2R	MW-3	MW-4R	MW-54R	MW-6R	MW-7	MW-8
Chloride	mg/L	2.0	< 2.0 U	4.1	110	110	4.7	17	28
Dissolved Iron	ug/L	< 61.0 U	101 B	< 61.0 U	< 61.0 U	< 61.0 U	756	< 61.0 U	87.9 B
Total Iron	ug/L	2290	967	140 B	122 B	118 B	7,290	616	96.7 B
Nitrogen-Nitrite	mg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Nitrogen-Nitrate	mg/L	0.33	< 0.13 U	< 0.13 U	0.35	0.36	< 0.13 U	0.23	0.63
Sulfate	mg/L	220	21	39	49	49	86	25	16
Total Alkalinity	mg/L $CaCO_3$	340	220	290	330	340	500	160	310
Sulfide	mg/L	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U
Nitrogen-TKN	mg/L	0.70	0.20	< 0.20 U	0.37	0.48	0.67	0.34	0.75
Total Organic Carbon	mg/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Ethane	ug/L	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U
Ethene	ug/L	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U
Methane	ug/L	1.2	240	< 0.63 U	< 0.63 U	< 0.63 U	700	0.62	5.2
Dissolved Oxygen	mg/L	6.59	0.42	4.4	1.8	1.8	0.58	3.3	0.98

Notes:
NYCRR - New York Code of Rules and Regulations, Title 6, Part 702.15 (a)(2) and 703.5.
MW-54R is a duplicate sample from MW-4R.
U - Not detected at practical quantitation limit.
J - Indicates an estimated value.
D - Indicates sample dilution.
H - Indicates sample dilution after holding time.
B - Analyte detected in the associated method method blank.
na - Sample not analyzed for MNA parameters.
Bolded values indicate detection above practical quantitation limit.
Shaded cells indicate exceedance of standard.

Table 2

Johnny Cake Road Site
Summary of Laboratory Analytical Data for Groundwater

Sample ID Date Collected Lab Sample ID	Groundwater NYCRR Criteria	MW-11 10/07/08 G1734-08A	MW-12A 10/02/08 G1709-08A	MW-13 10/02/08 G1709-09A	MW-14 10/07/08 G1734-07A	MW-15 10/01/08 G1709-05A	MW-16 10/01/08 G1709-01A	MW-17 10/01/08 G1709-02A	MW-18 10/02/08 G1709-10A
CLP VOC by Method SOM 01.2 (µg/L)									
trans-1,2-Dichloroethene	5	< 0.50 U	< 0.50 U	**0.49 J**	**0.45 J**	< 0.50 U	< 0.50 UJ	< 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
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
1,2-Dichloroethane	0.6	< 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 (DCE)	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
cis-1,2-Dichloroethene	5	< 0.50 U	< 0.50 U	**64 J**	**25 J**	< 0.50 U	< 0.50 UJ	< 0.50 U	< 0.50 U
Trichloroethene (TCE)	5	< 0.50 U	< 0.50 U	**0.40 J**	**6.7**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride (VC)	2	< 0.50 U	**1.5**	**0.41 J**	**0.21 J**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
MNA Parameters	**Units**	MW-11	MW-12A	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18
Chloride	mg/L	na	68	32	150	na	4.0	< 2.0 U	4.0
Dissolved Iron	ug/L	na	2,350	< 61.0 U	274	na	< 61 U	< 61 U	< 61.0 U
Total Iron	ug/L	na	19,500	62.9 B	300	na	597	173 B	330
Nitrogen-Nitrite	mg/L	na	< 0.13 U	< 0.13 U	< 0.13 U	na	< 0.13 U	< 0.13 U	< 0.13 U
Nitrogen-Nitrate	mg/L	na	< 0.13 U	< 0.13 U	< 0.13 U	na	< 0.13 U	< 0.13 U	< 0.13 U
Sulfate	mg/L	na	< 5.0 U	31	26	na	26	46	28
Total Alkalinity	mg/L $CaCO_3$	na	440	320	290	na	220	160	210
Sulfide	mg/L	na	< 0.030 U	< 0.030 U	< 0.030 U	na	< 0.030 U	< 0.030 U	< 0.030 U
Nitrogen-TKN	mg/L	na	4.7	< 0.20 U	0.29	na	1.4	< 0.20 U	< 0.20 U
Total Organic Carbon	mg/L	na	< 10 U	< 10 U	< 10 U	na	< 10 U	< 10 U	< 10 U
Ethane	ug/L	na	< 1.3 U	< 1.3 U	< 1.3 U	na	< 1.3 U	< 1.3 U	< 1.3 U
Ethene	ug/L	na	< 1.6 U	< 1.6 U	< 1.6 U	na	< 1.6 U	< 1.6 U	< 1.6 U
Methane	ug/L	na	1,900 H	9.0	< 0.63 U	na	100	1.8	2.7
Dissolved Oxygen	mg/L	na	0.22	0.35	1.9	na	0.88	1.42	0.45

Notes:
NYCRR - New York Code of Rules and Regulations, Title 6, Part 702.15 (a)(2) and 703.5.
MW-54R is a duplicate sample from MW-4R.
U - Not detected at practical quantitation limit.
J - Indicates an estimated value.
D - Indicates sample dilution.
H - Indicates sample dilution after holding time.
B - Analyte detected in the associated method method blank.
na - Sample not analyzed for MNA parameters.
Bolded values indicate detection above practical quantitation limit.
Shaded cells indicate exceedance of standard.

Table 2

Johnny Cake Road Site
Summary of Laboratory Analytical Data for Groundwater

Sample ID Date Collected Lab Sample ID	Groundwater NYCRR Criteria	MW-19 10/06/08 G1734-01A	MW-20 10/02/08 G1709-06A	MW-21 10/07/08 G1734-11A	MW-22 10/08/08 G1734-14A	MW-23 10/08/08 G1734-15A
CLP VOC by Method SOM 01.2 (µg/L)						
trans-1,2-Dichloroethene	5	< 0.50 U	**0.35 J**	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	5	**0.21 J**	< 0.50 U	< 0.50 U	**0.25 J**	< 0.50 U
Tetrachloroethene (PCE)	5	< 0.50 U	**0.24 J**	< 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
1,1-Dichloroethene (DCE)	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	5	< 0.50 U	**67**	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene (TCE)	5	< 0.50 U	**12**	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride (VC)	2	< 0.50 U	**1.70**	< 0.50 U	< 0.50 U	< 0.50 U
MNA Parameters	**Units**	MW-19	MW-20	MW-21	MW-22	MW-23
Chloride	mg/L	< 2.0 U	39	31	7.6	4.5
Dissolved Iron	ug/L	< 61.0 U	< 61 U	112 B	833	< 61.0 U
Total Iron	ug/L	119 B	1,150	1180	< 61.0 U	180 B
Nitrogen-Nitrite	mg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Nitrogen-Nitrate	mg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Sulfate	mg/L	22	34	23	50	37
Total Alkalinity	mg/L $CaCO_3$	20	310	430	220	190
Sulfide	mg/L	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U	< 0.030 U
Nitrogen-TKN	mg/L	0.31	0.65	0.45	0.89	0.37
Total Organic Carbon	mg/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Ethane	ug/L	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U	< 1.3 U
Ethene	ug/L	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U	< 1.6 U
Methane	ug/L	3.5	12	8.9	8.3	2.8
Dissolved Oxygen	mg/L	0.57	0.33	1.86	5.5	8.98

Notes:
NYCRR - New York Code of Rules and Regulations, Title 6, Part 702.15 (a)(2) and 703.5.
MW-54R is a duplicate sample from MW-4R.
U - Not detected at practical quantitation limit.
J - Indicates an estimated value.
D - Indicates sample dilution.
H - Indicates sample dilution after holding time.
B - Analyte detected in the associated method method blank.
na - Sample not analyzed for MNA parameters.
Bolded values indicate detection above practical quantitation limit.
Shaded cells indicate exceedance of standard.

Table 3

Johnny Cake Road Site
Monitored Natural Attenuation Data Summary

Parameter	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23
Alkalinity	-	-	-	-	-	1	-	-
BTEX	-	-	-	-	-	-	-	-
Carbon Dioxide	NM	NM	NM	NM	NM	NM	NM	NM
Carbon Tetrachloride	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	2	-	-	-
Chloroethane	-	-	-	-	-	-	-	-
Chloroform	-	-	-	-	-	-	-	-
DCA	-	-	-	-	-	-	-	-
DCE	-	-	-	-	2	-	-	-
Dichloromethane	-	-	-	-	-	-	-	-
Dissolved Oxygen	-	-	3	-	3	-	-3	-3
Ethene/Ethane	-	-	-	-	-	-	-	-
Ferrous Iron	NM	NM	NM	NM	NM	NM	NM	NM
Hydrogen	NM	NM	NM	NM	NM	NM	NM	NM
Methane	0	0	0	0	0	0	0	0
Nitrate	2	2	2	2	2	2	2	2
PCE	0	0	0	0	0	0	0	0
pH	0	0	0	0	0	0	0	0
ORP	1	-	1	1	1	1	-	-
Sulfate	-	-	-	-	-	-	-	-
Sulfide	-	-	-	-	-	-	-	-
1,1,1-TCA	-	-	-	-	-	-	-	-
Temperature	-	-	-	-	-	-	-	-
TOC	-	-	-	-	-	-	-	-
TCE	-	-	-	-	2	-	-	-
VC	-	-	-	-	2	-	-	-
Volatile Fatty Acids	NM	NM	NM	NM	NM	NM	NM	NM
Total	3	2	6	3	14	4	-1	-1
Biodegradation Potential	Inadequate	Inadequate	Limited	Inadequate	Limited	Inadequate	Inadequate	Inadequate

Notes:
NM - Not Measured
Upgraient well MW-7 was used as a reference point and is there fore not included in this evaluation.

Appendix A: Excerpts from NYSDEC Site File

Appendix A1: 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

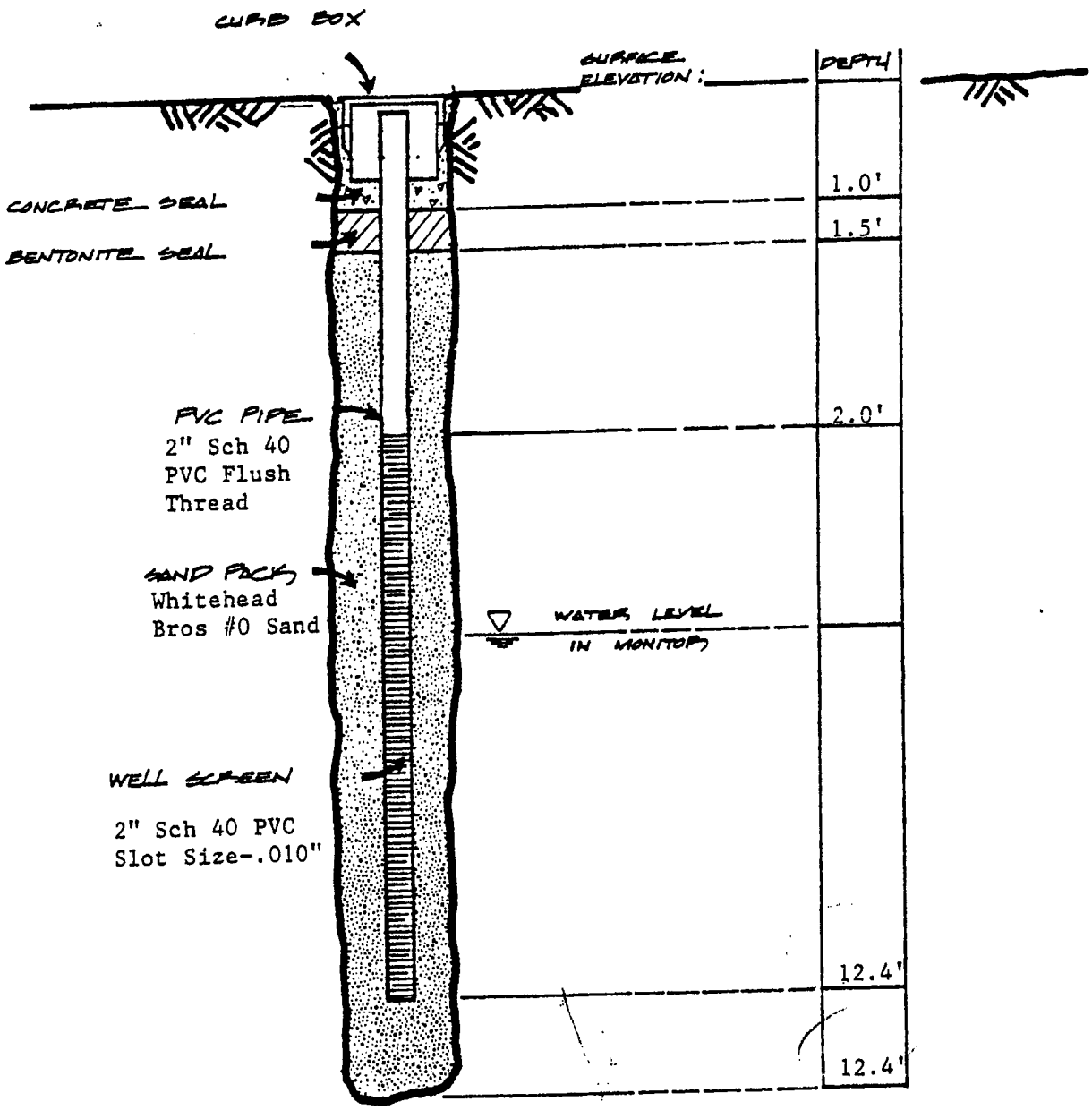
PROJECT Environmental Site Assessment
LOCATION Johny Cake Road
Town of Stark, NY

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.

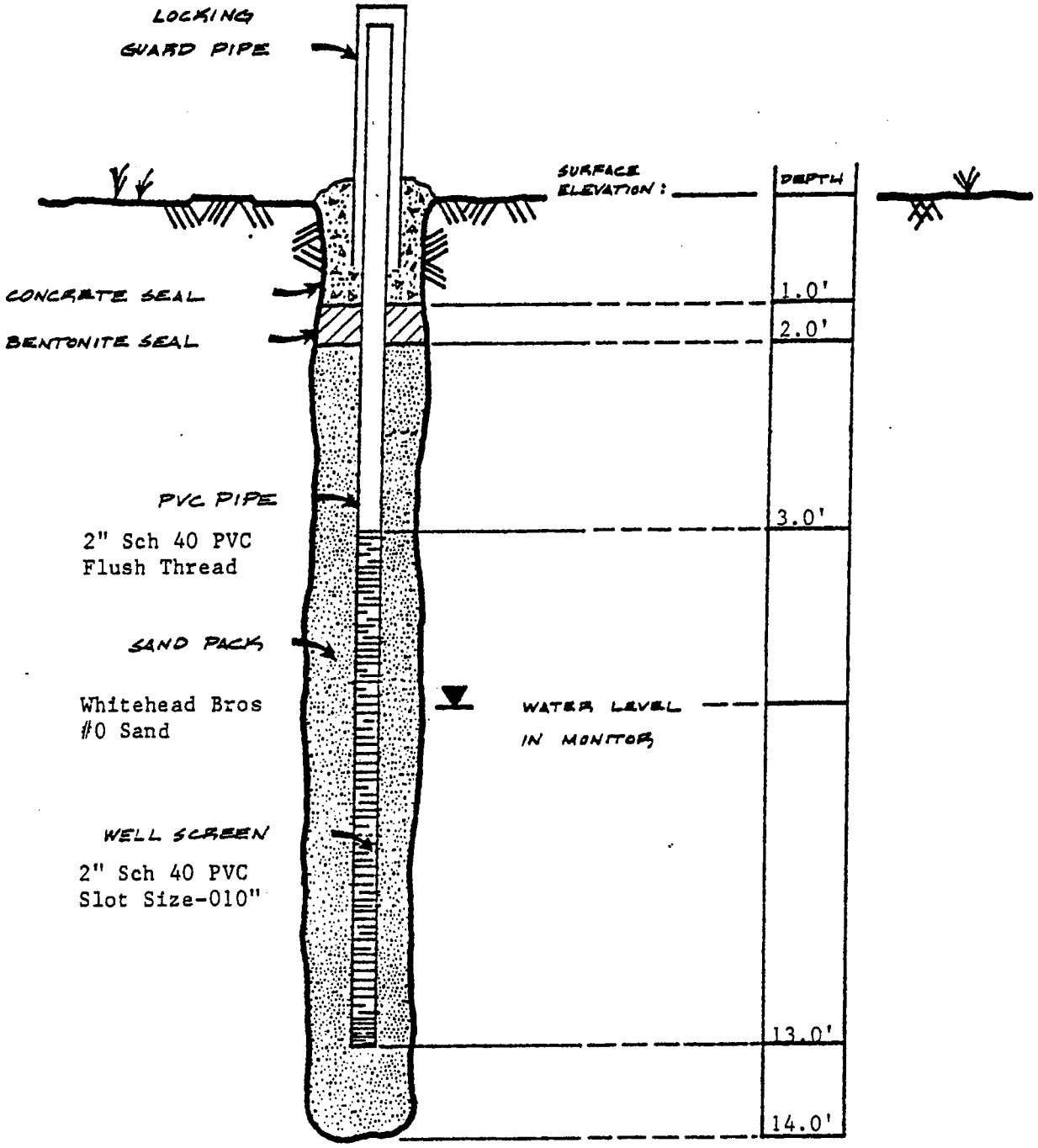
DEPTH IN FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	3	4		10		Brown SILT, SAND & GRAVEL	Note #1: At completion of borings a 2" PVC groundwater Monitoring Well was installed as per attached Monitoring Well Detail.
			6	4					
		2	5	2		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

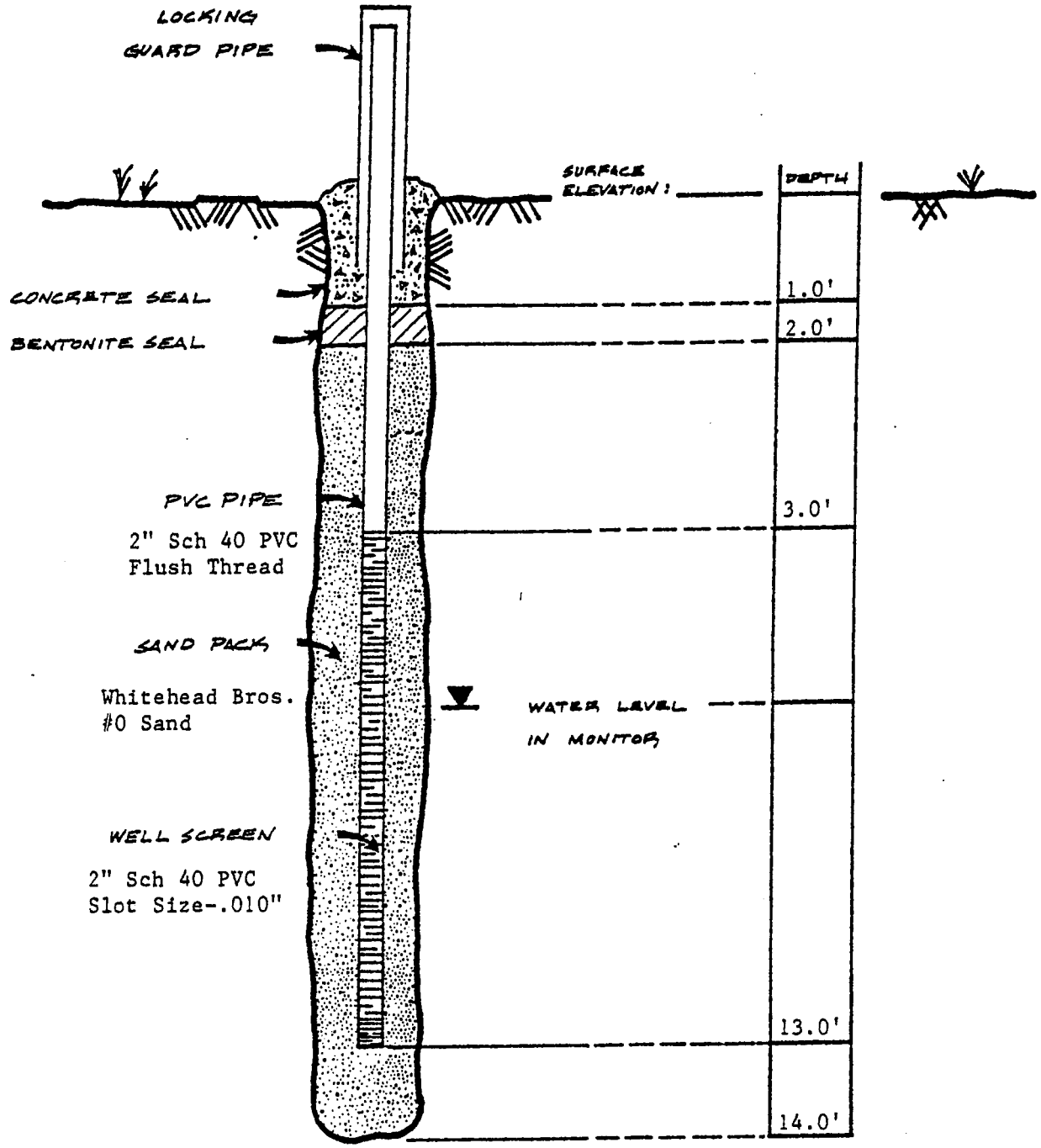
B-2

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

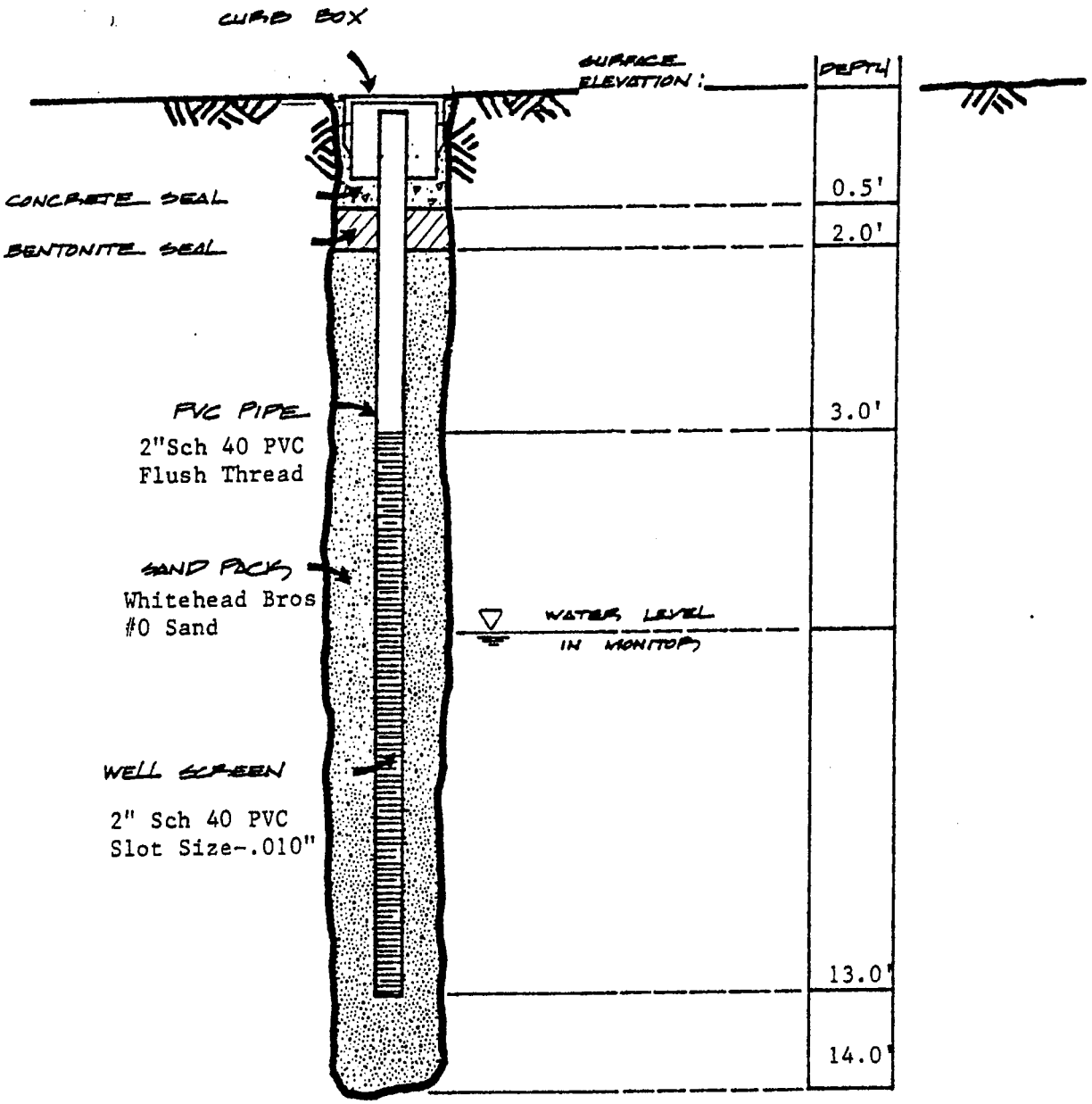
B-3

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

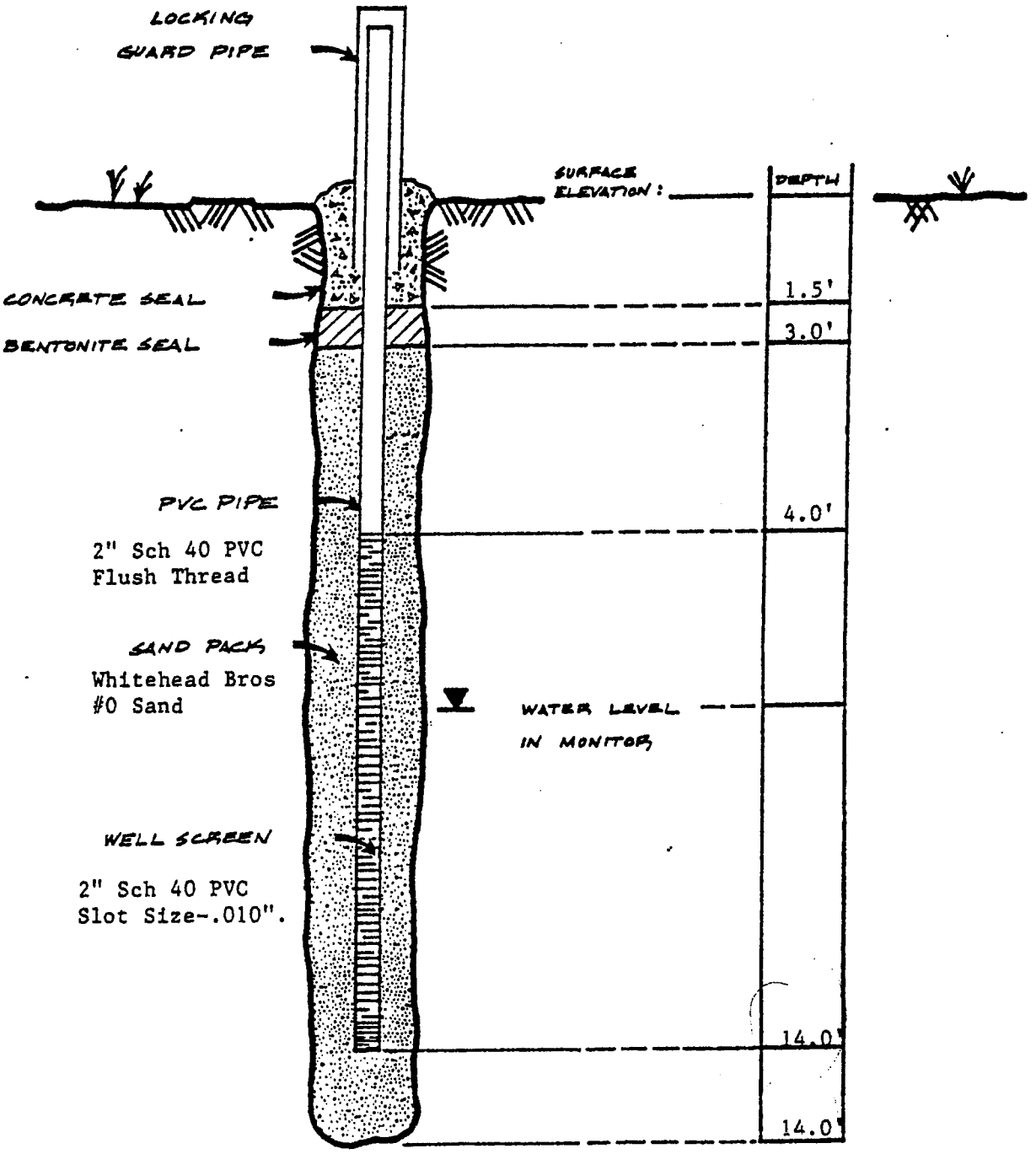
DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	1	1		4		Brown SILT, SAND & GRAVEL, trace clay	Note #1: At completion of boring, a 2" PVC groundwater Monitoring Well was installed as per attached Monitoring Well Detail.
			3	4					
		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 A2: 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

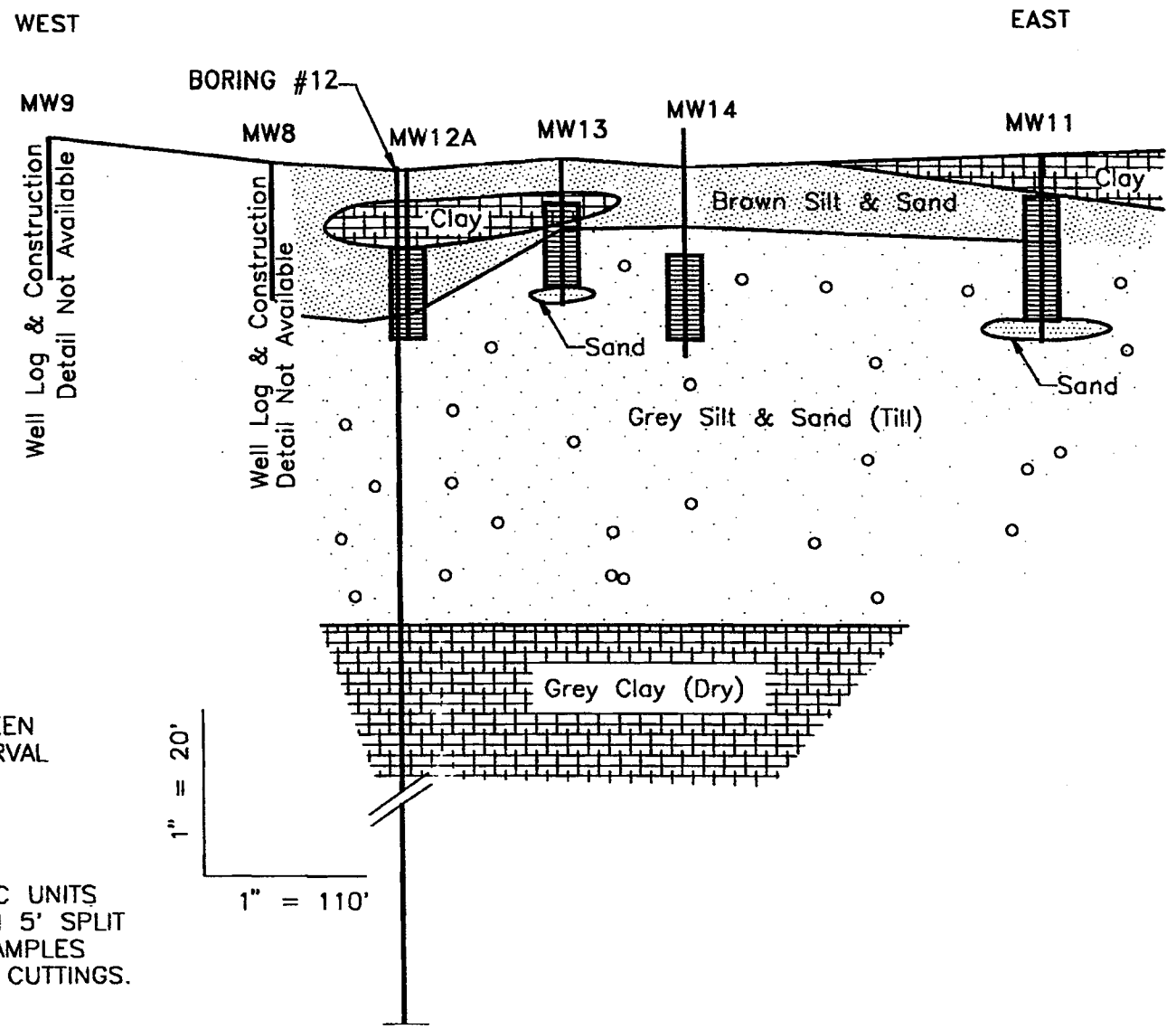
Johnny Cake Road Site
Danube, New York

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

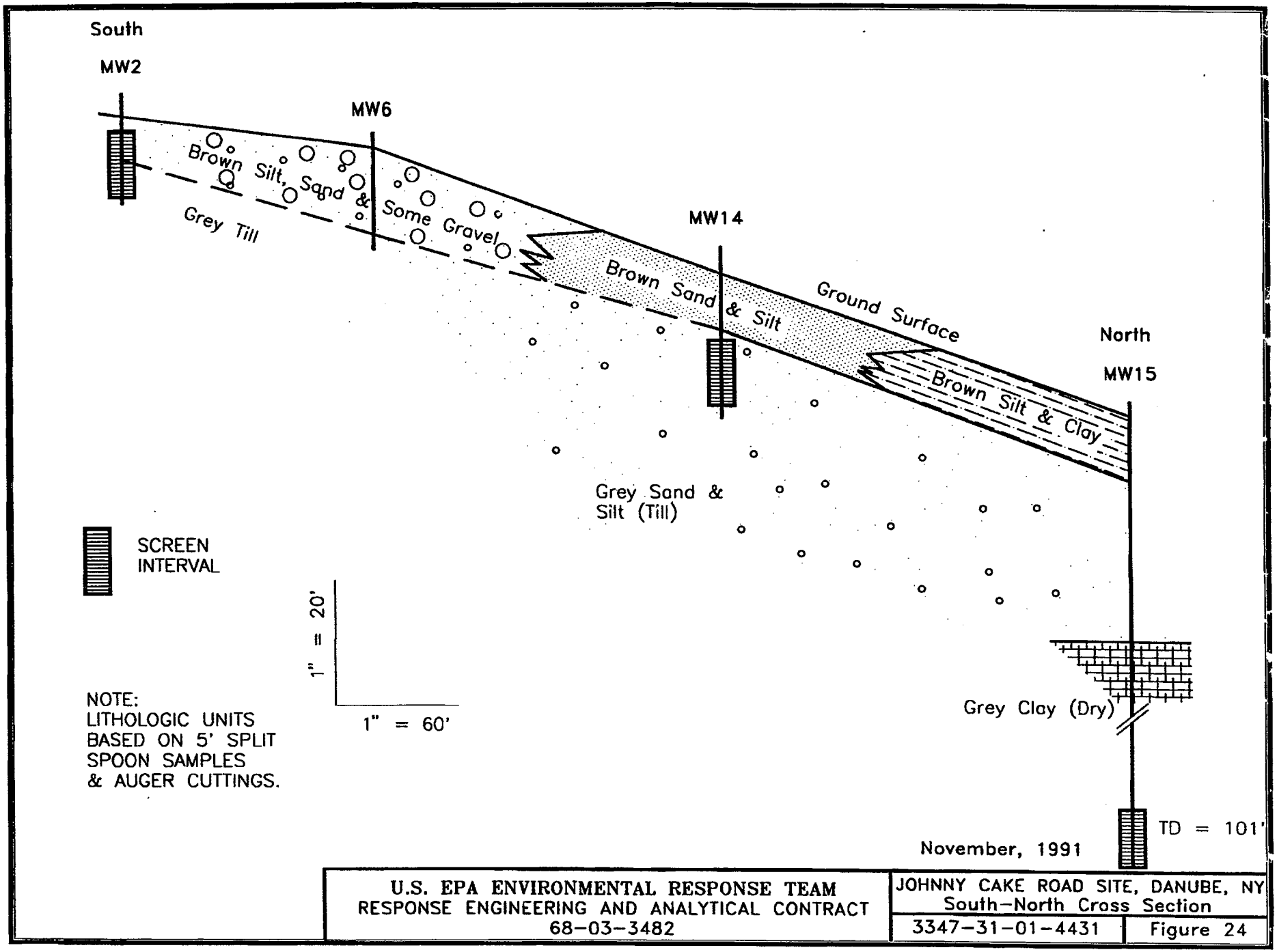
Note: Change in arbritary datums between sampling events.
NR = Not Recorded; ND = No data
F.A.D. = Feet above site datum

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

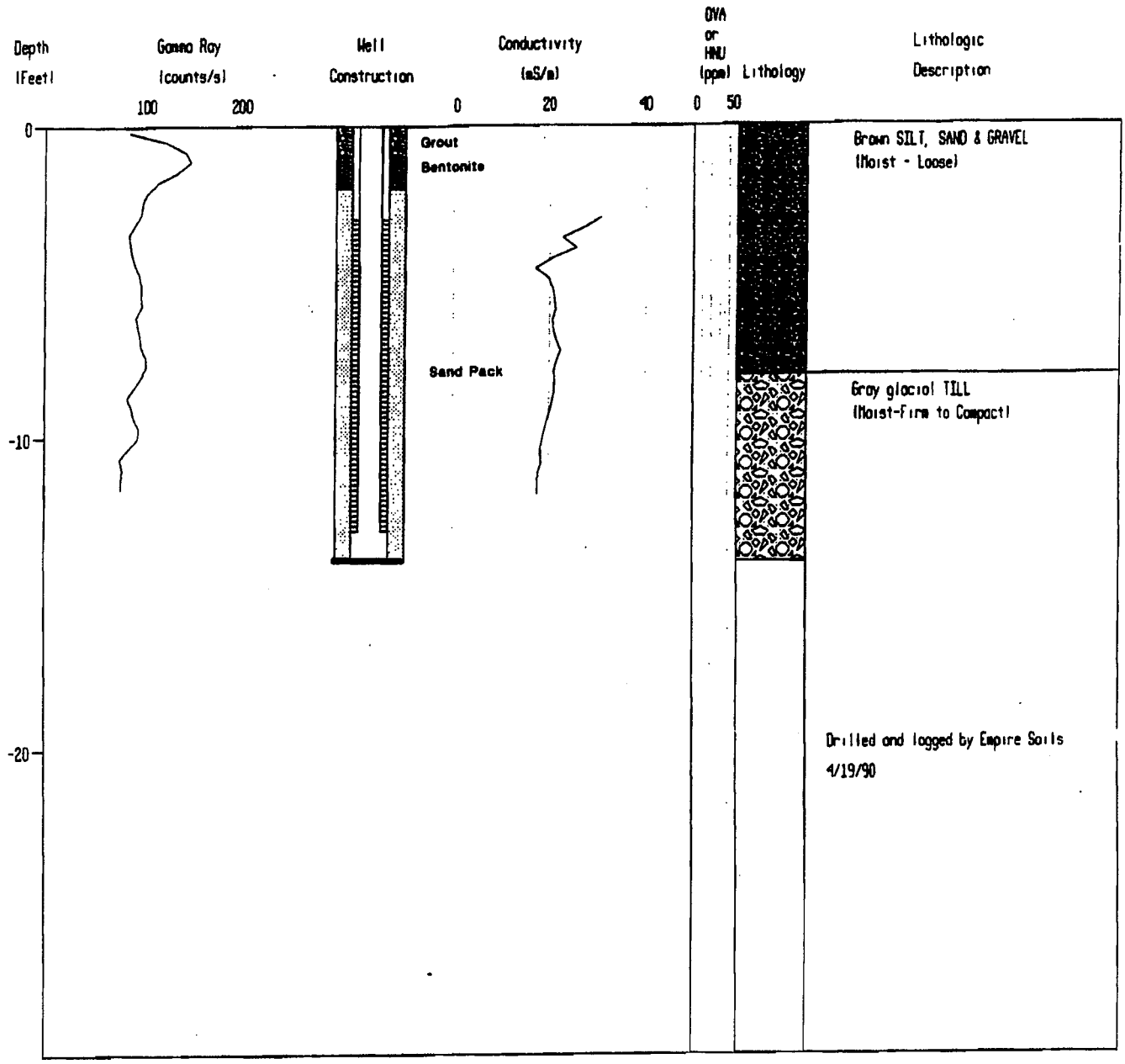


U.S. EPA ENVIRONMENTAL RESPONSE TEAM
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-03-3482

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

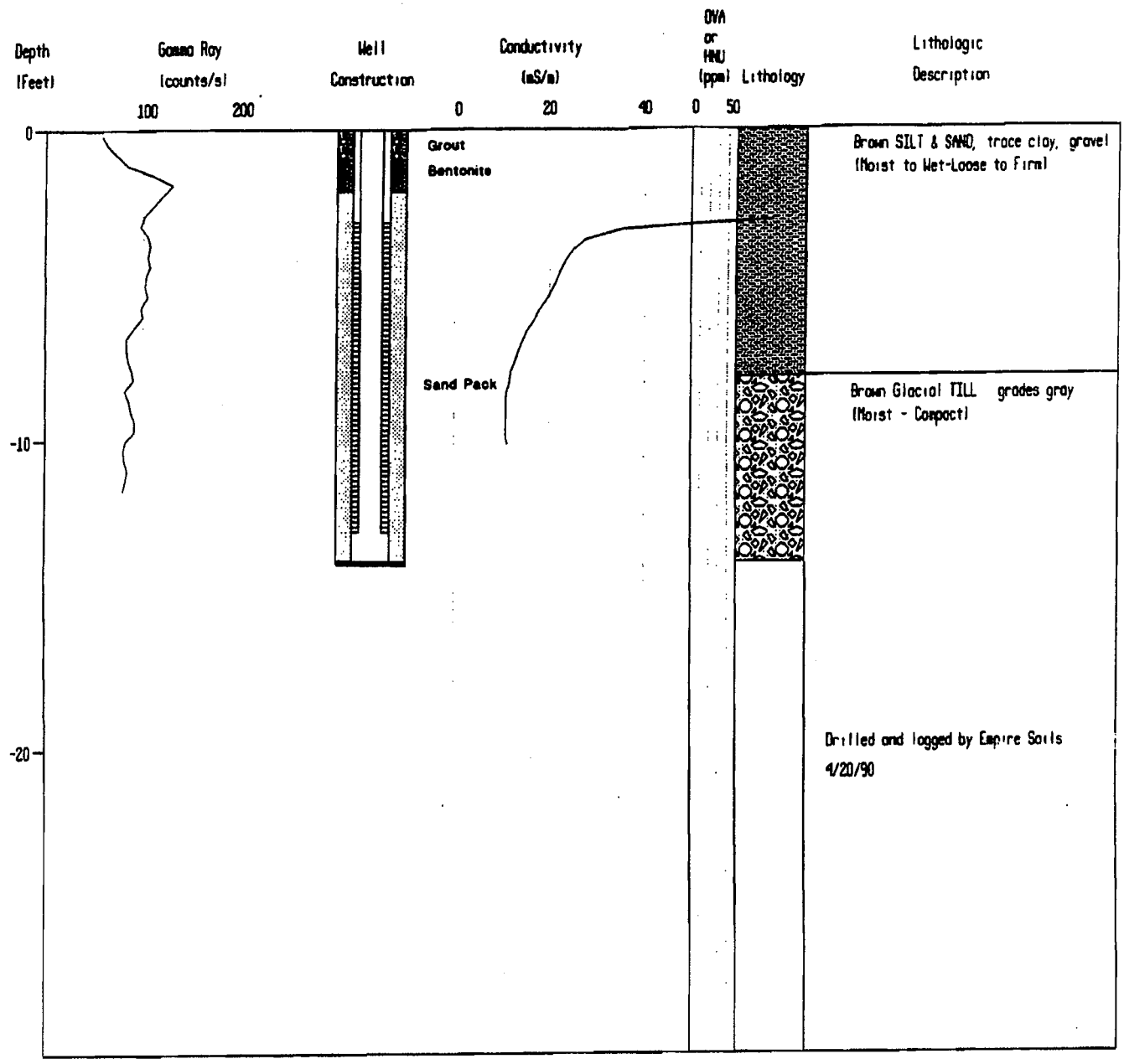


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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

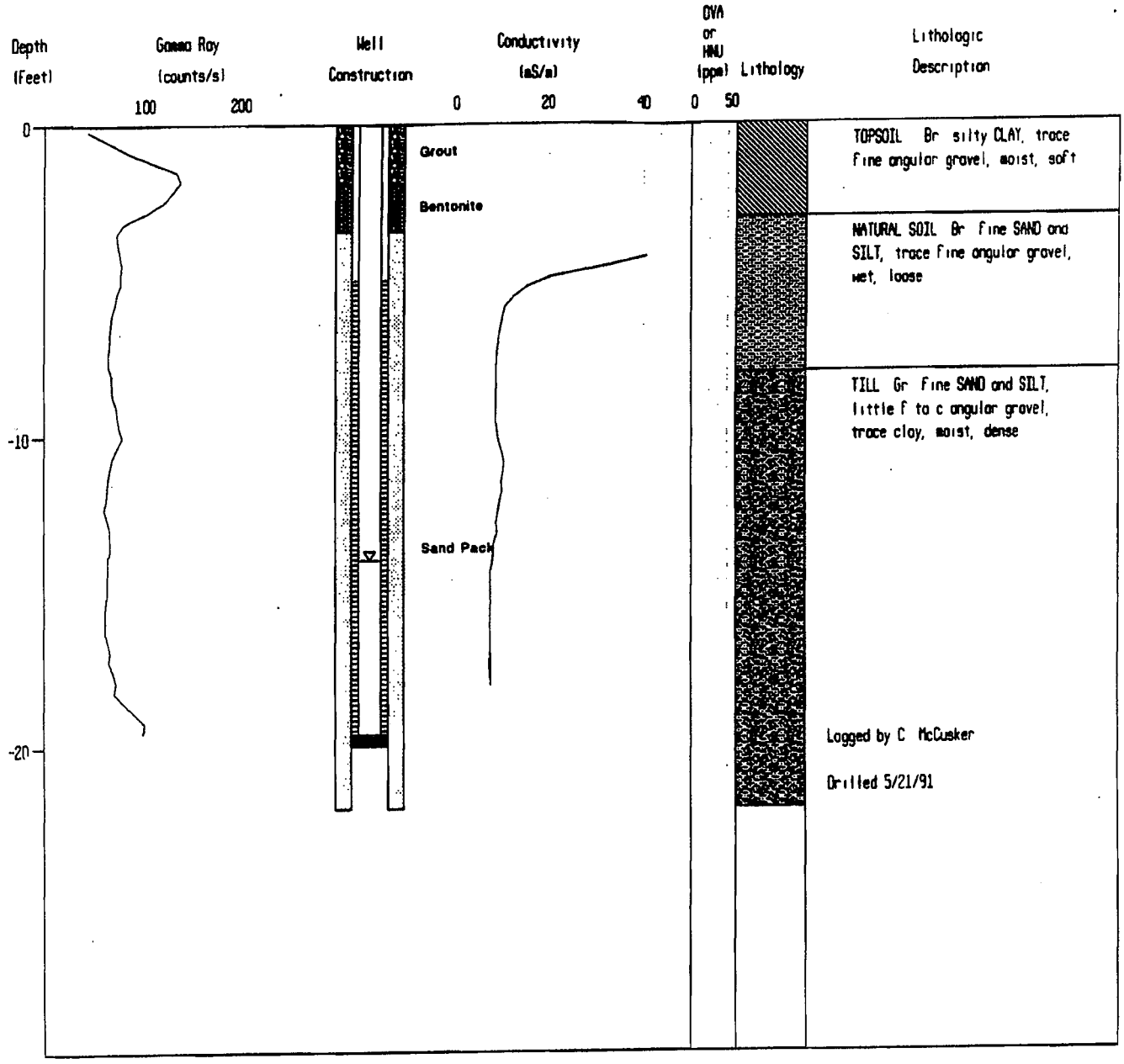


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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

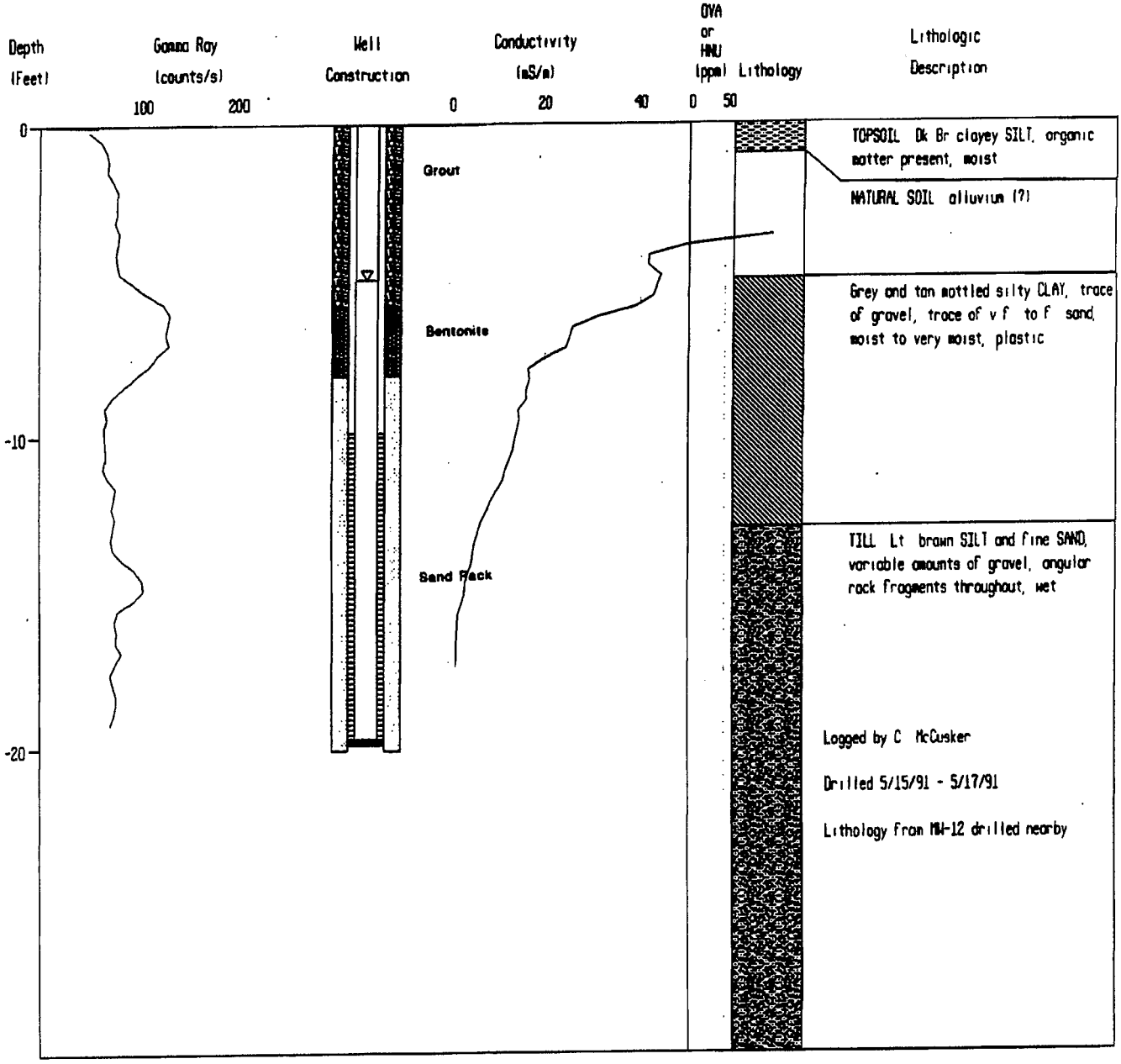


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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

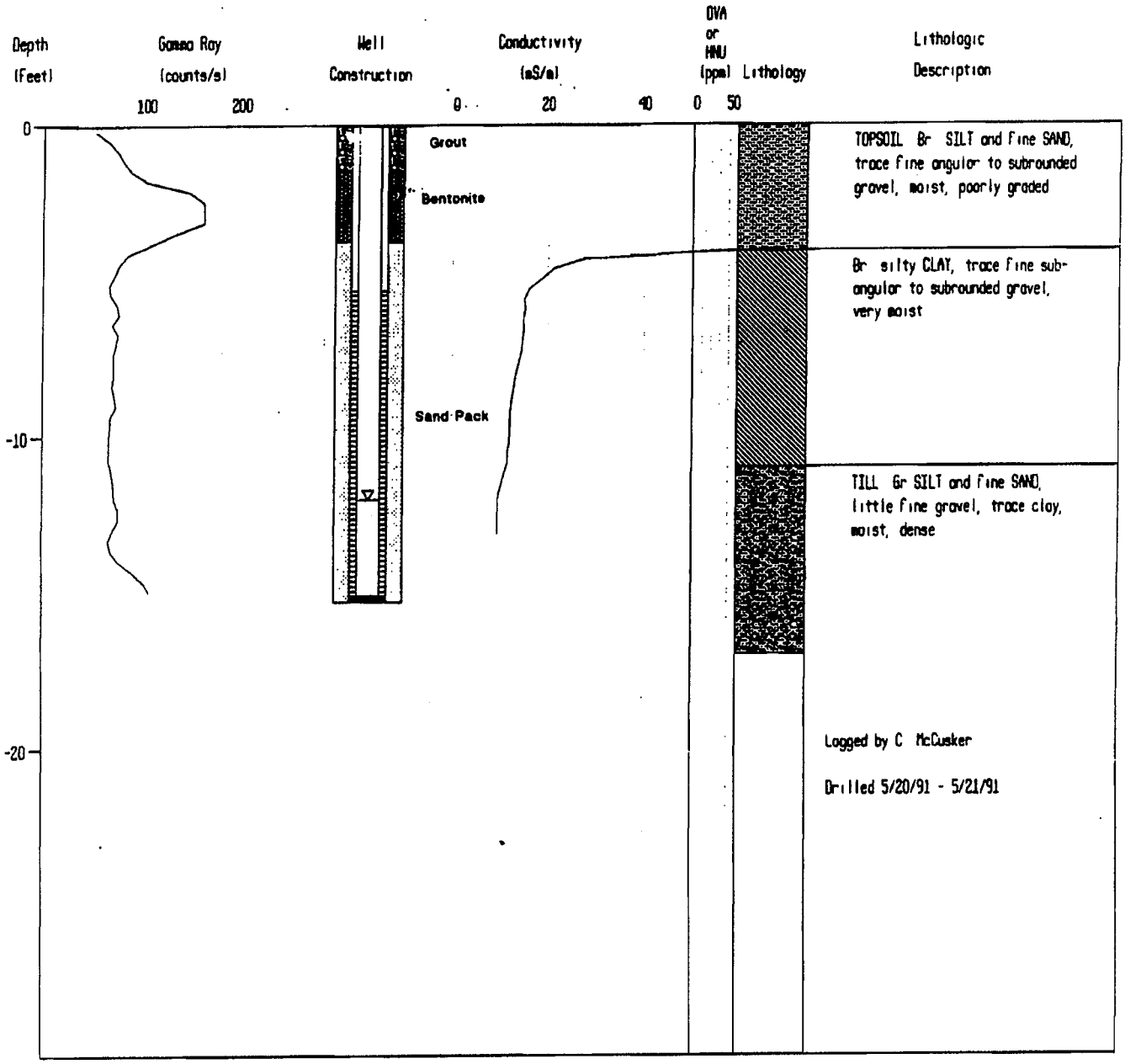


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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

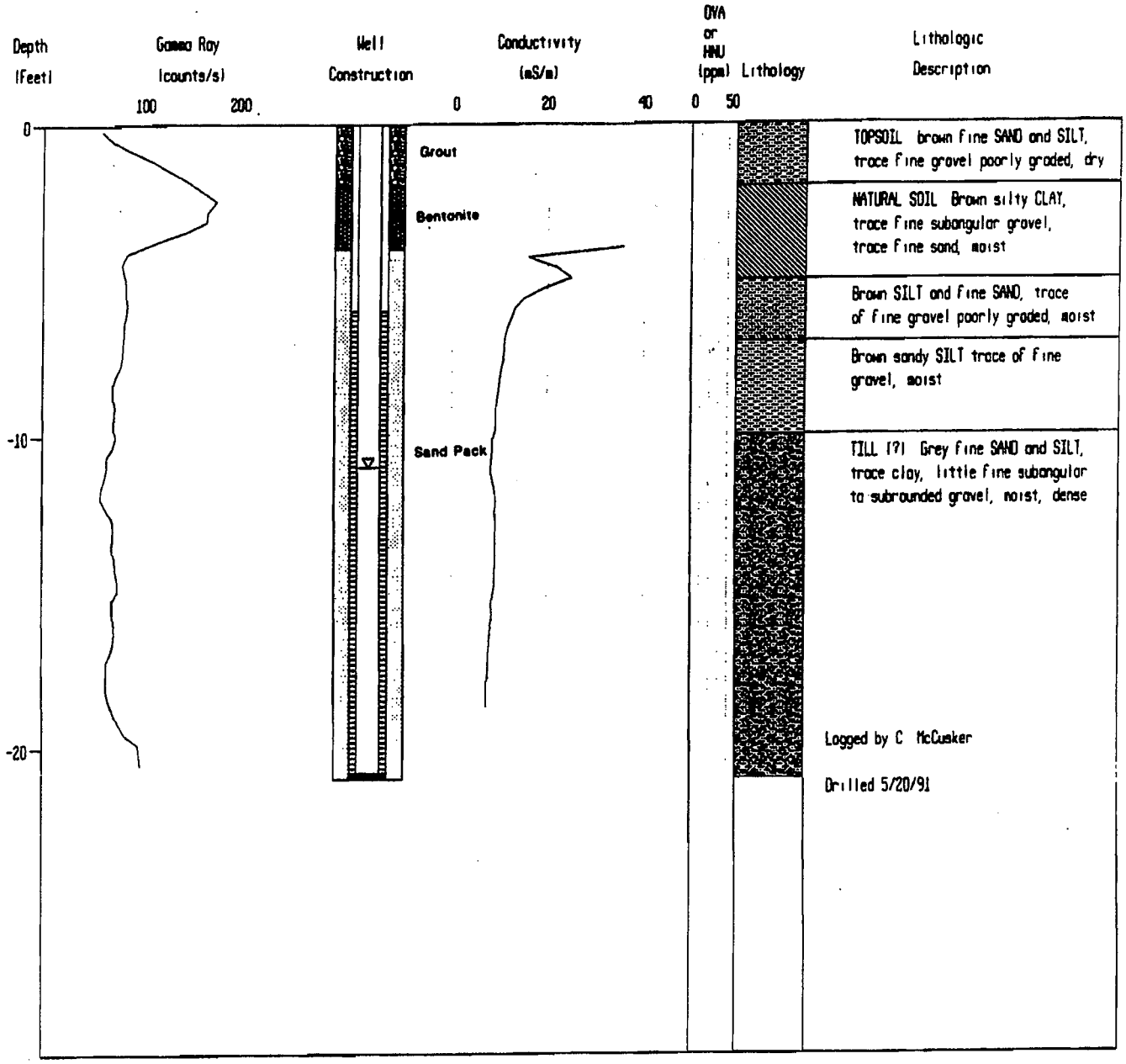


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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

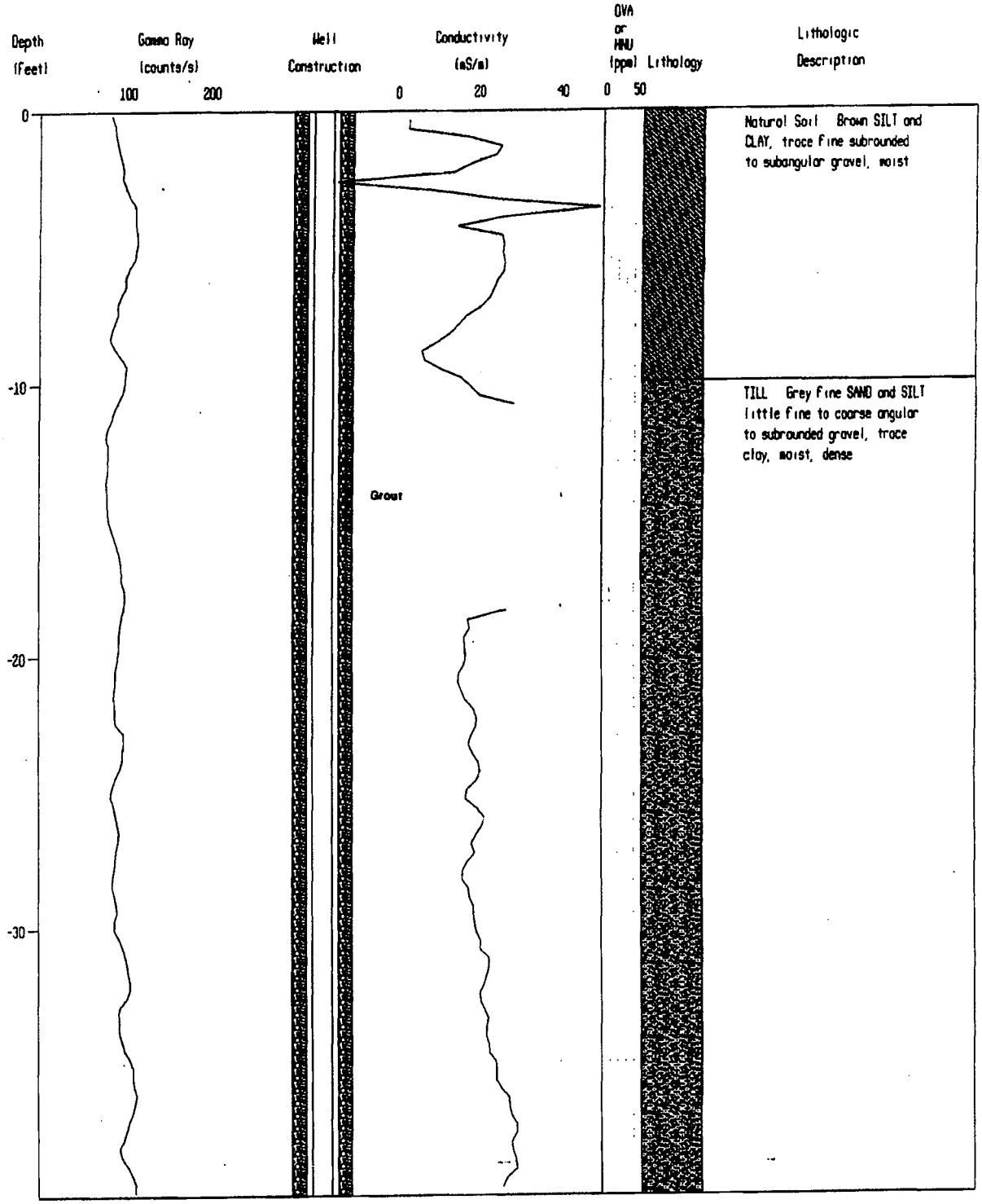


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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)

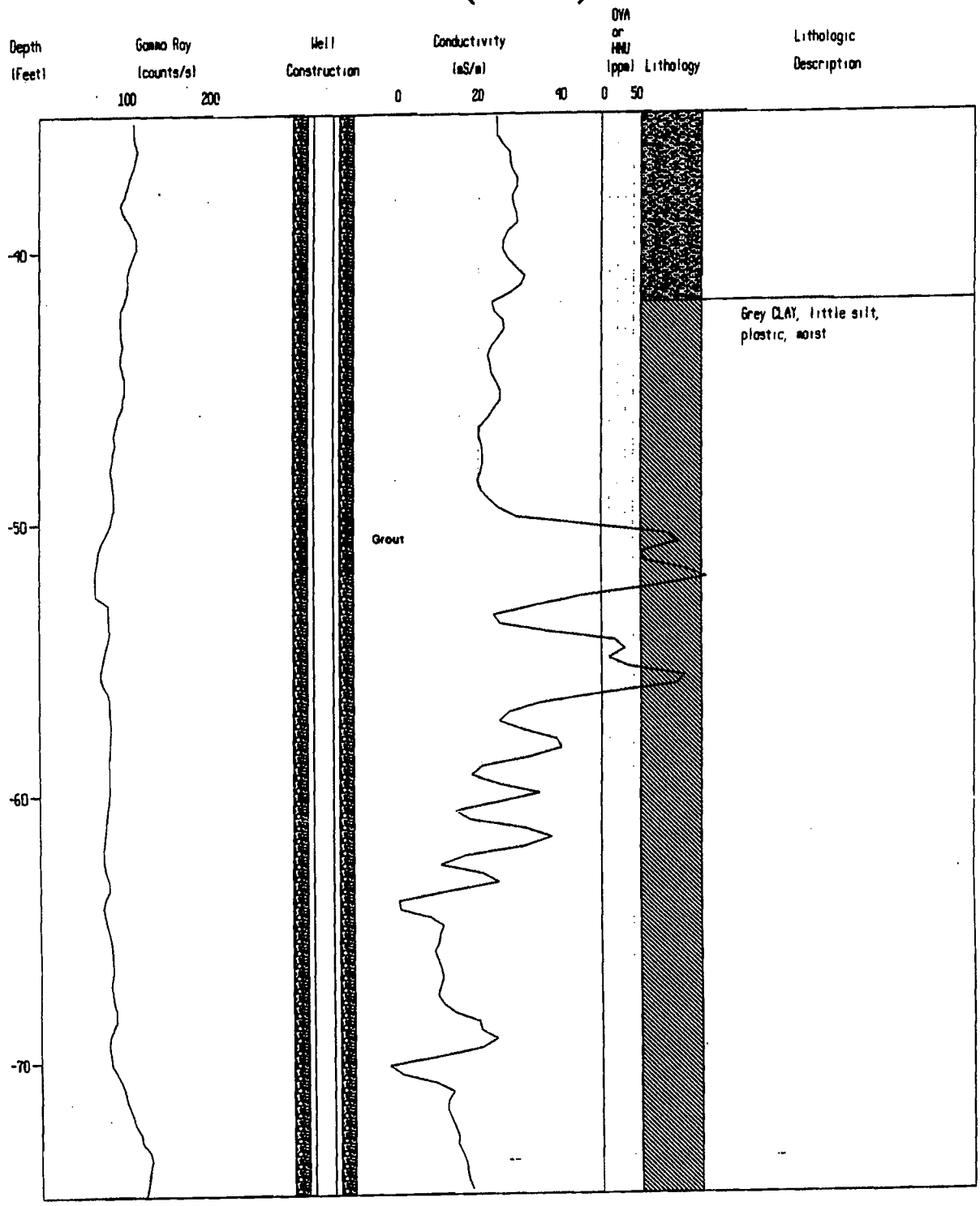


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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)

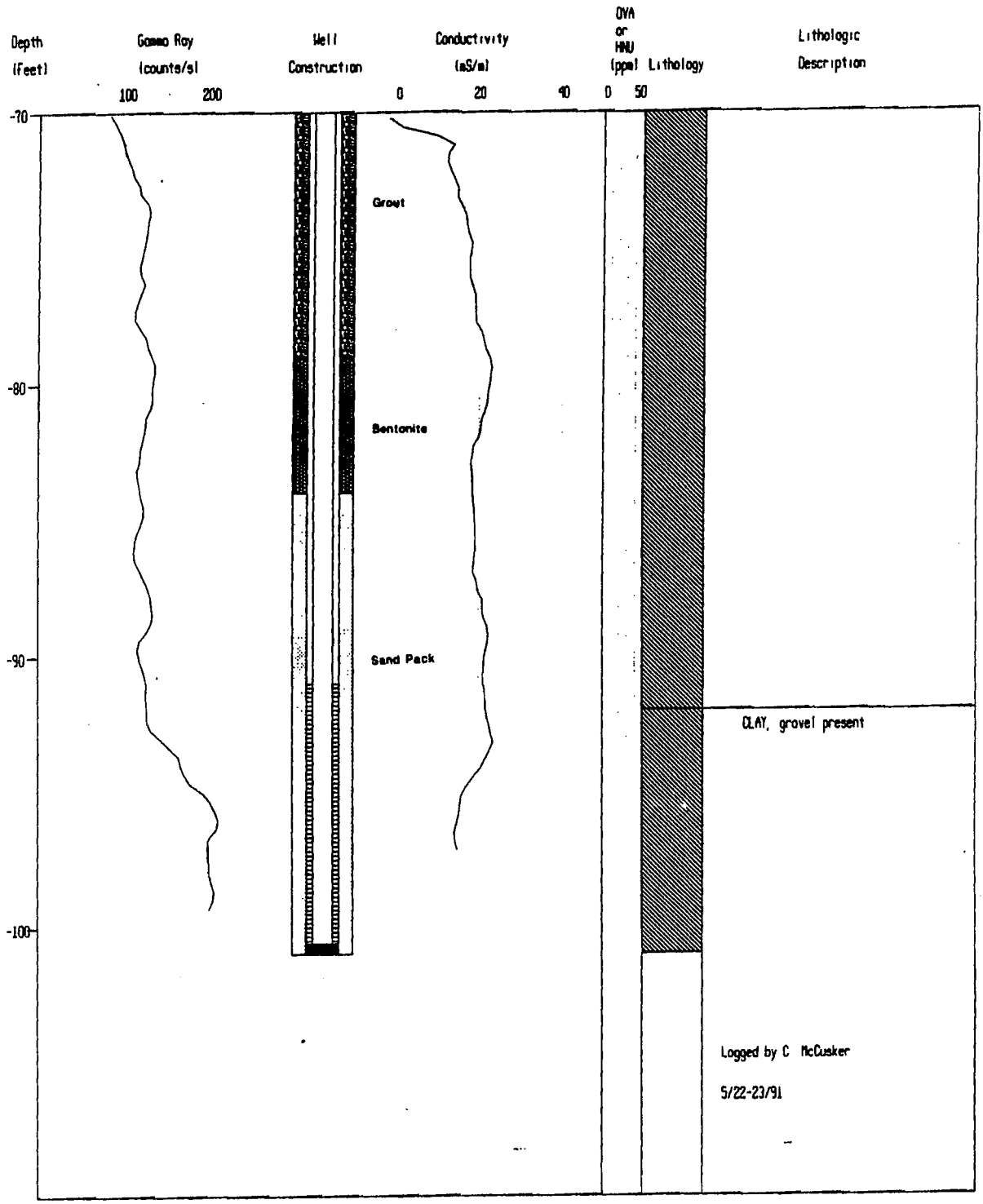


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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

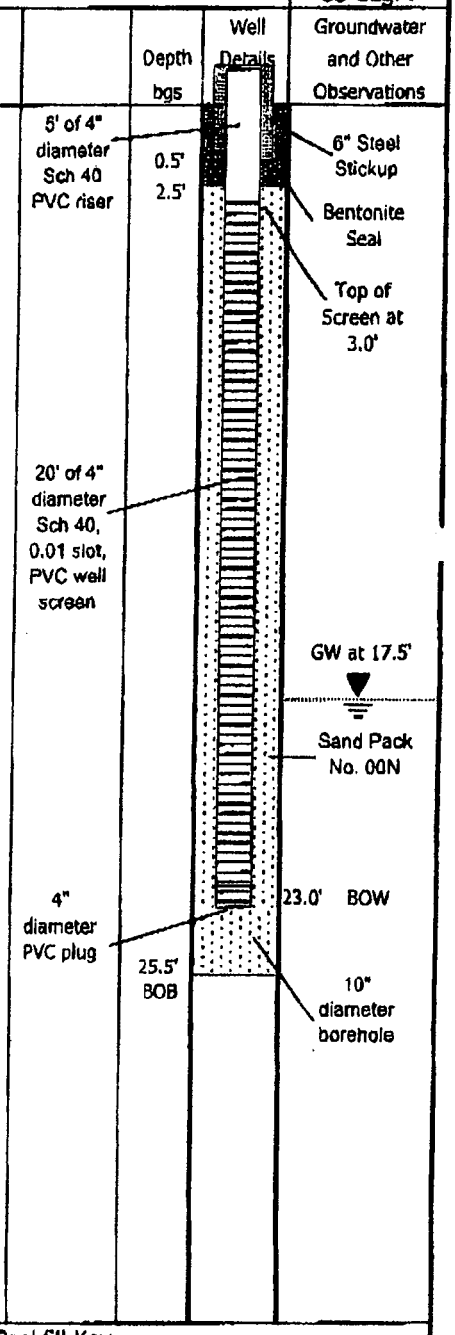
Appendix A3: Historic Well Information from Removal Action Report – October 2006

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

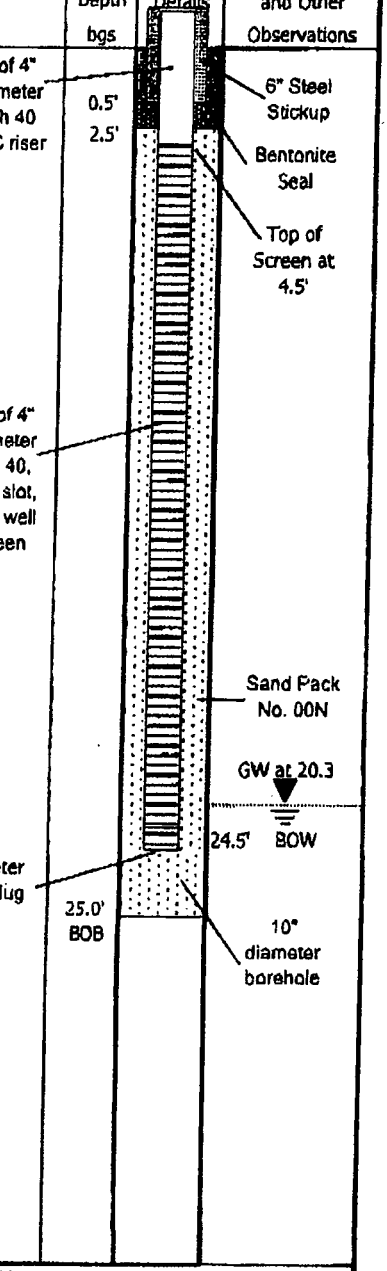
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

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

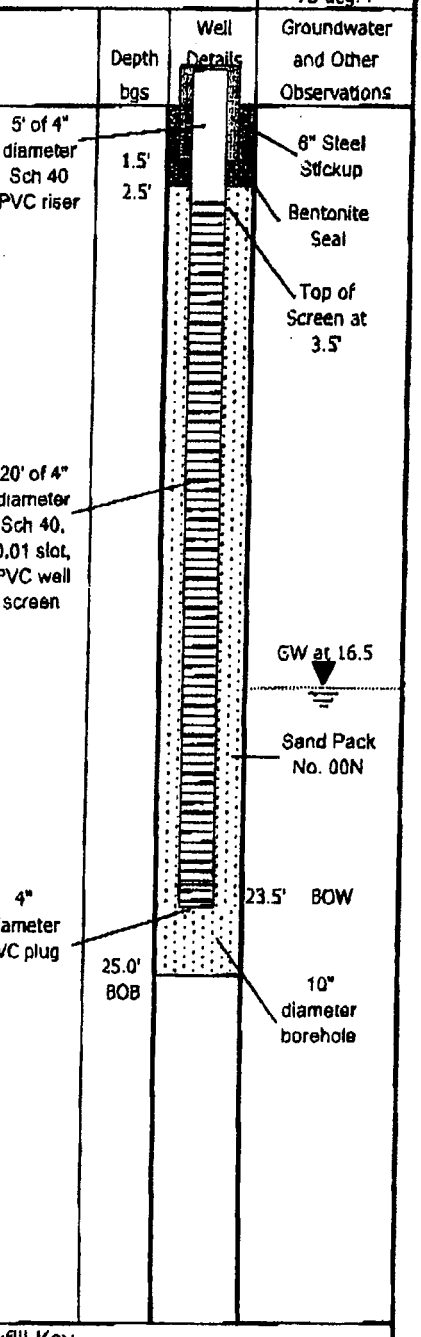
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

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

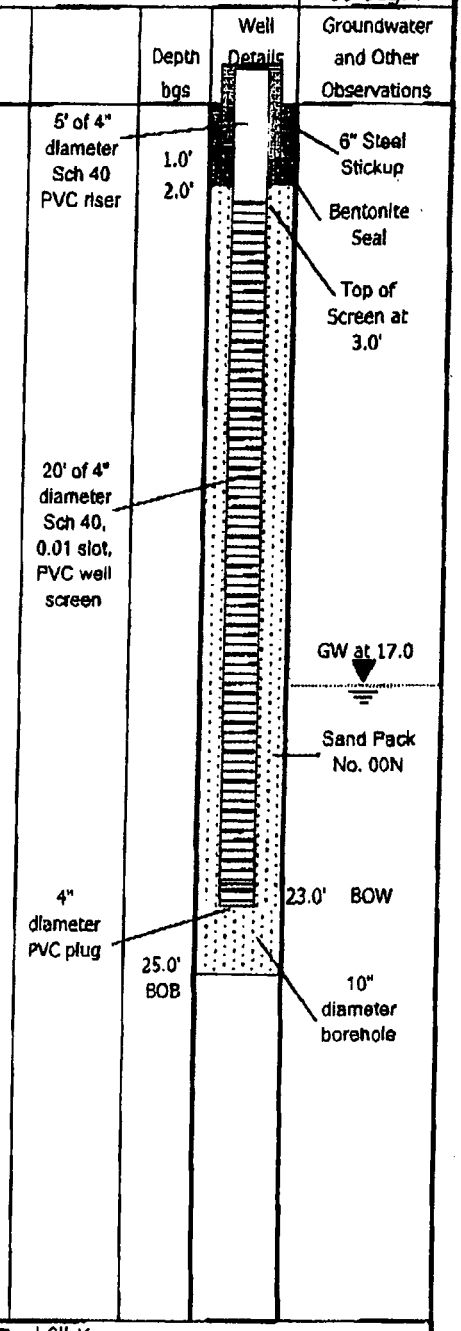
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

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 A4: Soil Data Tables & Figures from Removal Action Report – October 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

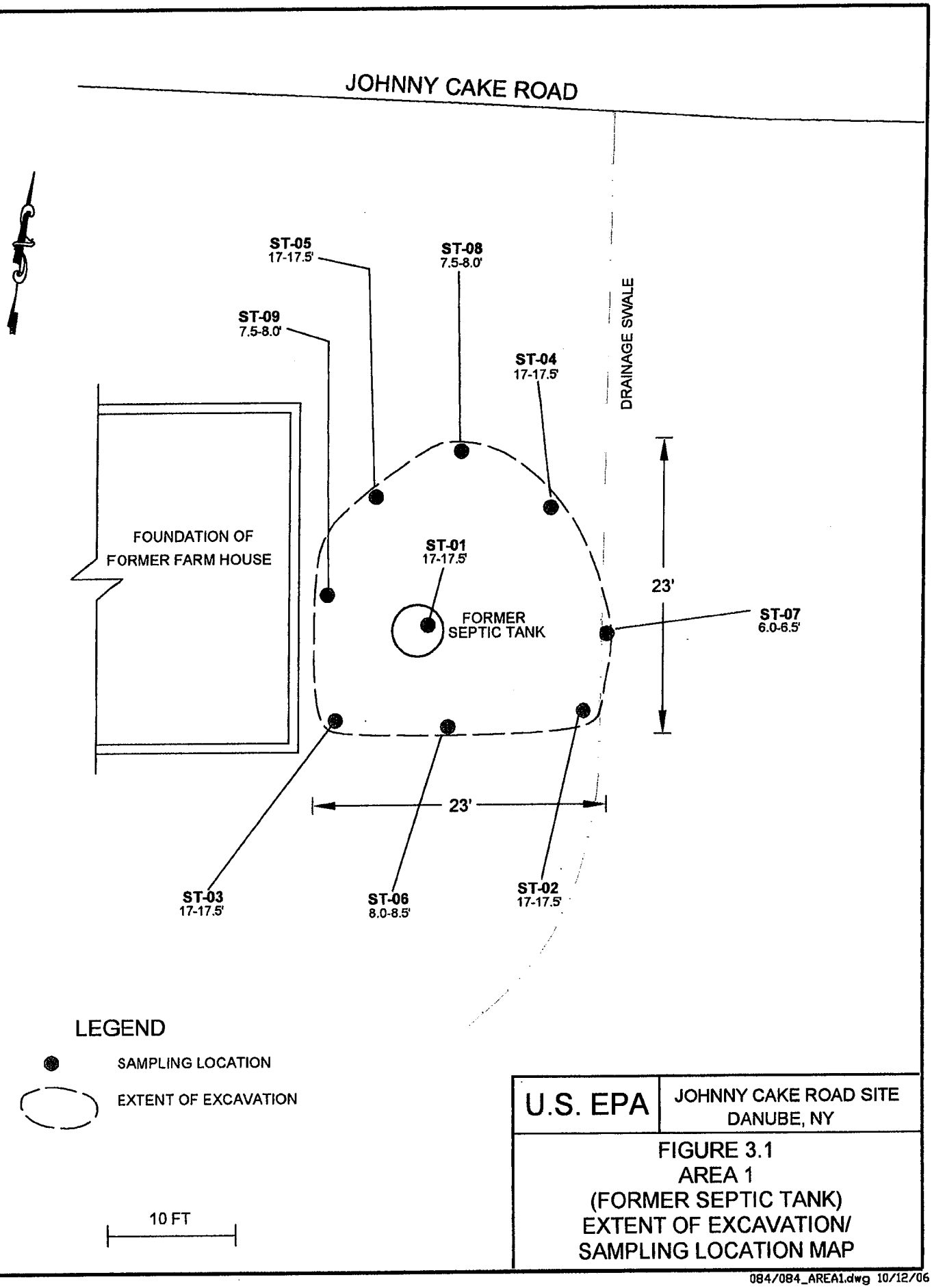
NOTES:
* - Soil Cleanup Objectives to Protect GW Quality
ppm - parts per million
ND - not detected
J - Analyte Detected Below Quantitation Limits
E - Value Above Quantitation Range
Shading - result exceed cleanup criteria

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

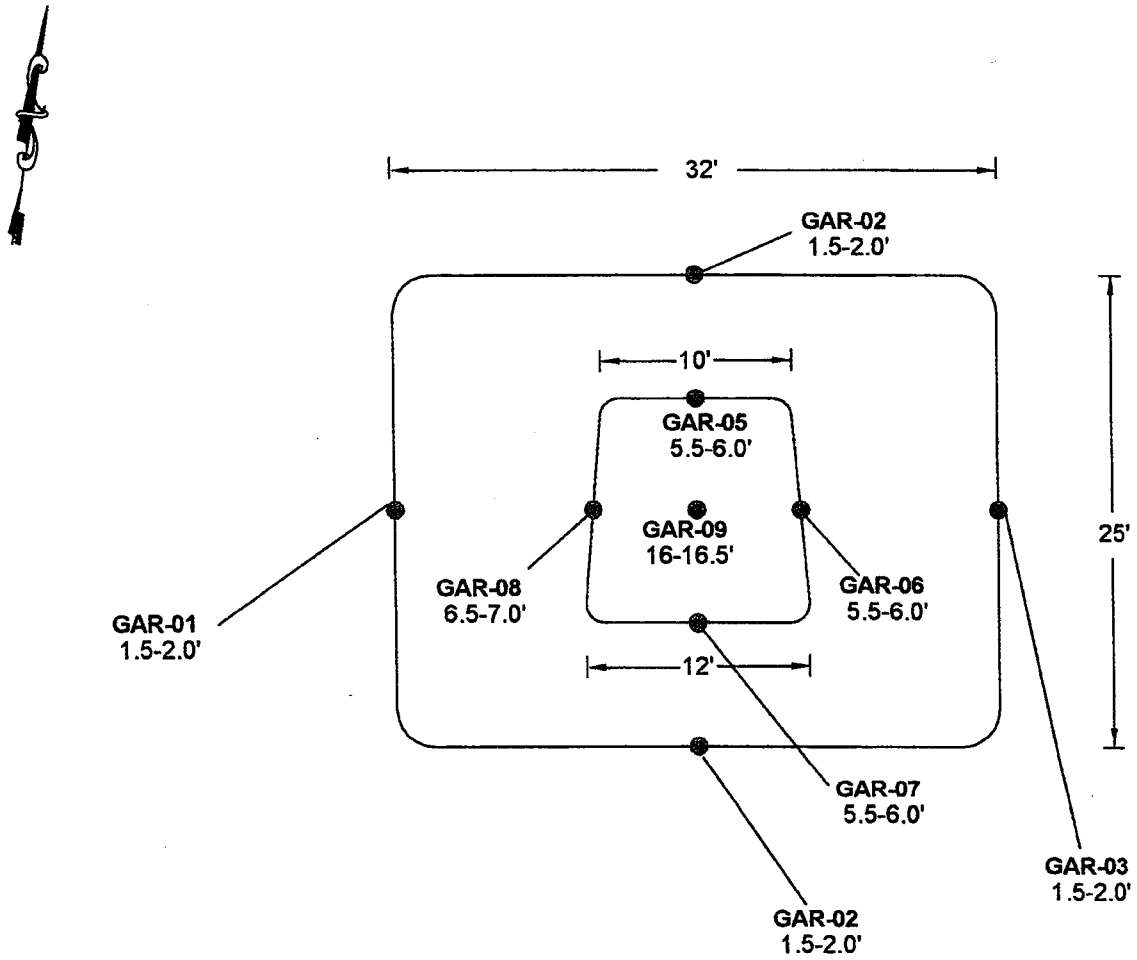
NOTES:
* - Soil Cleanup Objectives to Protect GW Quality
ppm - parts per million
ND - not detected
J - Analyte Detected Below Quantitation Limits
E - Value Above Quantitation Range
Shading - result exceed cleanup criteria



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

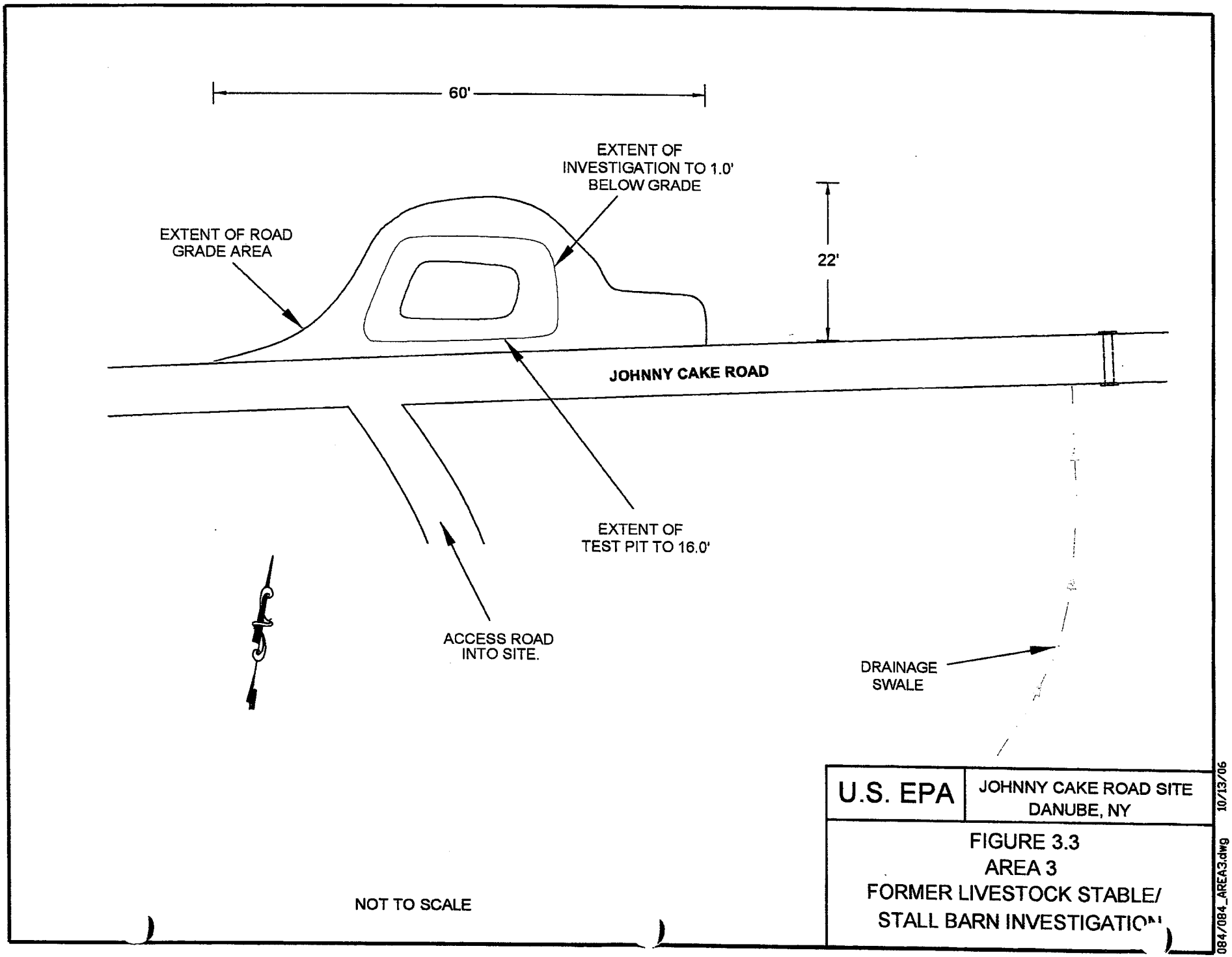
● SAMPLING LOCATION

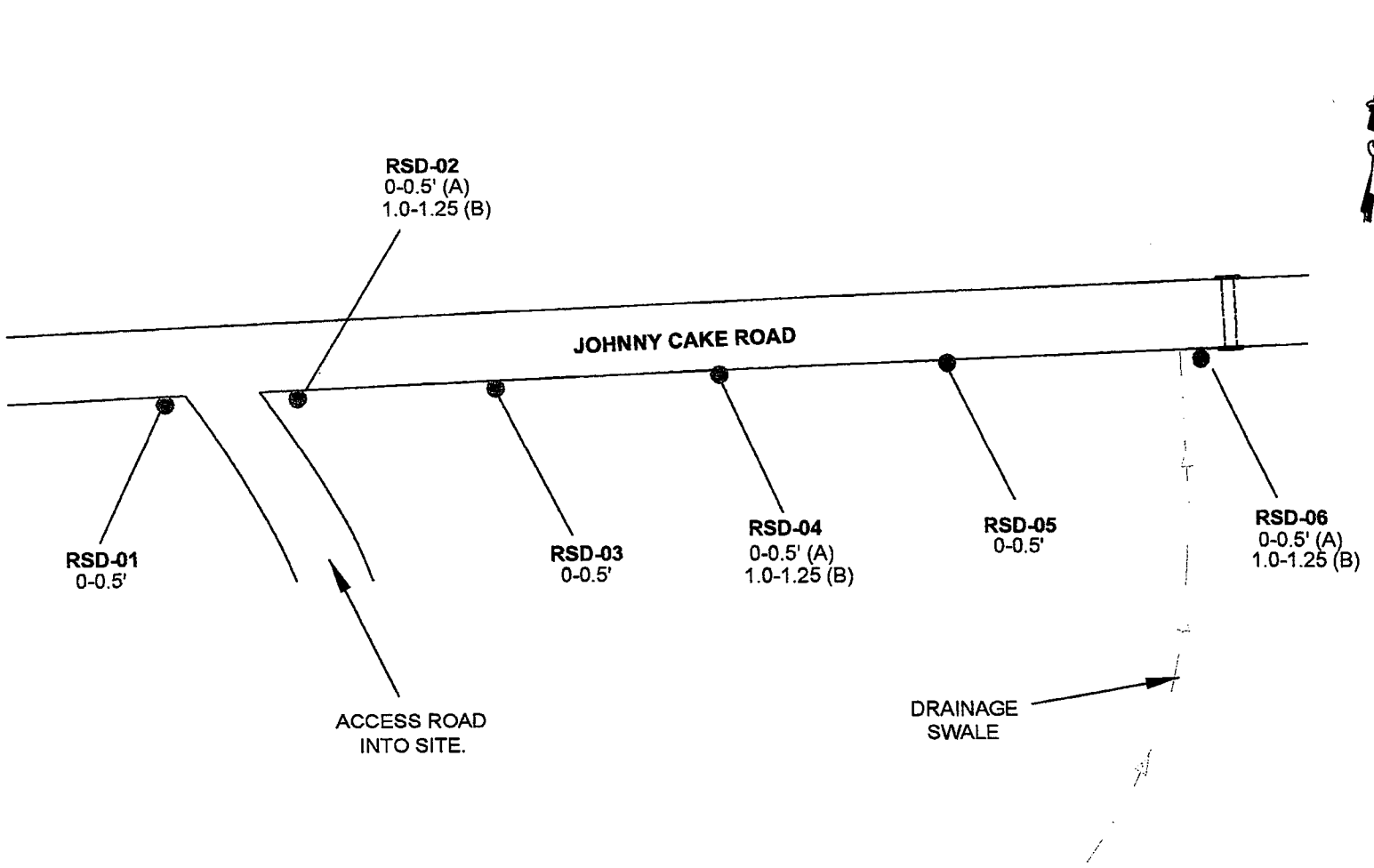
10 FT

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 A5: 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 A6: 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.

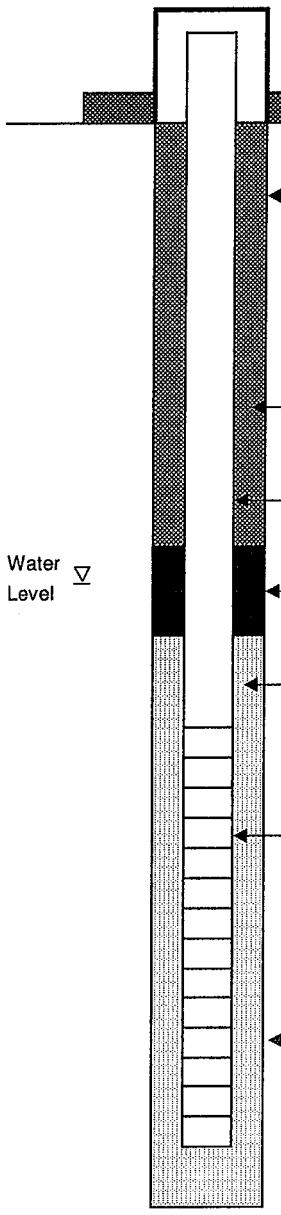
22. SIGNATURE OF INSPECTOR:

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

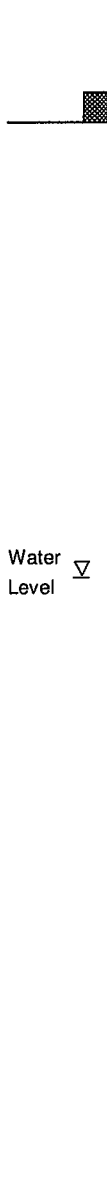
Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(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

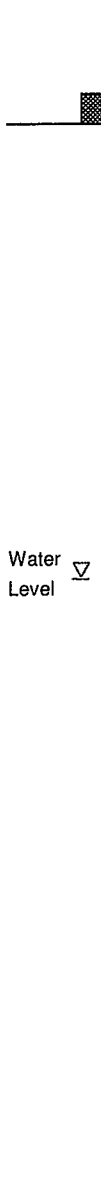
Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(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 A7: 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 B: 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

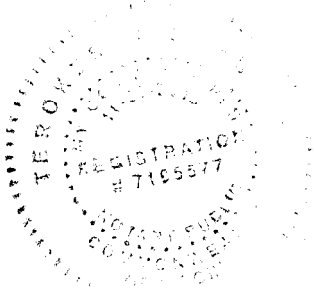
Date: June 24, 2011

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;

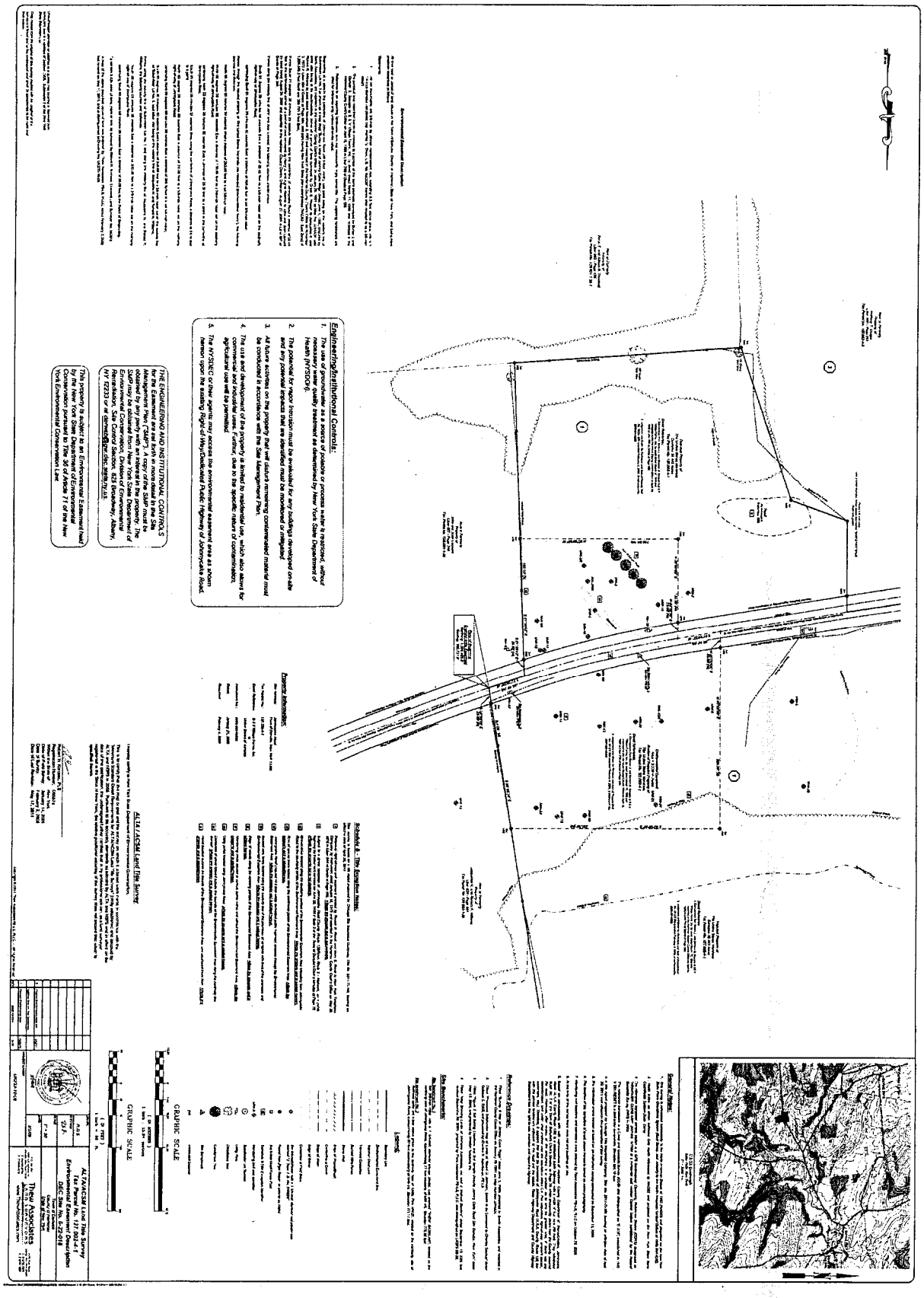
thence along the easterly line of Subdivision Lot No. 1 and along the westerly line of Jacqueline N. and Ronald R. Williams, the following courses and distances:

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 C: 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 D: Monitoring Well Boring and Construction Logs

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

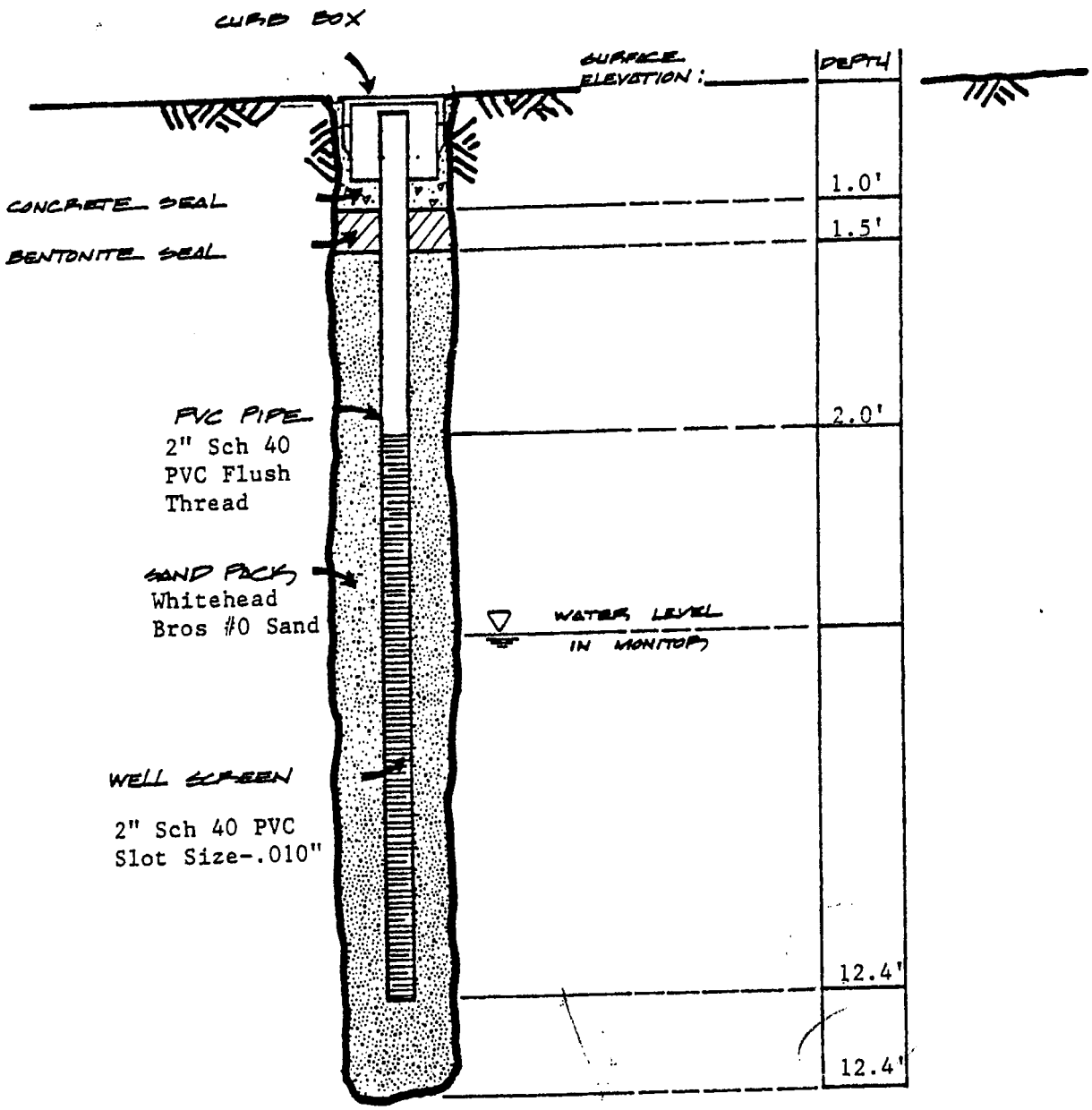
PROJECT Environmental Site Assessment
LOCATION Johny Cake Road
Town of Stark, NY

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.

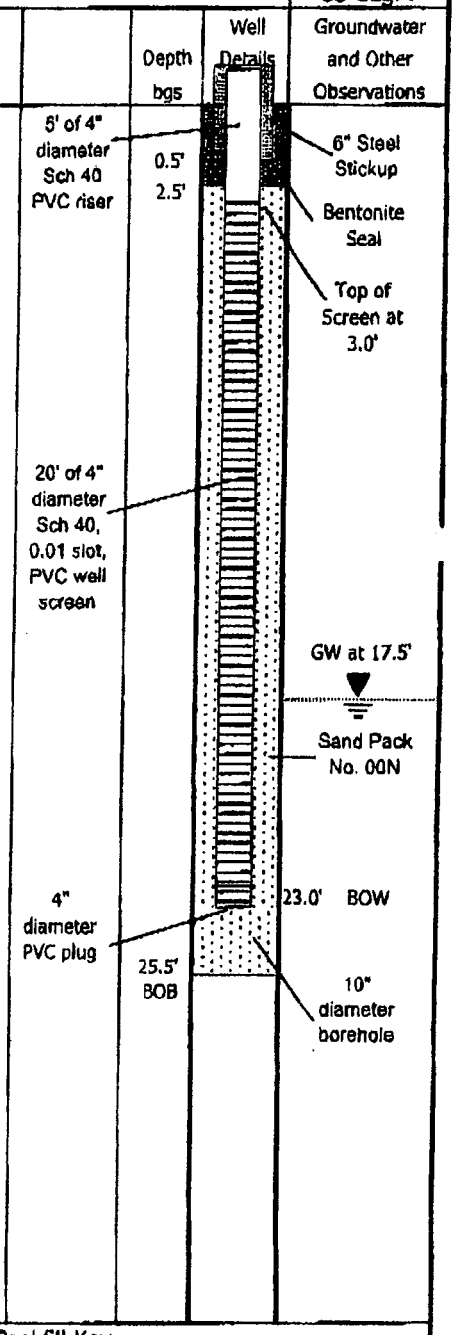
DR.BY: J.H.	SCALE: N.T.S.	PROJ. NO. AD-90-36
CK'D.BY:	DATE: 5/23/90	DRWG.NO.

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

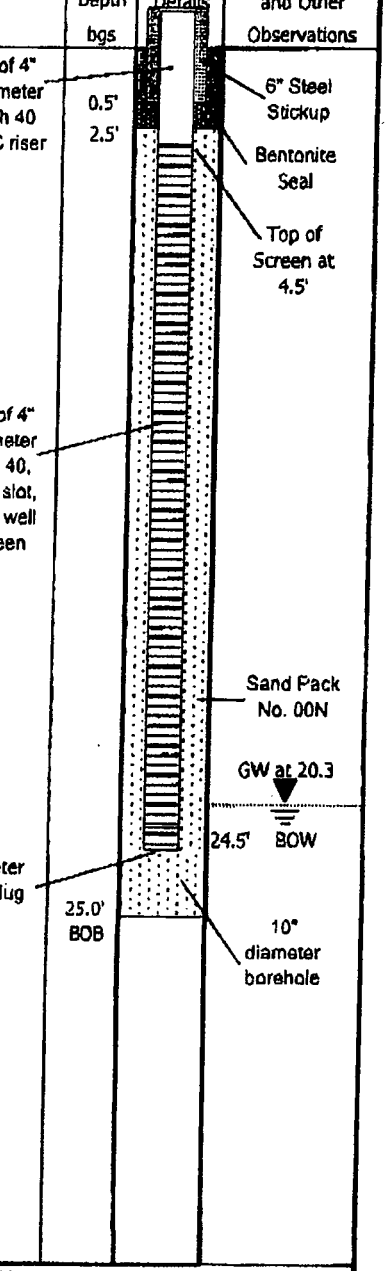
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

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

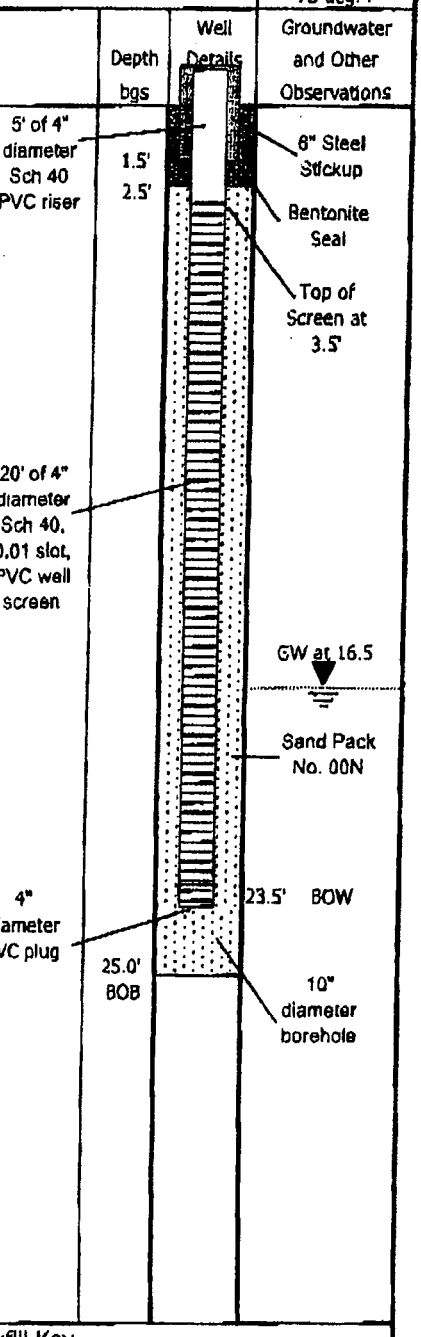
Well Backfill Key
Cement
Native Fill
Sand
Bentonite

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						

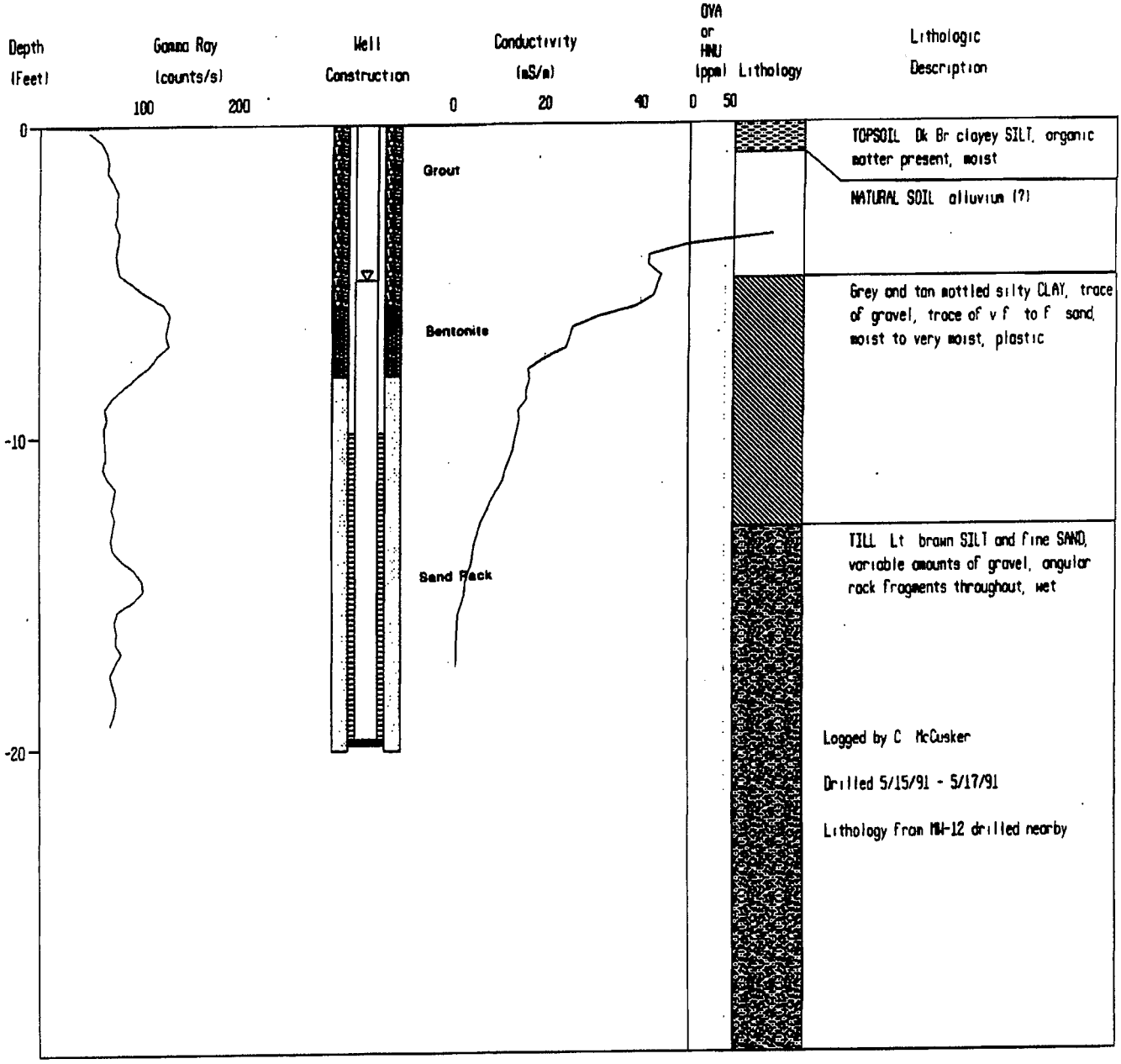


Sample Types:
S = Split Spoon: 2" by 2' T= Shelby Tube:
R = Rock Core: O Auger cuttings
N = ASTM D1586

Well Backfill Key
Cement
Native Fill
Sand
Bentonite

Figure 28

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

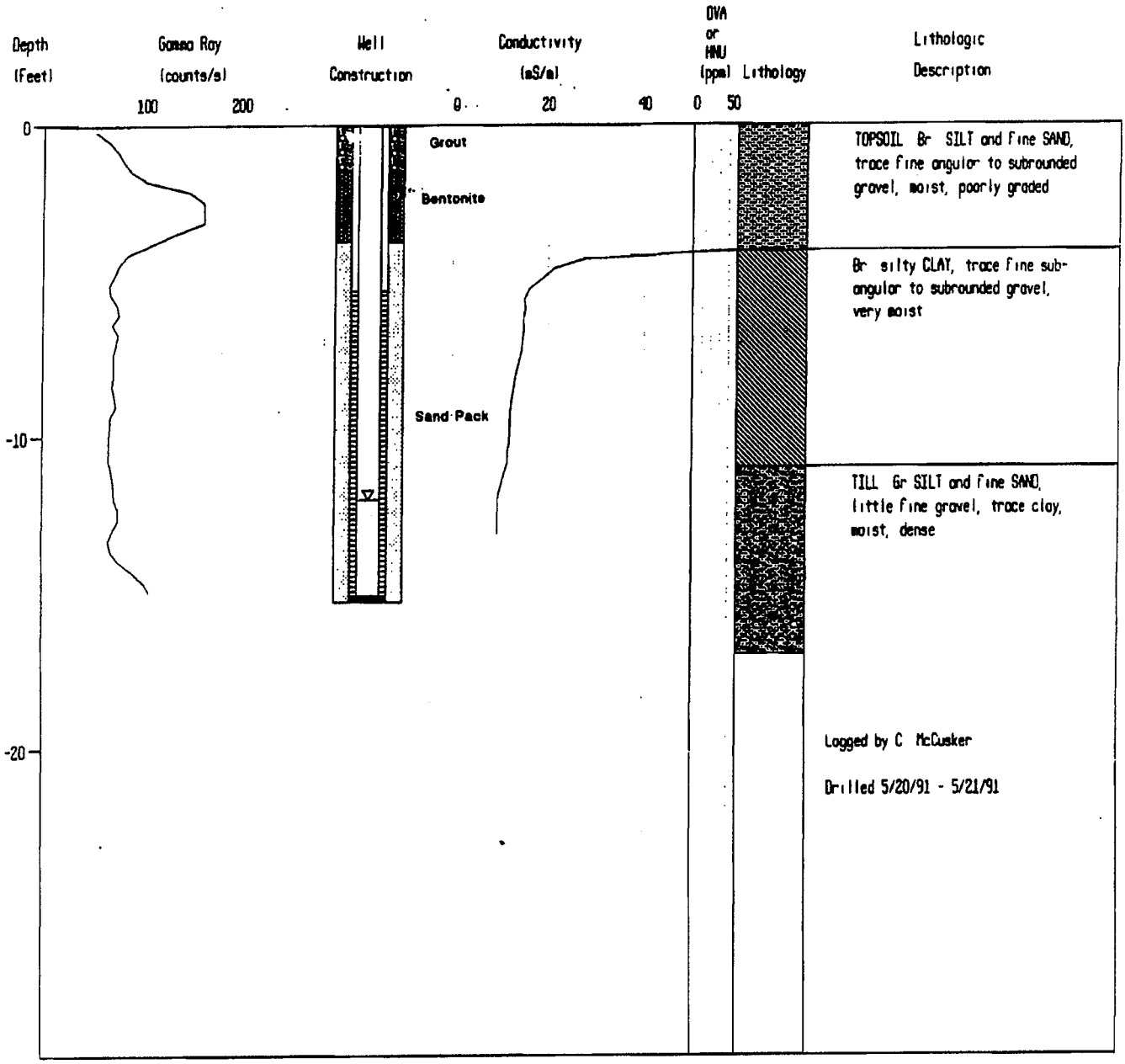


U.S. EPA Environmental Response Team
Response Engineering & Analytical Contract
Contract No. 68-03-3482

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.

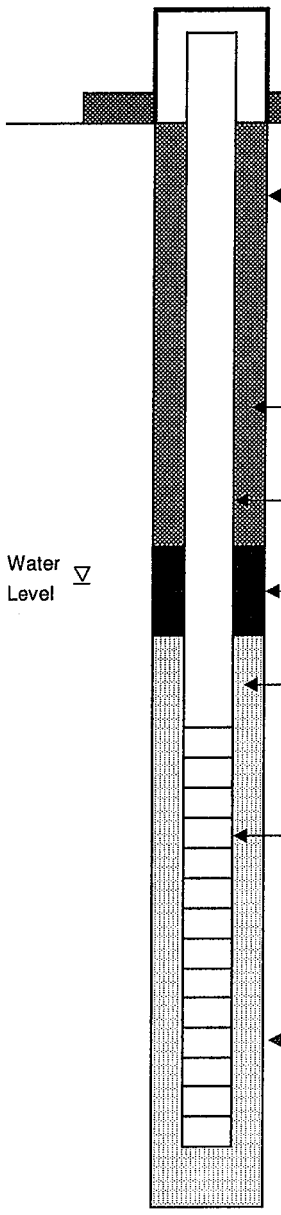
22. SIGNATURE OF INSPECTOR:

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

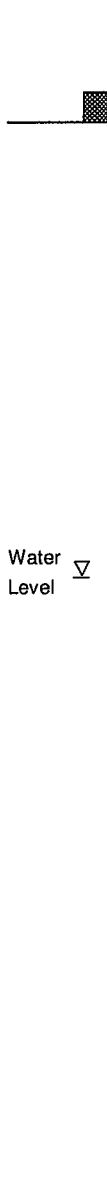
PROJECT: Johnny Cake Road Site	10. HOLE LOCATION:	SHEET 1 OF SHEETS 2	
1. LOCATION: Danube, New York	11. NO. OF OVERBURDEN GEOTECH SAMPLES: 0	DISTURBED	UNDISTURBED
2. COMPANY: Earth Tech Northeast, Inc.	12. SAMPLES FOR CHEMICAL ANALYSIS: 0	13. Total Number of Core Boxes	
3. DRILLING COMPANY: GeoLogic 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.

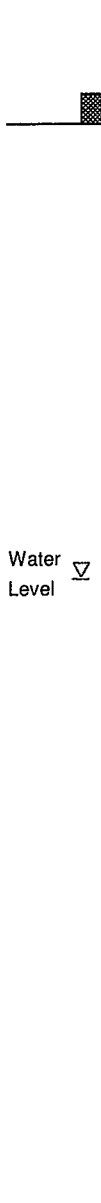
22. SIGNATURE OF INSPECTOR:

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 E: Emergency Contacts & Map and Directions to the Nearest Health Facility

Emergency Contact Information

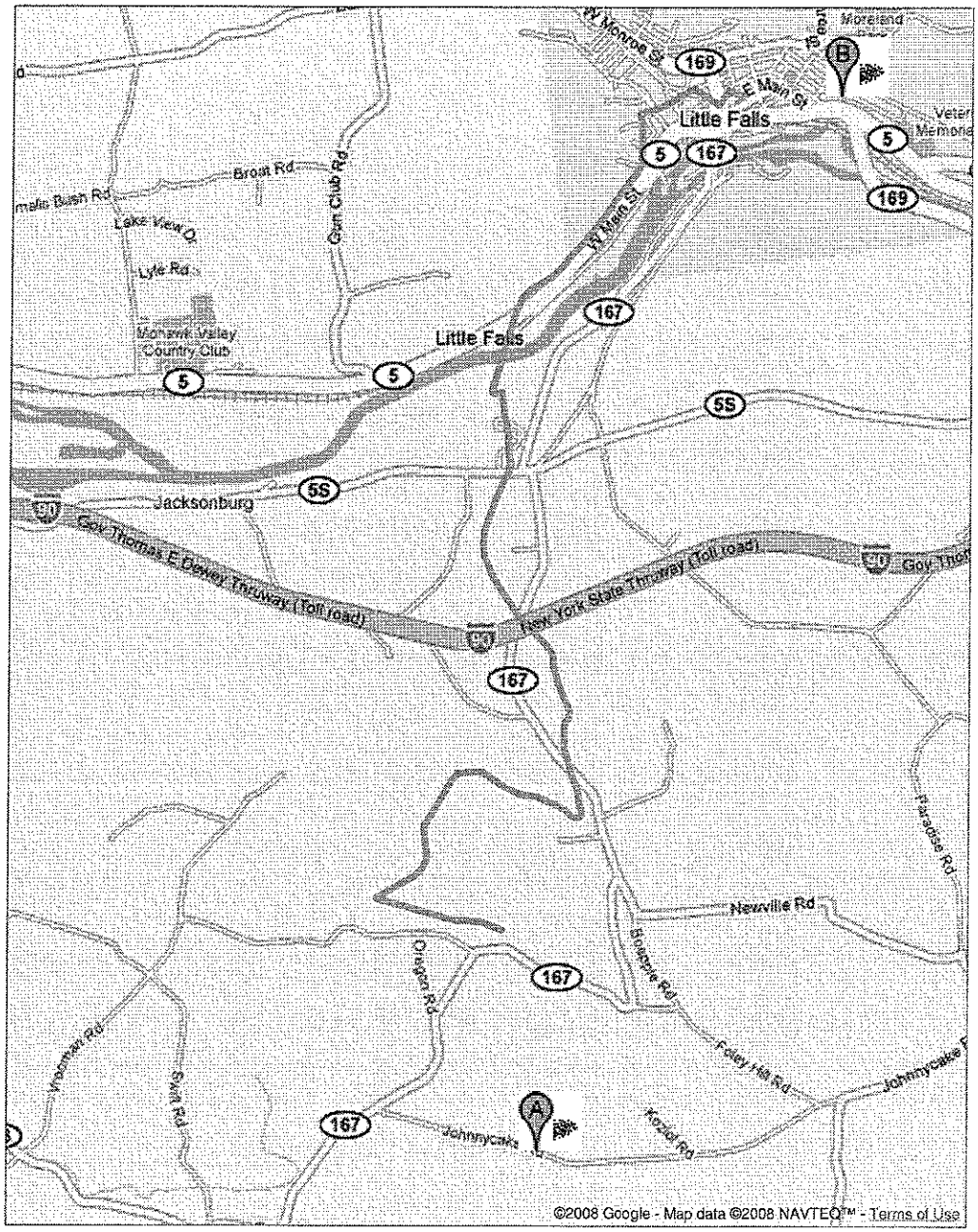
Emergency Coordinators / Key Personnel			
Name	**Title/Workstation**	**Telephone Number**	**Mobile Phone**
Incident Reporting	Incident Reporting Line	(800) 348-5046	
William Bennett	NYSDEC Project Manager/ Client Contact	518-402-9564 (Office)	(518) 428-0100
Dino Zack	Project Manager	716-836-4506 (Office)	(716) 866-8222
Dino Zack	Site Supervisor/SSHO	716-836-4506 (Office)	(716) 866-8222
Robert Poll, CIH	Safety and Health Manager	(518) 951-2200 (Office)	(518) 817-3089
Mike Thiagaram	Primary Emergency Coordinator	(973) 337-4242 (Office)	

Organization / Agency	
Name	**Telephone Number**
Police Department (local)	911
Fire Department (local)	911
State Police	911
Ambulance Service ***(EMT will determine appropriate hospital for treatment)***	911
Non-Emergency Hospital ***(Use by site personnel is only for non-emergency cases) Little Falls Hospital***	(315) 823-1000
Poison Control Center	(800) 222-1222
Pollution Emergency	(800) 292-4706
National Response Center	(800) 424-8802
Chem-Tel	(800) 424-9300
Title 3 Hotline	(800) 535-0202

Google Maps

Directions to 140 Burwell St, Little Falls, NY 13365

8.6 mi – about **15 mins**



A **County Road 136**
Mohawk, NY 13407

1.	Head **west** on **Johnny Cake Rd** toward **RT-167** About 2 mins	go 0.8 mi total 0.8 mi
2.	Turn **right** at **RT-167** About 7 mins	go 4.8 mi total 5.6 mi
3.	Turn **left** at **RT-167/RT-5S**	go 272 ft total 5.7 mi
4.	Turn **right** at **RT-167** About 3 mins	go 2.1 mi total 7.8 mi
5.	Turn **right** at **Albany St/RT-167 W** Continue to follow Albany St About 2 mins	go 0.4 mi total 8.2 mi
6.	Turn **right** at **E Main St/RT-169**	go 0.2 mi total 8.4 mi
7.	Turn **left** at **Ward St** About 1 min	go 0.1 mi total 8.5 mi
8.	Turn **right** at **Burwell St**	go 0.1 mi total 8.6 mi

B **Little Falls Hospital**
140 Burwell St, Little Falls, NY 13365

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Appendix F: Daily Inspection Form & Annual Inspection Example

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.state.ny.us

DAILY INSPECTION REPORT

Site Code #:	Date:	Report #:

Site Name:
Location:
PRP Proj. Mgr.:
DEC Proj. Mgr.:
Consultant Proj. Mgr.:
Proj. Contr.:
Site Phone & Fax:

	AM	PM
Weather		
Temperature		
Wind Speed & Direction		

Description of work performed by contr. this report period:

-

Discussions/comments regarding visitors, contractor and/or engineer:

-

Sampling and Analyses:

-

Major Issues	Description & Reason

Health & Safety:
Level of protection:

Is the level of protection in conformance with the approved Health & Safety Plan? Yes No
List deviations:

Are atmospheric monitoring results acceptable? Yes No
List deviations:

Site Visitors	Representing	Entered Exclusion Zone

Site Representative: **Date:**

Representative's signature:

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.state.ny.us

DAILY INSPECTION REPORT

Site Code #: 6-22-016	**Date:** October 19, 2009	**Report #:** 2009-1

Site Name: Johnny Cake Road
Location: Danube, NY
DEC Proj. Mgr.: William Bennett
Consultant Proj. Mgr.: Dino Zack, AECOM
Proj. Contr.: GeoLogic
Site Phone & Fax: N/A

	AM	PM
Weather	Sunny	N/A
Temperature	50 F	N/A
Wind Speed & Direction	None Observed	N/A

Description of work performed by contr. this report period:

- AECOM (consultant) and GeoLogic (driller) mobilized to the site before noon on October 19, 2009 to conduct annual groundwater sampling and well decommissioning at the site. NYSDEC walked the site with AECOM to confirm the location of all wells and the specific wells to be decommissioned and sampled. The existence and location of all current monitoring wells twenty-three (23) was confirmed prior to the initiation of work.

- The following wells were decommissioned by GeoLogic with oversight by AECOM starting on Monday, October 19, 2009 with completion by Friday, October 23, 2009: MW-2RR, MW-3, MW-7, MW-8, MW-9, MW-10, MW-11, MW-14, MW-15, and MW-20.

- The following wells were sampled for VOCs by AECOM for CLP Trace VOC method (SOM 01.2) starting Monday, October 19, 2009 and concluding Wednesday, October 21, 2009: MW-21, MW-22, MW-23, MW-12A, MW-19, MW-2R, MW-1, MW-16, MW-18, MW-6R, and MW-13. The Chain of Custody was sent to the NYSDEC on October 23, 2009 as confirmation.

Discussions/comments regarding visitors, contractor and/or engineer:

- As part of this site inspection, the NYSDEC representative conducted the annual Site Inspection as specified in the March 2009 Record of Decision and current draft of the Site Management Plan. The following conditions of the Record of Decision were confirmed:

    - The site is currently vacant with no active use.
    - There is no current use of groundwater as a source of potable water at the site.
    - There are no structures on the site, and therefore no potential for vapor intrusion.
    - Groundwater monitoring is being completed by AECOM on behalf of the NYSDEC. All groundwater monitoring wells not decommissioned were either visual inspected or sampled.
    - There is no evidence of work by the Herkimer County Highway Department in the county right of way which could potential lead to contact with contaminated groundwater.
    - The NYSDEC's access to the site is not restricted in any way.

- As part of the well decommissioning program, AECOM and the NYSDEC contacted Ron Williams of 653 Johnny Cake Road to gain access to his property for the decommissioning of well MW-11. Mr. Williams indicated he had a strong interest in purchasing the Johnny Cake Road site from the Marshals Service.

Sampling and Analyses:

- The following wells were sampled for VOCs by AECOM for CLP Trace VOC method (SOM 01.2) starting Monday, October 19, 2009 and concluding Wednesday, October 21, 2009: MW-21, MW-22, MW-23, MW-12A, MW-19, MW-2R, MW-1, MW-16, MW-18, MW-6R, and MW-13. The Chain of Custody was sent to the NYSDEC on October 23, 2009 as confirmation.

Major Issues	Description & Reason
None	N/A

Health & Safety:

Level of protection: Dino Zack performed a thorough Health & Safety overview for AECOM, NYSDEC, and GeoLogic staff on Monday, October 19, 2009. All site visitors signed the AECOM Health & Safety Plan.

Is the level of protection in conformance with the approved Health & Safety Plan? **Yes** No
List deviations: None

Are atmospheric monitoring results acceptable? **Yes** No
List deviations: None

Site Visitors	Representing	Entered Exclusion Zone
William Bennett	NYSDEC	N/A
Dino Zack	AECOM	N/A
Emily Laity	AECOM	N/A
Ron Williams	Self	N/A

Site Representative: William Bennett **Date: November 3, 2009**

Representative's signature: *William Bennett*