FINAL ENGINEERING REPORT

VOLUNTARY CLEANUP PROGRAM SITE V00138-7
Winatic Corporation
409 Commerce Road
Town of Vestal
Broome County, New York

June 2011

Prepared for:

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1.0 INTRODUCTION

At the request of the Department, this Final Engineering Report is submitted on behalf of the Winatic Corporation, a New York corporation and a wholly owned subsidiary of Electro-Technik Industries, Inc. of Clearwater, Florida (the "Volunteers") in support of Voluntary Cleanup Agreement ("VCA") INDEX NO. A7-0374-9809. The original VCA between the Volunteers and the New York State Department of Environmental Conservation (NYSDEC) was executed on March 5, 1999. This Final Engineering Report describes investigative and remediation activities undertaken by the Volunteers and approved by the Department that have occurred at the 409 Commerce Road, Vestal, New York (the "Property") site.

2.0 SITE OVERVIEW

2.1 BACKGROUND

The Winatic Corporation site is located at 409 Commerce Road, Vestal, NY. A site location map is provided in *Appendix 9.1* and a site map depicting the locations of onsite and offsite monitoring wells is provided in *Appendix 9.2*. The Winatic site is bordered on the north by a tile and marble company and on the east by residential property. The contiguous piping supply company property to the south and west is listed on the National Priorities List (NPL) and is designated as State Superfund Site No. 704002. Known as the "Robintech Site", it is currently owned by National Pipe Company.

The approximately 1.6 acre Winatic site was first developed in 1967 when the original portion of the building was constructed. An addition at the north end was constructed in 1969. From 1967 through 1999, coils, transformers and printed circuit boards were manufactured at the facility. The industrial solvent trichloroethene (TCE) was used for many years at the site. Waste TCE was reportedly discarded onto the ground surface along the north side of the building at some point in the site's history. Production ceased in 1999, and the building has remained unoccupied since that time.

During the 1990's several investigations were conducted that identified trichloroethene (TCE) contamination in soil and groundwater at the site. On March 5, 1999, Winatic Corporation entered into a Voluntary Cleanup Agreement with the NYSDEC.

2.2 DESCRIPTION OF CONTAMINATION

The primary contaminant of concern is trichlorothene (trichloroethylene, TCE)(CAS# 79-01-6). During the 1990s several investigations were conducted that indicated contamination was present in soil and groundwater at the site and a plume of groundwater contamination emanated from the north end of the site onto adjacent properties to the north and northwest. Soil gas testing indicated that there was also a vapor phase plume of TCE in the vadose zone that has impacted indoor air quality at the Winatic site and at two nearby commercial properties.

2.3 CLEANUP CRITERIA ASSUMPTIONS

A review of available documentation did not identify any officially established cleanup criteria for this site. Contaminated soil excavation activities conducted in 1999 were guided by NYSDEC's "*TAGM 4046 Determination of Soil Cleanup Objectives and Levels"* recommended soil cleanup objective of 0.7 ppm (700 ug/kg) for TCE. Evaluations provided in subsequent sections of this current report compare site soil TCE concentrations to the soil cleanup objectives of 0.47 ppm (470 ug/kg) for "unrestricted use" and "protection of groundwater" and 200 ppm (200,000 ug/kg) for "commercial use" provided in NYSDEC's "*CP-51 Soil Cleanup Guidance"* which replaced TAGM 4046 in October 21, 2010. Groundwater TCE concentrations are compared to the groundwater standard of 5 ug/l per 6NYCRR Part 703.

3.0 SUMMARY OF INVESTIGATIONS AND REMEDIATION ACTIVITIES

Investigative and remedial activities at the site have occurred over approximately two decades and many changes in personnel involved at NYSDEC, the "Volunteer" company, and within the environmental consulting firm have occurred in that timeframe. Primary personnel involved included: Tom Suozzo, Karen Cahill, and Gary Priscott of NYSDEC; Michael Weeks, James Carlsen, and John Sellers of Winatic Corporation/Electro Technik; and John Buck, Phillip Shaffner, Eric Monsen, Wayne Matteson, Andrew Korik, Jack Houskamp, and Shannon Condit of Buck Engineering.

This section is presented to summarize the history of site investigations and remediation activities that have occurred including tasks that were identified in seven officially approved work plans as well as additional activities that were undertaken. For clarity, the summary is divided into three sections. The first section provides a summary of the work plans and the status of individual action items identified in approved work plans. The second section presents a more comprehensive summary of known investigations and remediation activities undertaken at the site, and finally the third section provides a summary of the primary remedial actions taken. Further details are available in multiple reports that have been previously submitted to the Department. A list of submitted reports and various written communications is provided in the *References Section* at the end of this report. Note that over 40 historical quarterly monitoring reports are also available but are not included in this list of references; however, monitoring results are provided in *Appendix 9.11* and are discussed in *Section 4.2*.

3.1 SUMMARY OF WORK PLANS

This section provides a tabulated summary of activities undertaken to comply with seven (7) Department approved work plans that were issued for the site. Our current understanding of the status of individual action items noted in each work plan is indicated in the second column and previously submitted documentation related to the status of each action item is referenced in the third column. A more comprehensive chronological summary of known investigations and remediation activities, including activities that were not identified in site work plans, is provided in *Section 3.2*.

SUMMARY OF WORK PLANS		
Action Items	**Action Item Status**	**References**
Site Remediation Work Plan (Revision 1), 9/17/1998 Reference #7		
Collect groundwater samples from 3 existing monitoring wells	**Completed** (April 14, 1998)	Reference #7
Collect subsurface soil samples from the northeast corner of the property	**Completed** (May 22, 1998)	References #7 and #6
Excavate and dispose of contaminated soil if encountered	**Completed** (Excavation – October 14&15, 1999) (Disposal – Approximately February 2000)	References #11 and #12
Conduct a soil vapor extraction feasibility study, recommend a remedial system design, install a system, and perform post installation testing	Remedial options were informally reviewed between the owner and consultant. The owner selected and initiated a groundwater recovery well and activated carbon remediation system.	References #13 and #14
Perform monthly sampling and analysis of system effluent(s) and existing groundwater monitoring wells for first few months, then reduced frequency to quarterly as soon as possible	**Ongoing** Monitoring well sampling frequency has been reduced to semi-annual per Reference #49. System samples are obtained monthly.	Tables 1-3 enclosed in *Appendix 9.11* at the end of this report

Continue to operate the system until the groundwater contaminant concentrations are below limits established by NYSDEC	**Ongoing** The system is currently in operation.	Reference #51
Revised Air Quality Survey Work Plan, 8/25/2003 [Reference #18]		
Collect 3 air samples inside the Winatic building	**Completed** (August 26, 2003) Air samples were analyzed using modified EPA Method TO-14A.	Reference #19
Collect 1 air sample outside the building	**Completed** (August 26, 2003)	Reference #19
Collect 3 soil gas air samples from beneath the concrete floor inside the Winatic building	**Completed** (August 29, 2003)	Reference #19
Revised Work Plan and Cost Estimate for Additional Investigation, 7/9/2004 [Reference #23]		
Install 3 groundwater monitoring wells in the overburden aquifer (one on northern portion of Winatic site, one on Fine-Host property, and one on Leva Bros. property)	**Completed** (August 26, 2004)	Reference #27
Install 3 soil vapor test wells adjacent to the groundwater monitoring wells noted above	**Completed** (August 26, 2004)	Reference #27
Collect and analyze soil vapor samples	**Completed** (September 20, 2004) Air samples were collected in SUMMA canisters and were analyzed using EPA Method TO-15.	Reference #27
Collect and analyze groundwater samples	**Completed** (September 2, 2004)	Reference #27
Work Plan For Installation of Active Subslab Depressurization Systems and Confirmatory Analysis and Modeling, 12/21/2004 [Reference #26]		
Install an active sub-slab depressurization system at the Winatic building	**Completed** (January 2005)	Reference #30
Conduct emissions (stack) testing and modeling upon system start-up	**Completed** (January 26, 2005)	Reference #30
Collect and analyze indoor air samples to evaluate efficacy of the system once operational	**Completed** (March 31, 2005) Air samples were collected in SUMMA canisters and analyzed using EPA Method TO-15.	Reference #34
Work Plan, Sub-slab Soil Gas and Indoor Air Sampling At Fine-Host and Leva Buildings, Commerce Road, Vestal, NY, 3/29/2005 [Reference #29]		
Conduct a Pre-sampling Inventory	**Completed** (Fine-Host - April 6, 2005) (Leva - April 7, 27 & 28, 2005)	Reference #35
Install 4 sub-slab temporary sampling points each in Fine-Host and Leva buildings; Collect and analyze indoor	**Completed** (Fine-Host – May 5, 2005) (Leva – May 31, 2005)	References #35 and #37

air and sub-slab samples as well as one ambient air sample	Air samples were collected in SUMMA canisters and were analyzed using EPA Method TO-15.	
Work Plan For Installation of Active Subslab Depressurization Systems, Fine-Host Building, 408 Commerce Road, Vestal, NY, 9/27/2005 Reference #36		
Design and install sub-slab depressurization (SSD) systems for the Fine-Host building	**Completed** (October 5, 2005)	Reference #45
Conduct emissions modeling (DAR-1 analysis)	**Completed** (September 15, 2005)	Reference #36
Fine-Host sub-slab depressurization system O&M to involve bimonthly visual inspection of manometers and exterior exhaust points by Buck Engineering and annual inspection by Enviro Testing	Due to a change in ownership, the status of routine O&M activities is unknown. The following evaluations were conducted at the request of the Department: indoor air samples (August 27 & 28, 2007); SSD system check (October 3, 2007); and SSD re-evaluation (December 20, 2007).	References #44 and #45
Supplemental Remedial Investigation, 9/8/2006 Reference #41		
Investigate soil beneath the slab (3 locations) and along north exterior wall of the Winatic building (4 to 6 locations)	**Completed** (Sub-slab – November 10 and December 16, 2006) (Exterior - November 30, 2006)	References #43 and #50
Install a bedrock groundwater monitoring well to investigate whether TCE has migrated into the bedrock aquifer	**Completed** (January 31 & Feb.2, 2007) Well was installed but problems were encountered during construction due to variable bedrock quality. In September 2008, this well was modified to become the main recovery well for the groundwater remediation system.	References #43 and #50
Install overburden monitoring well at Fine-Host	**Completed** (November 3, 2006)	Reference #50

3.2 CHRONOLOGY OF INVESTIGATIONS AND REMEDIATION ACTIVITIES

A comprehensive chronological summary of known investigations and remediation activities is provided below. This history includes brief descriptions of tasks that were identified in officially approved work plans as well as additional activities that were undertaken. Further details are available in multiple reports that have been previously submitted to the Department. A list of references is provided in the *References Section* at the end of this report.

CHRONOLOGY OF SITE ACTIVITIES
September 1991
NYSDEC sent correspondence to Winatic requesting that an investigation of soil and groundwater quality be performed for the site because a groundwater plume of trichloroethene (TCE) had been detected on the nearby Robintech property and it appeared to be originating from the Winatic site.
March 1993
Buck Engineering completed a Phase I Environmental Site Assessment of the property.
May 1993
Buck Engineering completed a Phase II Environmental Site Assessment of the property. Monitoring well MW-1 was installed near the southwest corner of the building at a location believed to be downgradient from the location where a small TCE spill occurred in 1987. See *Appendix 9.2* for a site map depicting the locations of onsite and offsite monitoring wells. A groundwater sample was analyzed and TCE was detected at a concentration of 4.7 ug/l.
March 1995
NYSDEC sent correspondence to Winatic noting that the Department was requesting a preliminary groundwater investigation be performed and it was understood that groundwater samples would be obtained at four locations along the northeastern site boundary with Robintech. On March 21, 1995, groundwater samples were obtained from MW-1 and from Geoprobe sampling points GP-1, GP-2, GP-3, GP-4 and GP-5 with reported concentrations of TCE in ug/l of: none detected, 111, 831, 217, and none detected respectively.
November 1995
Two additional monitoring wells (MW-2 and MW-3) were installed near the northeast and northwest corners of the Winatic building. Groundwater samples were obtained from MW-1, MW-2 and MW-3 and TCE was detected at 3.2, 921, and 53.7 ug/l respectively.
January 1996
TCE concentrations in groundwater samples obtained from MW-1, MW-2 and MW-3 were detected at 148, 1410, and 755 ug/l respectively.
April 1998
TCE concentrations in groundwater samples obtained from MW-1, MW-2 and MW-3 were detected at 75, 2350, and 1850 ug/l respectively.
May 1998
Soil samples were obtained via Geoprobe from six locations near the northeast corner of the property in the general area where it was indicated by Winatic that surface disposal of chlorinated solvent cleaning fluid had occurred. TCE soil concentrations were detected at 298, 2360, 889, 213, 129, and 228 ug/kg.
March 1999
Winatic Corporation entered into a Voluntary Cleanup Agreement with NYSDEC which noted TCE contamination up to 2350 ppm based upon April 12, 1998 analytical results *[The noted contamination in the VCA appears to have an error in the units of measurement. Based on groundwater sampling results noted above, the correct units are believed to be ppb not ppm]*. The enclosed ***Site Remediation Work Plan (Revision 1)*** set forth plans for determination of current site conditions via groundwater sampling from 3 existing monitoring wells and subsurface soil sampling from the

northeast corner of the property. The work plan also outlined plans for contaminated soil excavation and disposal, a soil vapor extraction feasibility study, remediation system design and installation, and system operation.
May 1999
Buck Engineering submitted a proposal to Winatic to conduct a site remediation feasibility study.
September 1999
In correspondence to Winatic on September 9, 1999, Buck Engineering documented the understanding that Winatic did not want to authorize or conduct a feasibility study but approval was given to proceed with soil excavation activities.
October 1999
Approximately 600 tons of soils were excavated from the northeast corner of the Winatic property. A sketch of the excavation limits and TCE concentrations in soil samples taken after the excavation activities is provided in *Appendix 9.3*. See *Section 4.1.1* for a discussion of the sample results. Documentation of offsite disposal was not found, but an invoice for sampling and analysis of the contaminated soil pile for disposal purposes was discovered. Therefore, it is assumed that offsite disposal occurred sometime near the February 3, 2000 date of the invoice.
Spring 2001 - Summer 2002
In April 2001, Winatic designed and installed a prototype groundwater recovery and treatment system (activated carbon) along the north side of the building, using monitoring well MW-2 as the recovery well. The system was not designed to operate during the winter months. The system was shut-down from June 1, 2001 – July 1, 2002. Sometime in 2002, Winatic had a new recovery well (RW-1) installed to supply the system influent, replacing MW-2 as the recovery well. After discussions with NYSDEC concerning the discharge point and monitoring and reporting requirements, the revised system restarted operations with Department approval in mid-2002.
June 2002 and April 2003
NYSDEC sent correspondence to Buck Engineering and Winatic requesting that a remediation system be designed and further investigation be conducted including evaluations of deep aquifer effects and indoor air impacts.
August 2003
Revised Air Quality Work Plan was issued. An indoor air and sub-slab soil vapor survey was conducted at the Winatic building. Results indicated the need for mitigation measures to be implemented.
July 2004
Revised Work Plan and Cost Estimate for Additional Investigation was issued.
August – October 2004
Three new groundwater monitoring wells (MW-4, MW-5 and MW-6) and three soil gas wells (VP-4, VP-5 and VP-6) were installed at locations to the north of the Winatic property. Groundwater samples were subsequently obtained and analyzed from the three new micro-wells and from existing monitoring well MW-15 on the adjacent National Pipe and Plastics property. Soil gas samples were obtained from only one of the soil gas test wells due to high groundwater. Dissolved phase trichloroethene (TCE) was detected at significant concentrations in groundwater samples obtained from monitoring wells MW-4 and MW-6 installed on the adjacent Fine-Host and Leva Brothers properties respectively. TCE was detected at lower concentrations but still above the groundwater standards (6NYCRR Part 703) in MW-5, which is located in the vacant lot across from Leva Brothers. Groundwater flow patterns and total VOC isoconcentrations suggested that the dissolved phase VOCs (primarily TCE) in off-site monitoring wells may be emanating from the north end of the Winatic property. Vapor phase TCE and other VOCs (primarily BTEX) were detected in the soil gas sample obtained from VP-5. VOCs detected in the sample from VP-5 were generally consistent with volatile fractions present in soil gas samples obtained from beneath the Winatic building in 2003 suggesting that a plume of vapor phase VOCs in the vadose zone extended at least 250 feet north of the Winatic property.
November 2004
The groundwater remediation system was modified for year-round operation.

December 2004
Work Plan For Installation of Active Subslab Depressurization System and Confirmatory Analysis and Modeling was issued for the Winatic building.
January 2005
A sub-slab depressurization system was installed at the Winatic building and required stack emissions testing and DAR-1 modeling were performed.
March 2005
Work Plan, Sub-slab Soil Gas and Indoor Air Sampling at Fine-Host and Leva Buildings, Commerce Road, Vestal, NY was issued, and indoor air sampling was conducted at the Winatic building to evaluate the efficacy of the sub-slab depressurization system. See *Section 4.3.1* for additional information.
April – May 2005
Indoor air and sub-slab vapor surveys were conducted at Fine-Host and Leva Brothers buildings. Results indicated the need for mitigation measures to be implemented at the Fine-Host building and monitoring to be implemented at the Leva Brothers building. See *Sections 4.3.2 and 4.3.3* for additional information.
September 2005
Work Plan For Installation of Active Subslab Depressurization Systems, Fine-Host Building, 408 Commerce Road was issued.
October 2005
A sub-slab depressurization system was installed at the Fine-Host building.
November 2005
Soil gas samples were collected from 3 temporary outdoor sampling points: P-1 was located in the wooded area east of Winatic, P-3 was located on the J&J Sheet Metal property approximately 425 feet north of Winatic, and P-4 was located on the Haun Welding property approximately 375 feet northeast of Winatic. TCE soil gas concentrations were detected at 0.05, 0.11, and 0.32 ug/m^3 respectively.
March 2006
Indoor air sampling confirmed that the Winatic building sub-slab depressurization systems were functioning adequately.
April 2006
Indoor air and sub-slab soil gas samples collected from the Leva building as part of on-going monitoring requirements indicated that TCE concentrations continued to be at levels that require on-going monitoring.
September 2006
Supplemental Remedial Investigation work plan was issued.
November 2006
MW-7 was constructed west of the Fine-Host building to further characterize the plume extent.
November - December 2006
Three soil borings were advanced below the concrete slab inside the northern end of the Winatic building and temporary monitoring wells were installed. A sketch of sampling locations and detected TCE concentrations is provided in *Appendix 9.4.* The analytical results showed dissolved phase TCE to be present in groundwater at concentrations of 73 ppb, 76 ppb and 260 ppb, respectively in B-1, B-2 and B-3. In addition, five soil borings were advanced outside the northern end of the building in order to investigate the potential for a TCE source area to remain at depth beneath the previously excavated area. Two of the borings (Borings 1 and 4) appeared to be outside of the previously excavated area and were not continued beyond 6 feet below grade. Borings 2, 3 and 5 were advanced to auger refusal within the limits of the earlier investigation with HNU readings from 1.5 to 7 ppm. Soil samples from Boring 2 and Boring 5 showed TCE in concentrations of 390 ppb and 41 ppb respectively Findings indicated that moderate groundwater contamination was present beneath the northern portion of the Winatic building and moderately elevated levels of TCE were detected in soils below the previously excavated area outside the north wall of the building, but concentrations were below the

TAGM 4046 cleanup objective of 0.7 ppm (700 ppb). While these sample results in soil and groundwater indicated TCE contamination, the levels were thought to be typical of the plume area and not indicative of a new source area.
January - February 2007
A bedrock well (BR-1) was installed on the Winatic site in order to investigate the potential for TCE contamination to have entered the bedrock aquifer. The well was drilled to approximately 44.5 feet and caved in to 36.5 upon rod removal. This caving was consistent with the observed core characteristics of alternating layers of competent rock and highly fractured rock. Analytical results of the initial groundwater sample showed dissolved phase TCE concentration of 9.7 ppm (9,700 ppb). While construction of this well was completed, no clear conclusion could be reached regarding possible contamination of the bedrock aquifer. The presence of highly fractured rock layers was thought to indicate that there is hydraulic communication between the overburden water table and the top 14' of bedrock. It was our opinion that the bedrock quality near the soil/bedrock interface is sufficiently variable to preclude construction of a deeper bedrock well without risking inadvertent release of contaminated groundwater into the deeper bedrock aquifer, and no further attempts to construct a bedrock well were made. See *Section 4.2* for further information regarding the subsequent use of BR-1 as the groundwater treatment system's recovery well, including drawdown effects and impacts to groundwater quality.
August and October 2007
August indoor air sampling from two locations inside the former Fine-Host building showed TCE was present at concentrations of 0.89 and 1.4 ug/m^3. October field observations made by Microbac confirmed vacuum gauges at all sub-slab suction points registered 2.5 to 2.75 inches of water.
December 2007
Sub-slab pressure field extension testing of the sub-slab depressurization system at the Fine-Host building was conducted by Enviro Testing. Failure of two locations to meet NYSDOH requirements of -.004 inches of water column was attributed to extremely wet conditions below the slab and ET concluded that the overall negative pressure field below the entire building appeared adequate to control sub-slab vapor intrusion.
February 2008
Follow-up indoor air monitoring was conducted at the Leva Brothers building. All indoor air results indicated the need to continue to monitor. Sub-slab results underneath the "Miller Field Office" indicated the need to implement mitigation measures. The space in question is a small office/lunchroom along the Winatic side of the Leva building. Follow-up discussions were conducted with the property owner, NYSDEC, and NYSDOH, and at the request of the owner, no further action was taken.
September 2008
Modifications were made to improve the Winatic groundwater treatment system's product recovery rate and drawdown radius. The changes included installation of a QED model AP2, air-powered submersible pump in the well previously described as the bedrock well (BR-1). The groundwater recovery rate was improved from the previous 200 gallons per day to approximately 1,500 gallons per day with greatly improved drawdown. See *Section 4.2* for further information regarding system operation, drawdown effects, and impacts to groundwater quality.
June 2010
The frequency of monitoring well sampling, analysis, and reporting was changed to semi-annual at the request of NYSDEC. Groundwater recovery and treatment system effectiveness monitoring frequency remained monthly.
May 2011
The groundwater recovery and treatment system continues to operate at the Winatic site, treating approximately 1,500 gallons daily. Sub-slab depressurization systems are also in operation at the Winatic and Fine-Host buildings.

3.3 SUMMARY OF REMEDIAL MEASURES TAKEN

The primary remedial activities undertaken at the site are summarized below. The impacts of these remedial measures are discussed in *Section 4*.

- **Soil Excavation:**
  An estimated 600 tons of soils contaminated with TCE were excavated from the northeast corner of the Winatic property on October 14, 15, and 26, 1999. A sketch of the approximate location and limits of the excavated area is provided in *Appendix 9.3*. See *Section 4.1* for discussions regarding remaining soil concentrations.

- **Groundwater Recovery and Treatment System:**
  In 2001 Winatic designed and installed a groundwater recovery and treatment system (activated carbon) along the north side of the building, using monitoring well MW-2 as the recovery well. The system pumped recovered groundwater through a sediment filter and two granular activated carbon drums in series to remove contaminants. When the monthly system analysis showed mid break-through, the primary carbon drum was removed, the existing finish carbon drum was rotated to the primary position, and a fresh carbon drum was added to the finish position. In approximately 2002, a new recovery well (RW-1) was installed by Winatic. The system was not designed to operate during the winter months until November of 2004 at which time the system was modified for year-round operation. In September 2008, modifications were made to improve the system's product recovery rate and drawdown radius. The changes included installation of a QED model AP2B air-powered submersible pump in the well previously described as the bedrock well (BR-1). The bedrock well has a casing depth of 38.5' and the pump was suspended with the bottom intake of the pump at 37.3' from top of casing. A water line and air line were installed in a trench and connected to the remaining system components inside the Winatic building. A new dedicated air compressor was installed, and the water discharge from the new pump was plumbed into the existing pair of activated carbon canisters. The previous recovery well and pump remain connected to the system, but their use has been discontinued since October 2008. The groundwater recovery rate was dramatically improved by these modifications, increasing from an average rate of 200 gallons per day to approximately 1,500 gallons per day with greatly improved drawdown. The groundwater recovery and treatment system continues to operate at the Winatic site treating approximately 1,500 gallons daily. An as-built drawing of the current groundwater recovery and treatment system is provided in *Appendix 9.5*. See *Section 4.2* for further information regarding system operation, drawdown effects, and impacts to groundwater quality.

- **Sub-slab Depressurizations Systems (Onsite and on an Adjacent Property):**
  Soil gas samples obtained from beneath the Winatic building in August 2003 had VOC concentrations of up to 79,000 µg/m³ (primarily trichloroethene). In order to alleviate the potential intrusion into the Winatic structure of vapors associated with solvent-contaminated soil and/or groundwater beneath the site, Enviro Testing installed a sub-slab depressurization system at the Winatic facility in January of 2005. The SSD system uses four (4) fan-powered vents and piping to draw vapors from the soil beneath the building's slab and discharge them to the atmosphere. This results in lower sub-slab air pressure relative to indoor air pressure, which prevents the infiltration of contaminated sub-slab vapors into the building. An as-built drawing of the onsite sub-slab depressurization system is provided in *Appendix 9.9*.

  Indoor air and sub-slab vapor surveys were conducted at Fine-Host and Leva Brothers buildings in May 2005. Results indicated the need for mitigation measures to be implemented at the Fine-Host Building and monitoring to be implemented at the Leva Brothers building. In October 2005, Enviro Testing installed a sub-slab depressurization system at the Fine-Host building (located

adjacent and to the northwest of the Winatic property) under direct contract with Winatic Corporation. The SSD system uses two (2) fan-powered vents and piping to draw vapors from the soil beneath the building's slab and discharge them to the atmosphere. This results in lower sub-slab air pressure relative to indoor air pressure, which prevents the infiltration of contaminated sub-slab vapors into the building. An as-built drawing of the Fine-Host sub-slab depressurization system is provided in *Appendix 9.10*. Sub-slab results from February 2008 testing at the Leva Brothers building indicated the need to mitigate, but after follow-up discussions were conducted with the property owner, NYSDEC, and NYSDOH, no further action was taken at the owner's request.

See *Section 4.3* for information regarding the mitigation impacts provided by the onsite and offsite SSD systems.

4.0 REMEDIAL IMPACTS ON SOIL, GROUNDWATER AND INDOOR AIR QUALITY

The impacts of implemented remedial measures on soil, groundwater, and indoor air quality on the Winatic site and nearby properties are summarized below.

4.1 SOIL QUALITY

Soil samples obtained from six locations near the northeast corner of the property in May 1998 detected TCE concentrations ranging from 129 to 2360 ug/kg (ppb). The following sections provide a discussion of soil excavation activities completed to address this source of contamination, subsequent soil quality investigation results, and a summary of remediation impacts on soil quality on the site.

4.1.1 Soil Excavation

Approximately 600 tons of contaminated soils were excavated from the northeast corner of the site in October 1999. A sketch of the approximate location and limits of the excavated area is provided in *Appendix 9.3* and TCE concentrations detected in remaining soil samples taken from the walls and bottom of the excavation are indicated. The TCE concentrations in remaining soils were below, or only marginally above, the NYSDEC "*TAGM 4046 Determination of Soil Cleanup Objectives and Levels"* recommended soil cleanup objective of 0.7 ppm (700 ppb, 700 ug/kg) that was in effect when the excavation was completed. No additional contaminated soil could be removed from the bottom of the excavation because of the presence of groundwater.

Compared to current "*CP-51 Soil Cleanup Guidance"* soil cleanup objectives (which replaced TAGM 4046 in October 2010), concentrations in certain samples were slightly above the 0.47 ppm objective for unrestricted use and protection of groundwater, but all were well below the cleanup objective of 200 ppm for commercial use.

4.1.2 Subsequent Soil Quality Investigations

Subsequent soil quality investigations conducted in November and December 2007, at the request of NYSDEC, confirmed that TCE concentrations in remaining soils were below the recommended 0.7 ppm TAGM 4046 cleanup objective in effect at that time. A graphic of sampling locations and detected TCE concentrations is provided in *Appendix 9.4.* The highest concentration measured below the previously excavated area was 0.390 ppm, and the highest concentration measured beneath the Winatic building slab was 0.260 ppm.

Compared to current "*CP-51 Soil Cleanup Guidance"* soil cleanup objectives, concentrations in all the samples were below the cleanup objective of 0.47 ppm for unrestricted use and protection of groundwater.

4.1.3 Summary of Remediation Impacts on Soil Quality

At the date of this report, we believe the source of contamination has essentially been removed and no further soil remediation activities are planned for the site. The TCE concentrations in remaining soils are only slightly above the current soil cleanup objectives for unrestricted use and protection of groundwater and are well below the cleanup objectives for the expected commercial use of the property.

4.2 GROUNDWATER QUALITY

Various investigations and monitoring activities, conducted from the early 1990s through the present time, have concluded that contamination was present in groundwater at the site and a plume of groundwater contamination emanated from the north end of the site onto adjacent properties to the north and northwest.

To form an understanding of the impacts of the site's groundwater recovery and treatment system on groundwater quality on the site and nearby properties, this section provides a description of ongoing groundwater monitoring activities, a summary of historical monitoring data obtained, a discussion of groundwater remediation system data trends, a discussion of onsite and offsite groundwater TCE concentration data trends, and a summary of the remediation impacts on groundwater quality onsite and in the vicinity.

4.2.1 Monitoring Activities

Site monitoring activities include sampling groundwater monitoring wells located on the site and adjacent properties as well as sampling to evaluate the operations and effectiveness of the groundwater recovery and treatment system. Samples are submitted to Microbac Laboratories in Cortland, NY and are analyzed for volatile organic compounds (VOC's) using EPA Methods 8260 or 8021. Historically, the groundwater monitoring wells were sampled quarterly. In August 2010 the frequency for groundwater sampling was reduced from quarterly to semi-annually per NYSDEC correspondence from Gary Priscott dated June 29, 2010 (Reference #49). At this time, the following monitoring tasks are completed on an ongoing basis and results are reported semi-annually.

- **Semi-Annual Groundwater Sampling (Required):**
  MW-1 *(On Winatic Site)*
  MW-2 *(On Winatic Site)*
  MW-3 *(On Winatic Site)*
  MW-4 *(On Fine-Host Site Across Commerce Road)*
  MW-5 *(On Leva Bros. Site Across Commerce Road)*
  MW-6 *(On Adjacent Leva Bros. Site)*
  MW-7 *(On Fine-Host Site Across Commerce Road)*
  MW-15 *(On Robintech/National Pipe Site Across Commerce Road)*

- **October and April Groundwater Sampling (Not Required):**
  Additional Samples Are Taken From These Offsite Wells on a Voluntary Basis
  MW-4 *(On Fine-Host Site Across Commerce Road)*
  MW-6 *(On Adjacent Leva Bros. Site)*
  MW-7 *(On Fine-Host Site Across Commerce Road)*

- **Monthly Remediation System Sampling (Required):**
  Treatment System Influent *(Recovery Well BR-1)*
  Treatment System Mid
  Treatment System Effluent

4.2.2 Data Summary

Data obtained from historical monitoring well and remediation system sampling events are summarized in the following tables and graphs provided in *Appendix 9.11*. See *Appendix 9.8* for a depiction of the average 2011 TCE groundwater concentrations detected for each onsite and offsite monitoring well. Data trends are discussed below in *Sections 4.2.3 and 4.2.4.*

Table 1 Monitoring Wells Laboratory Analytical Summary
Table 2 Groundwater Elevation Data
Table 3 Groundwater Treatment Analytical Summary
Graph MW-1 (On Winatic Site)
Graph MW-2 (On Winatic Site)
Graph MW-3 (On Winatic Site)
Graph BR-1 (On Winatic Site – Recovery Well)
Graph MW-4 (On Fine Host Site Across Commerce Road)
Graph MW-5 (On Leva Brothers Site Across Commerce Road)
Graph MW-6 (On Adjacent Leva Brothers Site)
Graph MW-7 (On Fine Host Site Across Commerce Road)
Graph MW-15 (On Robintech/National Pipe Site Across Commerce Road)

4.2.3 Groundwater Remediation System Data Trends

The BR-1 recovery well is clearly located within the source area because TCE concentrations in this well are much higher than those detected in any of the other onsite or offsite wells. The 2008 modifications made significant improvements in recovery rates, and it is our opinion that the current system has sufficient drawdown to capture contaminated groundwater near the previous source area. See *Appendices 9.6 and 9.7* for depictions of BR-1's depression zone and groundwater contours for January 26, 2011 which clearly indicate how significantly the surrounding groundwater elevations are influenced by the recovery well. The depression zone also verifies that there is hydraulic communication between the overburden water table and the top 14' of bedrock as initially thought during construction of BR-1.

Monthly groundwater remediation system influent testing indicates a generally decreasing trend of TCE concentration in the groundwater from BR-1, declining from approximately 15,000 ug/l in 2007 to 8,000 ug/l in early 2011. Activated carbon drums are replaced as determined by mid-system sampling and no VOC's were ever detected in the effluent discharging to the storm sewer. TCE recovery rates are variable because influent concentrations are affected by seasonal groundwater elevation fluctuations. In 2010, over 500,000 gallons of water were treated and approximately 34 pounds of TCE were removed. For the first four months of 2011, over 150,000 gallons of water were treated and almost 7 pounds of TCE were removed.

4.2.4 Groundwater Monitoring Data Trends

See *Appendix 9.8* for a depiction of the average 2011 TCE groundwater concentrations detected for each onsite and offsite monitoring well. Onsite and offsite groundwater TCE concentration trends are discussed below. Historical analytical data from onsite wells is available from as early as 1995

which is prior to execution of the Voluntary Cleanup Agreement in 1999. Data generally began being collected from offsite wells in approximately 2004, with the exception of MW-7 for which data collection began in 2007.

Onsite Monitoring Wells (MW-1, MW-2, MW-3)

Onsite monitoring well data indicate improving TCE concentrations trends. MW-1, located on the southwest portion of the Winatic property, has historically displayed the lowest TCE groundwater concentrations of any of the wells on the site. Concentrations in MW-1 have been reduced significantly from a 148 ug/l maximum to remaining consistently below the groundwater standard of 5 ug/l for the last 6 years.

MW-2 is located north of the Winatic Building very near the area where contaminated soils were excavated in late 1999. Concentration data from MW-2 initially ranged from 1,000-3,000 ug/l, then spiked as high as 23,000 ug/l in 2001. These elevated concentrations are believed to have resulted from the disturbance of groundwater during the soil excavation activities. Stable or decreasing trends were observed for the period of 2002-2007. Following implementation of the new recovery well (BR-1) in 2008, intermittent periods of high concentrations were observed, presumably caused by MW-2's proximity and upgradient location with respect to the new recovery well. Current concentrations remain above the groundwater standard, with 1,900 ug/l detected in April 2011, but it is apparent that groundwater in the vicinity of MW-2 is within the capture zone of BR-1.

MW-3 is located west of the Winatic building. Concentrations in MW-3 initially ranged from 1,000-2,000 ug/l and spiked as high as 10,400 ug/l in April 2002 after soil excavation activities in late 1999. From 2002 to the present, stable or decreasing trends have been observed. Current concentrations remain above the groundwater standard, ranging between 300-500 ug/l. This well is on the limit of the capture zone of the recovery well and groundwater in this area may not be consistently captured by the recovery well.

Offsite Monitoring Wells (MW-4, MW-5, MW-6, MW-7, MW-15)

Offsite monitoring wells MW-4 and MW-6 generally show stable concentration trends. MW-5 appears to have improved since the new recovery well was put into service. MW-7, the furthest well from the original source, and MW-15 on the Robintech/National Pipe site are trending slightly upward.

4.2.5 Summary of Remediation Impacts on Groundwater Quality

In summary, groundwater quality data on the site have shown significantly declining TCE concentration trends since the VCA contract was initiated in 1999, and the recovery well and treatment system continues to favorably influence onsite contamination. Offsite wells, however, continue to exhibit non-declining or increasing contaminant trends. This is attributed to the migration of contaminants from the site prior to use of the new recovery well (BR-1). The groundwater recovery and treatment system was of limited effectiveness between initial prototype system installation in 2001 and completion of modifications in 2008 which allowed BR-1 to be used as the system's recovery well. This is because the wells used to supply the system influent during that time (MW-2 and RW-1) had insufficient well yields to depress the water table adequately to prevent offsite migration. The 2008 modifications made significant improvements in recovery rates, and it is our opinion that the current system has sufficient drawdown to capture contaminated groundwater near the previous source area.

4.3 INDOOR AIR QUALITY

Indoor air and sub-slab soil vapor surveys indicated that a vapor phase plume of TCE had impacted indoor air quality at the Winatic site and at two nearby commercial properties. A summary of monitoring activities and mitigation impacts follows for the Winatic, Fine-Host, and Leva Brothers buildings. Note that follow-up sub-slab soil vapor and indoor air sampling activities are performed when requested by NYSDEC and/or NYSDOH.

4.3.1 Winatic

Because initial soil gas samples obtained from beneath the Winatic building (409 Commerce Road) in August 2003 indicated the need to implement mitigation measures, a sub-slab depressurization system was installed in January 2005. Indoor air sampling was conducted to evaluate the efficacy of the Winatic sub-slab depressurization system soon after it was installed. The results showed that airborne concentrations of TCE were significantly lower than prior to activation of the sub-slab depressurization system and airborne concentrations of TCE were at, or marginally above 5 micrograms per cubic meter at various locations inside the Winatic building. Indoor air sampling conducted in March 2006 confirmed that the Winatic building sub-slab depressurization systems were functioning adequately. Presently, the system continues to operate even though the building has not been occupied since 1999.

4.3.2 Fine-Host

Results of an initial sub-slab vapor survey conducted at the Fine-Host building (408 Commerce Road) in May 2005 indicated the need to implement mitigation measures, and a sub-slab depressurization system was installed in October 2005. A change in ownership occurred in mid-2007, and National Pipe & Plastics occupied the building. August 2007 indoor air sampling from two locations inside the former Fine-Host building showed TCE was present at concentrations of 0.89 and 1.4 ug/m^3 and October field observations made by Microbac confirmed vacuum gauges at all sub-slab suction points registered 2.5 to 2.75 inches of water. Sub-slab pressure field extension testing in December 2007 concluded that the negative pressure field appeared adequate to control sub-slab vapor intrusion. It is our understanding that the system continues to operate to protect the occupants of the building.

4.3.3 Leva Brothers

Initial indoor air and sub-slab vapor surveys were conducted at the Leva Brothers building (413 Commerce Road) in May 2005. Results indicated the need for monitoring to be implemented at the building. Indoor air and sub-slab soil gas samples collected in April 2006 indicated that TCE concentrations continued to be at levels that required on-going monitoring. February 2008 indoor air results indicated the need to continue to monitor; however, sub-slab results underneath the “Miller Field Office” area indicated the need to implement mitigation measures. Follow-up discussions were conducted with the property owners, NYSDEC, and NYSDOH, and no further action was taken.

5.0 HUMAN EXPOSURE

The following discussion presents an evaluation of the potential for human exposure to trichloroethene (TCE) contaminants present on the Winatic site and extending onto nearby properties.

Exposure to groundwater contamination: We are not aware of any private wells in the area and believe area residences and businesses utilize public water supplies. Three Town of Vestal water supply wells are located to the northeast and hydraulically downgradient of the Winatic site (See *Appendix 9.12).* Well 4-2, located approximately 3,200 feet northeast of Winatic, is a listed State Superfund Program Site (704009B) because it has been impacted by contaminated groundwater (chlorinated volatile organic compounds including TCA, TCE, and PCE) from neighboring Monarch Chemical (State Superfund Site 704003). To address these concerns, the well has operated with an air stripping system with carbon filtration for backup since approximately 1989. Currently, the well influent continues to be treated even though monitoring of the groundwater has shown that contaminants in the influent to Well 4-2 have declined to levels which are below drinking water standards.

Exposure to vapor phase contamination: Vapor intrusion studies indicate no significant issues with ambient air quality. Sub-slab depressurization (SSD) systems were installed in the onsite building and in one offsite commercial building to address indoor air impacts for occupied buildings. There is currently no intended use of the Winatic building, but the SSD system at the former Fine-Host building should continue to be operated and maintained to protect occupants and monitoring of indoor air quality at the Leva Brothers building should be continued. Homes nearby are not expected to be affected by soil vapor intrusion.

Exposure to contaminated soil is not expected because most of the site is covered by a building and pavement and remaining soil contamination levels are believed to be below NYSDEC soil cleanup objectives for commercial use. Concentrations in remaining soils are only marginally above soil cleanup objectives for unrestricted use and protection of groundwater.

6.0 CONCLUSIONS

Multiple work plans have been submitted and approved for the site. The identified tasks were implemented and completed in substantial conformance with the approved work plans with the following exception:

1. No formal feasibility study was performed to identify optimum remedial measures and establish system design; however, a groundwater recovery and activated carbon remediation system was installed and has operated for approximately 10 years with Departmental concurrence.

We believe the contaminant source area has been adequately remediated. Testing indicates that remaining soils meet *CP-51* cleanup objectives for a commercial site and TCE has not been used on the site since manufacturing ceased in 1999.

The facility has been pumping and treating site groundwater since 2001, utilizing an enhanced recovery rate since 2008. The groundwater recovery and treatment system continues to make substantial improvements onsite and the current system has sufficient drawdown to capture contaminated groundwater near the previous source area. The site is showing generally improving concentration trends, although site groundwater does not currently meet the groundwater standard.

Indoor air quality impacts at the Winatic and former Fine-Host buildings have been effectively mitigated with sub-slab depressurization systems.

It is our opinion that the Volunteer has met the contractual obligations of the Voluntary Cleanup Agreement and continued operation of the groundwater treatment and sub-slab depressurization systems would adequately protect public exposure in the future. An Operations and Maintenance (O&M) Plan has been prepared in accordance with the VCA and is submitted to the Department under separate cover.

7.0 REFERENCES

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2. Phase I Environmental Site Assessment, Winatic Corporation, 409 Commerce Road, Town of Vestal, Broome County, NY, Buck Engineering, LLC, March 1993.
3. Phase II Site Investigation Report, Winatic Corporation, 409 Commerce Road, Town of Vestal, Broome County, NY, Buck Engineering, LLC, May 1993.
4. Correspondence (fax) Re: Groundwater Investigation, to Winatic from NYSDEC (Tom Suozzo), March 17, 1995.
5. Winatic Corporation, Summary of Previous Site Investigations, to Winatic from Buck Engineering, LLC, March 1998.
6. Correspondence Re: Report of Soil Sampling and Analysis Activity, to Winatic and NYSDEC from Buck Engineering, LLC, July 6, 1998.
7. Site Remediation Work Plan (Revision 1), Winatic Corporation, 409 Commerce Road, Vestal, New York, to Winatic and NYSDEC from Buck Engineering, LLC, September 17, 1998.
8. Voluntary Agreement, Index No. A7-0374-9809, NYSDEC to Winatic Corporation, March 5, 1999.
9. Correspondence Re: Site Remediation Feasibility Study [proposal], to Winatic and NYSDEC, from Buck Engineering, LLC, May 24, 1999.
10. Correspondence Re: Winatic Site Remediation – Contaminated Soil Excavation, to Winatic from Buck Engineering, LLC, September 9, 1999.
11. Soil Excavation Activity, Winatic Corporation, 409 Commerce Road, Vestal, NY, to Winatic and NYSDEC from Buck Engineering, LLC, January, 2000.
12. Invoice, Sampling and analysis of contaminated soil pile for disposal purposes, to Winatic from Buck Engineering, LLC, February 3, 2000.
13. Correspondence Re: Winatic Groundwater Recovery and Treatment, Vestal NY, to NYSDEC and Winatic from Buck Engineering, LLC, May 14, 2001.
14. Correspondence (fax) SPDES Permit Application Requirements, to Buck Engineering from NYSDEC, June 4, 2001.
15. Form NY-2C, Winatic Site, 409 Commerce Road, Vestal, NY 13850, to NYSDEC from Buck Engineering, LLC, July 30, 2001.
16. Correspondence Re: 409 Commerce Rd., Site No. V00138-7, to Buck Engineering from NYSDEC, June 27, 2002.
17. Correspondence Re: 409 Commerce Rd., Site No. V00138-7, to Electro Technik from NYSDEC, April 11, 2003.
18. Correspondence Re: Revised Air Quality Work Plan, Winatic Facility on Commerce Road, Vestal, NY, to NYSDEC and Winatic from Buck Engineering, LLC, August 25, 2003.
19. Report of Findings, Indoor Air and Sub-slab Soil Vapor Survey, Winatic Building, to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, September 25, 2003.
20. Correspondence Re: Groundwater Pump Test Winatic, 409 Commerce Road, Vestal NY, to NYSDEC and Winatic from Buck Engineering, LLC, November 17, 2003.
21. Correspondence Re: Subsurface Evaluation, Former Fine Host Facility, 408 Commerce Road, Vestal, NY, by GeoLogic NY, Inc., February 12, 2004.
22. Correspondence Re: 409 Commerce Road, Vestal, NY Site No. V00138-7, (408 Commerce Rd.), to Winatic , Buck Engineering, and NYSDOH from NYSDEC, June 4, 2004.
23. Correspondence Re: Revised Work Plan and Cost Estimate for Additional Investigation, Winatic Property, 409 Commerce Road, Vestal, NY, to Winatic and NYSDEC from Buck Engineering, LLC, July 9, 2004.
24. Correspondence Re: Work Plan and Cost Quote, Modification of Groundwater Pump and Treat System for 12-month Operation, 409 Commerce Road, Vestal, NY, to Winatic from Buck Engineering, LLC, October 29, 2004.

25. Correspondence Re: 409 Commerce Road, Vestal, NY, Site No. V00138-7, Sub-slab Depressurization System Work Plan, review comments from NYSDEC and approval to proceed once a revised plan was received, December 16, 2004.
26. Work Plan for Installation of Active Subslab Depressurization Systems and Confirmatory Analysis and Modeling (at the Winatic site), to Winatic from Buck Engineering, LLC, December 21. 2004.
27. Report of Findings, Soil Gas Survey and Installation of Groundwater Monitoring Wells, to Winatic and NYSDEC, from Buck Engineering, LLC, January 20, 2005.
28. Winatic Soil Vapor Mitigation Project, 409 Commerce Road, Vestal, NY 13850, Enviro Testing Project #2004415-5855, NYSDEC Site# V00138-7, to Winatic and NYSDEC from Enviro Testing, January 20, 2005.
29. Work Plan, Sub-slab Soil Gas and Indoor Air Sampling At Fine-Host and Leva Buildings, Commerce Road, Vestal, NY, to NYSDEC, from Buck Engineering, LLC, March 29, 2005.
30. Emissions Test and DAR-1 Model Results, to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, April 2005.
31. Correspondence Re: Laboratory Analytical Results, Leva and Fine-Host Building Sub-Slab Soil Gas Samples, Commerce Road, Vestal, NY, to Winatic and NYSDEC from Buck Engineering, LLC, April 15, 2005.
32. Correspondence Re: Results of Sub-Slab and Indoor Air Samples, Leva Brothers Tile and Marble, 413 Commerce Road, Vestal, NY, to Leva, from Buck Engineering, LLC, April 15, 2005.
33. Correspondence Winatic, (re: emissions test and model), to Buck Engineering, LLC from NYSDEC, Division of Air Resources, May 13, 2005.
34. Correspondence Re: Results of Indoor Air Samples, Winatic Facility on Commerce Road, Vestal, NY, to Winatic, from Buck Engineering, LLC, June 3, 2005.
35. Report of Findings, Sub-slab Gas and Indoor Air Survey, Leva and Fine-Host Buildings, to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, July 2005.
36. Work Plan, For Installation of Active Subslab Depressurization Systems, Fine-Host Building, 408 Commerce Road, Vestal, NY, to Winatic from Buck Engineering, LLC, September 2005.
37. Correspondence Re: Results of Sub-Slab and Indoor Air Samples Leva Bros. Tile and Marble, 413 Commerce Road, Vestal, NY, to Leva from Buck Engineering, LLC, October 20, 2005.
38. Correspondence Re: Results of Soil Gas Sampling – November 2005, Winatic (Site #V00138-7), to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, January 27, 2006.
39. Correspondence Re: Results of Soil Gas and Indoor Air Sampling, Winatic and Nearby Properties, Winatic (Site #V0018), to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, June 15, 2006.
40. Correspondence Re: Results of Soil Gas and Indoor Air Sampling – April 2006, Leva Building, Winatic (Site # V00138), to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, June 15, 2006.
41. Work Plan, Supplemental Remedial Investigation, Winatic Corporation, 409 Commerce Road, Vestal, New York, Site #V00138, to NYSDEC from Buck Engineering, LLC, September 8, 2006.
42. Correspondence Re: Winatic, Recent Site Work, to Winatic, from Buck Engineering, LLC, December 29, 2006.
43. Supplemental Remedial Investigation Update, Winatic Corporation, 409 Commerce Road, Vestal, New York, Site # V00138, Buck Engineering, LLC, May 7, 2007.
44. Correspondence Re: Indoor Air Sampling and Analysis and Sub-slab Depressurization System Check, Former Fine-Host Building on Commerce Road, Vestal, NY, to Winatic, NYSDEC, and NYSDOH from Buck Engineering, LLC, October 5, 2007.
45. Correspondence Re: SSDS Re-Evaluation, Fine Host Building, 408 Commerce Road, Vestal, NY 13850, to Winatic, Buck Engineering, NYSDEC, and NYSDOH from Enviro Testing, December 21, 2007
46. Correspondence Re: Air Monitoring Results, Leva Brothers Building, 413 Commerce Rd., Vestal, NY, to Winatic and NYSDEC, from Buck Engineering, LLC, March 17, 2008.
47. Correspondece Proposal-Convert Bedrock Well to Recovery Well, 409 Commerce Road, Vestal, NY, to Winatic from Buck Engineering, LLC, August 18, 2008.

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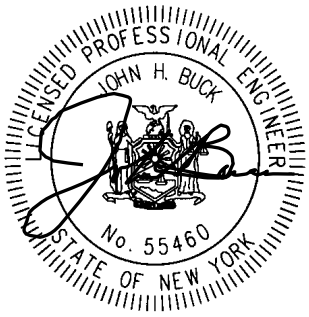
49. Correspondence Re: 409 Commerce Rd, Vestal, NY, Site No. V00138 (reduced monitoring and reporting to semi-annual), to Winatic from NYSDEC, June 29, 2010.
50. Correspondence Re: 409 Commerce Rd. – Site V00138, Status Report, to NYSDEC, from Buck Engineering, LLC, August 19, 2010.
51. Laboratory results for system monitoring samples collected on May 4, 2011, Microbac Laboratories, Inc., May 16, 2011.

8.0 ENGINEER'S CERTIFICATION

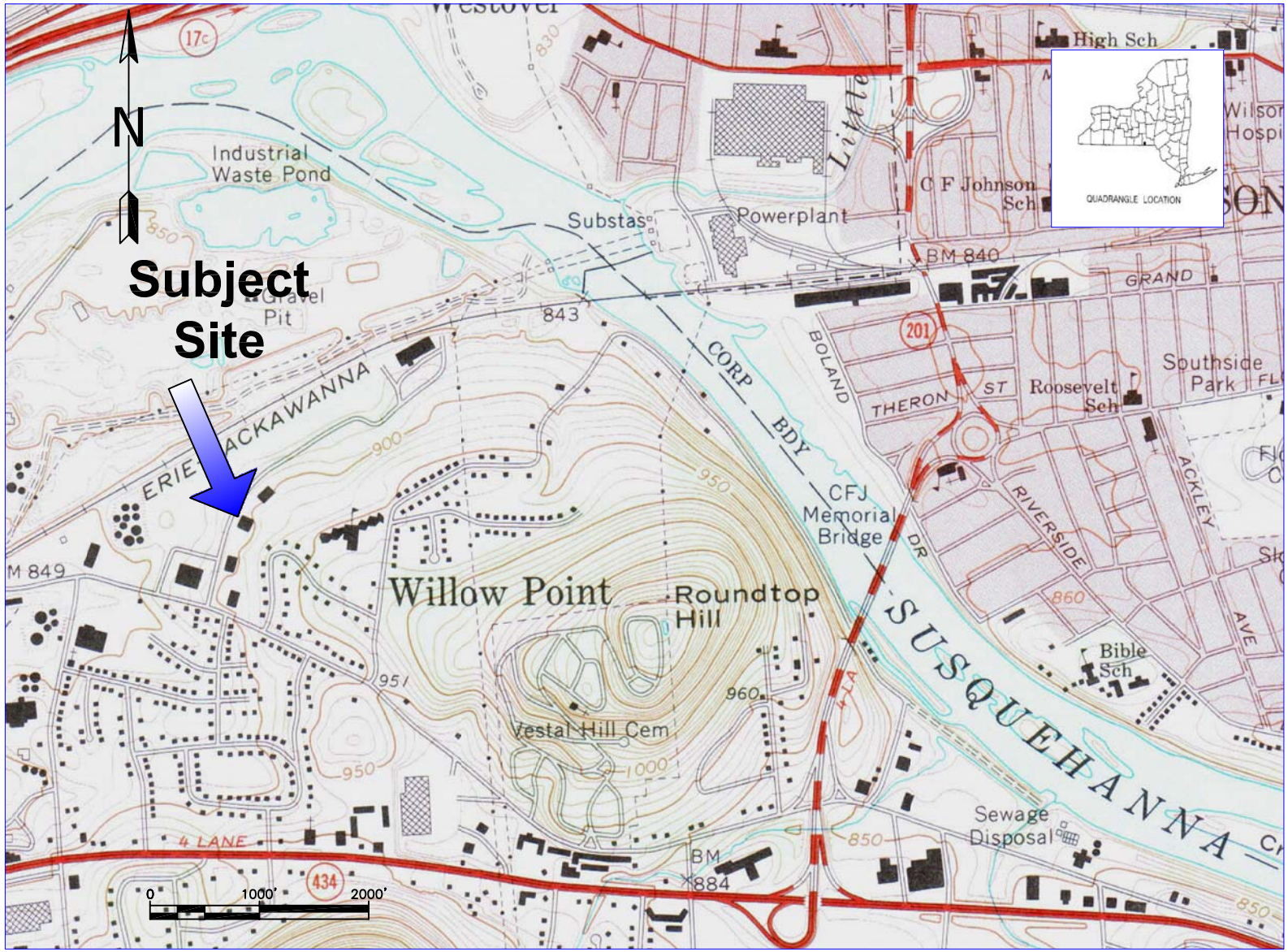
I certify that the remedial action work plans were implemented and that all construction activities were completed substantially in accordance with the Department-approved work plans and were personally witnessed by me (or by a person under my direct supervision) except as otherwise described in this report.



John H. Buck, P.E.
NYS LN 055460

APPENDIX 9.1

SITE LOCATION MAP



Base map from U.S. Department of the Interior Geological Survey
Binghamton West Quadrangle

BUCK ENGINEERING, LLC
P.O.Box 427
Cortland, NY 13045
607-753-6016

Winatic Corporation
409 Commerce Road
Vestal, New York

No.	Revision/Issue	Date

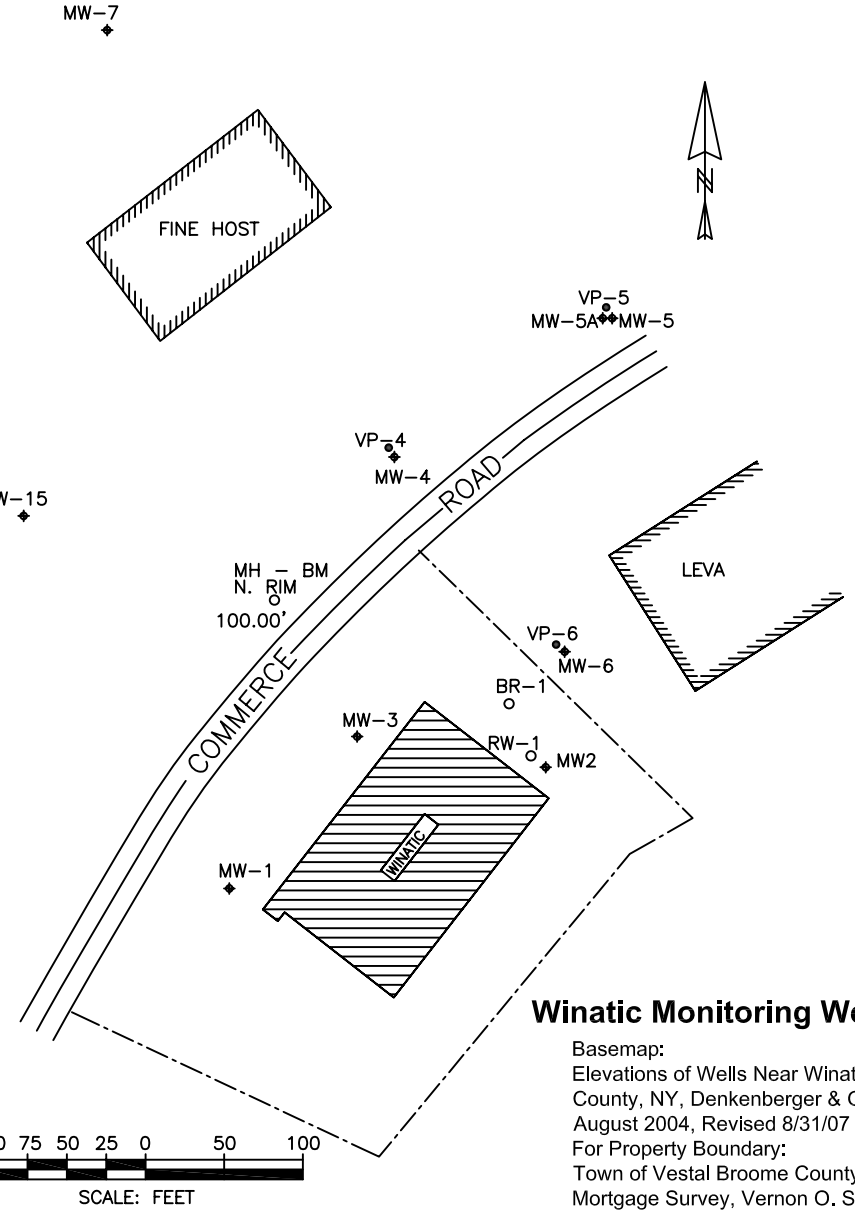
Site Location Map

Project	Sheet
Date 6-2-11	Drawn JRH
Scale See Map	Dwg #

USER REVDATE FNAME winatic\Contour Map\Site location map.dwg

APPENDIX 9.2

SITE MAP



Casing Reference Elevation
MW–1 = 102.93'
MW–2 = 109.02'
MW–3 = 106.25'
MW–4 = 92.61'
MW–5 = 90.21'
MW5A= 90.29'
MW–6 = 102.96'
MW–7 = 70.66'
MW–15 = 91.20'
BR–1 = 109.77

Elevations Refer To Assumed Elevation of 100.00' on N. RIM M.H. as Shown.

Legend

- Monitoring Well Location
- Soil Vapor Well
- Winatic Corp. Property Boundary

Winatic Monitoring Well Locations

Basemap:
Elevations of Wells Near Winatic Corp., Broome County, NY, Denkenberger & Greene, Cortland, NY August 2004, Revised 8/31/07
For Property Boundary:
Town of Vestal Broome County, N.Y., Winatic Corp. Mortgage Survey, Vernon O. Shumaker, July 16, 1991

BUCK ENGINEERING, LLC
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Cortland, NY 13045
607-753-8016

Winatic Corporation
409 Commerce Road
Vestal, New York

No.	Revision/Issue	Date

Site Map

Project	Sheet
Date 6-2-11	Drawn By JRH
Scale See Map	DWG #

FNAME contour map\FinalEngReport Site map.dwg
REVDATE
USER

APPENDIX 9.3

TCE CONCENTRATIONS IN SOIL SAMPLES TAKEN AFTER 1999 EXCAVATION ACTIVITIES

BUCK ENGINEERING
CONSULTING ENVIRONMENTAL ENGINEERS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

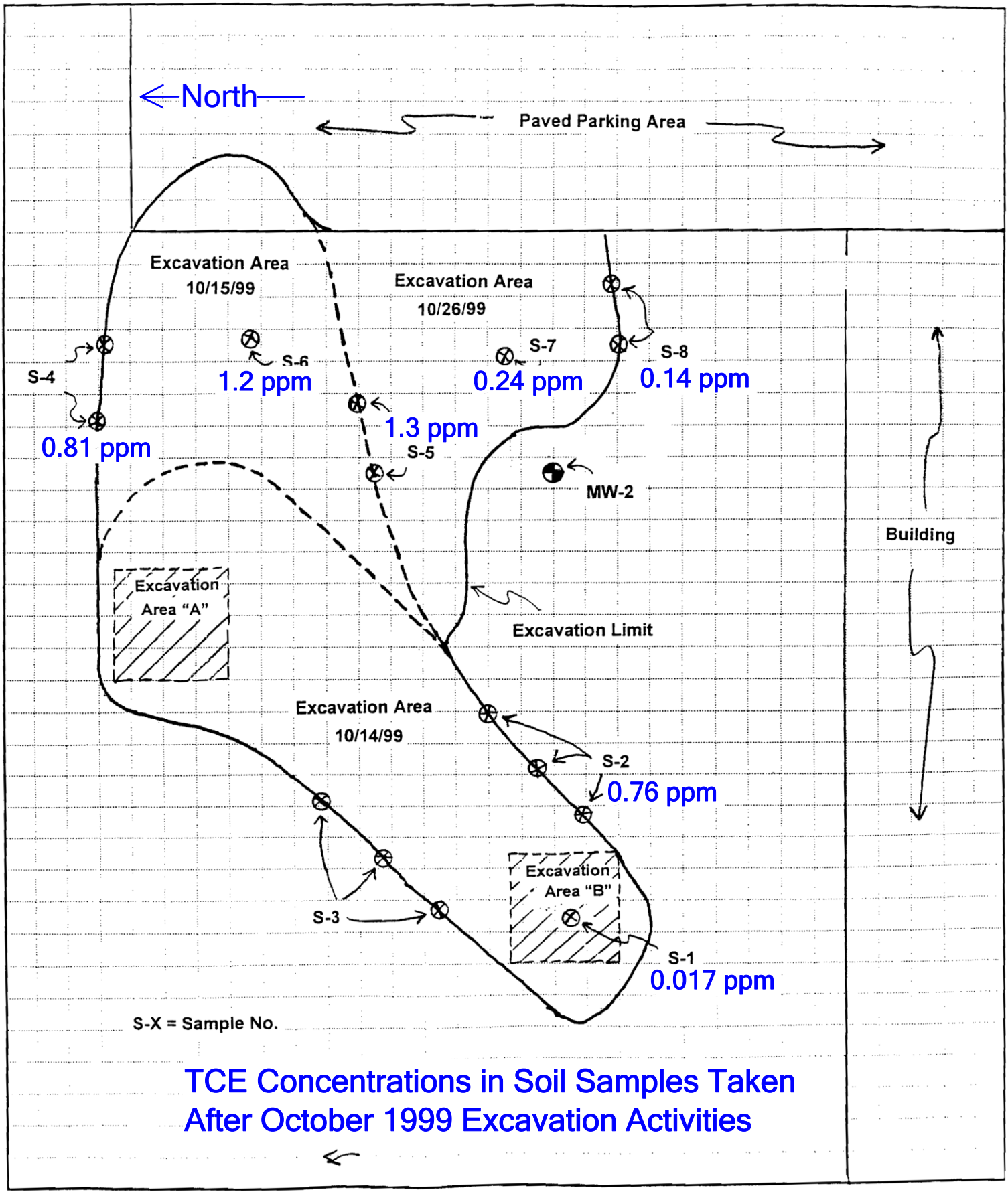
JOB Winatic Corporation, Vestal, NY

SHEET NO. _____ OF _____

CALCULATED BY EHM DATE 2/3/00

CHECKED BY _____ DATE _____

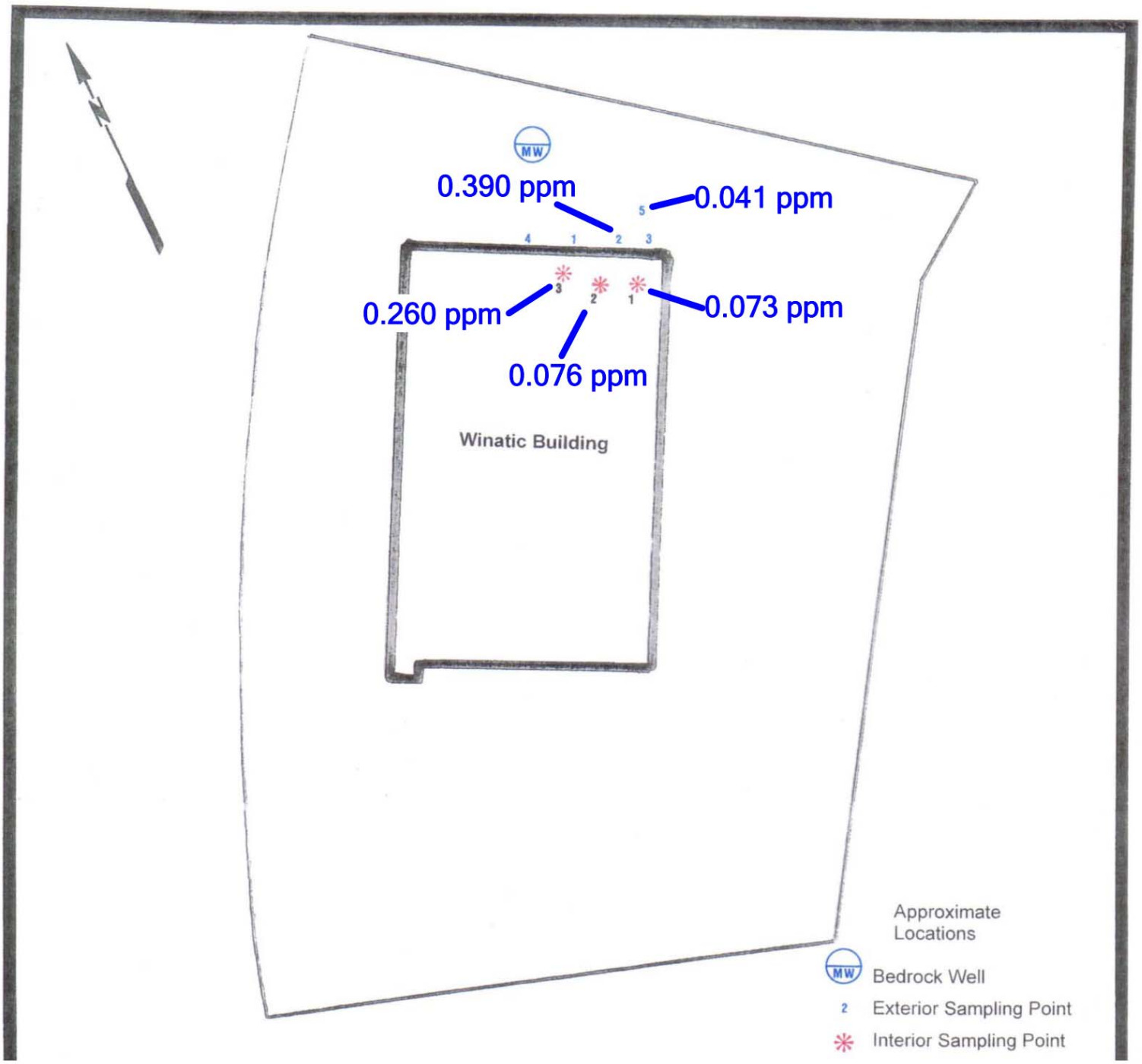
SCALE 1 Box = Approx. 2 feet



TCE Concentrations in Soil Samples Taken After October 1999 Excavation Activities

APPENDIX 9.4

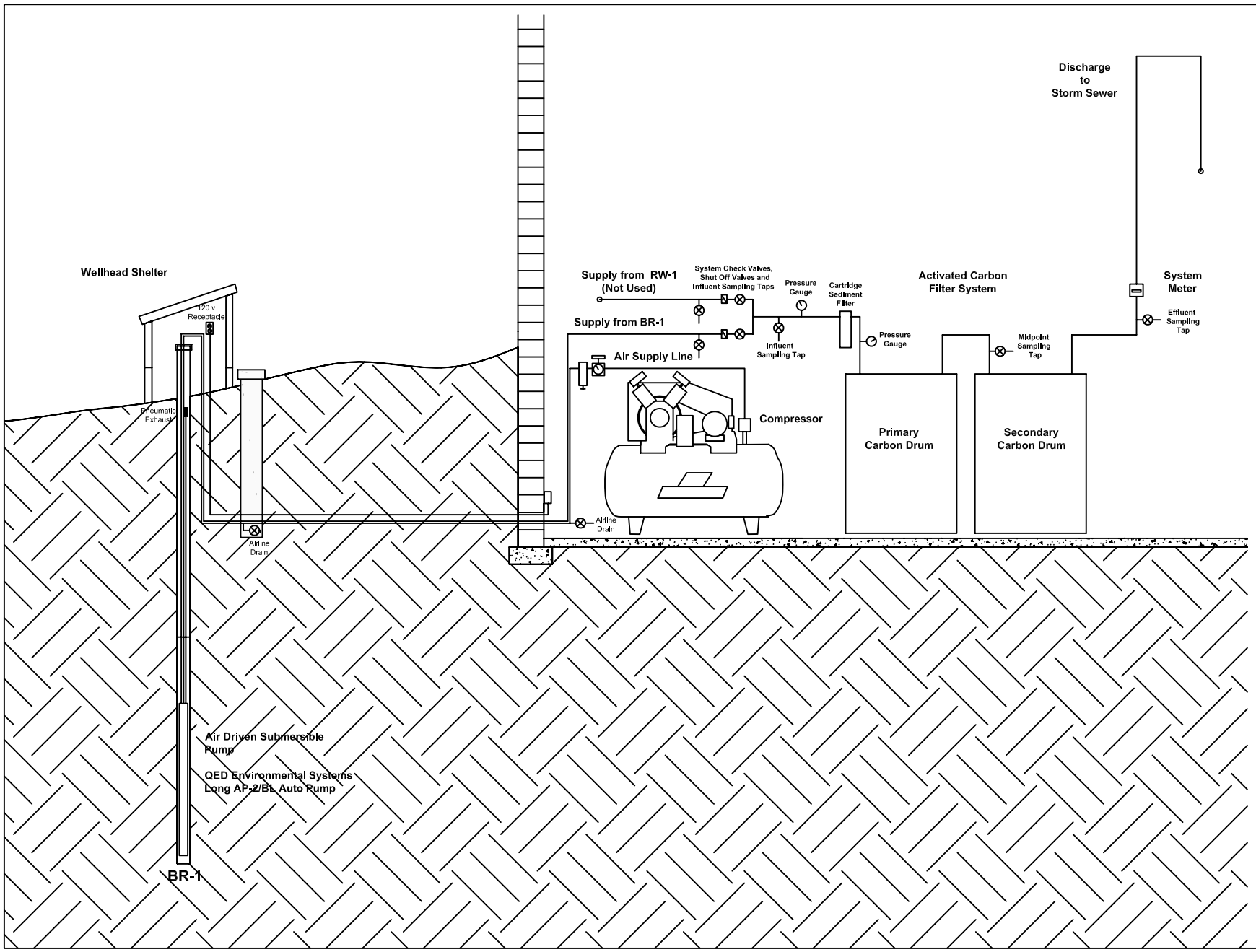
TCE CONCENTRATIONS IN 2006 SOIL SAMPLES



TCE Concentrations in 2006 Soil Samples

APPENDIX 9.5

GROUNDWATER REMEDIATION SYSTEM AS-BUILT DRAWING



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P.O.Box 427
Cortland, NY 12845
607-753-8810

Winatic Corporation
409 Commerce Road
Vestal, New York

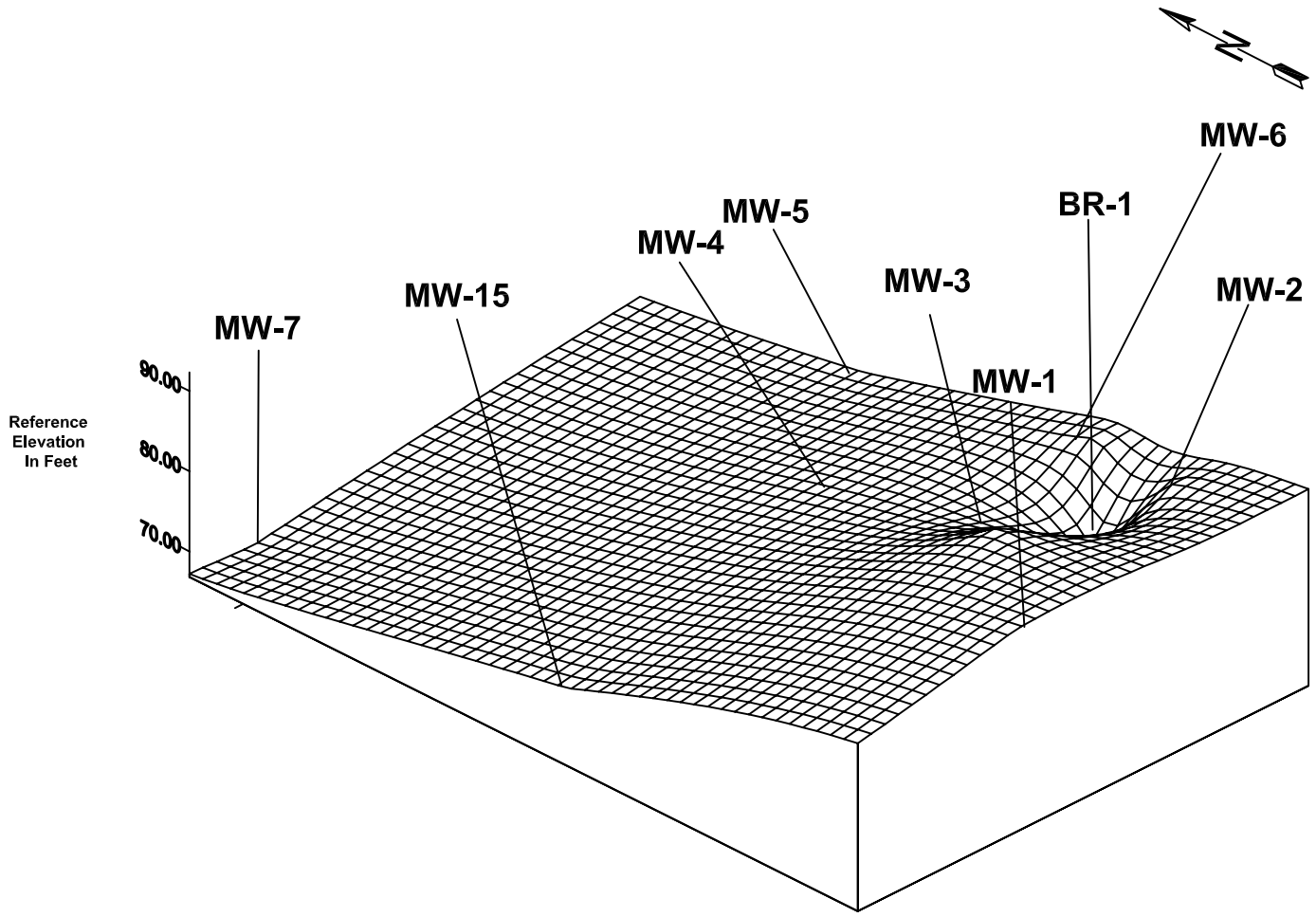
Groundwater Remediation System As-Built Drawing

Project	Sheet
Date 6-2-11	Drawn By JRH
Scale Not To Scale	Dwg #

USER FNAME BR Info\Winatic xsection final.dwg REVDATE

APPENDIX 9.6

BR-1 RECOVERY WELL DEPRSSION ZONE JANUARY 26, 2011



Approximate Locations of Recovery Well and Monitoring Wells as indicated.

Winatic Monitoring Well Groundwater Elevations
1/26/11 Showing Depression Near BR-1

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Cortland, NY 13045
607-753-8018

Winatic Corporation
409 Commerce Road
Vestal, New York

No.	Revision/Issue	Date

BR-1
Recovery Well
Depression Zone
January 26, 2011

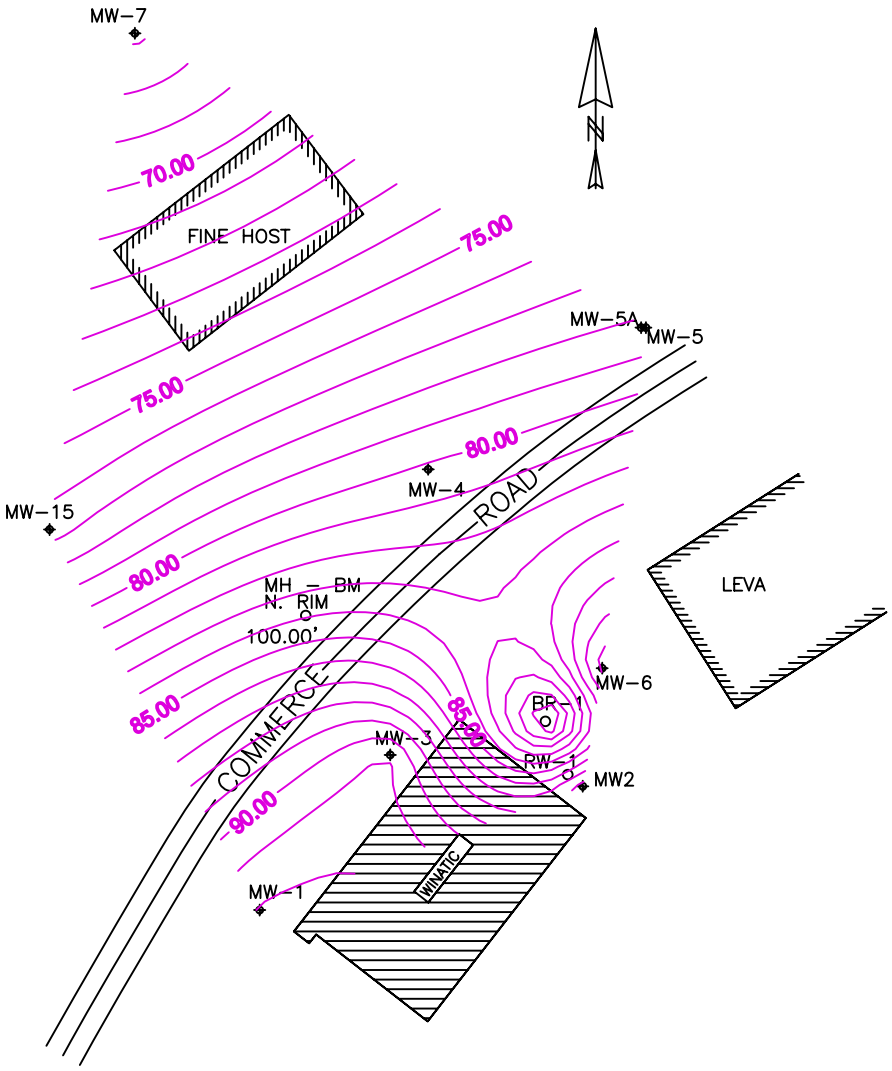
Project	Sheet
Date 6-15-11	Drawn By JRH
Scale	DWG #

USER REVDATE FNAME contour map\winatic well elevations January 2011.dwg

APPENDIX 9.7

GROUNDWATER CONTOUR MAP JANUARY 26, 2011

Groundwater Elevations	
Monitoring Well	1/26/2011
MW–1	92.11’
MW–2	88.66’
MW–3	91.13’
MW–4	80.18’
MW–5	78.18’
MW–6	87.79’
MW–7	66.73’
MW–15	76.50’
BR–1	78.25’



Winatic Monitoring Well Locations

84.00 — Groundwater Elevations 1-26-11 (System On)

Basemap:
Elevations of Wells Near Winatic Corp., Broome County, NY, Denkenberger & Greene, Cortland, NY August 2004, Revised 8/31/07

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Cortland, NY 13045
607-753-8016

Winatic Corporation
409 Commerce Road
Vestal, New York

No.	Revision/Issue	Date

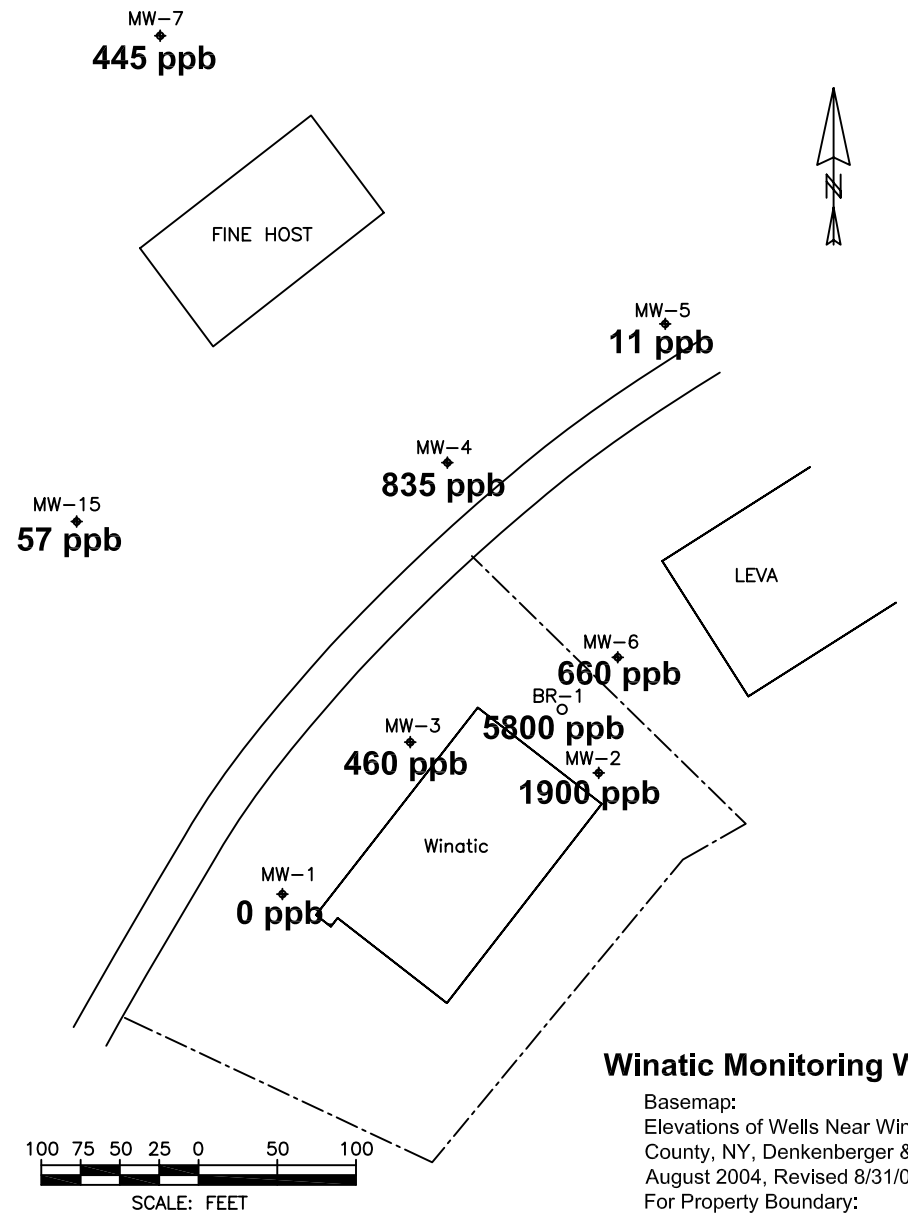
Groundwater Contour Map
January 26, 2011

Project	Sheet
Date 6-15-11	Drawn By JRH
Scale See Map	DWG #

FNAME contour map\winatic well elevations January 2011.dwg
REVDATE
USER

APPENDIX 9.8

SITE MAP WITH AVERAGE 2011 TCE GROUNDWATER CONCENTRATIONS



Legend

- Monitoring Well Location
- Winatic Corp. Property Boundary

Winatic Monitoring Well Locations

Basemap:
Elevations of Wells Near Winatic Corp., Broome County, NY, Denkenberger & Greene, Cortland, NY August 2004, Revised 8/31/07
For Property Boundary:
Town of Vestal Broome County, N.Y., Winatic Corp. Morgate Survey, Vernon O. Shuwker, July 16, 1991

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607-753-8810

Winatic Corporation
409 Commerce Road
Vestal, New York

No.	Revision/Issue	Date

Site Map with Average 2011 TCE Concentrations

Project	Sheet
Date 6-15-11	Drawn By JRH
Scale See Map	DWG #

USER REVDATE FNAME contour map\FinalEngReport Site map.dwg

APPENDIX 9.9

WINATIC SUB-SLAB DEPRESSURIZATION SYSTEM AS-BUILT DRAWING

BUCK ENGINEERING
CONSULTING ENVIRONMENTAL ENGINEERS
3845 ROUTE 11 SOUTH, CORTLAND, N.Y. 13045
P.O. BOX 5150 607-753-3403

JOB Winatic
SHEET NO. 1 OF
CALCULATED BY AK DATE 3/29/05
CHECKED BY DATE
SCALE 1" = 30'

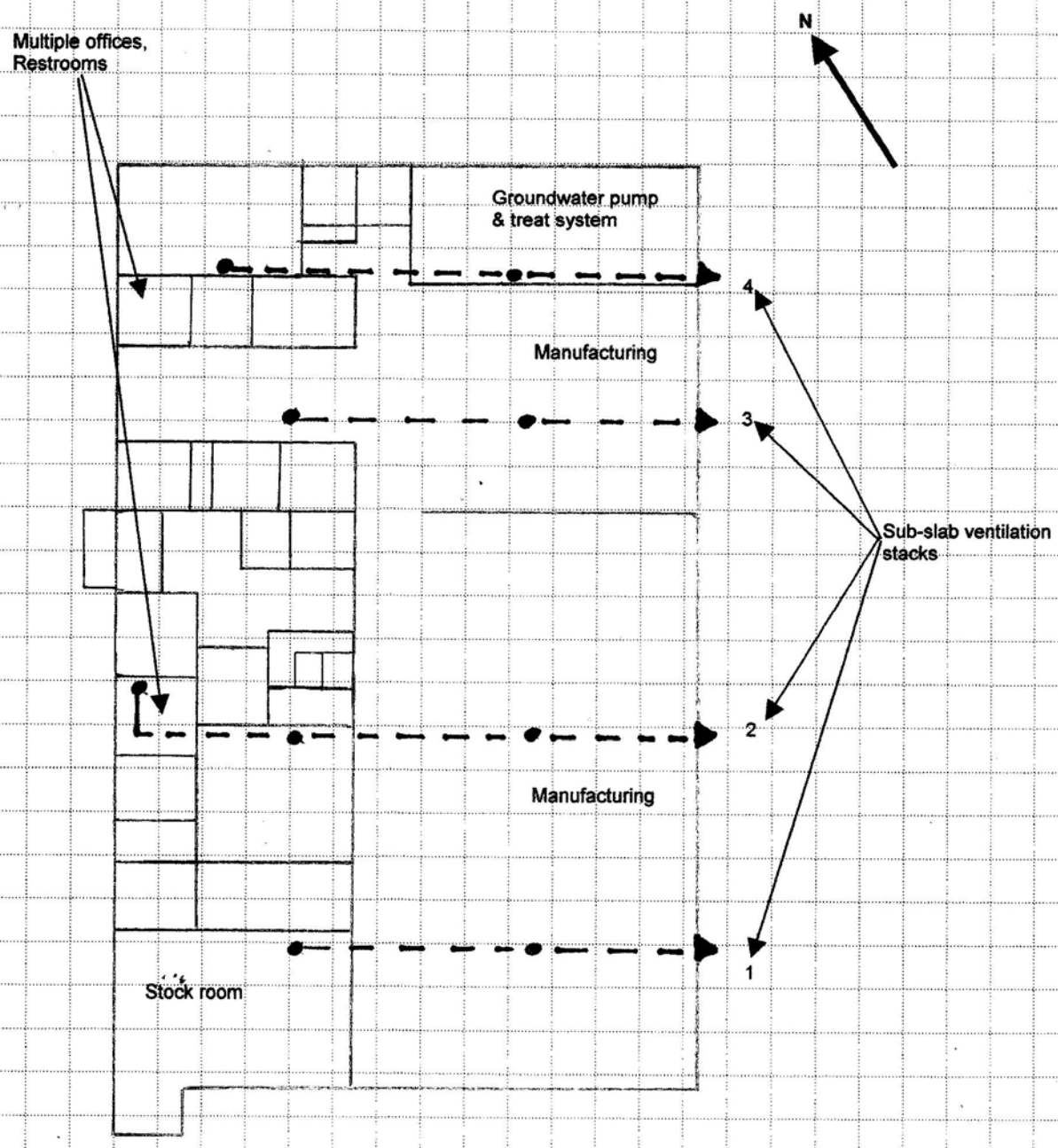


FIGURE 2

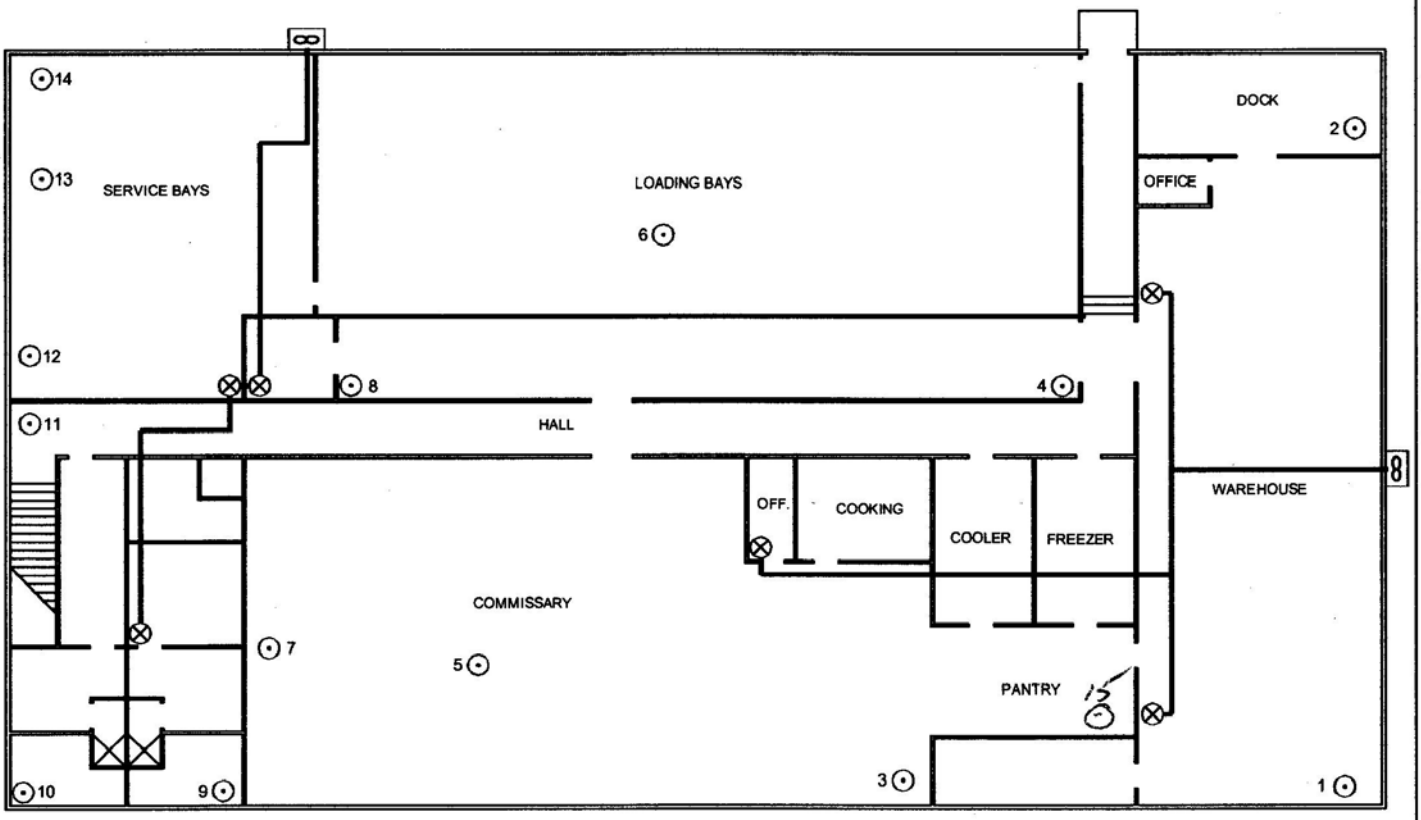
WINATIC FLOOR PLAN SHOWING 4 SUBSLAB DEPRESSURIZATION SYSTEMS

(Drawing based on Building Sketch provided by Enviro Testing, Vestal, NY)

Blue circle denotes extraction point

APPENDIX 9.10

FINE-HOST SUB-SLAB DEPRESSURIZATION SYSTEM AS-BUILT DRAWING



FRONT OF BUILDING

SYMBOLS

- SUCTION POINT
- COMMUNICATION TEST HOLES
- PIPE ROUTE
- EXHAUST FAN
- SEALED CRACKS
- X — GATE VALUES
- EPDM CRAWLSPACE
- S — FAN SWITCH
- FD — DRAINJER FLOOR DRAIN

LOCATION: FINE HOST BUILDING
408 COMMERCE ROAD
VESTAL, NY 13850

DATE: NOVEMBER 11, 2005

FINE HOST SOIL VAPOR MITIGATION PROJECT - SYSTEM LOCATIONS

COMMUNICATION TEST DATA

HOLE	DISTANCE	LEVEL
A		
B		
C	SEE APPENDIX B	
D		

ENVIRO TESTING
27 DOWNS AVENUE
BINGHAMTON, NEW YORK 13905
(607) 770-9098 FAX: (607) 729-5154
WWW.ENVIROTESTING.NET

REV. | DRAWN BY: JEM

SCALE: NO SCALE | DATE: 11/11/2005 | JOB: WORK SKETCH

APPENDIX 9.11

MONITORING DATA

Table 1 Monitoring Wells Laboratory Analytical Summary
Table 2 Groundwater Elevation Data
Table 3 Groundwater Treatment Analytical Summary
Graph MW-1 (On Winatic Site)
Graph MW-2 (On Winatic Site)
Graph MW-3 (On Winatic Site)
Graph BR-1 (On Winatic Site – Recovery Well)
Graph MW-4 (On Fine Host Site Across Commerce Road)
Graph MW-5 (On Leva Brothers Site Across Commerce Road)
Graph MW-6 (On Adjacent Leva Brothers Site)
Graph MW-7 (On Fine Host Site Across Commerce Road)
Graph MW-15 (On Robintech/National Pipe Site Across Commerce Road)

TABLE 1

MONITORING WELLS
LABORATORY ANALYTICAL SUMMARY
TOTAL VOCs in ppb

WINATIC
409 COMMERCE ROAD
VESTAL NEW YORK

Sampling Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5A	MW-6	MW-7	MW-15	BR-1
11/9/1995	3	921	54							
1/8/1996	148	1,418	755							
4/14/1998	75	2,350	1,850							
10/15/1999	Soil Excavation									
11/19/1999	NS	NS	1,200							
1/5/2000	130	2,500	14							
5/11/2000	28	3,205	3,000							
7/6/2000	19	2,500	4,100							
9/7/2000	48	1,000	1,300							
11/10/2000	49	1,100	1,000							
1/11/2001	26	1,200	890							
3/14/2001	27	1,300	730							
5/17/2001	27	15,360	1,400							
6/1/2001	NS	14,000	NS							
7/25/2001	22	1,970	1,310							
10/22/2001	78	23,000	1,727							
4/1/2002	43	1,700	10,440							
8/6/2002	49	990	870							
10/4/2002	67	680	670							
10/18/2002	56	622	541							
11/8/2002	48	1,001	1,027							
3/10/2003	54	621	1,203							
5/16/2003	30	1,106	2,204							
8/11/2003	5.4	484	1,303							
11/7/2003	23	692	713							
2/23/2004	15	805	1,902							
5/20/2004	13	312	1,204							
8/20/2004	1	1,202	1,602							
9/2/2004	NS	NS	NS	1,200	30		3,600		53	
11/19/2004	1.9	781	1,300	1,003	50		5,503		56	
2/24/2005	4.3	342	792	892	22		840		45	
4/20/2005	2.7	720	800	890	35		1,400		49	
7/15/2005	3.4	670	680	1,000	61		DRY		36	
11/3/2005	2	800	660	1,100	22		1,200		50	
1/27/2006	4.5	370	670	900	12		1,200		50	
4/27/2006	ND	220	540	780	38		1,600		39	
7/20/2006	ND	250	590	770	49		800		42	
10/30/2006	ND	220	700	1,000	61		1,900		58	
1/24/2007	ND	230	540	910	45		1,200		51	
4/20/2007	ND	160	480	730	23.1		1,100	177	45	15,027
7/3/2007	ND	190	460	710	86		DRY	229	36	2,700
10/16/2007	ND	370	520	920	55.9		NS	220	50	NS
11/21/2007	NS	NS	NS	NS	NS		1900	NS	NS	8200
1/7/2008	2.2	761	1000	1601	52.5		781	576	64	18042
4/11/2008	1.5	240	840	660	67.6		920	454	48	12000
7/22/2008	1.5	47	300	480	100		DRY	238	48	5000
11/21/2008	ND	5300	370	1700	NS	25	1001	126	51	13000
1/29/2009	ND	1900	300	770	29.8	NS	2300	319	51	26000
4/20/2009	1.0	110	390	790	NS	3.9	940	350	48	11000
7/10/2009	ND	231	350	870	3.8	NS	2000	321	50	11000
10/28/2009	ND	99	410	920	2.8	NS	1800	100	57	13000
1/14/2010	ND	1603	390	856	10.6	NS	1800	360	52	12000
4/28/2010	ND	76	391	820	17	NS	1300	247	50	4700
7/26/2010	ND	281	430	439	14.5	NS	2302	515	56	7211
10/20/2010	NS	NS	NS	839	13.6	NS	2654	NS	NS	7000
1/26/2011	1.6	1900	460	760	12.7	NS	NS	597	57	8000
4/18/2011	NS	NS	NS	910	NS	NS	660	316	NS	3600

NOTES: Analytical method is 8260. PQL is 1.0 ppb or as indicated by lab report.
Results are sum totals of all analytes in parts per billion (micrograms/liter)
BR-1 is Bedrock Well Installed in February 2007
BR-1 was converted to the primary recovery well on 9/25/08
MW-5A, and MW-6 Replacement Installed in November 2008

NS = Not Sampled

ND = Non Detect

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Cortland, NY 13045

TABLE 2
GROUNDWATER ELEVATION DATA
WINATIC
409 COMMERCE ROAD
VESTAL, NEW YORK

	MW-1		MW-2		MW-3		MW-4		MW-5		MW-5A		MW-6		MW-7		MW-15		BR-1	
Reference Elevation (Top of Casing)	103.10 102.93***		109.02		106.25		92.61		90.21		90.29		102.96 102.94****		70.66		91.20		109.77	
Date	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
09/02/04	7.83	95.27	5.52	103.50	7.17	99.08	8.34	84.27	9.10	81.11			5.67	97.29			12.85	78.35		
11/19/04	8.23	94.87	6.75	102.27	8.12	98.13	9.54	83.07	10.36	79.85			7.30	95.66			13.04	78.16		
02/24/05	5.91	97.19	3.35	105.67	4.21	102.04	6.65	85.96	7.63	82.58			1.35	101.61			11.96	79.24		
02/25/05*	6.16	96.94	2.58	106.44	4.28	101.97	6.77	85.84	7.65	82.56			1.50	101.46			11.99	79.21		
04/22/05	6.87	96.23	4.77	104.25	6.15	100.10	7.42	85.19	7.90	82.31			3.02	99.94			12.58	78.62		
07/15/05	8.57	94.53	11.48	97.54	10.33	95.92	12.98	79.63	13.55	76.66			14.20**	88.76			14.20	76.99		
11/03/05	6.75	96.35	6.23	102.79	5.56	100.69	6.35	86.26	9.40	80.81			4.21	98.75			11.83	79.37		
01/30/06	5.96	97.14	2.83	106.19	4.08	102.17	5.68	86.93	7.90	82.31			0.41	102.55			11.54	79.66		
04/27/06	6.40	96.70	3.98	105.04	5.26	100.99	7.09	85.52	9.74	80.47			1.30	101.66			11.21	79.99		
07/20/06	6.90	96.20	5.48	103.54	4.98	101.27	6.72	85.89	8.19	82.02			2.85	100.11			11.95	79.25		
10/30/06	6.09	97.01	4.12	104.90	5.13	101.12	7.06	85.55	9.49	80.72			2.18	100.78			12.11	79.09		
01/24/07	5.91	97.19	4.06	104.96	4.09	102.16	6.87	85.74	8.51	81.70			1.05	101.91			11.84	79.35		
04/20/07	3.30	99.80	2.51	106.51	2.84	103.40	4.78	87.83	6.53	83.68			0.31	102.65	1.49	69.17	10.45	80.75		
07/03/07	9.29	93.81	10.31	98.71	9.42	96.83	10.97	81.64	12.88	77.33			14.20**	88.76	3.34	67.32	14.12	77.08		
10/16/07	7.99	94.94	8.41	100.61	7.11	99.14	9.47	83.14	15.15	75.06			NS		3.88	66.78	14.59	76.61		
11/21/07	NS		NS		NS		NS		NS				1.77	101.19	NS		NS		6.71	103.06
1/07/08	6.10	96.83	3.16	105.86	4.26	101.99	6.04	86.57	7.72	82.49			0	102.96	1.61	69.05	11.86	79.34	5.20	104.57
04/11/08	5.41	97.52	2.45	106.57	6.25	100.00	5.72	86.89	6.60	83.61			0.65	102.31	1.59	69.07	11.21	79.99	4.67	105.10
07/22/08	9.55	93.38	6.45	102.57	8.56	97.69	7.51	85.10	14.72	75.49			14.20**	88.76	2.41	68.25	14.75	76.45	9.31	100.46
12/05/08	10.29	92.64	19.93	89.09	12.72	93.53	10.98	81.63	15.33	74.88			12.50	90.46	3.37	67.29	13.69	77.51	32.98	76.79
01/29/09	10.30	92.63	20.35	88.67	14.33	91.92	10.07	82.07	10.95	79.26	11.01	79.28	14.33	88.61	3.87	66.79	13.71	77.49	32.97	76.80
04/20/09	7.77	95.16	11.50	97.52	10.41	95.84	7.29	85.32	NS		8.41	81.88	4.55	98.39	2.34	68.32	12.41	78.79	33.65	76.12
07/10/09	8.28	94.65	13.91	95.11	9.52	96.73	9.42	83.19	11.12	79.09	NS		10.57	92.37	2.29	68.37	13.32	77.88	33.4	76.37
10/28/09	NS		6.35	102.67	7.21	99.04	8.85	83.76	8.14	82.07	NS		7.44	95.50	2.19	68.47	13.45	77.75	33.4	76.37
01/14/10	10.67	92.26	20.88	88.14	14.47	91.78	12.07	80.07	12.08	78.13	NS		14.93	88.01	3.76	66.90	14.31	76.89	33.4	76.37
04/28/10	5.55	97.38	5.21	103.81	6.33	99.92	6.35	86.26	7.87	82.34	NS		0	102.94	1.42	69.24	11.51	79.69	32.64	77.13
07/26/10	8.95	93.98	11.21	97.81	7.79	98.46	10.88	81.73	13.55	76.66	NS		7.90	95.04	2.33	68.33	14.61	76.59	34.5	75.27
10/20/10	NS		NS		NS		7.11	85.50	11.15	79.06	NS		8.51	94.43	NS		NS		NS	
01/26/11	10.82	92.11	20.36	88.66	15.12	91.13	12.43	80.18	12.03	78.18	NS		15.15	87.79	3.93	66.73	14.70	76.50	31.52	78.25
04/18/11	NS		NS		NS		4.36	88.25	NS		NS		0	102.94	1.68	68.98	NS		NS	

Notes: Elevations surveyed by Denkenberger & Greene, L.S., Cortland, NY on 8/30/04
DTW = Depth to Water
NS = Not Sampled
ELEV = Groundwater Elevation
* Depth to water readings on 2/25/05 taken with remediation system turned off
** MW-6 was dry; elevation of bottom of well was recorded
*** PVC riser cut and lowered by 0.17 feet in August 2007. Use from 10/07 forward.
**** MW-6 casing replaced 11/5/08. Use 102.94 from 11/08 forward
MW-5A was installed on 11/5/08

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TABLE 3

GROUNDWATER TREATMENT SYSTEM
LABORATORY ANALYTICAL SUMMARY
WINATIC, 409 COMMERCE ROAD, VESTAL NEW YORK

Sampling Date	Influent Total VOCs	Mid Total VOCs	Effluent Total VOCs	Cumulative Gallons of Water Treated
04/23/01	6,900	100	ND	
05/17/01	15,360	1,300	ND	
06/01/01	14,000	3,900	ND	
08/06/02	3,140	860	ND	
10/04/02	7,200	ND	ND	
10/18/02	6,923	2.5	ND	
11/08/02	7,300	ND	ND	
06/19/03	5,458	ND	ND	
07/10/03	8,100	12	ND	
08/11/03	6,246	3	ND	
09/15/03	4,438	3.7	ND	16,390
10/06/03	6,144	ND	ND	
11/07/03	5,368	ND	ND	
04/23/04	4,200	ND	ND	46,050
05/20/04	10,000	ND	ND	55,294
06/16/04	4,800	ND	ND	65,601
07/20/04	2,600	3.1	ND	70,920
08/20/04	2,600	2.9	ND	
09/03/04	2,255	1.9	ND	73,269
10/27/04	660	ND	ND	
12/01/04	1,800	3.1	ND	
01/10/05	7,964	2.1	ND	94,688
02/24/05	6,500	ND	ND	115,130
03/11/05	7,500	ND	ND	121,107
04/20/05	8,400	ND	ND	137,187
05/20/05	8,800	ND	ND	147,690
JUNE 2005	NS	NS	NS	-
07/15/05	11,000	1.5	ND	155,586
08/17/05	11,000	ND	ND	157,550
09/19/05	11,000	1.1	ND	159,753
10/31/05	8,800	ND	ND	161,030
11/18/05	9,900	1.5	ND	-
12/28/05	5,181	22.8	ND	-
01/27/06	11,049	ND	ND	169,360
02/15/06	14,000	ND	ND	176,024
03/16/06	9,760	ND	ND	
04/27/06	9,800	17.3	ND	197,110
05/22/06	9,600	ND	ND	
06/26/06	9,000	ND	ND	203,301
07/20/06	11,000	10	ND	
08/23/06	6,400	ND	ND	218,676
09/18/06	8,500	3.1	ND	223,930
10/30/06	8,900	1.1	ND	
11/22/06	10,000	2.2	ND	243,910
12/04/06	11,000	ND	ND	247,789
01/24/07	11,000	2.7	ND	261,684
Feb-Mar 07	System Frozen			
April 07	System off			
05/16/07	1,900	ND	ND	
06/27/07	7,100	ND	ND	281,360
07/03/07	7,400	ND	ND	
08/13/07	7,200	ND	ND	287,550
09/04/07	3,600	1.3	ND	290,013
10/16/07	6400	ND	ND	
11/06/07	7900	ND	ND	293,707
12/14/07	13019	ND	ND	298,850
01/07/08	11036	ND	ND	302,633
02/05/08	10030	ND	ND	306,860
03/19/08	8100	6.3	ND	312,290
04/16/08	5300	ND	ND	
07/22/08	Sample Error	1.1	ND	312,620

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Sampling Date	Influent Total VOCs	Mid Total VOCs	Effluent Total VOCs	Cumulative Gallons of Water Treated
07/29/08	5600	NS	NS	
08/19/08	7600	1.0	ND	319,097
09/26/08	4300/14000*	ND	ND	323,045
10/10/08	20000**	ND	ND	340,616
11/21/08	13000**	842	ND	380,684
12/15/08	12000**	ND	ND	408,589
01/29/09	26000**	1.2	ND	481,045
02/20/09	18000**	ND	ND	513,690
03/03/09	16000**	ND	ND	
04/20/09	11000**	ND	ND	639,730
05/05/09	9100**	ND	ND	671,620
06/09/09	10000**	8.2	ND	746,690
07/10/09	11000**	ND	ND	805,222
08/18/09	9500**	ND	ND	869,840
09/01/09	8600**	ND	ND	896,663
10/28/09	13000**	ND	ND	967,262
11/16/09	13000**	ND	ND	995,305
12/03/09	12000**	4.1	ND	1,016,695
01/14/10	12000**	ND	ND	1,071,047
02/10/10	9412**	ND	ND	1,115,966
03/02/10	8900**	ND	ND	1,144,990
04/28/10	4700**	533	ND	1,267,290
05/20/10	3604**	1512	ND	1,315,532
06/16/10	5500**	ND	ND	1,361,482
07/26/10	7211**	ND	ND	1,409,616
08/13/10	11000**	ND	ND	1,430,815
09/21/10	8000**	ND	ND	1,467,980
10/20/10	7000**	1.1	ND	1,501,668
11/19/10	7262**	ND	ND	1,539,195
12/30/10	5800**	ND	ND	1,597,432
01/26/11	8000**	ND	ND	1,626,400
02/16/11	8300**	ND	ND	1,647,049
03/23/11	4800**	16	ND	1,683,210
03/31/11	NS	NS	NS	Meter Replaced
04/18/11	3600**	ND	ND	34,310
05/04/11	3200**	ND	ND	68,985

Analytical method is 8260. PQL is 1.0 ppb or as indicated by lab report
Results are sum totals of all analytes in parts per billion (micrograms/liter)
NS – Not sampled, ND – Not detected
* RW-1/BR-1 supply system
** RW-1 shut down 9/29/2008, only BR-1 supplies system

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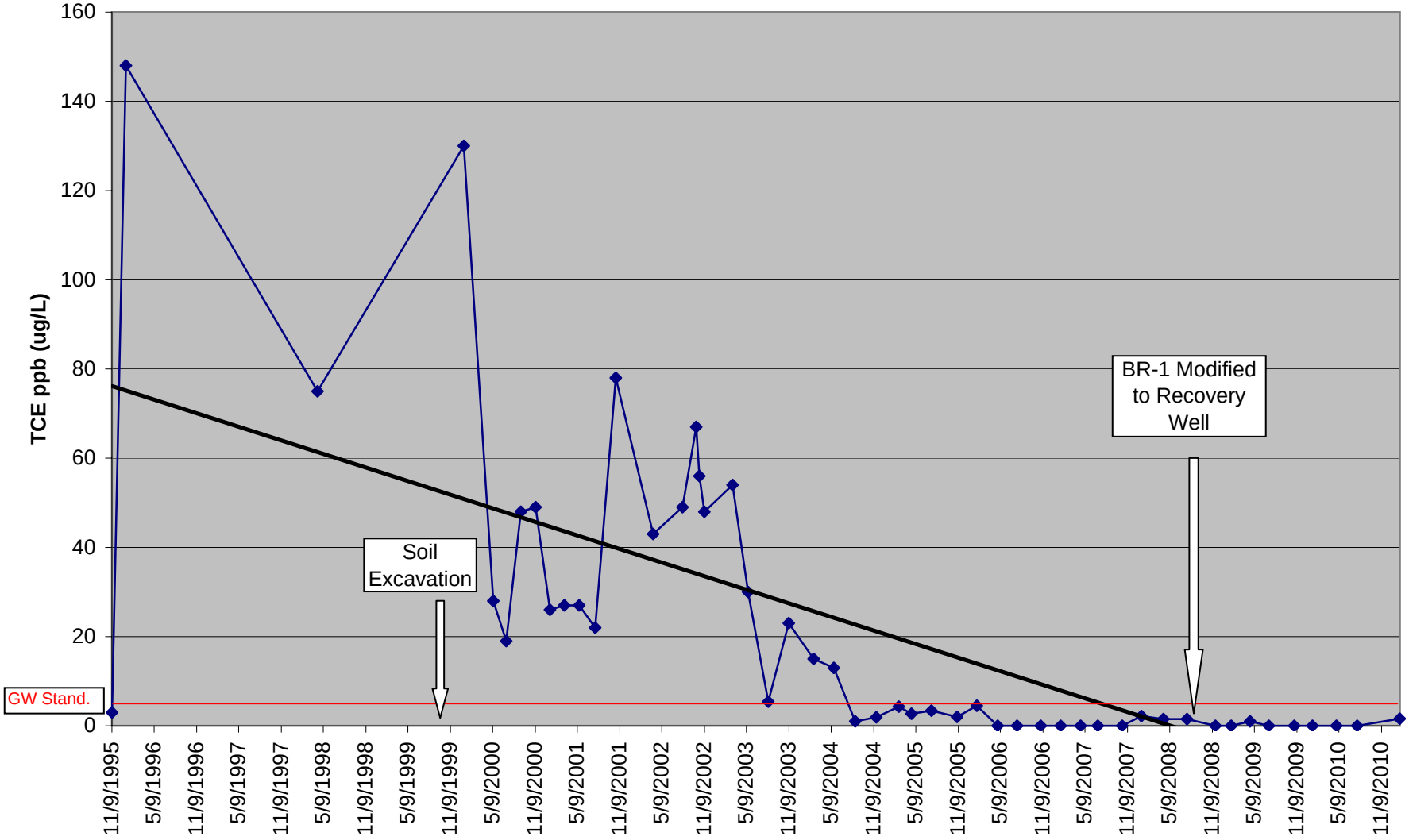
MW-1 (On Winatic Site)



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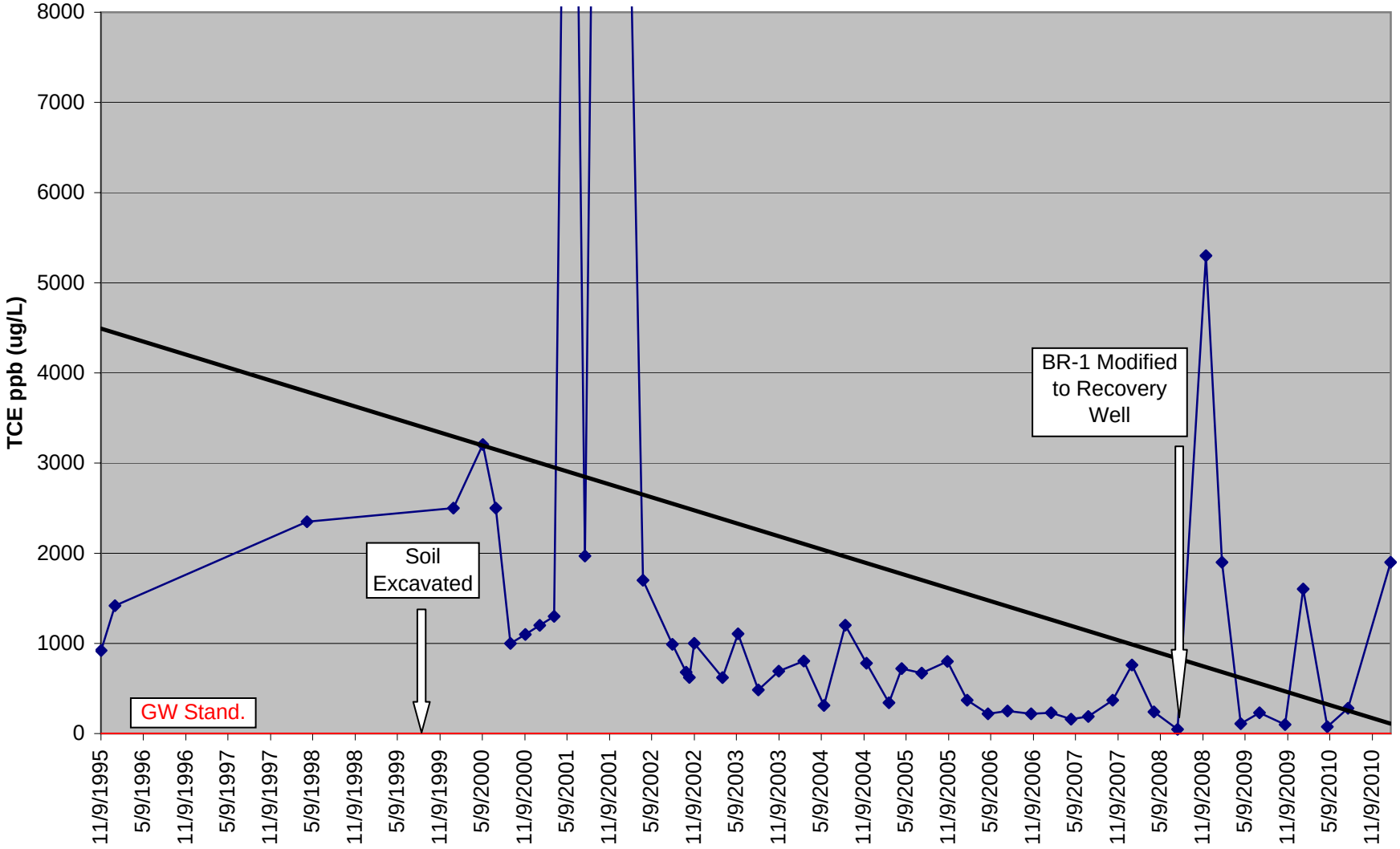
MW-2 (On Winatic Site)



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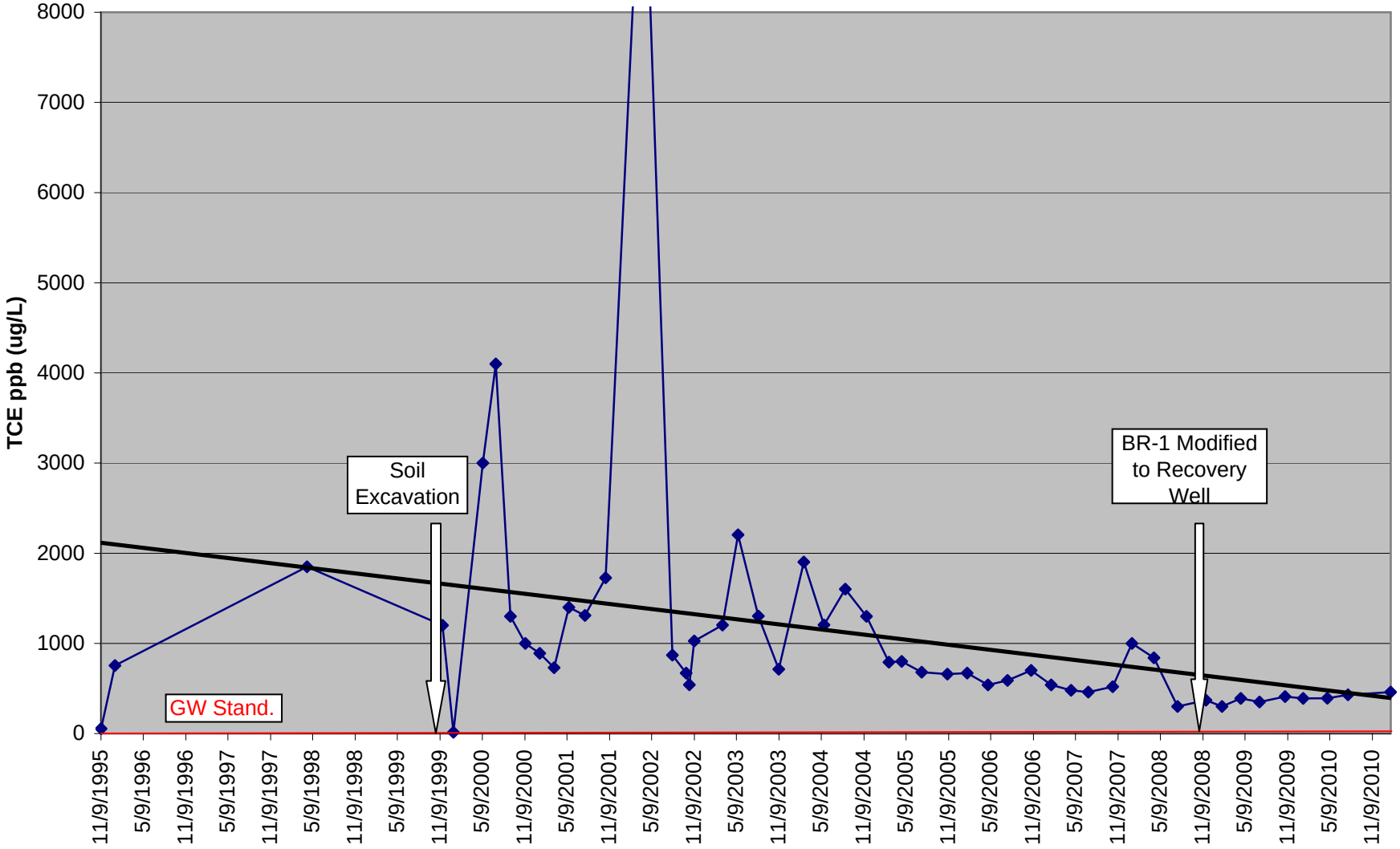
MW-3 (On Winatic Site)



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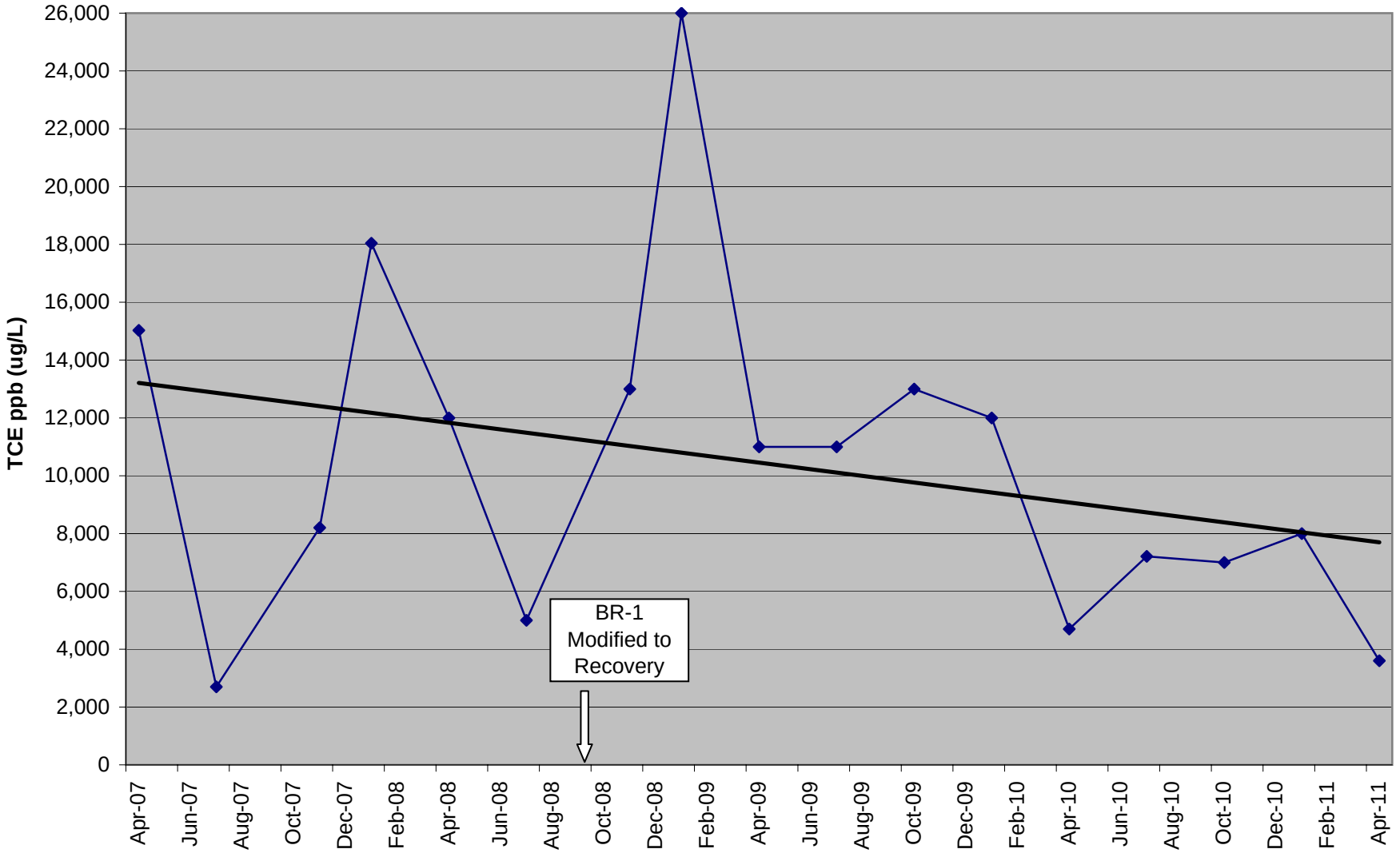
BR-1 (On Winatic Site - Recovery Well)



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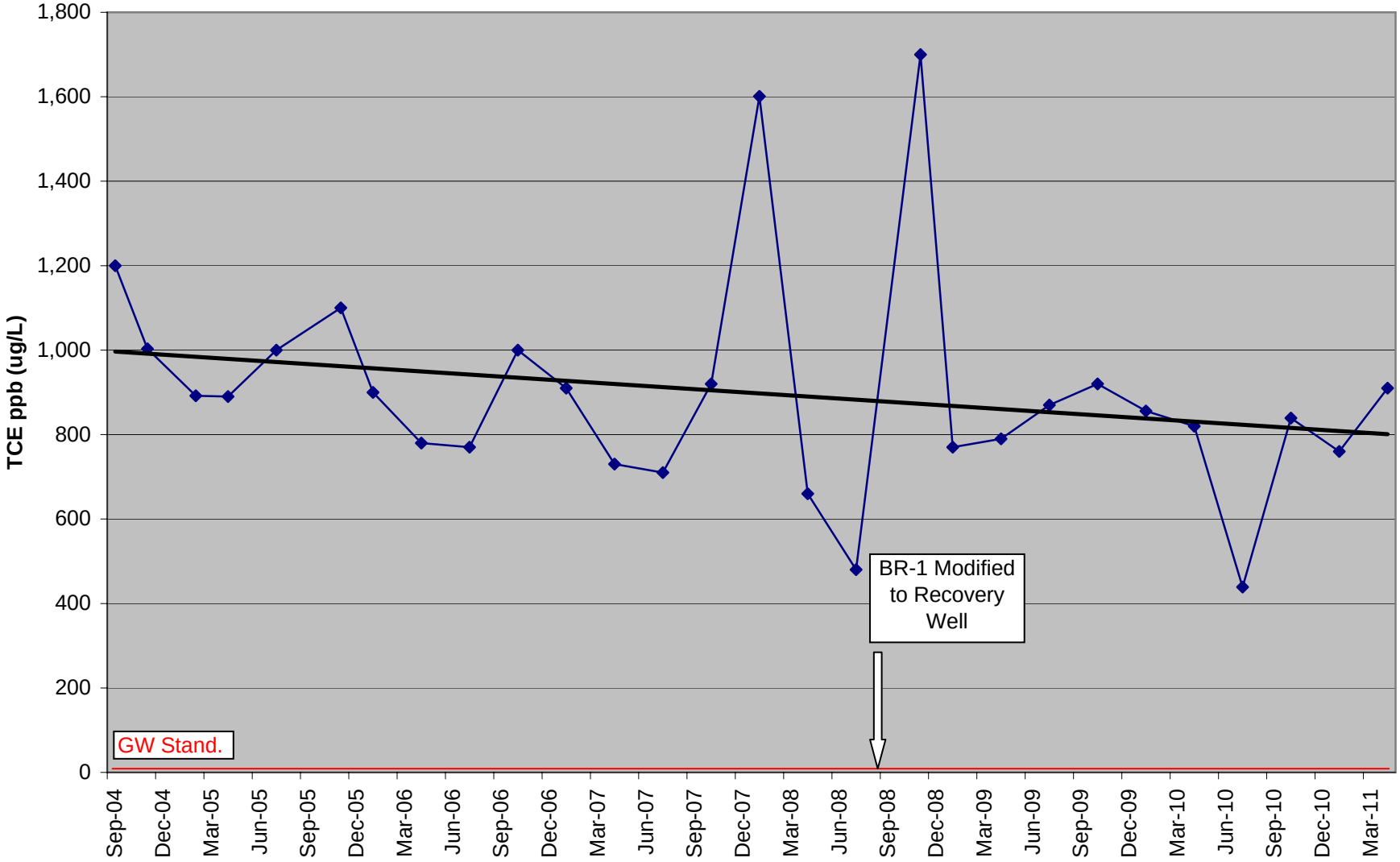
MW-4 (On Fine-Host Site Across Commerce Road)



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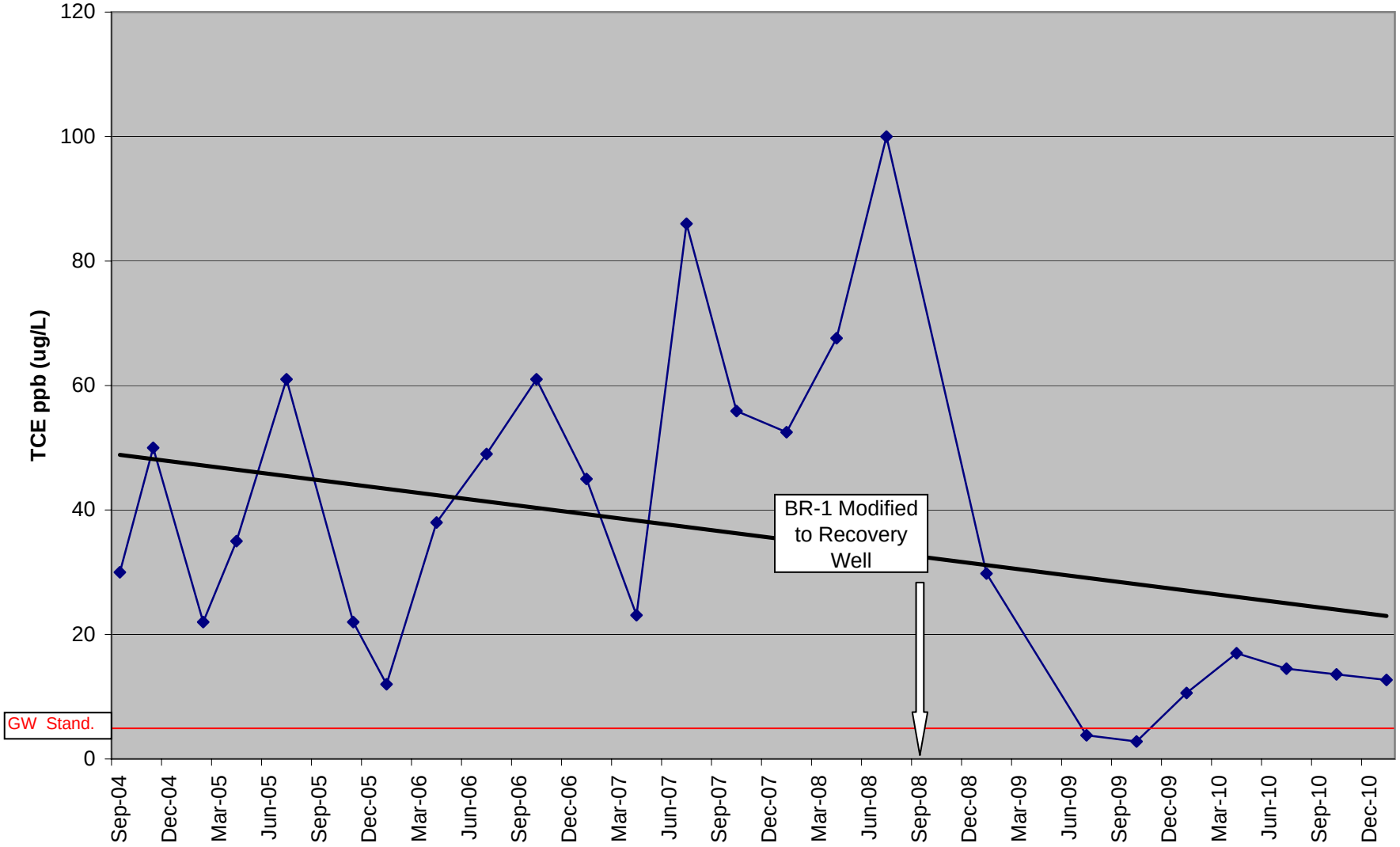
MW-5 (On Leva Bros. Site Across Commerce Road)



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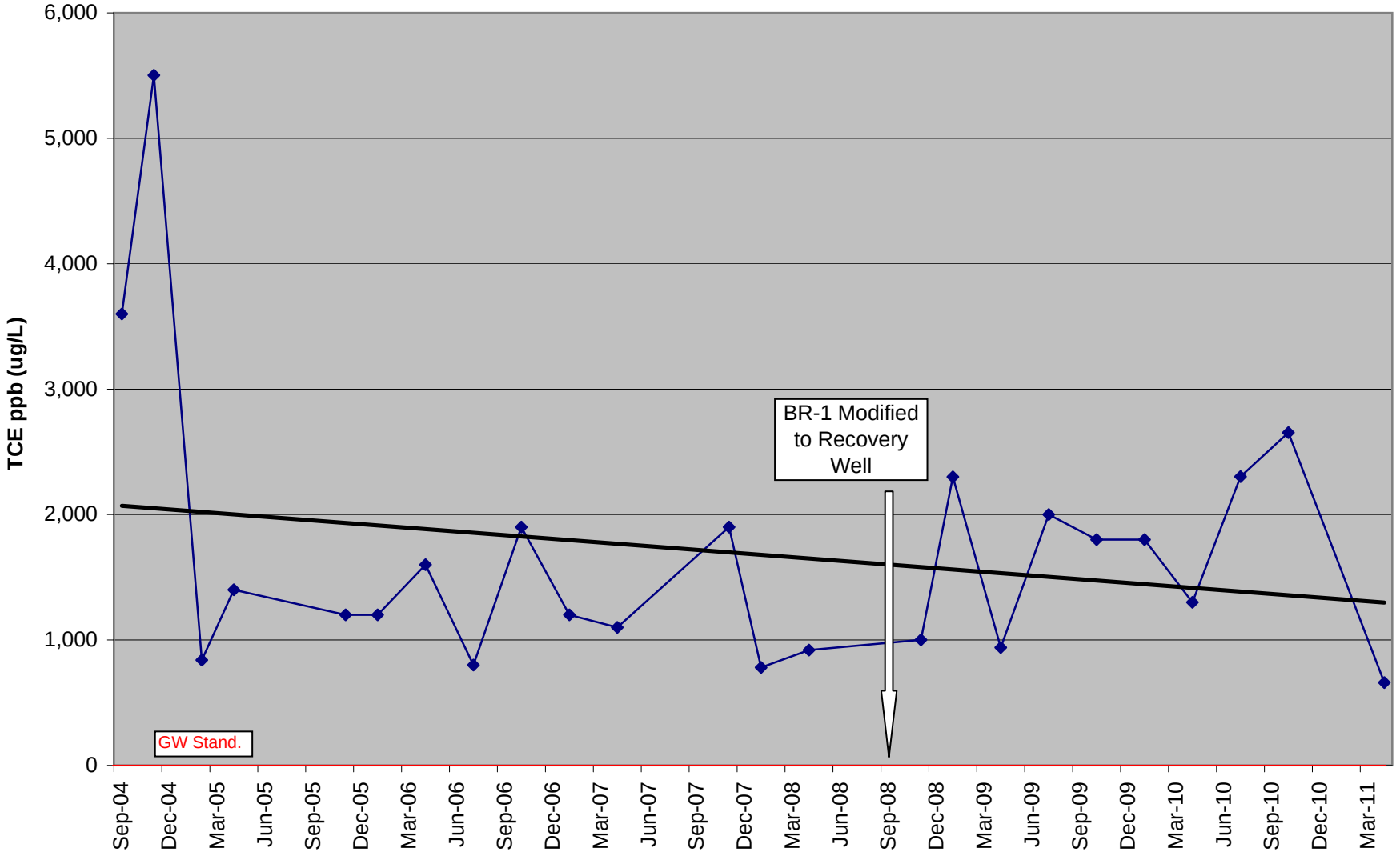
MW-6 (On Adjacent Leva Bros. Site)



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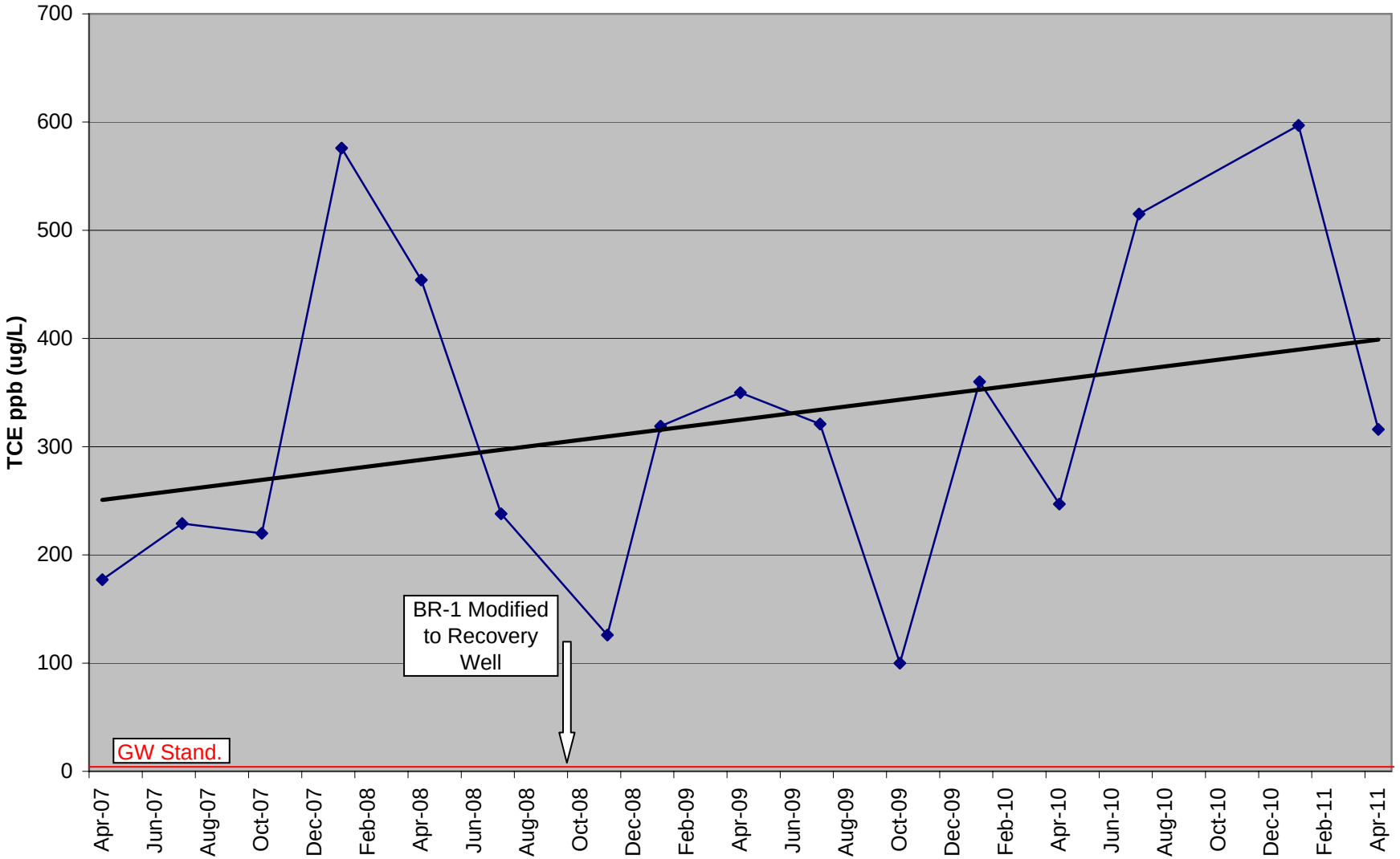
MW-7 (On Fine-Host Site Across Commerce Road)



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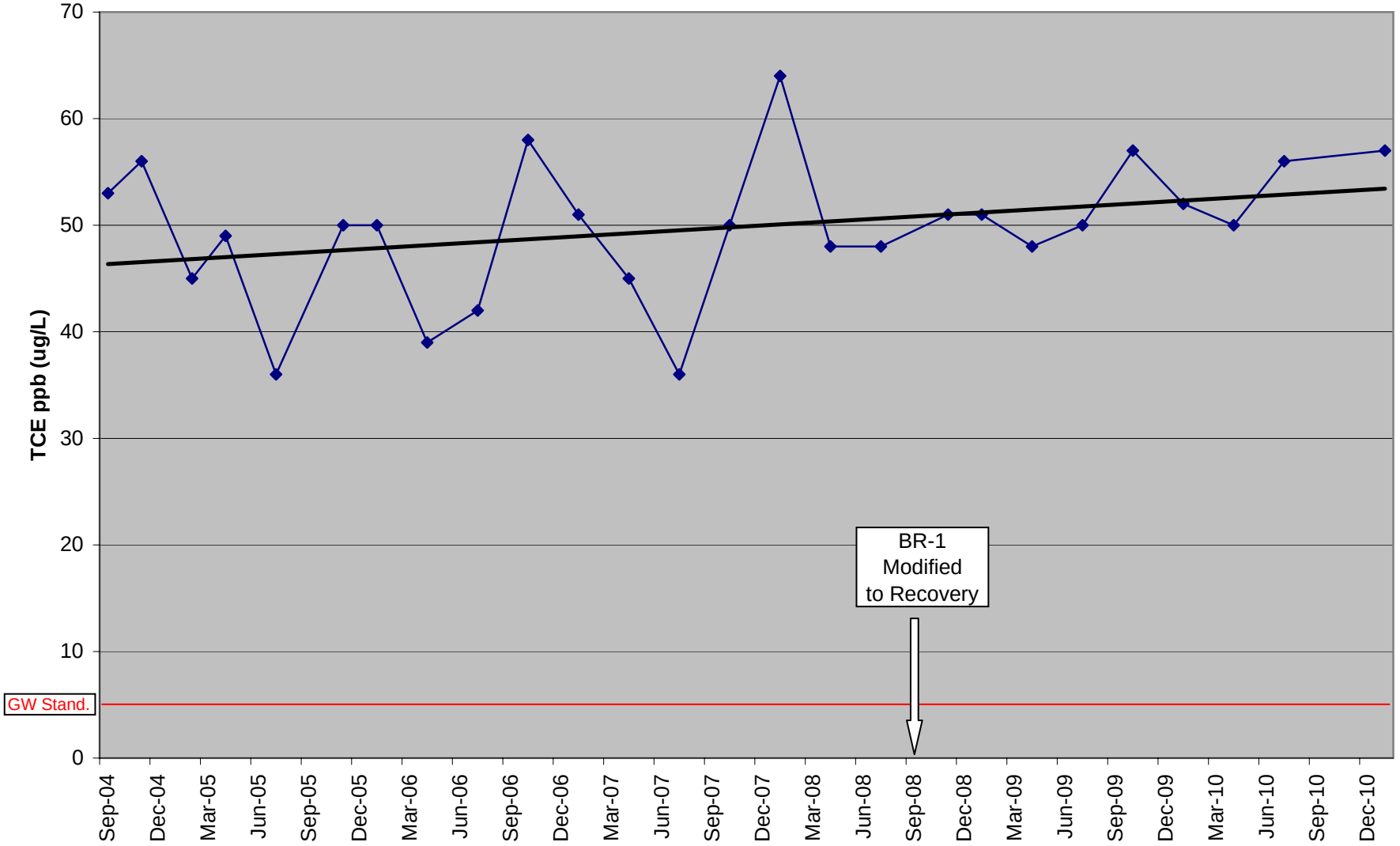
MW-15 (Robintech/National Pipe Site Across Commerce Road)



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APPENDIX 9.12

MAP OF NEARBY VESTAL WATER SUPPLY WELLS


Vestal Well 4-4
Vestal Well 4-3
Vestal Well 4-2
Monarch Chemical
Winatic Corporation
409 Commerce Road
National Pipe
Commerce Rd
Gates Rd
Pembrooke Ln
Vestal Rd
Lynwood Pl
Alice St
Shippers Rd
0
500'
1000'
Aerial Photography from NYSGIS Clearinghouse