**BUCK**
ENGINEERING, LLC
*consulting environmental engineers*

February 15, 2010

Mr. Thomas P. Festa
Project Manager
NYSDEC
625 Broadway, BURE
Albany, NY 12233

Re: **SCM/SCWP Site # 712006**
**2009 Periodic Review Report**

Dear Tom:

Enclosed is a hard-copy of the 2009 Periodic Review Report for the subject site. A pdf was also emailed to you and the various parties named in the settlement agreement. The property is owned by S.C.W.P., LLC and this report is submitted at SCWP's direction, consistent with agreements between SCM and SCWP. This report is prepared in general conformance with PRR preparation guidelines received from NYSDEC dated 12/29/2009.

Please let me know if there are any questions with this submittal.

Sincerely,

John H. Buck, P.E.
Principal Engineer

Enclosure: *2009 Periodic Review Report, SCM-Cortlandville, Site No. 712006*

CC (via email without *Appendix C: Sampling Log and Laboratory Reports*):
- K. Ochs (SCWP)
- R. Shafer, Esq. (RS&S)
- A. Porter (SCWP)
- S. Kalette, Esq. (SCC)
- C. Cuipylo (Region 7, NYSDEC)
- J. Helgren (CCHD)
- P. Reidy (CCS&W)

***PERIODIC REVIEW REPORT***
**SCM – Cortlandville**
Site No. 712006
1/1/2009 – 12/31/2009

**Prepared For:**

NYS Department of Environmental Conservation
Attn: Thomas Festa, Project Manager
625 Broadway, BURE
Albany, NY 12233

**OWNER:**

S.C.W.P., LLC
Attn: Karl Ochs
3877 Luker Road
Cortland, NY 13045

***Prepared By:***

Buck Engineering, LLC
87 Central Ave.
P.O. Box 427
Cortland, New York 13045
607-753-8010

# TABLE OF CONTENTS

# I. INTRODUCTION

This report will summarize groundwater remediation activities at the SCM-Cortlandville site during the year 2009 and is submitted in support of a Settlement Agreement between Smith Corona Corporation (SCC) and NYSDEC. Currently, the property is owned by S.C.W.P., LLC and this report is submitted at SCWP's direction, consistent with agreements between SCC and SCWP. This report is prepared in general conformance with PRR preparation guidelines received from NYSDEC dated 12/29/2009.

## A. Summary

In 1986, a groundwater contamination plume containing trichloroethylene (TCE) and related decomposition products was discovered extending from the former typewriter manufacturing site to approximately 1.5 miles downgradient. Subsequent interim remedial measures included removing contaminated soils and multiple aboveground and underground storage tanks, and Phase I and II remedial measures included installing a soil vapor extraction system that has since been deactivated, and a groundwater pump and treat system that remains in operation. In June 1994, the Classification for this inactive hazardous waste site listing was changed from 2 to 4 (site properly closed – required continued management).

# II. SITE OVERVIEW

## A. Location, Description, Extent of Contamination

The SCM-Cortlandville site is located at 839 Route 13 South in the Town of Cortlandville, Cortland County, New York. In 1986 the investigation of an unrelated petroleum spill resulted in detection of a plume of contaminated groundwater that extended from the SCM site approximately 1.5 miles downgradient (northeastward) toward the City of Cortland municipal well field. The contaminants in the plume were identified as trichloroethylene (TCE) and related decomposition products.

The property was formerly utilized by typewriter manufacturer Smith Corona Corporation "SCC" (previously known as SCM Corporation). Approximately 20% of the site is occupied by the most prominent site feature an approximately 415,000 square foot main processing building. The remainder of the property includes employee parking, several small single-purpose buildings, water infiltration lagoons, and vacant undeveloped land.

The site has been subdivided and undergone various delisting petitions since the original listing. Currently the site consists of approximately 47.4 acres according to property tax records. It is bordered on the north by Lime Hollow Road and a largely residential neighborhood and on the east by Route 13 and commercial land uses. It is bordered on the south by the JM Murray Center property and a cemetery, and on the west by a residence, undeveloped land, and agricultural uses. The facility overlies the Otter Creek/Dry Creek aquifer and municipal water wells belonging to the Town of Cortlandville are located on a 5-acre parcel adjacent to and about 1200 feet southwest of the site. The City of Cortland operates a well field for municipal drinking water adjacent to Dry Creek, approximately 1.5 miles north-northeast and hydraulically downgradient of the site.

Monitoring of off-site groundwater contamination has been conducted by NYSDEC as well as by the Cortland County Soil and Water Conservation District and the Cortland County Health Department in general accordance with the 1989 Settlement Agreement. CCSWCD typically issues an annual report of its monitoring activities.

## B. Chronology of Site Remedial Program

The remediation system, consisting of a recovery well, aeration tower, pipeline, rock cascade, and an infiltration lagoon system, remains in place and has not been modified since its original construction by SCM. A selected history of site remediation activities is provided below.

**October 1986 – March 1987:** Use of TCE was discontinued; a 3,000-gallon aboveground tank which previously contained TCE was removed. A 20,000-gallon underground tramp oil storage tank and visibly contaminated soil surrounding it was removed; an underground fuel oil tank was removed; Supply Well No. 2 was temporarily shut down to better contain groundwater in the vicinity of Supply Well No. 1; a 10,000-gallon underground fuel oil storage tank and visibly contaminated soil surrounding it was removed; a 2,000-gallon fiberglass aboveground tank which previously contained muriatic acid was removed; and four areas of stained soil associated with past material handling practices were excavated and disposed of.

**January 1989:** The Settlement Agreement for remediation of the site was signed between NYSDEC, other parties, and SCC on January 12, 1989.

**September - December 1989:** Approval of the remediation Phase I design was obtained from NYSDEC on September 22, 1989. Phase I consisted of investigation, design, construction, and installation of a groundwater recovery well. The groundwater recovery well came on-line on December 29, 1989. The water from the recovery well was utilized for non-contact cooling purposes and discharged into an existing sanitary sewer until the Phase II system could be completed.

**May 1990:** Approval of the remediation Phase II design was obtained from NYSDEC on May 29, 1990. Phase II included installation of a groundwater remediation system. This system consisted of:

- An Air Stripping Column (aeration tower),
- Distribution Piping (conveying water from the recovery well to the air stripper, and from the air stripper to an infiltration lagoon), and
- An Engineered Infiltration Lagoon.

Phase II also included:

- A Soil Vapor Extraction System (to strip volatile organic contaminants from the soil zone above the water table).

**August 1990:** The soil vapor extraction (SVE) system came on-line.

**October 1990:** The remediation Phase II (groundwater remediation system) came on-line.

**1996-1998:** At an unknown date the soil vapor extraction system was shutdown and decommissioned. No documentation of the SVE shutdown has been located, but anecdotal information from others suggests that the TCE levels in the extracted soil gases had declined to levels that were too low to justify continued operation.

**1997-1998:** At an unknown date the well monitoring frequency was reduced to annual. No record of the request or approval for this change has been located.

**April 1999:** SCWP purchased the SCM land and buildings in Cortlandville and assumed operational responsibilities for the groundwater remediation system.

**May 2001:** The stripping tower blower (for counter current air flow) was turned off with permission of NYSDEC. The influent TCE concentration had reduced to the point that the tower was able to reduce TCE levels adequately to meet discharge limits without forced air flow. At the time that NYSDEC allowed turning the blower off, sampling frequency of tower influent and effluent (both at the tower discharge and at the outfall cascade) was increased from quarterly to monthly.

## C. Cleanup and Site Closure Criteria

Site groundwater cleanup criteria and site closure criteria are summarized below:

Cleanup Criteria:

**Interior and Backyard Wells:**
Current Class GA groundwater standard 10 ug/l for TCE[1]
*(Note: the current groundwater standard for TCE is 5.0 ug/l)*
Guidance value of 50 ug/l for total VOCs[1]

**Perimeter Wells:**
5 ug/l for TCE[1]
10 ug/l for total VOCs[1]

**Treatment System Effluent:**
1 ug/l for TCE[1] (changed to 5 ug/l in 2001)[2]
5 ug/l for total VOCs[1]

[1]Source: *Focused Feasibility Study*, November 1988, O'Brien & Gere, pp. 6-7.
[2]Source: Letter from Kevin Delaney of NYSDEC to Michael Chernago of SCWP, May 10, 2001.

Site Closure Criteria:

"When monitoring data for MW-12d and MW-9 meet "cleanup criteria" for a period of 6 months, then the recovery of water from the lower portion of the aquifer will be discontinued.

At the time when monitoring data for MW-6, MW-8, MW-9, MW-12s, and MW-12d meet "cleanup criteria" for a period of one year, the groundwater recovery system may be shut off.

Groundwater monitoring will continue for a period of five years after the remedial system is shut down. For the first two years water monitoring will occur quarterly. If this two year period shows that "cleanup criteria" are not statistically exceeded, the subsequent two years of monitoring will be performed on a semi-annual basis. Provided the semi-annual sampling shows that the cleanup criteria are not statistically exceeded, monitoring shall be performed once during the last year. In the event a degradation of water quality is shown to be, on a statistically valid basis, above the site groundwater "cleanup criteria", then the remedial system will be restarted. If the remedial system must be restarted for any reason, the five year post shut-down monitoring program will be re-instated once the "cleanup criteria" have been re-achieved." –source: *Focused Feasibility Study*, November 1988, O'Brien & Gere, pp. 57-58.

# III. ENGINEERING CONTROLS

## A. Groundwater Remediation System

Engineering control measures consist of operation and maintenance of the pump and treat system equipment and periodic monitoring of system performance. The remedial works must be operated and maintained until groundwater quality meets the clean-up criteria for the site. The blowers (primary and backup) to the air stripper no longer have to be operated, but they must remain in place and in good working condition.

## B. Operations During This Reporting Period

The remediation system operated without major breakdown or other incidents during this reporting period. The pump rate was checked every month and it met the performance standard of 700-1000 gpm. The system was shut-down 166 hours to scarify the lagoons on 11/6/09 - 11/13/09, and NYSDEC was notified of this shut-down. During the shutdown, accumulated lime deposits were also removed from the lagoon control gates. The primary blower for the aeration tower was checked and successfully operated in January 2010. The secondary (backup) blower operability could not be confirmed at the date of this report. See Section VII for recommendations regarding the backup blower.

# IV. INSTITUTIONAL CONTROLS

There are no known institutional controls identified in the Settlement Agreement or Record of Decision.

# V. MONITORING PLAN

## A. Components of the Monitoring Plan

The following monitoring plan goals were defined in the *Focused Feasibility Study* (pp. 55-59), issued in November 1988 by O'Brien & Gere Engineers:

First Goal of Monitoring Plan: Provide verification that groundwater from the site does not migrate offsite with concentrations greater than "cleanup criteria". This goal will be verified by conducting quarterly sampling of monitoring wells MW-1s, MW-2s, MW-2d, MW-4s, MW-4d, MW-5s, MW-5d, MW-1d, MW-10s, and MW-10d. These wells are sometimes referred to as Perimeter Wells. Note: Quarterly sampling of monitoring wells was changed to semi-annual in 1995 and annual in 1999. Records on the request or authorizations for these changes which took place prior to SCWP ownership have not been located.

Second Goal of Monitoring Plan: Monitor the remediation of the site with respect to the final groundwater remediation goal. This goal will be verified by conducting quarterly sampling of monitoring wells MW-6, MW-7, MW-8, MW-9, MW-11, MW-12s, and MW-12d. These wells are sometimes referred to as Interior Wells. Note: Quarterly sampling of monitoring wells was changed to semi-annual in 1995 and annual in 1999. Records on the request or authorizations for these changes which took place prior to SCWP ownership have not been located.

Third Goal of Monitoring Plan: Monitor the groundwater treatment system and the discharge to the engineered lagoon. Samples will be collected from both the system influent and discharge to the lagoon once a month for the first 6 months. If no statistically valid violation or discharge standards are determined the sample frequency will be decreased to quarterly sampling. When NYSDEC allowed turning the blower off in 2001, sampling frequency of tower influent and effluent (both at the tower discharge and at the outfall cascade) was increased from quarterly to monthly.

### B. Summary of Monitoring Completed During This Reporting Period

Monitoring Tasks Completed:
There are 17 groundwater monitoring wells on SCWP property that were associated with the original Settlement Agreement. The following monitoring tasks were completed during this reporting period:

Annual Groundwater Sampling (11/30/2009):
- Interior Shallow Wells: MW-6, MW-7, MW-8, MW-11, and MW-12s
- Interior Deep Wells: MW-9 and MW-12d
- Perimeter Shallow Wells: MW-5s, MW-1s, MW-10s, MW-2s, and MW-4s
- Perimeter Deep Wells: MW-4d, MW-5d, MW-1d, and MW-10d

Monthly Remediation System Sampling (36 samples in 2009):
- Treatment System Influent
- Tower Discharge
- Cascade Outfall

Analytical Data:
A discussion of monitoring well and remediation system data trends and a listing of supporting figures can be found in Section VI. The figures are provided in an appendix. Data from annual monitoring well sampling are included in Figure E "Monitoring Well Historical Database" and laboratory analytical reports are also included in a separate appendix. Data from monthly remediation system sampling are shown graphically in Figures A-D, and they have been reported monthly to NYSDEC through the year.

### C. Monitoring Deficiencies

Monitoring well MW-2d (a perimeter deep well) was unable to be sampled due to well blockage/damage and the sample results from monitoring well MW-7 (an interior shallow well) may have been compromised by surface water infiltration through the broken upper well casing. See Section VII for monitoring well repair recommendations.

## VI. DATA TRENDS AND REMEDIAL EFFECTIVENESS

### A. Data Summary

Data from annual monitoring well sampling and monthly remediation system sampling are summarized in the following figures provided in an appendix:

| | |
|---|---|
| Fig. A-D | Graphs of Remediation System TCE Concentrations |
| Fig. E | Monitoring Well Historical Database |
| Fig. F-G | Graphs of TCE Levels in Perimeter Shallow Wells |
| Fig. H-I | Graphs of TCE Levels in Perimeter Deep Wells |
| Fig. J-K | Graphs of TCE Levels in Interior Shallow Wells |
| Fig. L-M | Graphs of TCE Levels in Interior Deep Wells |
| Fig. N | Table of Water Levels in Wells |
| Fig. O-T | Site Maps with Groundwater Contours |

The wells are categorized within four groups as either perimeter or interior, and either shallow or deep. Graphs of TCE concentrations in these four well groups are attached in both 10-year format and 20-year format. During 2008, SCWP constructed an additional monitoring well inside the building near column L16, and data from that well are included in the historical database provided in Figure E, although monitoring of this well is not required by the Settlement Agreement. At the Department's request, groundwater isopotentiometric surfaces were plotted for both the shallow well data and the deep well data with the system pump turned off and shortly after with it turned on following the lagoon maintenance shutdown. Separate plots of groundwater contours are provided for the date of the well sampling on 11/30/09. See Figures O-T. The general site groundwater gradient is to the North, but the recovery well continues to depress the water table sufficiently to influence groundwater flow direction along Lime Hollow Road.

## B. Remediation System Data Trends

Twelve monthly system samples of tower influent and effluent (both at the tower discharge and at the outfall cascade) were obtained. Graphs of the monthly system sample TCE concentrations are attached as Figures A-D. TCE concentrations in the tower influent, tower discharge, and cascade outfall all continue to decline. In 2009, none of the tower discharge samples or the cascade outfall samples exceeded the established limit of 5 ug/l. The 2009 average TCE concentrations were: tower influent 4.95 ug/l, tower discharge 2.63 ug/l, and cascade discharge 1.28 ug/l, treating "non-detects" as 1.0 ug/l.

## C. Groundwater Quality Data Trends

Comments on monitoring well data trends follow by group:

- **Perimeter Shallow Wells (Lime Hollow Rd.)** – Four of the five shallow wells along the northern property line have TCE concentrations meeting the cleanup objective of 5.0 ug/l. MW-4s and MW-5s continued to demonstrate non-detectable levels of TCE, and MW-1s and MW-2s continue to indicate a slightly decreasing trend (see Figures F, G). In the fifth shallow perimeter well, MW-10s, TCE concentration continues to remain above the cleanup objective, increasing slightly to 7.2 ug/l during the year.

- **Perimeter Deep Wells** – Four of the five deep wells along the northern property line were sampled. MW-2d could not be sampled due to a blockage. Three of the sampled wells, MW-1d, MW-4d, and MW-5d have TCE concentrations meeting the cleanup objective of 5.0 ug/l. MW-4d continued to demonstrate non-detectable levels of TCE, and MW-1d and MW-5d indicated a slightly decreasing trend (see Figures H, I). In the fourth sampled well, MW-10d, TCE concentration continues to remain above the cleanup objective, increasing slightly to 7.6 ug/l during the year.

- **Interior Shallow Wells** – Wells MW-6, MW-7, MW-8, MW-11 and MW-12s continue to exhibit decreasing concentration trends, with only MW-11 (at 5.8 ug/l) and MW-12s (at 12 ug/l) exceeding the cleanup objective of 5 ug/l (see Figures J, K). As in the past, MW-12s had the highest TCE concentration of the original monitoring wells.

- **Interior Deep Wells** – Both interior deep wells continued to meet the cleanup objective of 5 ug/l. Well MW-9 continued to demonstrate non-detectable levels of TCE and MW-12d declined in TCE concentration to 1.5 ug/l (see Figures L, M).

In summary, with the exception of perimeter wells MW-10d and MW-10s, the monitoring well data continue to exhibit general declining concentration trends. The sampled TCE concentrations were generally found to be below cleanup objectives with the exception of perimeter wells MW-10d and MW-10s and interior wells MW-11 and MW-12s.

### D. Performance and Effectiveness of the Remediation System

The groundwater remediation system continued to be effective in 2009 as indicated by continuing improvements in groundwater quality. As the concentration of TCE in the system influent has decreased, the operational efficiency of the system has declined. In 2009 it is estimated that only 12.9 lb of TCE were removed despite pumping 421 million gallons of groundwater. During 2009 average system influent TCE concentration decreased to 4.95 ug/l and it is estimated that during 2010 or 2011 the system influent concentration will consistently be less than the cleanup criteria of 5.0 ug/l.

The groundwater remediation system effluent was monitored monthly and continued to meet operational requirements set forth in a letter dated May 10, 2001 from Kevin Delaney of NYSDEC to Michael Chernago of SCWP.

## VII. RECOMMENDATIONS

The groundwater remediation system is operating well and no recommendations are made except that efforts by the owner should be continued to verify the working order of the backup air blower on the aeration tower. It is believed that relocation of the recovery well easterly and limiting remediation to the shallow aquifer would accelerate and improve cost effectiveness of the remediation efforts. Given the cost to accomplish these changes and the minimal remaining TCE concentration, such changes are not recommended.

Due to the importance of MW-10s and MW-10d groundwater data, and the slight increases noted in the deep well in recent years, it is recommended that these wells be sampled quarterly during 2010.

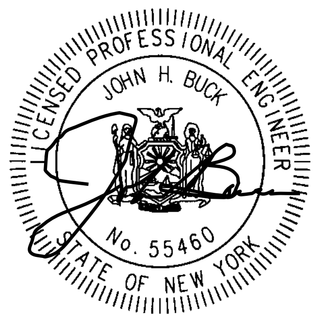
The annual sampling frequency for the remaining monitoring wells is thought to be adequate to track and document data trends and no modifications are proposed. Damaged well MW-7 is an interior well that is not deemed to be essential for monitoring of the shallow water formation quality, as MW-11 is nearby and can provide representative data. Damaged well MW-2d is a perimeter deep well and should be replaced or repaired prior to the 2010 well sampling event due to its location along the property perimeter on Lime Hollow Rd.

It is recommended that the parties begin to discuss the criteria for conditional shutdown of the groundwater treatment system. Current data trends suggest that the influent TCE concentration in 2010 will consistently be less than 5.0 ug/l. The system is currently consuming approximately 1,800 kwh of energy every day at a time when the influent concentration to the system is close to, or less than, the Class GA groundwater standard.

# VIII. CERTIFICATION

Signed Institutional and Engineering Controls Certification Forms are included in an appendix.

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in 312.10 of 40 CFR 312. I certify this report to be factually presented to the best of my knowledge, belief, and information as a New York State *Licensed Professional Engineer* as attested by my seal and signature below.




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

# APPENDIX A

Institutional and Engineering Controls Certification Form

**Enclosure 1**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Site Management Periodic Review Report Notice**

**Institutional and Engineering Controls Certification Form**

**Site Details** **Box 1**

**Site No.** **712006**

**Site Name SCM - Cortlandville**

Site Address: 839 Route 13 South Zip Code: 13045
City/Town: Cortlandville
County: Cortland
Allowable Use(s) (if applicable, does not address local zoning): Industrial
Site Acreage: 47.3
Owner: ~~KARL OCHS. C/O S.C.W.P., LLC~~ **S.C.W.P., LLC C/O KARL OCHS**
3877 LUKER ROAD, Cortland, NY 13045

Reporting Period: ~~November 15, 2006 to March 14, 2007~~
**JANUARY 1, 2009 TO DECEMBER 31, 2009**

**Box 2**

**Verification of Site Details**

| | | YES | NO | |
|---|---|---|---|---|
| 1. | Is the information in Box 1 correct? | ☐ | X | |
| | If NO, are changes handwritten above or included on a separate sheet? | X | | |
| 2. | Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | X | |
| | If YES, is documentation or evidence that documentation has been previously submitted included with this certification? | ☐ | | **N/A** |
| 3. | Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☐ | X | |
| | If YES, is documentation (or evidence that documentation has been previously submitted) included with this certification? | ☐ | | **N/A** |
| 4. | If use of the site is restricted, is the current use of the site consistent with those restrictions? | ☐ | ☐ | **N/A** |
| | If NO, is an explanation included with this certification? | ☐ | | **N/A** |
| 5. | For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? | ☐ | ☐ | **N/A** |
| | If YES, is the new information or evidence that new information has been previously submitted included with this Certification? | ☐ | | **N/A** |
| 6. | For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years)? | ☐ | ☐ | **N/A** |
| | If NO, are changes in the assessment included with this certification? | ☐ | | **N/A** |

**SITE NO. 712006**

**Box 3**

**Description of Institutional Controls**

| Parcel | Institutional Control |
|---|---|
| S_B_L Image: | |

**Box 4**

**Description of Engineering Controls**

| Parcel | Engineering Control |
|---|---|
| S_B_L Image: **95.00-10-01.100** | Groundwater Containment<br>Pump & Treat |

Attach documentation if IC/ECs cannot be certified or why IC/ECs are no longer applicable. (See instructions)

**Control Description for Site No. 712006**

**Parcel: 95.00-10-01.100**

The ROD identified engineering controls required for OU1 (onsite). These controls include the continued operation and maintenance of the groundwater extraction & treatment system until groundwater quality meets the cleanup criteria.

The groundwater monitoring wells must be sampled at periodic intervals (currently annually), with monthly monitoring of the groundwater extraction & treatment system influent & effluent. The groundwater extraction system also acts as the onsite groundwater containment system, designed to eliminate contaminant migration offsite.

Box 5

## Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

| | YES | NO |
|---|---|---|
| **EXCEPT AS NOTED IN PRR DATED FEB 2010** | ☒ | ☐ |

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) ~~the Institutional Control and/or~~ Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document. **N/A**

| | YES | NO |
|---|---|---|
| **EXCEPT AS NOTED IN PRR DATED FEB 2010** | ☒ | ☐ |

3. If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the Decision Document);

   I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as required in the Decision Document) are being met.

| YES | NO |
|---|---|
| ☒ | ☐ |

4. If this site has a Monitoring Plan (or equivalent as required in the remedy selection document);

   I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent as required in the Decision Document) is being met.

| | YES | NO |
|---|---|---|
| **EXCEPT AS NOTED IN PRR DATED FEB 2010** | ☒ | ☐ |

**IC CERTIFICATIONS**
**SITE NO. 712006**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I KARL D. OCHS at 839 NYS ROUTE 13 CORTLAND, NY 13045
print name / print business address

am certifying as OWNER (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner or Remedial Party Rendering Certification — Date: 2-11-10

**IC/EC CERTIFICATIONS**

**Box 7**

**QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JOHN H. BUCK at 87 CENTRAL AVE, CORTLAND, NY 13045
print name / print business address

am certifying as a Qualified Environmental Professional for the S.C.W.P., LLC - property owner

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

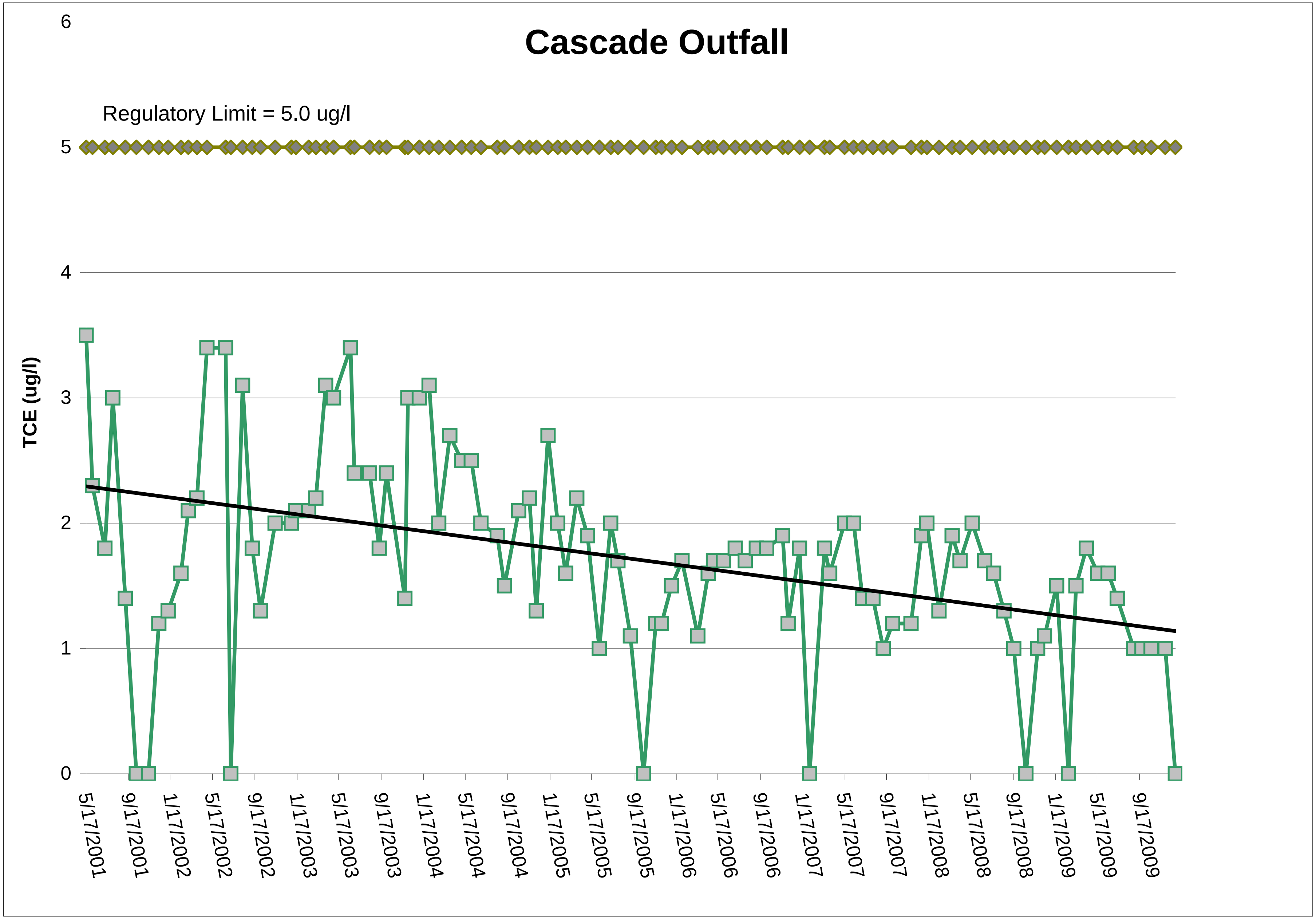
John H. Buck, P.E., Q.E.P.
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

STATE OF NEW YORK · JOHN H. BUCK · LICENSED PROFESSIONAL ENGINEER · # 55460
Stamp (if Required)

Date: 2/11/2010

# APPENDIX B

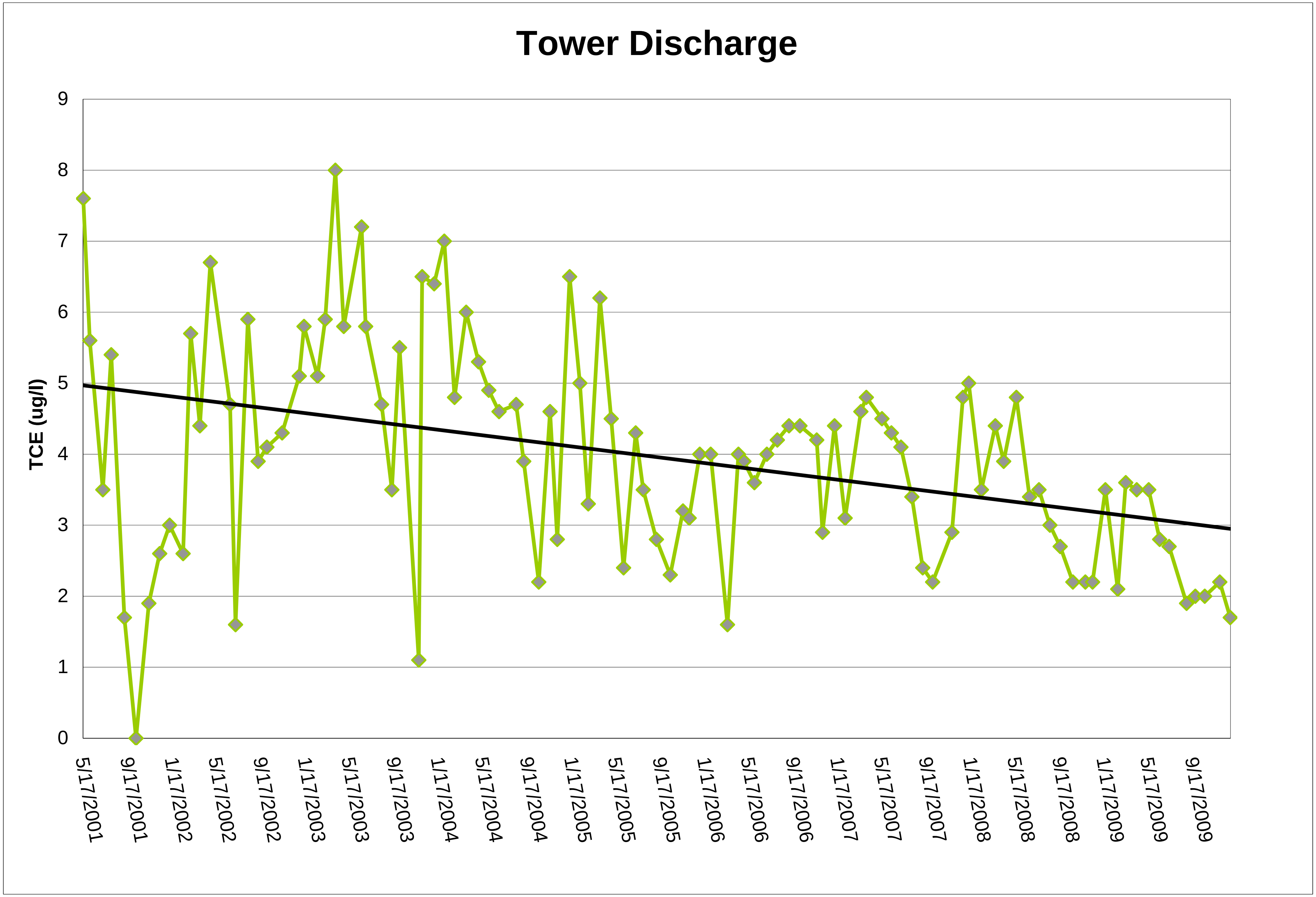
Figures




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*r:\SCWP_VOC_monthly graph.xls*

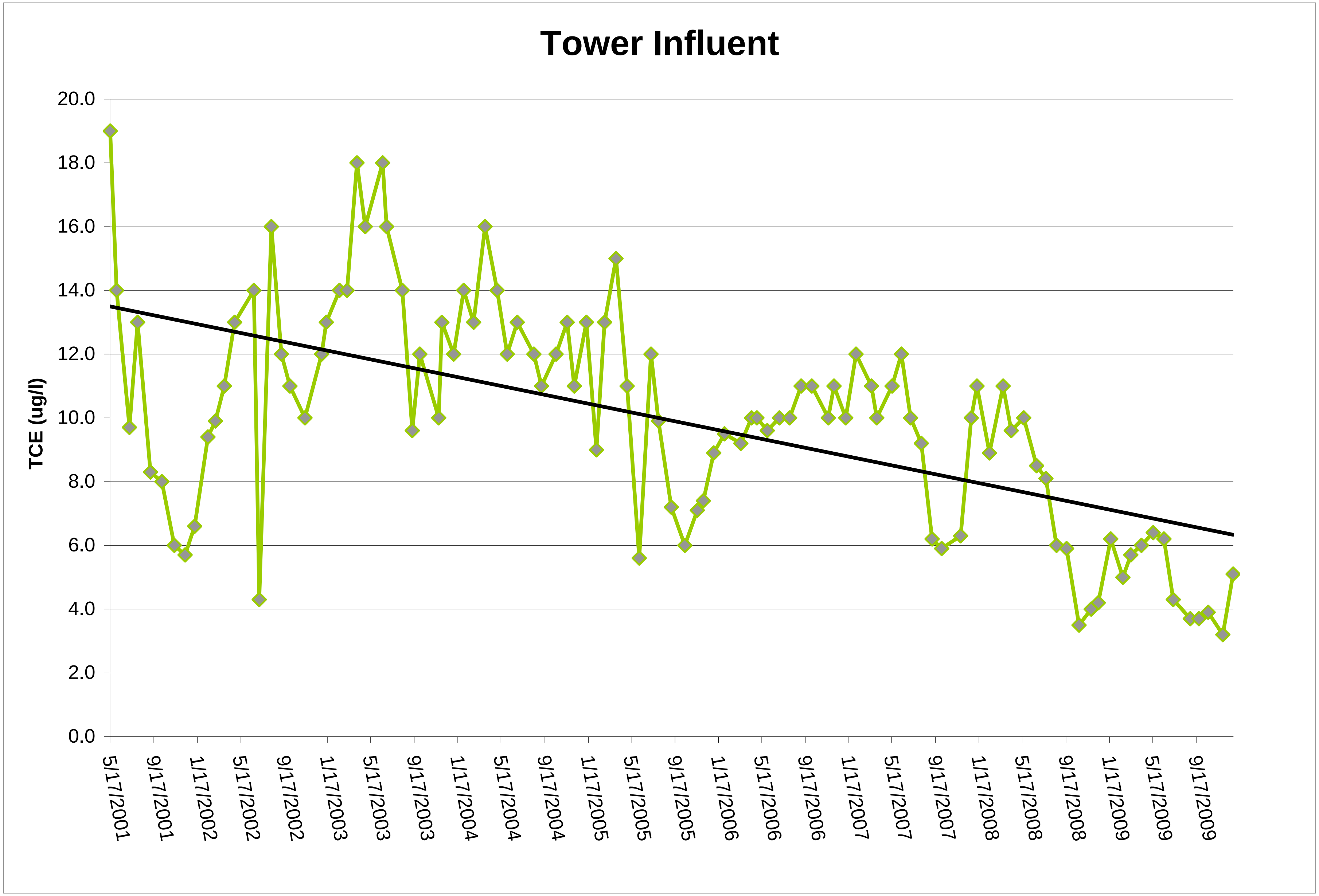
Fig. A




*R:\SCWP_VOC_monthly graphs.xls*

Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

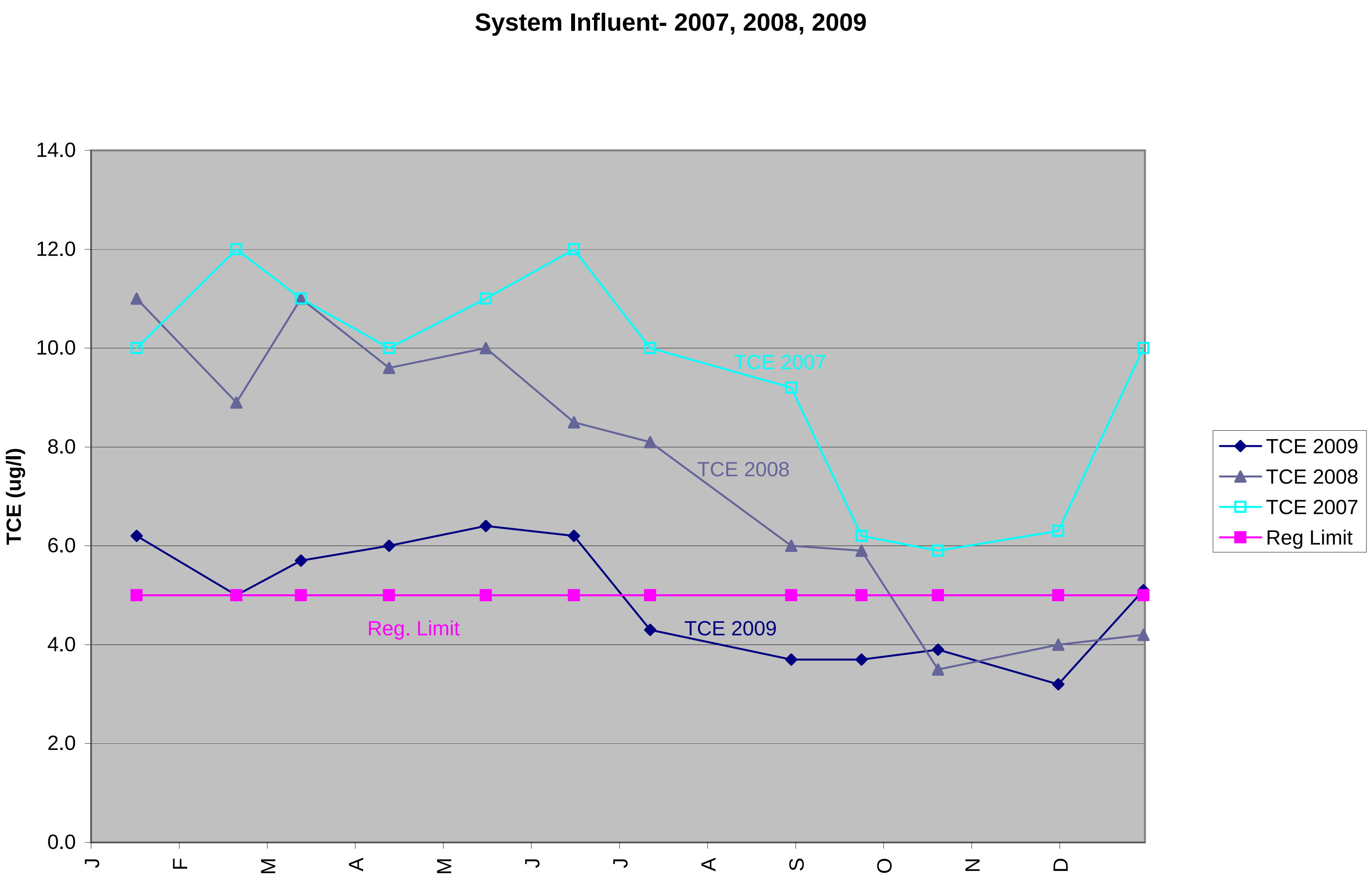
Fig. B




R:\SCWP_VOC_monthly graphs.xls

Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

Fig. C




Buck Engineering, LLC
87 Central Avenue
Cortland, NY 13045-0427

Fig. D

**SCWP SITE**
**Town of Cortlandville**
**Historical TCE Concentrations (ug/l)**

| Well | Parameter | 2/90 | 8/90 | 11/90 | 2/91 | 5/91 | 8/91 | 11/91 | 2/92 | 5/92 | 8/92 | 11/92 | 2/93 | 5/93 | 8/93 | 11/93 | 2/94 | 6/94 | 9/94 | 12/94 | 2/95 | 5/95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1S | TCE | <1 | 47 | 41 | 25 | 17 | 19 | 12 | 9 | 13 | 15 | 2 | 11 | 26 | 3 | 13 | 7 | 19 | 13 | 9 | 11 | 8 |
| | TCE Yearly Ave. | | | 32 | | | | 18 | | | | 10 | | | | 13 | | | | 13 | | |
| | Total VOC's | <1 | 47 | 41 | 25 | 21 | 23 | 13 | 9 | 15 | 17 | 2 | 13 | 34 | 3 | 13 | 7 | 22 | 15 | 9 | 13 | 8 |
| | Tot. VOC Yearly Ave. | | | 32 | | | | 21 | | | | 11 | | | | 16 | | | | 13 | | |
| MW-1D | TCE | 32 | <1 | 25 | 25 | 18 | 19 | 12 | 13 | 13 | 14 | 13 | 14 | 13 | 12 | 16 | 12 | 13 | 9 | 11 | 12 | 12 |
| | TCE Yearly Ave. | | | 21 | | | | 19 | | | | 13 | | | | 14 | | | | 11 | | |
| | Total VOC's | 32 | <1 | 25 | 25 | 24 | 24 | 12 | 13 | 14 | 16 | 15 | 16 | 16 | 115 | 17 | 13 | 13 | 10 | 13 | 14 | 14 |
| | Tot. VOC Yearly Ave. | | | 21 | | | | 21 | | | | 15 | | | | 16 | | | | 12 | | |
| MW-2S | TCE | 4 | 5 | 6 | 8 | 6 | 8 | 10 | 5 | 7 | 5 | 5 | 5 | 7 | 7 | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| | TCE Yearly Ave. | | | 5 | | | | 8 | | | | 6 | | | | 6 | | | | 4 | | |
| | Total VOC's | 4 | 5 | 6 | 8 | 6 | 8 | 12 | 5 | 7 | 8 | 5 | 5 | 7 | 7 | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| | Tot. VOC Yearly Ave. | | | 5 | | | | 9 | | | | 6 | | | | 6 | | | | 4 | | |
| MW-2D | TCE | 6 | 9 | 8 | 7 | 5 | 7 | 9 | 5 | 5 | 5 | 5 | 3 | 4 | 6 | 3 | 3 | 2 | 3 | 2 | 2 | 3 |
| | TCE Yearly Ave. | | | 7 | | | | 7 | | | | 5 | | | | 4 | | | | 3 | | |
| | Total VOC's | 6 | 9 | 8 | 7 | 5 | 7 | 10 | 5 | 5 | 5 | 5 | 3 | 4 | 6 | 3 | 3 | 2 | 6 | 2 | 2 | 3 |
| | Tot. VOC Yearly Ave. | | | 7 | | | | 7 | | | | 5 | | | | 4 | | | | 3 | | |
| MW-3 | TCE | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1 | <1 | <1 | <1 | <1 | 4 | <1 | <1 | <1 | <1 |
| | TCE Yearly Ave. | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 1 | | |
| | Total VOC's | <1 | <1 | < | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 2 | 1 | <1 | <1 | <1 | <1 | 4 | <1 | <1 | <1 | <1 |
| | Tot. VOC Yearly Ave. | | | 0 | | | | 0 | | | | 1 | | | | 0 | | | | 1 | | |
| MW-4S | TCE | <1 | <1 | 2 | <1 | 1 | 2 | 1 | <1 | 1 | 1 | 1 | <1 | 1 | <1 | <1 | na | <1 | <1 | <1 | <1 | 1 |
| | TCE Yearly Ave. | | | 1 | | | | 1 | | | | 1 | | | | 0 | | | | 0 | | |
| | Total VOC's | <1 | <1 | 2 | <1 | 1 | 2 | 1 | <1 | 1 | 1 | 1 | <1 | 1 | <1 | <1 | na | <1 | <1 | <1 | <1 | 1 |
| | Tot. VOC Yearly Ave. | | | 1 | | | | 1 | | | | 1 | | | | 0 | | | | 0 | | |
| MW-4D | TCE | <1 | 1 | <1 | 1 | <1 | 1 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | na | <1 | <1 | <1 | <1 | <1 |
| | TCE Yearly Ave. | | | 1 | | | | 1 | | | | 0 | | | | 0 | | | | 0 | | |
| | Total VOC's | <1 | 1 | <1 | 1 | <1 | 1 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | na | <1 | <1 | <1 | <1 | <1 |
| | Tot. VOC Yearly Ave. | | | 1 | | | | 1 | | | | 0 | | | | 0 | | | | 0 | | |
| MW-5S | TCE | 1 | 2 | 3 | <1 | 1 | 2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | TCE Yearly Ave. | | | 2 | | | | 1 | | | | 0 | | | | 0 | | | | 0 | | |
| | Total VOC's | 1 | 3 | 3 | <1 | 1 | 2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Tot. VOC Yearly Ave. | | | 2 | | | | 1 | | | | 0 | | | | 0 | | | | 0 | | |
| MW-5D | TCE | 2 | 3 | 5 | 3 | 3 | 3 | 1 | <1 | 1 | 2 | 1 | <1 | 2 | 2 | <1 | <1 | <1 | <1 | <1 | <1 | 1 |
| | TCE Yearly Ave. | | | 3 | | | | 3 | | | | 1 | | | | 1 | | | | 0 | | |
| | Total VOC's | 2 | 8 | 5 | 3 | 3 | 3 | 1 | <1 | 1 | 2 | 1 | <1 | 2 | 2 | <1 | <1 | <1 | <1 | <1 | <1 | 2 |
| | Tot. VOC Yearly Ave. | | | 5 | | | | 3 | | | | 1 | | | | 1 | | | | 0 | | |
| MW-6 | TCE | na | 43 | 35 | 38 | 62 | 8 | na | 18 | 30 | 40 | 21 | 21 | 70 | 32 | 19 | 45 | 50 | 20 | 17 | 18 | 14 |
| | TCE Yearly Ave. | | | 35 | | | | 36 | | | | 27 | | | | 36 | | | | 33 | | |
| | Total VOC's | na | 43 | 35 | 38 | 62 | 8 | na | 18 | 30 | 40 | 21 | 21 | 70 | 32 | 19 | 45 | 50 | 20 | 17 | 18 | 14 |
| | Tot. VOC Yearly Ave. | | | 26 | | | | 27 | | | | 27 | | | | 36 | | | | 33 | | |
| MW-7 | TCE | 290 | 19 | 63 | 190 | 57 | 19 | na | 11 | 57 | 130 | 130 | 120 | 67 | 25 | 18 | 85 | 60 | 49 | 49 | 45 | 23 |
| | TCE Yearly Ave. | | | 168 | | | | 89 | | | | 82 | | | | 58 | | | | 61 | | |
| | Total VOC's | 290 | 19 | 63 | 190 | 157 | 30 | na | 15 | 167 | 250 | 250 | 175 | 136 | 25 | 19 | 137 | 153 | 84 | 82 | 84 | 25 |
| | Tot. VOC Yearly Ave. | | | 168 | | | | 94 | | | | 171 | | | | 89 | | | | 114 | | |
| MW-8 | TCE | 70 | 10 | 48 | 31 | 110 | 8 | 3 | 31 | 31 | 48 | 16 | 12 | 14 | 18 | 10 | 61 | 11 | 10 | 12 | 9 | 8 |
| | TCE Yearly Ave. | | | 97 | | | | 38 | | | | 32 | | | | 14 | | | | 24 | | |
| | Total VOC's | 70 | 10 | 48 | 31 | 110 | 8 | 3 | 31 | 31 | 48 | 16 | 12 | 14 | 18 | 10 | 61 | 11 | 10 | 12 | 9 | 8 |
| | Tot. VOC Yearly Ave. | | | 103 | | | | 38 | | | | 32 | | | | 14 | | | | 24 | | |
| MW-9 | TCE | 16 | 5 | 10 | 4 | 11 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 33 | 8 | 1 | 2 | 24 | 5 | 3 | 5 | 5 |
| | TCE Yearly Ave. | | | 9 | | | | 6 | | | | 4 | | | | 12 | | | | 9 | | |
| | Total VOC's | 16 | 5 | 10 | 4 | 14 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 42 | 8 | 1 | 2 | 24 | 5 | 3 | 5 | 5 |
| | Tot. VOC Yearly Ave. | | | 9 | | | | 6 | | | | 4 | | | | 14 | | | | 9 | | |
| MW-10S | TCE | 73 | 110 | 59 | 63 | 27 | 32 | 50 | 44 | 170 | 40 | 32 | 26 | 25 | 37 | 27 | 28 | 31 | 24 | 15 | 16 | 16 |
| | TCE Yearly Ave. | | | 76 | | | | 43 | | | | 72 | | | | 29 | | | | 25 | | |
| | Total VOC's | 73 | 110 | 59 | 110 | 33 | 44 | 62 | 57 | 228 | 46 | 37 | 29 | 32 | 37 | 31 | 31 | 31 | 27 | 16 | 17 | 18 |
| | Tot. VOC Yearly Ave. | | | 76 | | | | 62 | | | | 92 | | | | 32 | | | | 26 | | |
| MW-10D | TCE | 23 | 33 | 60 | 33 | 54 | 31 | 40 | 30 | 10 | 41 | 37 | 32 | 19 | 32 | 25 | 21 | 21 | 22 | 22 | 30 | 23 |
| | TCE Yearly Ave. | | | 36 | | | | 40 | | | | 30 | | | | 27 | | | | 23 | | |
| | Total VOC's | 23 | 33 | 60 | 33 | 66 | 39 | 45 | 35 | 12 | 46 | 43 | 36 | 21 | 32 | 28 | 22 | 21 | 25 | 24 | 32 | 26 |
| | Tot. VOC Yearly Ave. | | | 36 | | | | 46 | | | | 34 | | | | 29 | | | | 23 | | |
| MW-11 | TCE | 2600 | 44 | 3400 | 480 | 290 | 31 | na | 50 | 420 | 29 | <50 | 54 | 170 | <50 | <50 | 72 | <50 | 51 | 51 | 42 | 38 |
| | TCE Yearly Ave. | | | 1549 | | | | 267 | | | | 125 | | | | 56 | | | | 44 | | |
| | Total VOC's | 2600 | 44 | 3400 | 480 | 5090 | 141 | na | 440 | 630 | 375 | 230 | 344 | 1170 | 1700 | <50 | 1062 | 1260 | 105 | 130 | 101 | 87 |
| | Tot. VOC Yearly Ave. | | | 1549 | | | | 1428 | | | | 419 | | | | 804 | | | | 639 | | |
| MW-12S | TCE | 190 | 280 | 120 | 270 | 190 | 100 | 21 | 46 | 50 | 150 | 140 | 150 | 150 | 180 | 100 | 110 | 170 | 88 | 88 | 100 | na |
| | TCE Yearly Ave. | | | 203 | | | | 145 | | | | 97 | | | | 145 | | | | 114 | | |
| | Total VOC's | 190 | 280 | 120 | 270 | 330 | 137 | 23 | 83 | 62 | 196 | 179 | 172 | 183 | 180 | 109 | 119 | 192 | 99 | 102 | 101 | na |
| | Tot. VOC Yearly Ave. | | | 203 | | | | 190 | | | | 130 | | | | 161 | | | | 128 | | |
| MW-12D | TCE | 21 | 17 | 23 | 17 | 12 | 12 | 13 | 10 | 45 | 10 | 9 | 13 | 11 | 15 | 8 | 7 | 16 | 9 | 5 | 7 | 6 |
| | TCE Yearly Ave. | | | 19 | | | | 14 | | | | 19 | | | | 11 | | | | 9 | | |
| | Total VOC's | 21 | 17 | 23 | 17 | 14 | 12 | 13 | 11 | 52 | 12 | 9 | 13 | 13 | 15 | 8 | 7 | 16 | 9 | 5 | 7 | 6 |
| | Tot. VOC Yearly Ave. | | | 19 | | | | 14 | | | | 21 | | | | 12 | | | | 9 | | |

| Well | Parameter | 11/95 | 5/96 | 11/96 | 5/97 | 11/97 | 5/98 | 11/98 | 8/99 | 11/00 | 11/01 | 11/02 | 6/03 | 11/03 | 11/04 | 12/05 | 9/06* | 11/06 | 5/07* | 11/07 | 11/08 | 11/09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1S | TCE | 11 | 5 | 8 | 10 | 11 | 15 | 8 | 6.9 | 4.5 | 5.5 | 7.5 | | 5.8 | 11 | 6.4 | 7.2 | 3.6 | 3.4 | 1.6 | 4.8 | 4.0 |
| | TCE Yearly Ave. | 10 | | 7 | | 11 | | 12 | 6.9 | 4.5 | 5.5 | 7.5 | | 5.8 | 11 | 6.4 | | 3.6 | | | | |
| | Total VOC's | 11 | 5 | 8 | 10 | 11 | 16 | 8 | 6.9 | 4.5 | 5.5 | 7.5 | | 5.8 | 11 | 6.4 | 7.2 | 3.6 | 3.4 | 1.6 | 4.8 | 4.0 |
| | Tot. VOC Yearly Ave. | 11 | | 7 | | 11 | | 12 | 6.9 | 4.5 | 5.5 | 7.5 | | 5.8 | 11 | 6.4 | | 3.6 | | | | |
| MW-1D | TCE | 13 | 7 | 10 | 7 | 8 | 7 | 7 | 7.8 | 2.7 | 2.7 | 1 | | 2.3 | 2.6 | 5.0 | NS | 2.6 | NS | 4.3 | 4.5 | 3.9 |
| | TCE Yearly Ave. | 12 | | 9 | | 8 | | 7 | 7.8 | 2.7 | 2.7 | 1 | | 2.3 | 2.6 | 5.0 | | 2.6 | | | | |
| | Total VOC's | 13 | 7 | 11 | 7 | 8 | 7 | 7 | 7.8 | 2.7 | 2.7 | 2.7 | | 2.3 | 2.6 | 5.0 | | 2.6 | | 4.3 | 4.5 | 3.9 |
| | Tot. VOC Yearly Ave. | 14 | | 9 | | 8 | | 7 | 7.8 | 2.7 | 2.7 | 2.7 | | 2.3 | 2.6 | 5.0 | | 2.6 | | | | |
| MW-2S | TCE | na | 4 | na | 3 | na | 4 | na | 3.5 | 2.1 | 2.4 | 2.2 | | 2.3 | 2.0 | 1.9 | 2.2 | 2.0 | 2.5 | 2.0 | 1.8 | 1.5 |
| | TCE Yearly Ave. | 4 | | 4 | | 3 | | 4 | 3.5 | 2.1 | 2.4 | 2.2 | | 2.3 | 2.0 | 1.9 | | 2.0 | | | | |
| | Total VOC's | na | 4 | na | 3 | na | 4 | na | 3.5 | 2.1 | 2.4 | 2.2 | | 2.3 | 2.0 | 1.9 | 2.2 | 2.0 | 2.5 | 2.0 | 1.8 | 1.5 |
| | Tot. VOC Yearly Ave. | 3 | | 4 | | 3 | | 4 | 3.5 | 2.1 | 2.4 | 2.2 | | 2.3 | 2.0 | 1.9 | | 2.0 | | | | |
| MW-2D | TCE | na | 2 | na | 2 | na | 1 | na | 2.5 | plugged | plugged | plugged | | plugged | plugged | damaged | NS | NS | NS | NS | NS | NS |
| | TCE Yearly Ave. | 3 | | 2 | | 2 | | 1 | 2.5 | plugged | plugged | plugged | | plugged | plugged | damaged | | | | | | |
| | Total VOC's | na | 2 | na | 2 | na | 1 | na | 2.5 | plugged | plugged | plugged | | plugged | plugged | damaged | | | | | | |
| | Tot. VOC Yearly Ave. | 2 | | 2 | | 2 | | 1 | 2.5 | plugged | plugged | plugged | | plugged | plugged | damaged | | | | | | |
| MW-3 | TCE | na | 19 | na | 2 | <1 | 8 | na | <1 | <1 | <1 | <1 | | 1.7 | 1.4 | <1 | NS | 2.0 | NS | <1 | NS | NS |
| | TCE Yearly Ave. | 1 | | 19 | | 1 | | 8 | <1 | <1 | <1 | <1 | | 1.7 | 1.4 | <1 | | 2.0 | | | | |
| | Total VOC's | na | 33 | na | 2 | <1 | 12 | na | <1 | <1 | <1 | <1 | | 3.0 | 1.4 | 1.8 | | 4.5 | | <1 | | |
| | Tot. VOC Yearly Ave. | 0 | | 33 | | 1 | | 12 | <1 | <1 | <1 | <1 | | 3.0 | 1.4 | 1.8 | | 4.5 | | | | |
| MW-4S | TCE | na | <1 | na | <1 | na | <1 | na | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | TCE Yearly Ave. | 1 | | 0 | | 0 | | 0 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | | <1 | | | | |
| | Total VOC's | na | <1 | na | <1 | na | <1 | na | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Tot. VOC Yearly Ave. | 0 | | 0 | | 0 | | 0 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | | <1 | | | | |
| MW-4D | TCE | na | <1 | na | <1 | na | <1 | na | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | NS | <1 | NS | <1 | <1 | <1 |
| | TCE Yearly Ave. | 1 | | 0 | | 0 | | 0 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | | <1 | | | | |
| | Total VOC's | na | <1 | na | <1 | na | <1 | na | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | | <1 | | <1 | <1 | <1 |
| | Tot. VOC Yearly Ave. | 0 | | 0 | | 0 | | 0 | <1 | <1 | <1 | <1 | | <1 | <1 | <1 | | <1 | | | | |
| MW-5S | TCE | na | <1 | na | <1 | na | <1 | na | <1 | <1 | <1 | 1 | | 1.2 | 2.0 | 1.3 | 1.7 | 1.1 | 1.3 | <1 | <1 | <1 |
| | TCE Yearly Ave. | 1 | | 0 | | 0 | | 0 | <1 | <1 | <1 | 1 | | 1.2 | 2.0 | 1.3 | | 1.1 | | | | |
| | Total VOC's | na | <1 | na | <1 | na | <1 | na | <1 | <1 | <1 | 2.1 | | 1.2 | 2.0 | 1.3 | 1.7 | 1.1 | 1.3 | <1 | <1 | <1 |
| | Tot. VOC Yearly Ave. | 0 | | 0 | | 0 | | 0 | <1 | <1 | <1 | 2.1 | | 1.2 | 2.0 | 1.3 | | 1.1 | | | | |
| MW-5D | TCE | na | 2 | na | 2 | na | <1 | na | <1 | <1 | <1 | 1 | | 1.3 | 2.0 | 1.1 | NS | 1.0 | NS | <1 | 1.7 | 1.4 |
| | TCE Yearly Ave. | 1 | | 2 | | 2 | | <1 | <1 | <1 | <1 | 1 | | 1.3 | 2.0 | 1.1 | | 1.0 | | | | |
| | Total VOC's | na | 2 | na | 2 | na | <1 | na | <1 | <1 | <1 | 2.3 | | 1.3 | 2.0 | 1.1 | | 1.0 | | <1 | 1.7 | 1.4 |
| | Tot. VOC Yearly Ave. | 1 | | 2 | | 2 | | <1 | <1 | <1 | <1 | 2.3 | | 1.3 | 2.0 | 1.1 | | 1.0 | | | | |
| MW-6 | TCE | 7 | 34 | 14 | 18 | 7 | <1 | 10 | 5 | 11 | 3.9 | 14 | | 16 | 20 | 15 | NS | 7.8 | NS | 9.8 | 6.0 | 4.9 |
| | TCE Yearly Ave. | 13 | | 24 | | 13 | | 5 | 5 | 11 | 3.9 | 14 | | 16 | 20 | 15 | | 7.8 | | | | |
| | Total VOC's | 7 | 34 | 14 | 18 | 7 | <1 | 10 | 5 | 11 | 3.9 | 15.4 | | 16 | 20 | 15 | | 7.8 | | 9.8 | 6.0 | 4.9 |
| | Tot. VOC Yearly Ave. | 13 | | 24 | | 13 | | 5 | 5 | 11 | 3.9 | 15.4 | | 16 | 20 | 15 | | 7.8 | | | | |
| MW-7 | TCE | na | 56 | na | 25 | na | 26 | na | 24 | 24 | 12 | 4 | | 9.4 | 4.6 | 19 | NS | 6.2 | NS | 7.5 | 3.2 | 2.4 |
| | TCE Yearly Ave. | 34 | | 56 | | 25 | | 26 | 24 | 24 | 12 | 4 | | 9.4 | 4.6 | 19 | | 6.2 | | | | |
| | Total VOC's | na | 73 | na | 35 | na | 39 | na | 31 | 30 | 23.2 | 5.2 | | 13 | 4.6 | 30 | | 7.7 | | 7.5 | 3.2 | 2.4 |
| | Tot. VOC Yearly Ave. | 55 | | 73 | | 35 | | 39 | 31 | 30 | 23.2 | 5.2 | | 13 | 4.6 | 30 | | 7.7 | | | | |
| MW-8 | TCE | 3 | 98 | 6 | 8 | 2 | 10 | 3 | 2 | 1.5 | <1 | 1.7 | | 3.3 | 5.4 | 3.2 | NS | 2.6 | NS | 2.9 | 5.0 | 2.0 |
| | TCE Yearly Ave. | 7 | | 52 | | 5 | | 7 | 2 | 1.5 | <1 | 1.7 | | 3.3 | 5.4 | 3.2 | | 2.6 | | | | |
| | Total VOC's | 3 | 98 | 6 | 8 | 2 | 10 | 3 | 2 | 1.5 | <1 | 1.7 | | 3.3 | 5.4 | 3.2 | | 2.6 | | 2.9 | 5.0 | 2.0 |
| | Tot. VOC Yearly Ave. | 7 | | 52 | | 5 | | 7 | 2 | 1.5 | <1 | 1.7 | | 3.3 | 5.4 | 3.2 | | 2.6 | | | | |
| MW-9 | TCE | <1 | 18 | 2 | 1 | <1 | <1 | 5 | 7 | 5.2 | 4.2 | 5.2 | | 6.7 | 17 | 6.0 | NS | 11 | NS | 4.8 | <1 | <1 |
| | TCE Yearly Ave. | 3 | | 10 | | 1 | | 3 | 7 | 5.2 | 4.2 | 5.2 | | 6.7 | 17 | 6.0 | | 11 | | | | |
| | Total VOC's | <1 | 22 | 2 | 1 | <1 | <1 | 5 | 7 | 5.2 | 4.2 | 5.2 | | 6.7 | 17 | 6.0 | | 12 | | 4.8 | <1 | <1 |
| | Tot. VOC Yearly Ave. | 3 | | 12 | | 1 | | 3 | 7 | 5.2 | 4.2 | 5.2 | | 6.7 | 17 | 6.0 | | 11.5 | | | | |
| MW-10S | TCE | 23 | 17 | 18 | 13 | 13 | 15 | 19 | 16 | 17 | 9.4 | 19 | | 9.8 | 9.9 | 9.6 | NS | 6.7 | 6.1 | 8.4 | 5.8 | 7.2 |
| | TCE Yearly Ave. | 18 | | 18 | | 13 | | 18 | 16 | 17 | 9.4 | 19 | | 9.8 | 9.9 | 9.6 | | 6.7 | | | | |
| | Total VOC's | 25 | 18 | 20 | 13 | 13 | 17 | 19 | 17 | 17 | 9.4 | 20.7 | | 9.8 | 9.9 | 11 | | 6.7 | 6.1 | 8.4 | 5.8 | 7.2 |
| | Tot. VOC Yearly Ave. | 20 | | 19 | | 13 | | 18 | 17 | 17 | 9.4 | 20.7 | | 9.8 | 9.9 | 11 | | 6.7 | | | | |
| MW-10D | TCE | 19 | 10 | 16 | 12 | 18 | 10 | 20 | 13 | 11 | 8.4 | 7 | | 7.6 | 5.0 | 4.6 | NS | 5.5 | | 5.8 | 7.1 | 7.6 |
| | TCE Yearly Ave. | 24 | | 13 | | 15 | | 15 | 13 | 11 | 8.4 | 7 | | 7.6 | 5.0 | 4.6 | | 5.5 | | | | |
| | Total VOC's | 19 | 10 | 16 | 12 | 18 | 10 | 20 | 13 | 11 | 8.4 | 7 | | 7.6 | 5.0 | 4.6 | | 5.5 | | 5.8 | 7.1 | 7.6 |
| | Tot. VOC Yearly Ave. | 26 | | 13 | | 15 | | 15 | 13 | 11 | 8.4 | 7 | | 7.6 | 5.0 | 4.6 | | 5.5 | | | | |
| MW-11 | TCE | 19 | 170 | 85 | 46 | 10 | 27 | 11 | 14 | 5.4 | 6.6 | 6.3 | | 21 | 11 | 12 | NS | 18 | | 7.9 | 6.4 | 5.8 |
| | TCE Yearly Ave. | 33 | | 128 | | 28 | | 19 | 14 | 5.4 | 6.6 | 6.3 | | 21 | 11 | 12 | | 18 | | | | |
| | Total VOC's | 144 | 300 | 415 | 96 | 41 | 49 | 11 | 35 | 5.4 | 31.2 | 6.3 | | 49 | 11 | 32 | | 40 | | 7.9 | 6.4 | 5.8 |
| | Tot. VOC Yearly Ave. | 111 | | 358 | | 69 | | 30 | 35 | 5.4 | 31.2 | 6.3 | | 49 | 11 | 32 | | 40 | | | | |
| MW-12S | TCE | 24 | 82 | 60 | 82 | 11 | 80 | 23 | 11 | 59 | 10 | 44 | | 62 | 46 | 27 | NS | 44 | | 25 | 17 | 12 |
| | TCE Yearly Ave. | 62 | | 71 | | 47 | | 52 | 11 | 59 | 10 | 44 | | 62 | 46 | 27 | | 44 | | | | |
| | Total VOC's | 57 | 93 | 73 | 88 | 11 | 102 | 23 | 11 | 59 | 10 | 46.2 | | 67 | 49.3 | 29.5 | | 46 | | 25 | 17 | 12 |
| | Tot. VOC Yearly Ave. | 56 | | 83 | | 50 | | 63 | 11 | 59 | 10 | 46.2 | | 67 | 49.3 | 29.5 | | 46 | | | | |
| MW-12D | TCE | 6 | 5 | 5 | 5 | 4 | 2 | 8 | 11 | 7.8 | 10 | 4.8 | | 4.2 | 10 | 3.3 | NS | 5.9 | | 4.4 | 2.8 | 1.5 |
| | TCE Yearly Ave. | 6 | | 5 | | 5 | | 5 | 11 | 7.8 | 10 | 4.8 | | 4.2 | 10 | 3.3 | | 5.9 | | | | |
| | Total VOC's | 6 | 5 | 5 | 5 | 4 | 2 | 8 | 12 | 7.8 | 12 | 6.6 | | 4.2 | 10 | 3.3 | | 5.9 | | 4.4 | 2.8 | 1.5 |
| | Tot. VOC Yearly Ave. | 6 | | 5 | | 5 | | 5 | 12 | 7.8 | 12 | 6.6 | | 4.2 | 10 | 3.3 | | 5.9 | | | | |

R:\scm_historical_wells

Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

Fig. E

**SCWP SITE**
**Town of Cortlandville**
**Historical TCE Concentrations (ug/l)**

**Misc. Wells not in Settlement Agreement**

| | | 2/90 | 8/90 | 11/90 | 2/91 | 5/91 | 8/91 | 11/91 | 2/92 | 5/92 | 8/92 | 11/92 | 2/93 | 5/93 | 8/93 | 11/93 | 2/94 | 6/94 | 9/94 | 12/94 | 2/95 | 5/95 | 11/95 | 5/96 | 11/96 | 5/97 | 11/97 | 5/98 | 11/98 | 8/99 | 11/00 | 11/01 | 11/02 | 6/03 | 11/03 | 11/04 | 12/05 | 9/06* | 11/06 | 5/07* | 11/07 | 11/08 | 11/09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-L16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 41 | 20 |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 42 | 21 |
| MW-BE1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | <1 | na | na | na | | | | | | |
| | TCE Yearly Ave. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | <1 | na | na | na | | | | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | <1 | na | na | na | | | | | | |
| | Tot. VOC Yearly Ave. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | <1 | na | na | na | | | | | | |
| MW-BE2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | <1 | na | na | na | | | | | | |
| | TCE Yearly Ave. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | <1 | na | na | na | | | | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | 1.2 | na | na | na | | | | | | |
| | Tot. VOC Yearly Ave. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | na | na | na | 1.2 | na | na | na | | | | | | |
| DEC-23 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | | <1 | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <1 | | <1 | | | |
| DEC-24 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | NS | | <1 | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | NS | | <1 | | | |
| DEC-25 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2.3 | | 2.2 | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2.3 | | 2.2 | | | |
| DEC-26 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9.9 | | NS | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9.9 | | NS | | | |
| DEC-27 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4.7 | | NS | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4.7 | | NS | | | |
| DEC-28 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3.5 | | NS | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3.5 | | NS | | | |
| DEC-29 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2.4 | | NS | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2.4 | | NS | | | |
| DEC-30 | TCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.4 | | 1.2 | | | |
| | Total VOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.4 | | 1.2 | | | |

**Notes:**

1. Units are ug/l.
2. Data from 2/90 thru 11/98 were transcribed from an OBG spreadsheet.
3. Data after 11/98 were entered directly from lab reports.
4. Earliest data are from Upstate Labs, Inc. Data after 3/99 are from Buck Env. Labs, Inc.
5. Wells MW-BE1 and MW-BE2 were installed in 1999 by Buck Engineering.

* Sampling performed by URS; analytical performed by Buck Environmental Laboratories, Inc.

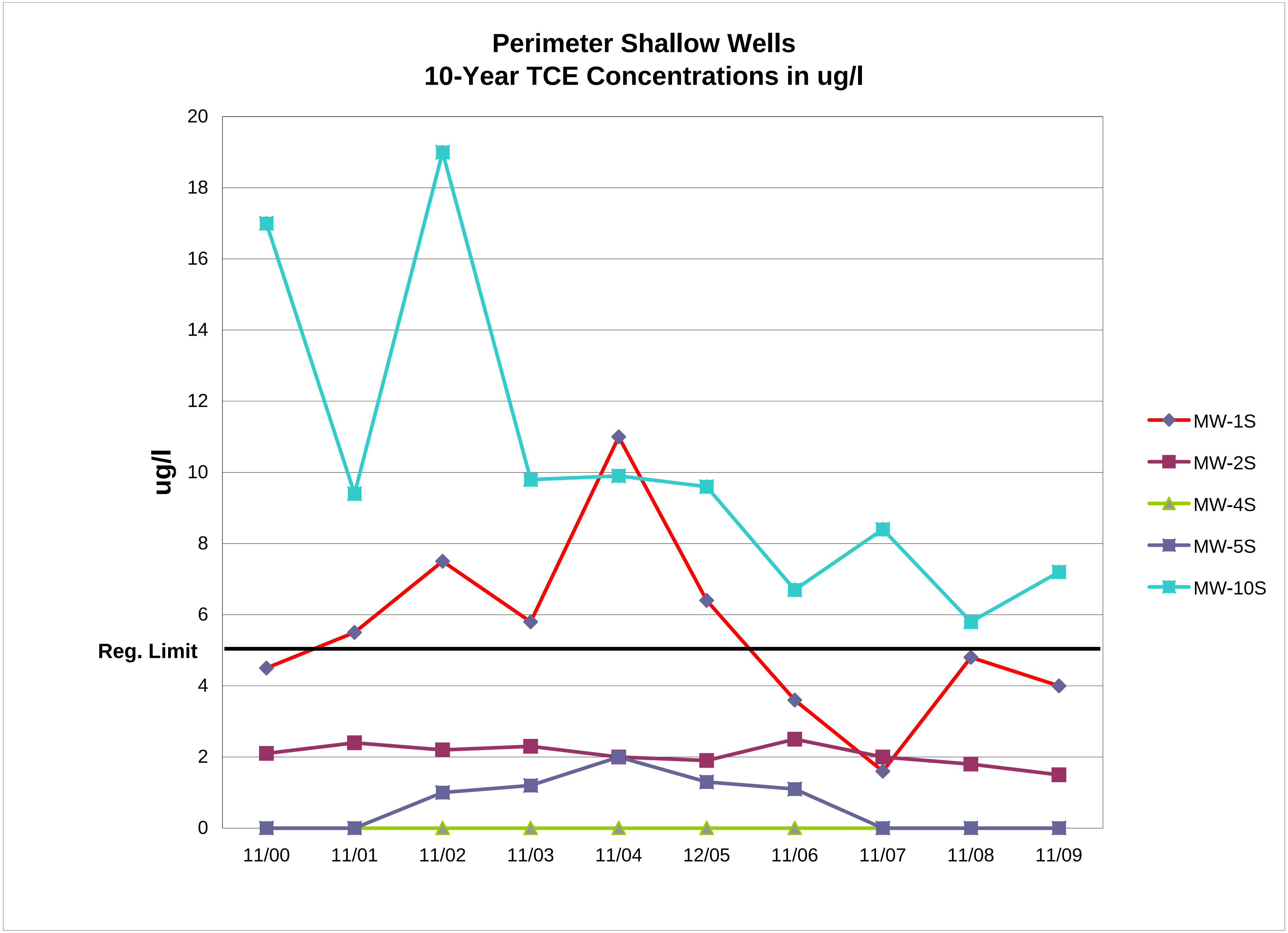
6. Lab analysis by Life Sciences Lab beginning 2/08.
7. Well L16 was constructed inside the building on 12/5/08.

NS = Not Sampled

R:\scm_historical_wells

Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

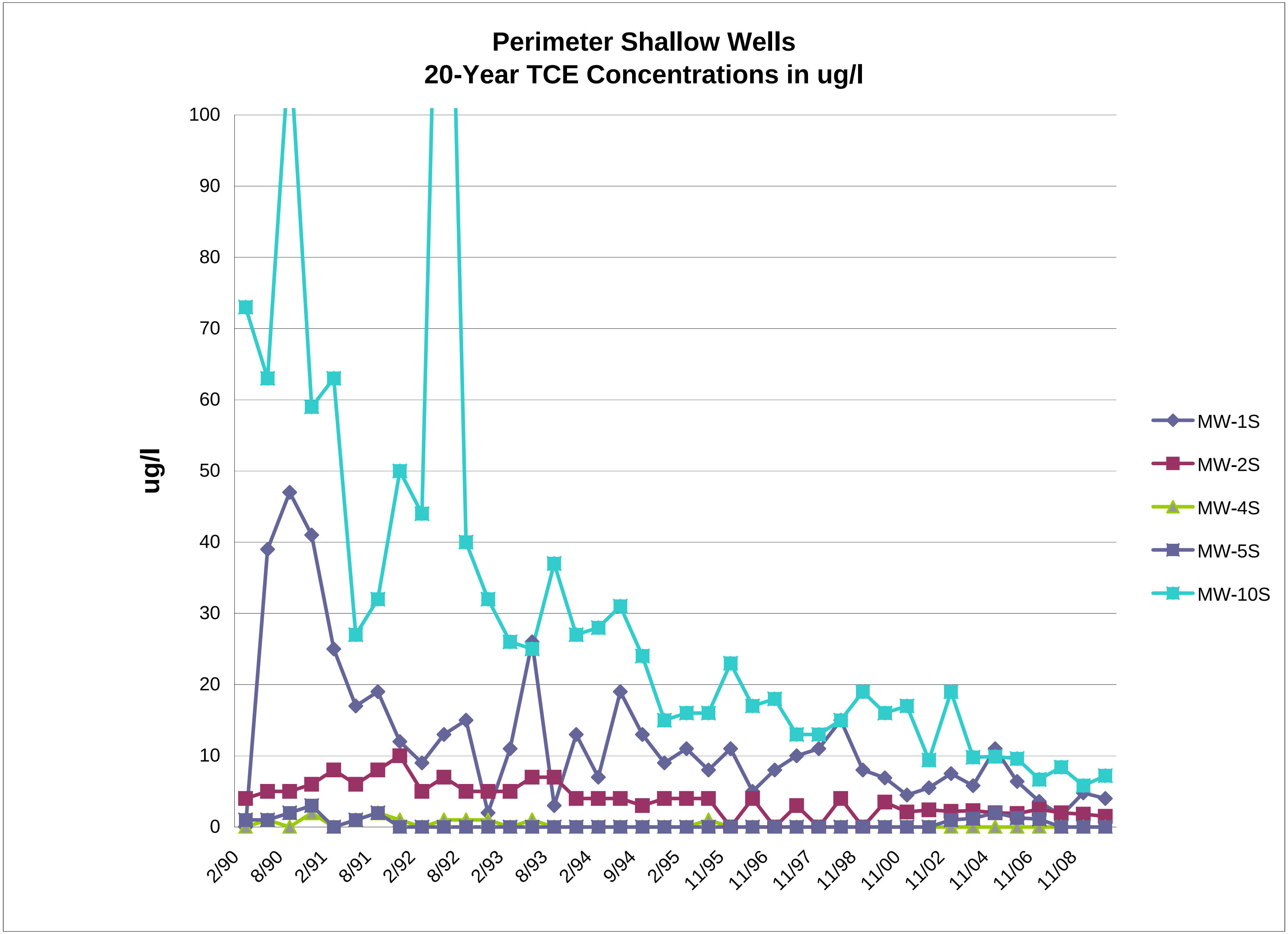
Fig. E




*r:\graphs historical TCE*

Buck Engineering, LLC
87 Central Ave.
Cortland, NY  13045-0427

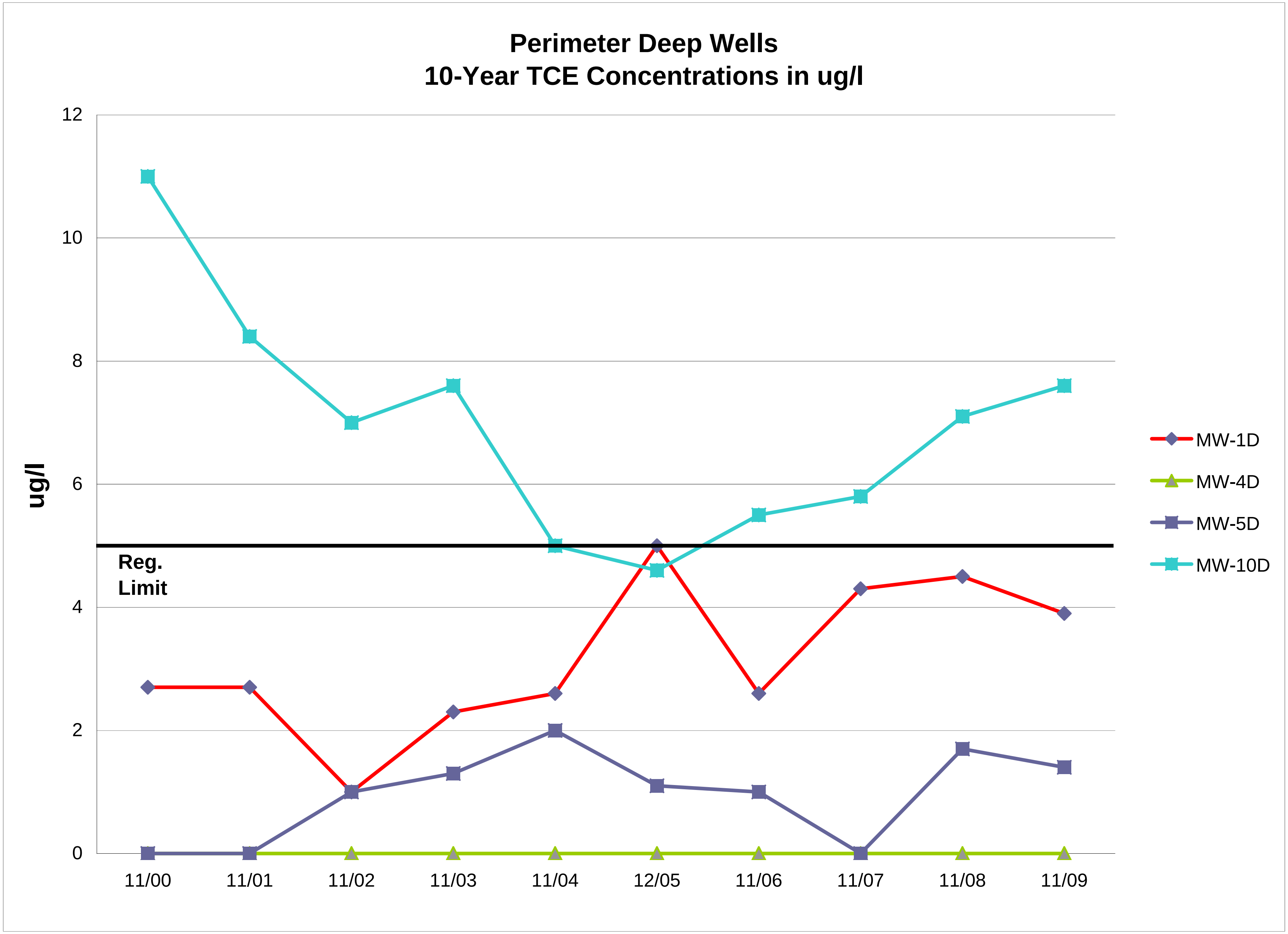
Fig. F




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*r:\graphs historical TCE*

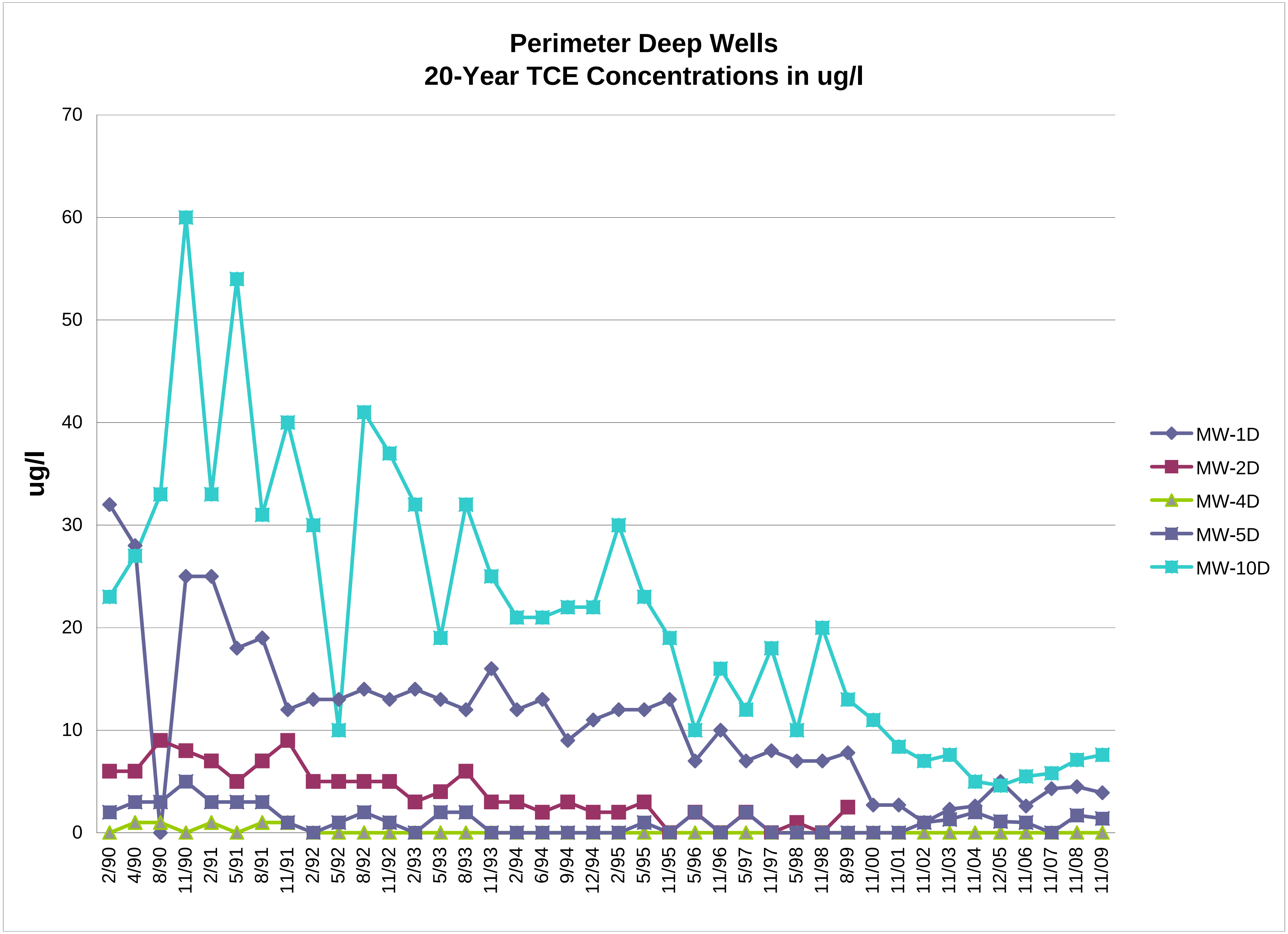
Fig. G




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*R:\graphs historical TCE*

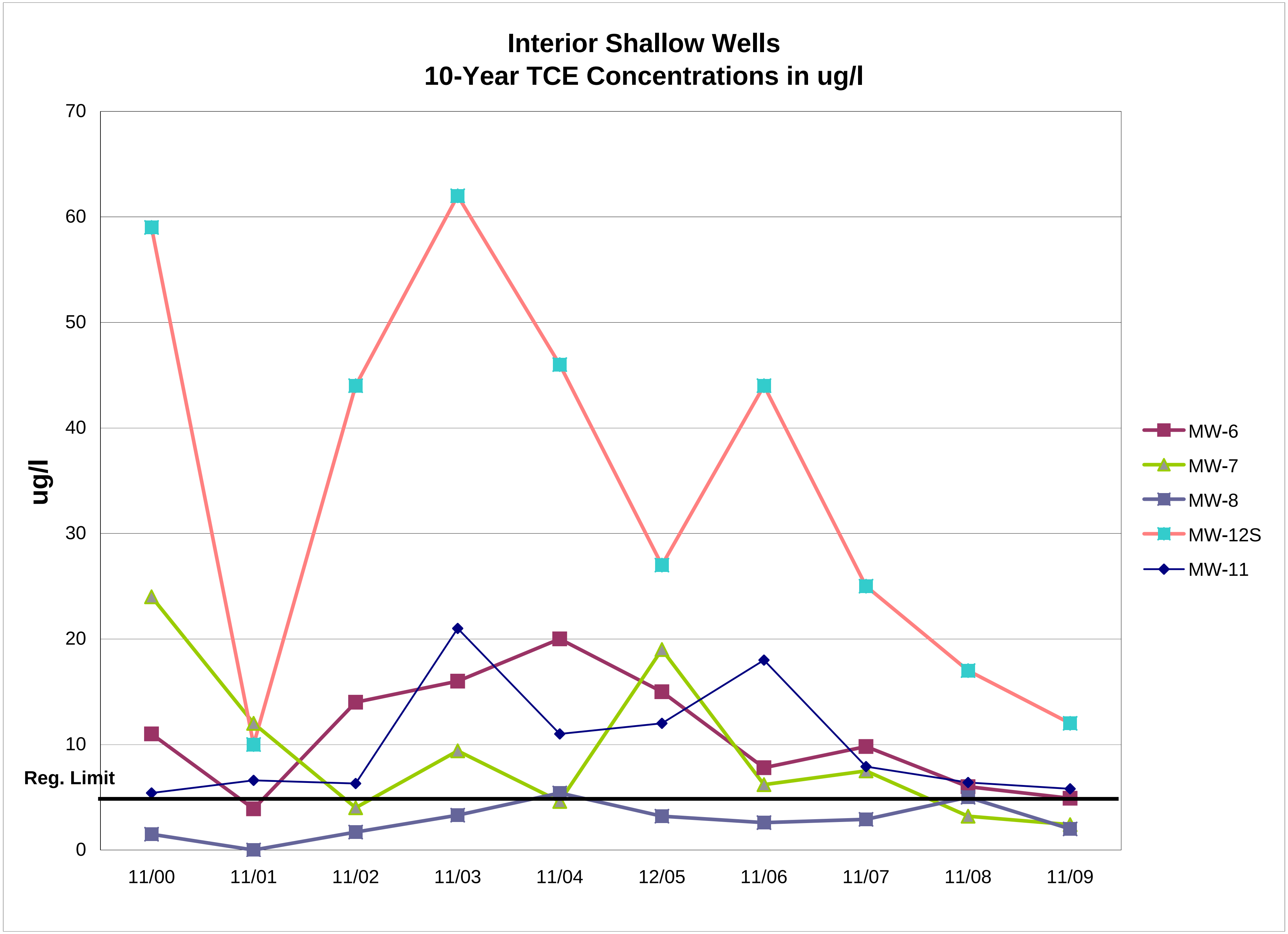
Fig. H




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*R:\graphs historical TCE*

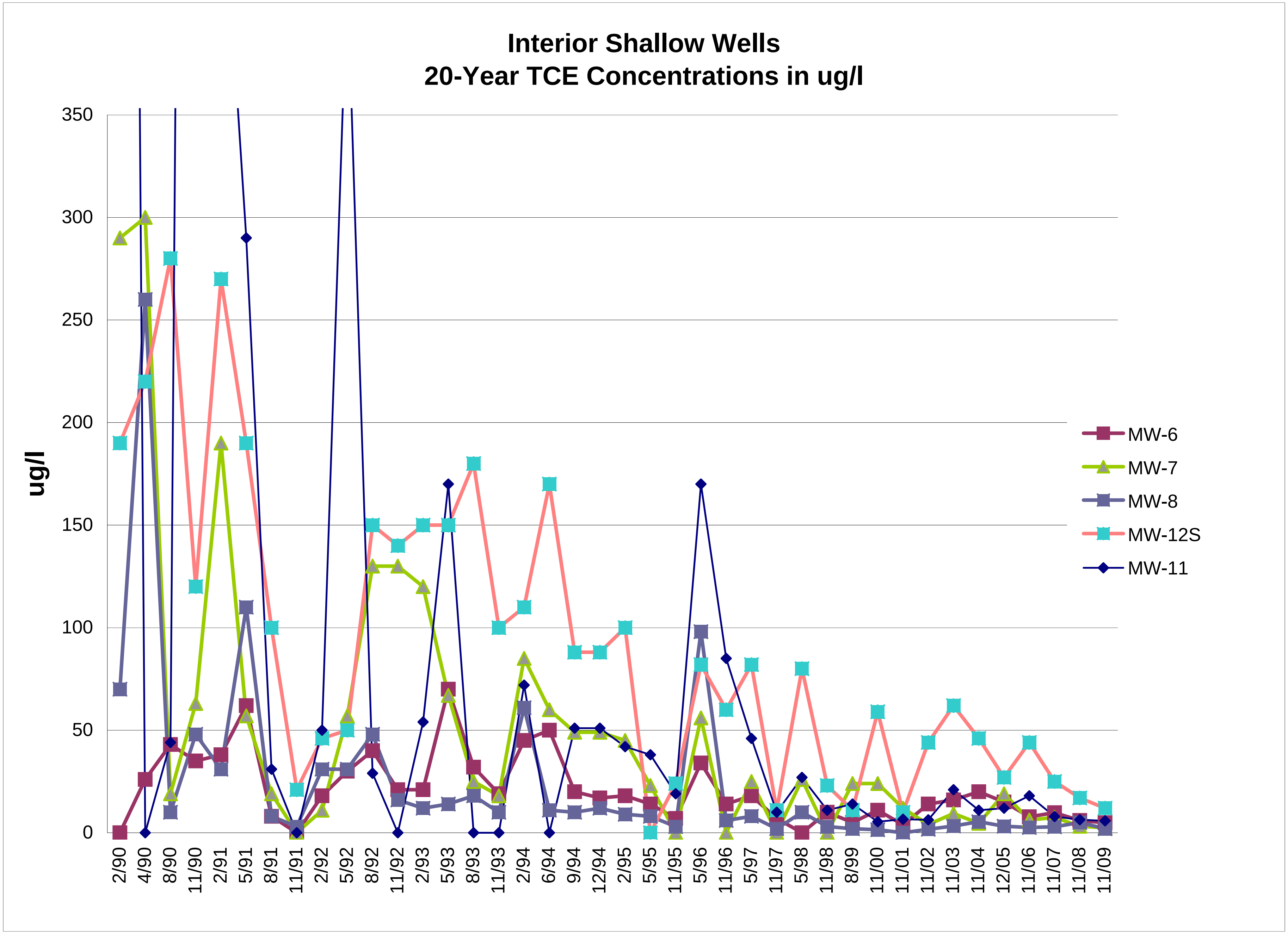
Fig. I




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*R:\graphs historical TCE*

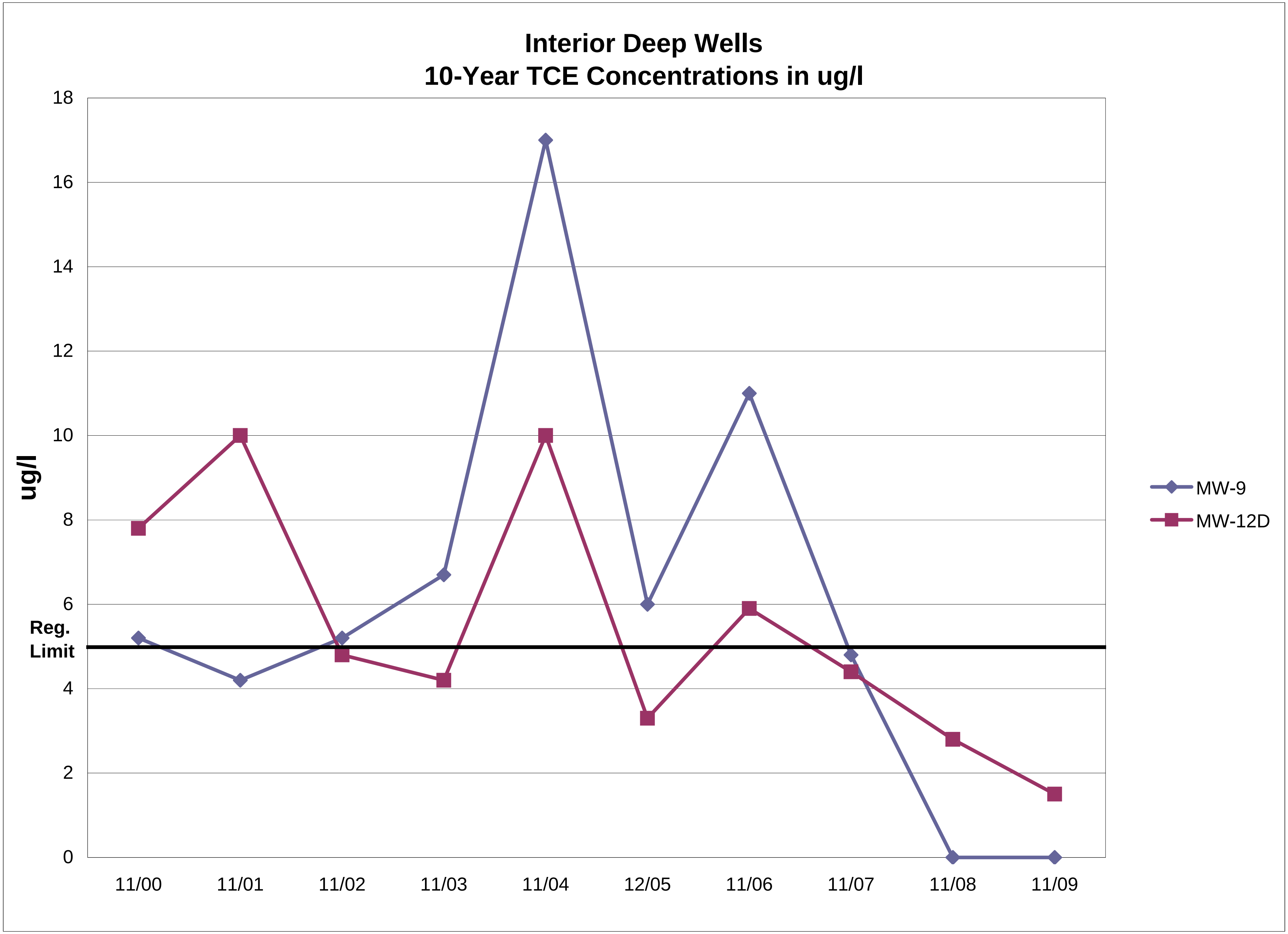
Fig. J




R:\graphs historical TCE

Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

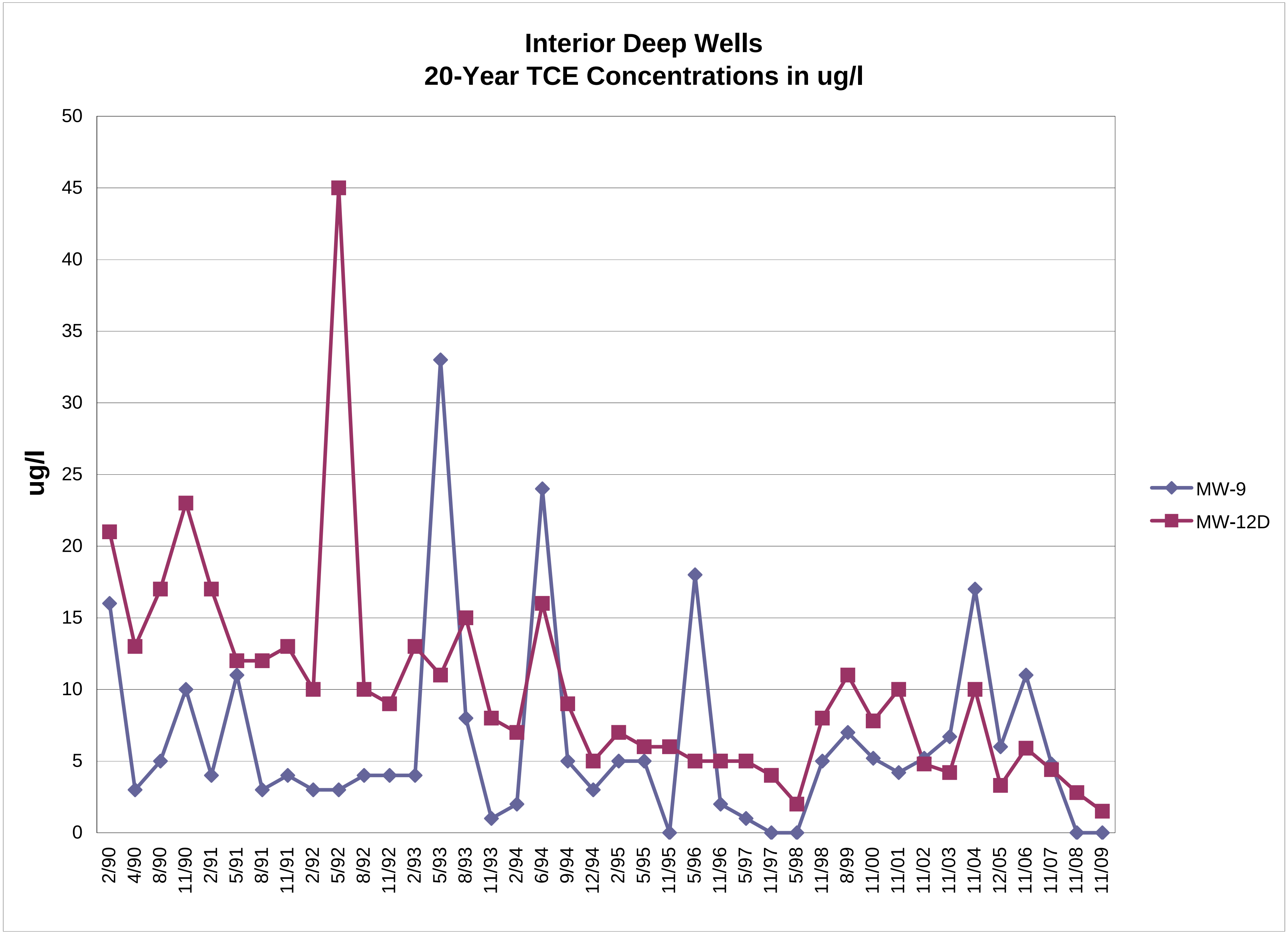
Fig. K




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*R:\graphs historical TCE*

Fig. L




Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

*R:\graphs historical TCE*

Fig. M

## Groundwater Elevation Measurements at SCWP Site, Town of Cortlandville, NY

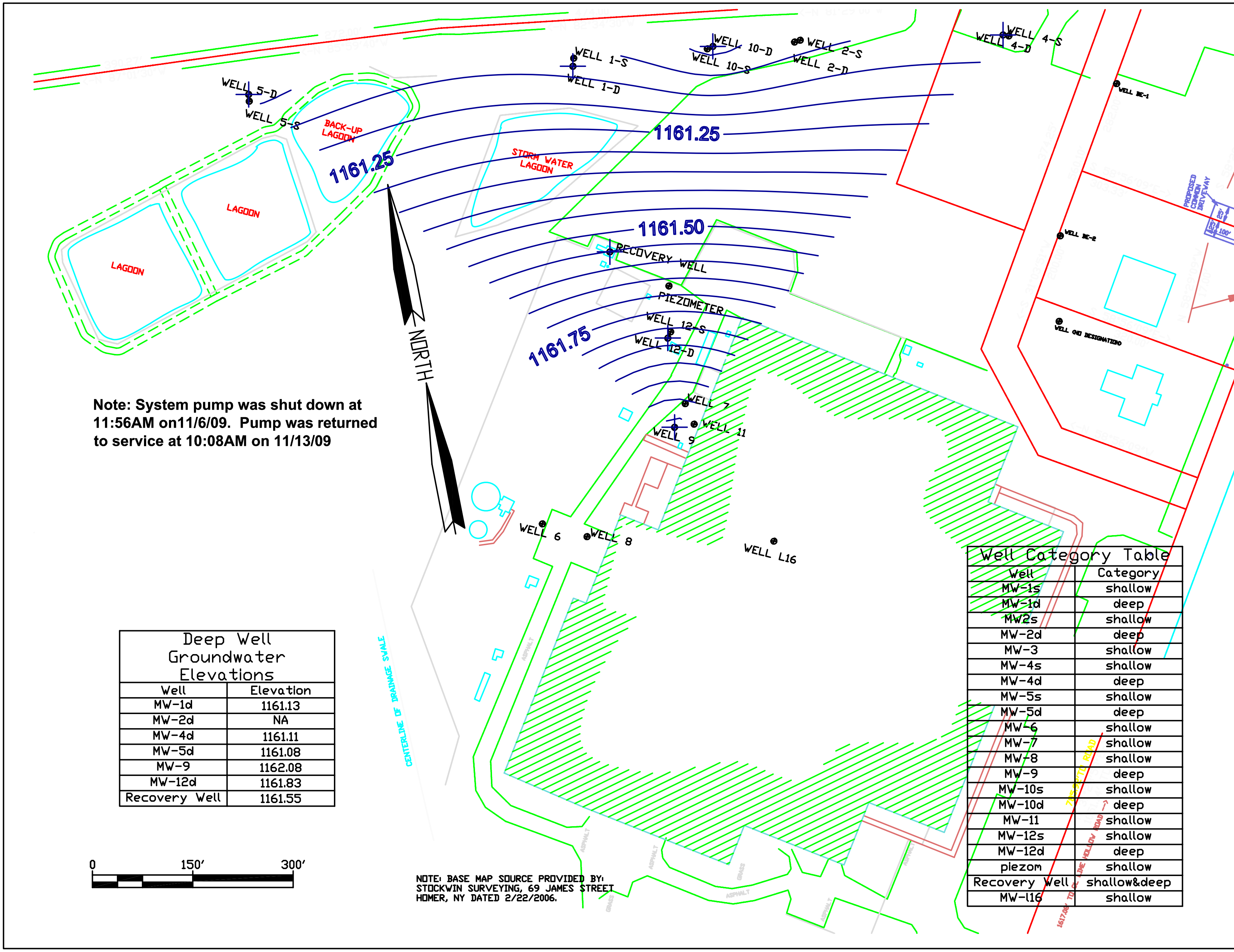
| NUMBER | reference** CASING ELEV. | CATEGORY. | ELEV 11/11/2009 | ELEV 11/16/2009 | ELEV 11/30/2009 |
|---|---|---|---|---|---|
| MW-1S | 1185.75 | s | 1161.14 | 1160.63 | 1160.96 |
| MW-1D | 1185.85 | d | 1161.13 | 1160.59 | 1160.93 |
| MW-2S | 1210.91 | s | 1161.16 | 1160.54 | 1160.95 |
| MW-2D | 1211.61 | d | damaged | damaged | |
| MW-3 | na | s | na | na | na |
| MW-4S | 1209.72 | s | 1161.38 | 1160.80 | 1161.34 |
| MW-4D | 1210.14 | d | 1161.11 | 1160.51 | 1161.04 |
| MW-5S | 1178.46 | s | 1161.39 | 1161.44 | 1161.73 |
| MW-5D | 1178.86 | d | 1161.08 | 1160.89 | 1161.18 |
| MW-6 | 1212.20 | s | 1162.76 | 1162.41 | 1162.74 |
| MW-7 | 1213.82 | s | damaged | damaged | damaged |
| MW-8 | 1212.76 | s | 1162.78 | 1162.42 | 1162.77 |
| MW-9 | 1212.94 | d | 1162.08 | 1161.47 | 1161.86 |
| MW-10S | 1207.23 | s | 1161.12 | 1160.50 | 1160.88 |
| MW-10D | 1207.52 | d | 1161.03 | 1160.42 | 1160.81 |
| MW-11 | 1214.44 | s | 1162.46 | 1161.96 | 1162.36 |
| MW-12S | 1212.94 | s | 1161.99 | 1161.20 | 1161.62 |
| MW-12D | 1212.80 | d | 1161.83 | 1161.00 | 1161.40 |
| MW-BE1 | 1208.06 | s | na | na | na |
| MW-BE2 | 1210.55 | s | na | na | na |
| piezom | 1212.59 | s | 1161.31 | 1160.60 | 1160.99 |
| Recov Wel | 1205.62 | s&d | 1161.55 | 1158.59 | 1159.01 |
| MW-L16 | 1212.99 | s | 1162.97 | 1162.51 | 1162.92 |

** Well casing elevations were determined from survey by Jim Stockwin, LS, 2006

**NOTE: System pump was shut down from 11/6/09 to 11/13/09**

Buck Engineering, LLC
87 Central Ave.
Cortland, NY 13045-0427

Fig. N




Note: System pump was shut down at 11:56AM on11/6/09. Pump was returned to service at 10:08AM on 11/13/09

NOTE: BASE MAP SOURCE PROVIDED BY: STOCKWIN SURVEYING, 69 JAMES STREET HOMER, NY DATED 2/22/2006.

**Deep Well Groundwater Elevations**

| Well | Elevation |
|---|---|
| MW-1d | 1161.13 |
| MW-2d | NA |
| MW-4d | 1161.11 |
| MW-5d | 1161.08 |
| MW-9 | 1162.08 |
| MW-12d | 1161.83 |
| Recovery Well | 1161.55 |

**Well Category Table**

| Well | Category |
|---|---|
| MW-1s | shallow |
| MW-1d | deep |
| MW2s | shallow |
| MW-2d | deep |
| MW-3 | shallow |
| MW-4s | shallow |
| MW-4d | deep |
| MW-5s | shallow |
| MW-5d | deep |
| MW-6 | shallow |
| MW-7 | shallow |
| MW-8 | shallow |
| MW-9 | deep |
| MW-10s | shallow |
| MW-10d | deep |
| MW-11 | shallow |
| MW-12s | shallow |
| MW-12d | deep |
| piezom | shallow |
| Recovery Well | shallow&deep |
| MW-l16 | shallow |


BUCK ENGINEERING, LLC
87 Central Avenue, P.O.Box 427
Cortland, NY 13045
607-753-9010 Fax 607-753-8037


# S.C.W.P., LLC
# Town of Cortlandville
# New York

| No. | Revision/Issue | Date |
|---|---|---|

## Deep Well Groundwater Contour Map 11-11-2009 with System Off

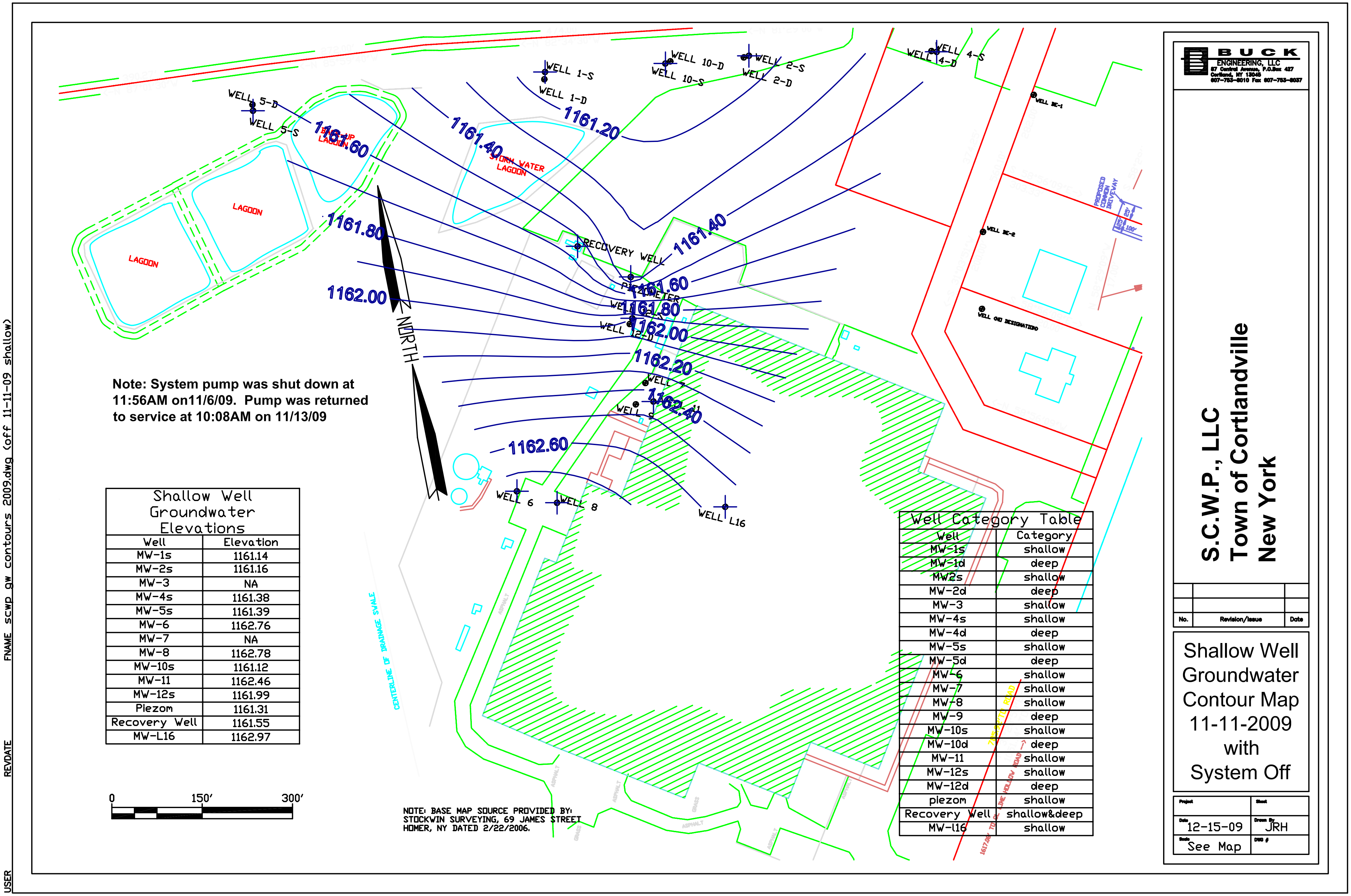
| | |
|---|---|
| Project | Sheet |
| Date 12-15-09 | Drawn By JRH |
| Scale See Map | DWG # |

FNAME scwp gw contours 2009.dwg (off 11-11-09 deep)

REVDATE

USER

Fig. O




Note: System pump was shut down at 11:56AM on11/6/09. Pump was returned to service at 10:08AM on 11/13/09

| Shallow Well Groundwater Elevations | |
|---|---|
| Well | Elevation |
| MW-1s | 1161.14 |
| MW-2s | 1161.16 |
| MW-3 | NA |
| MW-4s | 1161.38 |
| MW-5s | 1161.39 |
| MW-6 | 1162.76 |
| MW-7 | NA |
| MW-8 | 1162.78 |
| MW-10s | 1161.12 |
| MW-11 | 1162.46 |
| MW-12s | 1161.99 |
| Piezom | 1161.31 |
| Recovery Well | 1161.55 |
| MW-L16 | 1162.97 |

NOTE: BASE MAP SOURCE PROVIDED BY: STOCKWIN SURVEYING, 69 JAMES STREET HOMER, NY DATED 2/22/2006.

| Well Category Table | |
|---|---|
| Well | Category |
| MW-1s | shallow |
| MW-1d | deep |
| MW2s | shallow |
| MW-2d | deep |
| MW-3 | shallow |
| MW-4s | shallow |
| MW-4d | deep |
| MW-5s | shallow |
| MW-5d | deep |
| MW-6 | shallow |
| MW-7 | shallow |
| MW-8 | shallow |
| MW-9 | deep |
| MW-10s | shallow |
| MW-10d | deep |
| MW-11 | shallow |
| MW-12s | shallow |
| MW-12d | deep |
| piezom | shallow |
| Recovery Well | shallow&deep |
| MW-l16 | shallow |

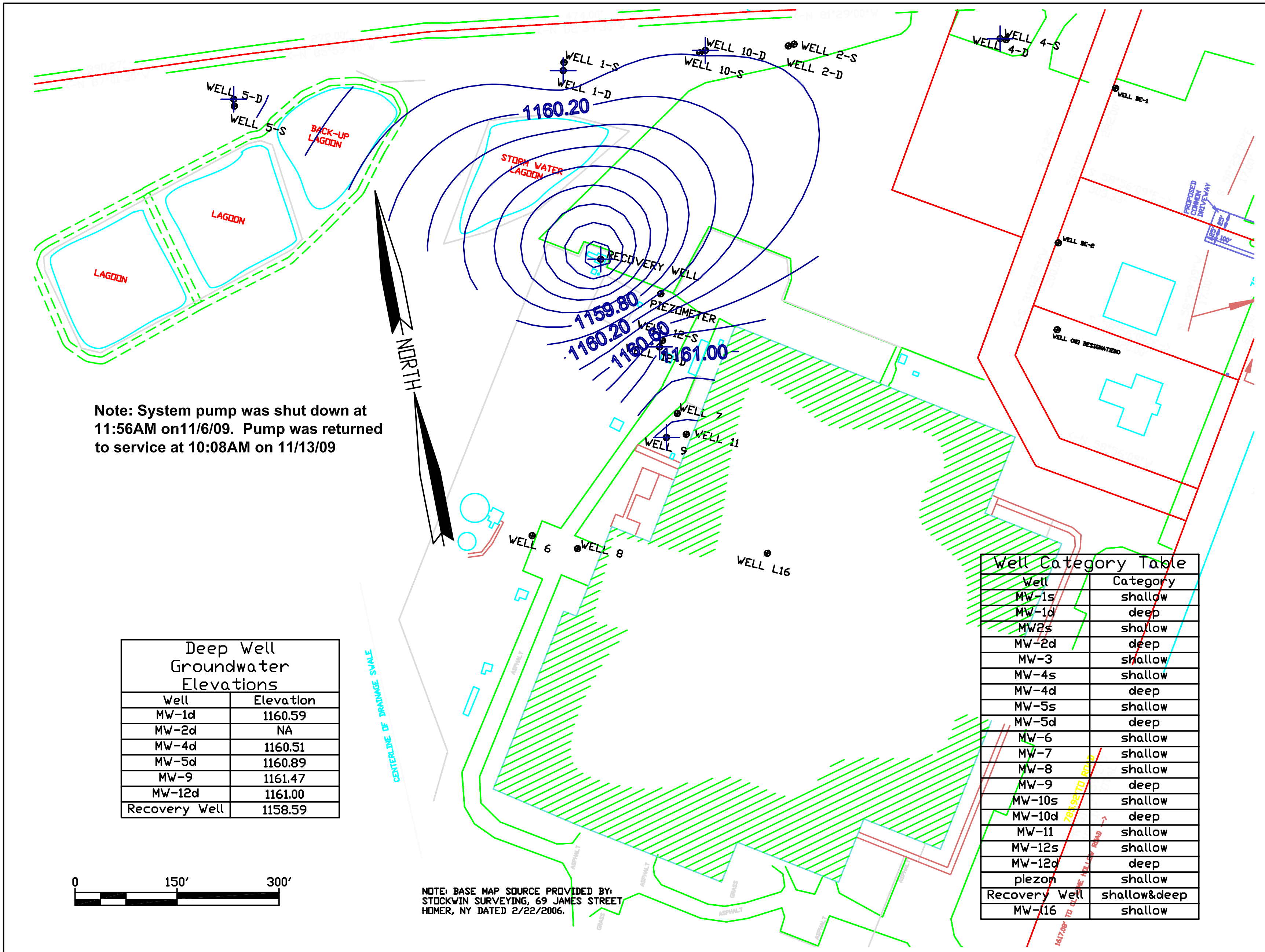
BUCK ENGINEERING, LLC

S.C.W.P., LLC
Town of Cortlandville
New York

Shallow Well Groundwater Contour Map 11-11-2009 with System Off

Date 12-15-09 Drawn By JRH
Scale See Map

Fig. P




Note: System pump was shut down at 11:56AM on11/6/09. Pump was returned to service at 10:08AM on 11/13/09

| Deep Well Groundwater Elevations | |
|---|---|
| Well | Elevation |
| MW-1d | 1160.59 |
| MW-2d | NA |
| MW-4d | 1160.51 |
| MW-5d | 1160.89 |
| MW-9 | 1161.47 |
| MW-12d | 1161.00 |
| Recovery Well | 1158.59 |

NOTE: BASE MAP SOURCE PROVIDED BY: STOCKWIN SURVEYING, 69 JAMES STREET HOMER, NY DATED 2/22/2006.

| Well Category Table | |
|---|---|
| Well | Category |
| MW-1s | shallow |
| MW-1d | deep |
| MW2s | shallow |
| MW-2d | deep |
| MW-3 | shallow |
| MW-4s | shallow |
| MW-4d | deep |
| MW-5s | shallow |
| MW-5d | deep |
| MW-6 | shallow |
| MW-7 | shallow |
| MW-8 | shallow |
| MW-9 | deep |
| MW-10s | shallow |
| MW-10d | deep |
| MW-11 | shallow |
| MW-12s | shallow |
| MW-12d | deep |
| piezom | shallow |
| Recovery Well | shallow&deep |
| MW-L16 | shallow |

BUCK ENGINEERING, LLC
87 Central Avenue, P.O.Box 427
Cortland, NY 13045
607-753-8010 Fax 607-753-8037

# S.C.W.P., LLC
# Town of Cortlandville
# New York

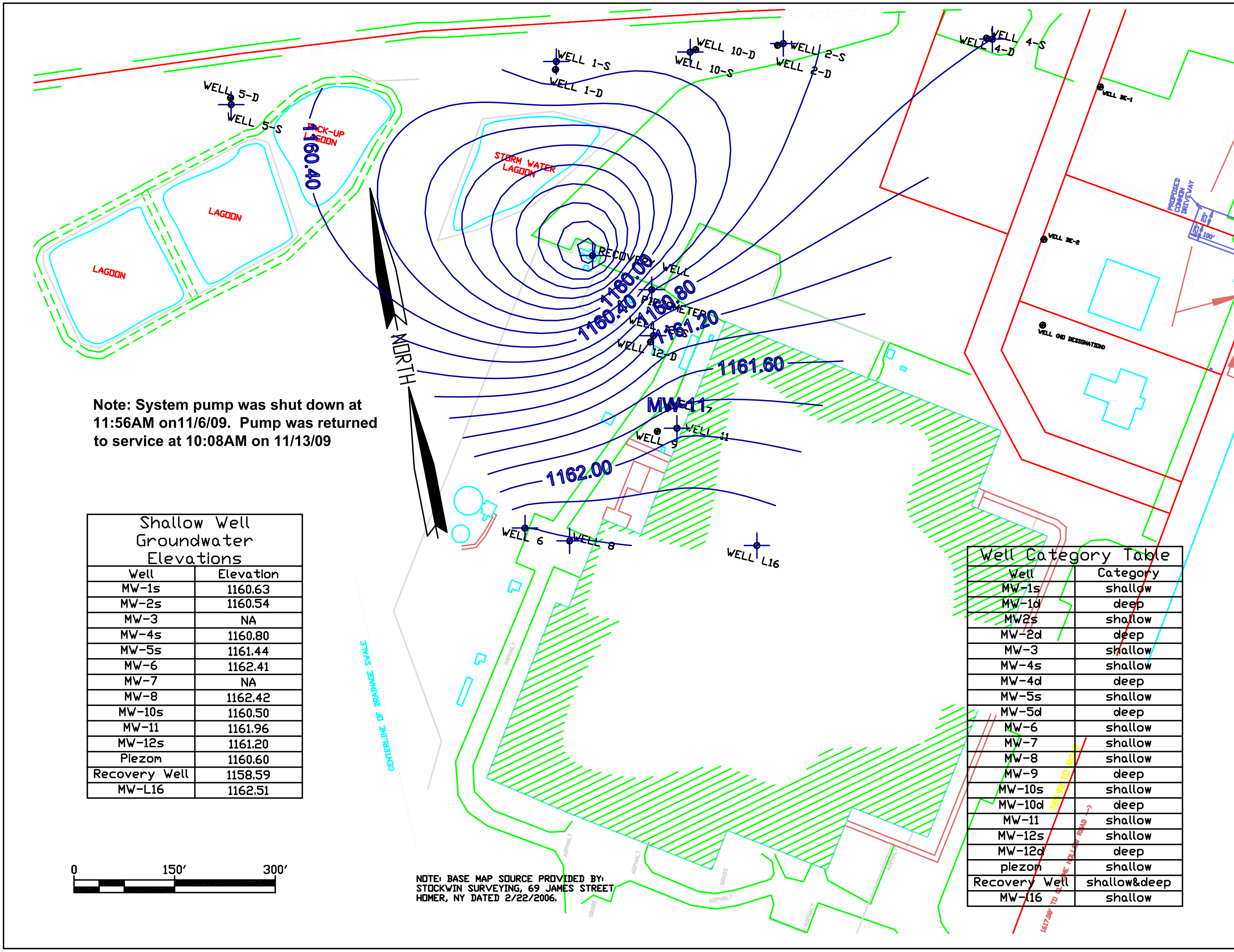
| No. | Revision/Issue | Date |
|---|---|---|

Deep Well Groundwater Contour Map 11-16-2009 with System On

| | |
|---|---|
| Project | Sheet |
| Date 12-15-09 | Drawn By JRH |
| Scale See Map | DWG # |

FNAME scwp gw contours 2009.dwg (on 11-16-09 deep)
REVDATE
USER

Fig. Q




Note: System pump was shut down at 11:56AM on11/6/09. Pump was returned to service at 10:08AM on 11/13/09

| Shallow Well Groundwater Elevations | |
|---|---|
| Well | Elevation |
| MW-1s | 1160.63 |
| MW-2s | 1160.54 |
| MW-3 | NA |
| MW-4s | 1160.80 |
| MW-5s | 1161.44 |
| MW-6 | 1162.41 |
| MW-7 | NA |
| MW-8 | 1162.42 |
| MW-10s | 1160.50 |
| MW-11 | 1161.96 |
| MW-12s | 1161.20 |
| Piezom | 1160.60 |
| Recovery Well | 1158.59 |
| MW-L16 | 1162.51 |

| Well Category Table | |
|---|---|
| Well | Category |
| MW-1s | shallow |
| MW-1d | deep |
| MW2s | shallow |
| MW-2d | deep |
| MW-3 | shallow |
| MW-4s | shallow |
| MW-4d | deep |
| MW-5s | shallow |
| MW-5d | deep |
| MW-6 | shallow |
| MW-7 | shallow |
| MW-8 | shallow |
| MW-9 | deep |
| MW-10s | shallow |
| MW-10d | deep |
| MW-11 | shallow |
| MW-12s | shallow |
| MW-12d | deep |
| piezom | shallow |
| Recovery Well | shallow&deep |
| MW-L16 | shallow |

NOTE: BASE MAP SOURCE PROVIDED BY: STOCKWIN SURVEYING, 69 JAMES STREET HOMER, NY DATED 2/22/2006.

BUCK ENGINEERING, LLC
87 Central Avenue, P.O.Box 427
Cortland, NY 13045
607-753-8010 Fax 607-753-8037

# S.C.W.P., LLC
# Town of Cortlandville
# New York

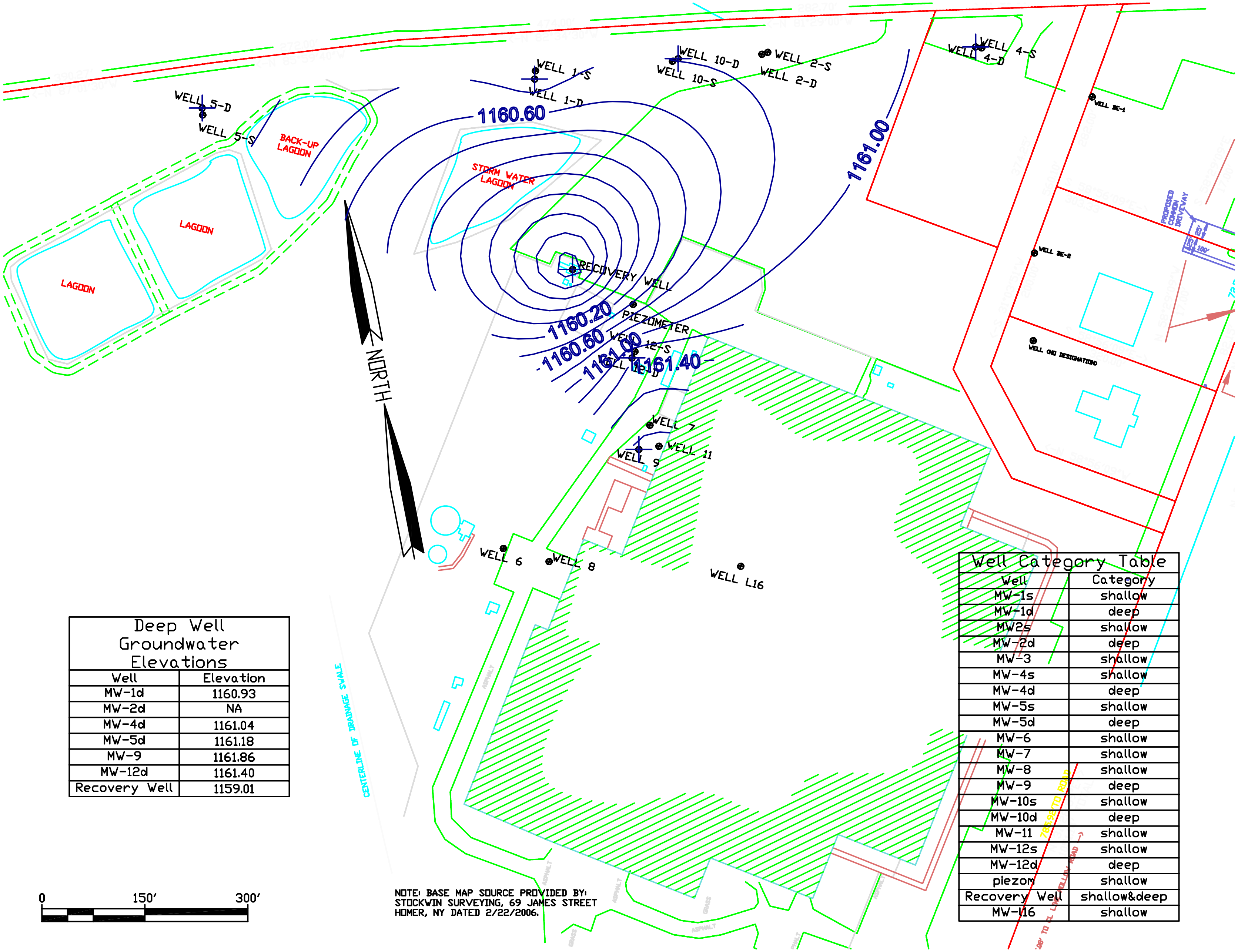
| No. | Revision/Issue | Date |
|---|---|---|

Shallow Well Groundwater Contour Map 11-16-2009 with System On

| | |
|---|---|
| Project | Sheet |
| Date 12-15-09 | Drawn By JRH |
| Scale See Map | DWG # |

FNAME scwp gw contours 2009.dwg (on 11-16-09 shallow)
REVDATE
USER

Fig. R




| Deep Well Groundwater Elevations | |
|---|---|
| Well | Elevation |
| MW-1d | 1160.93 |
| MW-2d | NA |
| MW-4d | 1161.04 |
| MW-5d | 1161.18 |
| MW-9 | 1161.86 |
| MW-12d | 1161.40 |
| Recovery Well | 1159.01 |

| Well Category Table | |
|---|---|
| Well | Category |
| MW-1s | shallow |
| MW-1d | deep |
| MW2s | shallow |
| MW-2d | deep |
| MW-3 | shallow |
| MW-4s | shallow |
| MW-4d | deep |
| MW-5s | shallow |
| MW-5d | deep |
| MW-6 | shallow |
| MW-7 | shallow |
| MW-8 | shallow |
| MW-9 | deep |
| MW-10s | shallow |
| MW-10d | deep |
| MW-11 | shallow |
| MW-12s | shallow |
| MW-12d | deep |
| piezom | shallow |
| Recovery Well | shallow&deep |
| MW-L16 | shallow |

BUCK
ENGINEERING, LLC
87 Central Avenue, P.O.Box 427
Cortland, NY 13045
607-753-8010 Fax 607-753-8037

**S.C.W.P., LLC**
**Town of Cortlandville**
**New York**

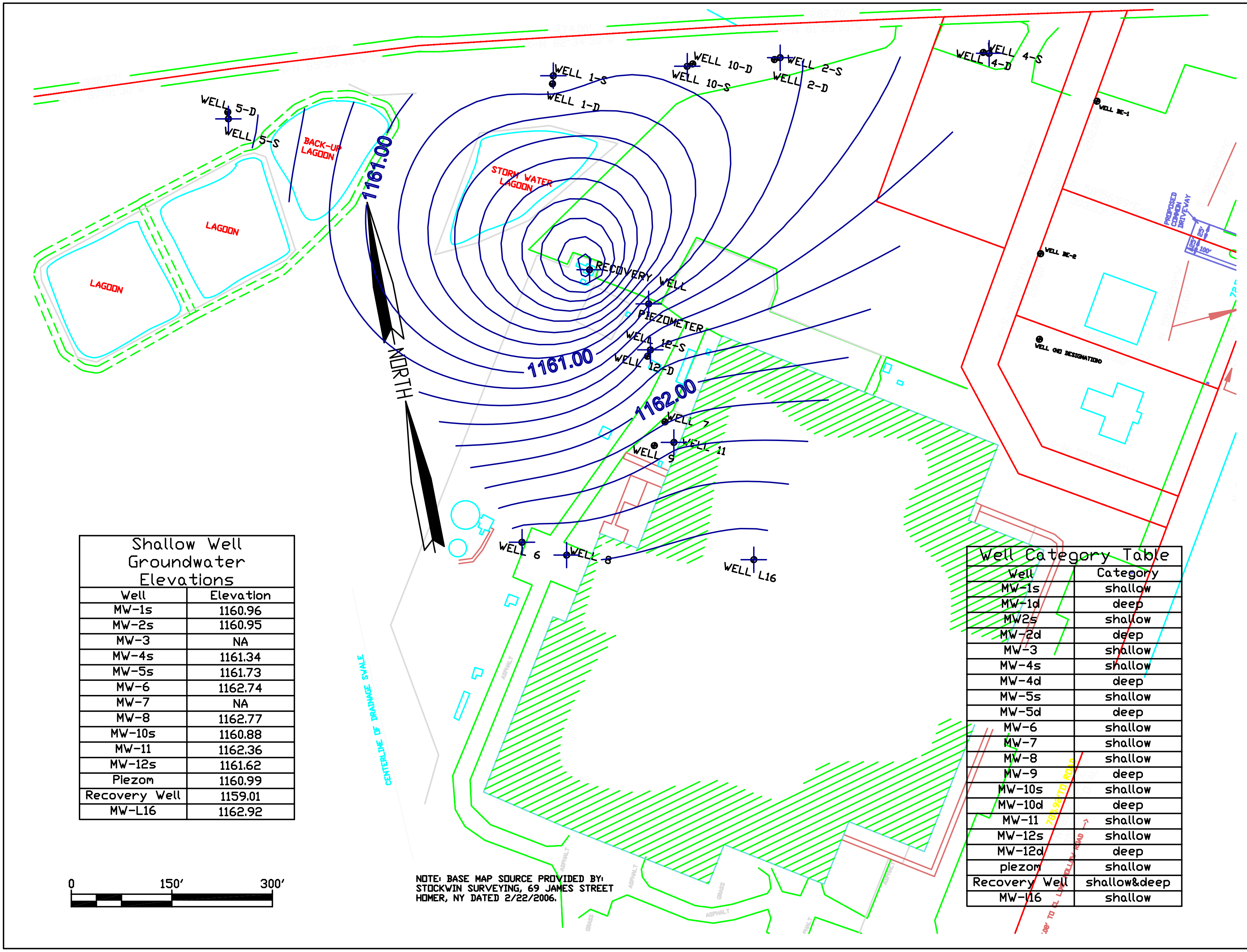
| No. | Revision/Issue | Date |
|---|---|---|

Deep Well
Groundwater
Contour Map
11-30-2009

Project | Sheet
Date 12-15-09 | Drawn By JRH
Scale See Map | DWG #

FNAME scwp gw contours 2009.dwg (on 11-30-09 deep)
REVDATE
USER

Fig. S




**Shallow Well Groundwater Elevations**

| Well | Elevation |
|---|---|
| MW-1s | 1160.96 |
| MW-2s | 1160.95 |
| MW-3 | NA |
| MW-4s | 1161.34 |
| MW-5s | 1161.73 |
| MW-6 | 1162.74 |
| MW-7 | NA |
| MW-8 | 1162.77 |
| MW-10s | 1160.88 |
| MW-11 | 1162.36 |
| MW-12s | 1161.62 |
| Piezom | 1160.99 |
| Recovery Well | 1159.01 |
| MW-L16 | 1162.92 |

**Well Category Table**

| Well | Category |
|---|---|
| MW-1s | shallow |
| MW-1d | deep |
| MW2s | shallow |
| MW-2d | deep |
| MW-3 | shallow |
| MW-4s | shallow |
| MW-4d | deep |
| MW-5s | shallow |
| MW-5d | deep |
| MW-6 | shallow |
| MW-7 | shallow |
| MW-8 | shallow |
| MW-9 | deep |
| MW-10s | shallow |
| MW-10d | deep |
| MW-11 | shallow |
| MW-12s | shallow |
| MW-12d | deep |
| piezom | shallow |
| Recovery Well | shallow&deep |
| MW-L16 | shallow |


BUCK ENGINEERING, LLC
87 Central Avenue, P.O.Box 427
Cortland, NY 13045
607-753-8010 Fax 607-753-8037


# S.C.W.P., LLC
# Town of Cortlandville
# New York

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Shallow Well Groundwater Contour Map
11-30-2009

Date 12-15-09 | Drawn By JRH
Scale See Map

FNAME scwp gw contours 2009.dwg (on 11-30-09 shallow)
REVDATE
USER

Fig. T

# APPENDIX C

Sampling Log Sheets and Chain of Custody Form

Laboratory Reports from Life Sciences Laboratories

# BUCK ENGINEERING FIELD SAMPLING DATA SHEET

Date: 11-30-09 Tech: JRH, SEC Lab Log No:

Client: SCWP Site: SCWP

| Well I.D.: | MW-5D | MW-5S | MW-1D | MW-1S | MW-10D | MW-10S | MW-2D | MW-2S | MW-4D | MW-4S | MW-6 | MW-8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Well Depth (ft) | 55' | 32' | 62' | 38' | 67' | 60' | | 64' | >65' | 61' | 58' | 63' |
| Well Diameter (inches ) | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" | 2" |
| Depth to Free Product (ft) | | | | | | | | | | | | |
| Product Thickness (ft) | | | | | | | | | | | | |
| Well Reference Elevation (ft) | 1178.86 | 1178.46 | 1185.85 | 1185.75 | 1207.52 | 1207.23 | 1211.61 | 1210.91 | 1210.14 | 1209.72 | 1212.2 | 1212.76 |
| Depth to Groundwater (ft) | 17.68 | 16.73 | 24.92 | 24.79 | 46.71 | 46.35 | damaged | 49.96 | 49.10 | 48.38 | 49.46 | 49.99 |
| Groundwater Elevation (ft) | 1161.18 | 1161.73 | 1160.93 | 1160.96 | 1160.81 | 1160.88 | | 1160.95 | 1161.04 | 1161.34 | 1162.74 | 1162.77 |
| Groundwater Column (ft) | | | | | | | | | | | | |
| Required Purge Volume (gal) | 18.66 | 7.64 | 19 | 7 | 10 | 7 | – | 7 | 8 | 7 | 5 | 7 |
| Actual Purge Volume (gal) | | | | | | | | | | | | |
| Purge Method | | | | | | | | | | | | |
| Time Sampled | 9:05A | 8:52A | 9:40A | 9:40A | 10:35A | 10:32A | – | 11:00A | 11:35A | 11:30A | 1:12P | 1:10P |
| Observations | | | | | | | | | | | | |
| Color | | | | | | | | | | | | |
| Odor | | | | | | | | | | | | |
| Sheen | | | | | | | | | | | | |
| Temp | | | | | | | | | | | | |

Purge Volume Calculations: Purge volumes are directly proportional to the height of the water column and diameter of the monitoring well casing as follows:

2 " Monitoring Well: Water column height (ft) / 2 = 3 well volume purge (gallons)
3 " Monitoring Well: Water column height (ft) = 3 well volume purge (gallons)
4" Monitoring Well: Water column height (ft) x 2 = 3 well volume purge (gallons)

Purge Method(s): (1) Laboratory Hand Bailer, (2) Dedicated hand bailer, (3) Disposable hand bailer, (4) Bladder pump, (5) Peristaltic pump, (6) Other

Comments:


87 CENTRAL AVENUE
P.O. BOX 427
CORTLAND, NY 13045-0427
(607)753-8010 FAX (607)753-8037

# BUCK ENGINEERING FIELD SAMPLING DATA SHEET

Date: 11-30-09 Tech: JRH, SEC Lab Log No:______

Client: SCWP Site: SCWP

| Well I.D.: | MW-7 | MW-11 | MW-9 | MW-12D | MW-12S | MW-L16 | system influent Recov Wel | Piezom | Town Discharge | Cascade outfall |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Well Depth (ft) | 52' (from ground) | 58' | >65' | >65' (N) | 60' (S) | 60' | | | | |
| Well Diameter (inches) | 2" | 2" | 2" | 2" | | | | 2" | | |
| Depth to Free Product (ft) | | | | | | | | | | |
| Product Thickness (ft) | | | | | | | | | | |
| Well Reference Elevation (ft) | 1213.82 | 1214.44 | 1212.94 | 1212.80 | 1212.94 | 1212.99 | 1205.62 | 1212.59 | | |
| Depth to Groundwater (ft) | 44.90 52.65 (from ground) | 52.08 | 51.08 | 51.40 | 51.32 | 50.07 | 46.61 | 51.60 | | |
| Groundwater Elevation (ft) | | 1162.36 | 1161.86 | 1161.40 | 1161.62 | 1162.92 | 1159.01 | 1160.99 | | |
| Groundwater Column (ft) | | | | | | | | | | |
| Required Purge Volume (gal) | 2 | 3 | 10 | 10 | 5 | 5gal | | | | |
| Actual Purge Volume (gal) | 4 | | | | | | | | | |
| Purge Method | | | | | | | | | | |
| Time Sampled | 1:40p | 1:45p | 2:20p | 3:00p | 3:15p | 12:14p | ~~12:35~~ OR | 12:30p | 1:50p | 9:12A |
| Observations | | | | | | | | | | |
| Color | Bad odor | | | | | | | | | |
| Odor | Debris | | | | | | | | | |
| Sheen | | | | | Muddy | | | | | |
| Temp | | | | | | | | | | |
| | Casing Broken | | | | | | | | | |

Purge Volume Calculations: Purge volumes are directly proportional to the height of the water column and diameter of the monitoring well casing as follows:

2 " Monitoring Well: Water column height (ft) / 2 = 3 well volume purge (gallons)
3 " Monitoring Well: Water column height (ft) = 3 well volume purge (gallons)
4" Monitoring Well: Water column height (ft) x 2 = 3 well volume purge (gallons)

Purge Method(s): (1) Laboratory Hand Bailer, (2) Dedicated hand bailer, (3) Disposable hand bailer, (4) Bladder pump, (5) Peristaltic pump, (6) Other______

Comments: Mele

87 CENTRAL AVENUE
P.O. BOX 427
CORTLAND, NY 13045-0427
(607)753-8010 FAX (607)753-8037

# LSL

John Buck
Buck Engineering, LLC
PO Box 427
87 Central Ave
Cortland, NY 13045

Phone: (607) 753-8010

# Laboratory Analysis Report

# For

# Buck Engineering, LLC

Client Project ID:

**S.C.W.P. - BE7011**

LSL Project ID: **0922114**

**Receive Date/Time:** 12/01/09 16:07

**Project Received by:** GS

Life Science Laboratories, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose. By the Client's acceptance and/or use of this report, the Client agrees that LSL is hereby released from any and all liabilities, claims, damages or causes of action affecting or which may affect the Client as regards to the results contained in this report. The Client further agrees that the only remedy available to the Client in the event of proven non-conformity with the above warranty shall be for LSL to re-perform the analytical test(s) at no charge to the Client. The data contained in this report are for the exclusive use of the Client to whom it is addressed, and the release of these data to any other party, or the use of the name, trademark or service mark of Life Science Laboratories, Inc. especially for the use of advertising to the general public, is strictly prohibited without express prior written consent of Life Science Laboratories, Inc. This report may only be reproduced in its entirety. No partial duplication is allowed. The Chain of Custody document submitted with these samples is considered by LSL to be an appendix of this report and may contain specific information that pertains to the samples included in this report. The analytical result(s) in this report are only representative of the sample(s) submitted for analysis. LSL makes no claim of a sample's representativeness, or integrity, if sampling was not performed by LSL personnel.

# Life Science Laboratories, Inc.

| | | |
|---|---|---|
| (1) LSL Central Lab, East Syracuse, NY | (315) 445-1105 | NYS DOH ELAP #10248 PA DEP #68-2556 |
| (2) LSL North Lab, Waddington, NY | (315) 388-4476 | NYS DOH ELAP #10900 |
| (3) LSL Finger Lakes Lab, Wayland, NY | (585) 728-3320 | NYS DOH ELAP #11667 |
| (4) LSL Southern Tier Lab, Cuba, NY | (585) 968-2640 | NYS DOH ELAP #10760 |
| (5) LSL MidLakes Lab, Canandaigua, NY | (585) 396-0270 | NYS DOH ELAP #11369 |
| (6) LSL Brittonfield Lab, East Syracuse, NY | (315) 437-0200 | NYS DOH ELAP #10155 |

*This report was reviewed by:* Anne Seng, QA *Date:* 12/15/09

Life Science Laboratories, Inc.

*A copy of this report was sent to:*



**Date Printed:** 12/15/09

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC   Cortland, NY*

**Sample ID:** MW-5S   **LSL Sample ID:** 0922114-001
**Location:**
**Sampled:** 11/30/09 8:52   **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/9/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/9/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/9/09 | BD |
| Trichloroethene | <1 | ug/l | | 12/9/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/9/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/9/09 | BD |
| Surrogate (1,2-DCA-d4) | 109 | %R | | 12/9/09 | BD |
| Surrogate (Tol-d8) | 97 | %R | | 12/9/09 | BD |
| Surrogate (4-BFB) | 94 | %R | | 12/9/09 | BD |

**Sample ID:** MW-5D   **LSL Sample ID:** 0922114-002
**Location:**
**Sampled:** 11/30/09 9:05   **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/9/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/9/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/9/09 | BD |
| Trichloroethene | 1.4 | ug/l | | 12/9/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/9/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/9/09 | BD |
| Surrogate (1,2-DCA-d4) | 110 | %R | | 12/9/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/9/09 | BD |
| Surrogate (4-BFB) | 93 | %R | | 12/9/09 | BD |

**Sample ID:** MW-1S   **LSL Sample ID:** 0922114-003
**Location:**
**Sampled:** 11/30/09 9:40   **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/9/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/9/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/9/09 | BD |
| Trichloroethene | 4.0 | ug/l | | 12/9/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/9/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/9/09 | BD |
| Surrogate (1,2-DCA-d4) | 110 | %R | | 12/9/09 | BD |
| Surrogate (Tol-d8) | 98 | %R | | 12/9/09 | BD |
| Surrogate (4-BFB) | 94 | %R | | 12/9/09 | BD |

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC* *Cortland, NY*

**Sample ID:** MW-1D **LSL Sample ID:** 0922114-004
**Location:**
**Sampled:** 11/30/09 9:40 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| **1,1,1-Trichloroethane** | <1 | ug/l | | 12/9/09 | BD |
| **1,1-Dichloroethene** | <1 | ug/l | | 12/9/09 | BD |
| **1,2-Dichloroethene, Total** | <1 | ug/l | | 12/9/09 | BD |
| **Trichloroethene** | 3.9 | ug/l | | 12/9/09 | BD |
| **Tetrachloroethene** | <1 | ug/l | | 12/9/09 | BD |
| **Vinyl chloride** | <1 | ug/l | | 12/9/09 | BD |
| **Surrogate (1,2-DCA-d4)** | 112 | %R | | 12/9/09 | BD |
| **Surrogate (Tol-d8)** | 98 | %R | | 12/9/09 | BD |
| **Surrogate (4-BFB)** | 95 | %R | | 12/9/09 | BD |

**Sample ID:** MW-10S **LSL Sample ID:** 0922114-005
**Location:**
**Sampled:** 11/30/09 10:32 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| **1,1,1-Trichloroethane** | <1 | ug/l | | 12/9/09 | BD |
| **1,1-Dichloroethene** | <1 | ug/l | | 12/9/09 | BD |
| **1,2-Dichloroethene, Total** | <1 | ug/l | | 12/9/09 | BD |
| **Trichloroethene** | 7.2 | ug/l | | 12/9/09 | BD |
| **Tetrachloroethene** | <1 | ug/l | | 12/9/09 | BD |
| **Vinyl chloride** | <1 | ug/l | | 12/9/09 | BD |
| **Surrogate (1,2-DCA-d4)** | 111 | %R | | 12/9/09 | BD |
| **Surrogate (Tol-d8)** | 97 | %R | | 12/9/09 | BD |
| **Surrogate (4-BFB)** | 93 | %R | | 12/9/09 | BD |

**Sample ID:** MW-10D **LSL Sample ID:** 0922114-006
**Location:**
**Sampled:** 11/30/09 10:35 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| **1,1,1-Trichloroethane** | <1 | ug/l | | 12/9/09 | BD |
| **1,1-Dichloroethene** | <1 | ug/l | | 12/9/09 | BD |
| **1,2-Dichloroethene, Total** | <1 | ug/l | | 12/9/09 | BD |
| **Trichloroethene** | 7.6 | ug/l | | 12/9/09 | BD |
| **Tetrachloroethene** | <1 | ug/l | | 12/9/09 | BD |
| **Vinyl chloride** | <1 | ug/l | | 12/9/09 | BD |
| **Surrogate (1,2-DCA-d4)** | 113 | %R | | 12/9/09 | BD |
| **Surrogate (Tol-d8)** | 96 | %R | | 12/9/09 | BD |
| **Surrogate (4-BFB)** | 94 | %R | | 12/9/09 | BD |

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC* *Cortland, NY*

**Sample ID:** MW-2S **LSL Sample ID:** 0922114-007
**Location:**
**Sampled:** 11/30/09 11:00 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/9/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/9/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/9/09 | BD |
| Trichloroethene | 1.5 | ug/l | | 12/9/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/9/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/9/09 | BD |
| Surrogate (1,2-DCA-d4) | 112 | %R | | 12/9/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/9/09 | BD |
| Surrogate (4-BFB) | 94 | %R | | 12/9/09 | BD |

**Sample ID:** MW-4S **LSL Sample ID:** 0922114-008
**Location:**
**Sampled:** 11/30/09 11:30 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/9/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/9/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/9/09 | BD |
| Trichloroethene | <1 | ug/l | | 12/9/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/9/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/9/09 | BD |
| Surrogate (1,2-DCA-d4) | 110 | %R | | 12/9/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/9/09 | BD |
| Surrogate (4-BFB) | 95 | %R | | 12/9/09 | BD |

**Sample ID:** MW-4D **LSL Sample ID:** 0922114-009
**Location:**
**Sampled:** 11/30/09 11:35 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/9/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/9/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/9/09 | BD |
| Trichloroethene | <1 | ug/l | | 12/9/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/9/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/9/09 | BD |
| Surrogate (1,2-DCA-d4) | 109 | %R | | 12/9/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/9/09 | BD |
| Surrogate (4-BFB) | 95 | %R | | 12/9/09 | BD |

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC* *Cortland, NY*

**Sample ID:** MW-L16 **LSL Sample ID:** 0922114-010
**Location:**
**Sampled:** 11/30/09 12:14 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | 1.1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 20 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 110 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 95 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 92 | %R | | 12/10/09 | BD |

**Sample ID:** MW-8 **LSL Sample ID:** 0922114-011
**Location:**
**Sampled:** 11/30/09 13:10 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 2.0 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 111 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 95 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 92 | %R | | 12/10/09 | BD |

**Sample ID:** MW-6 **LSL Sample ID:** 0922114-012
**Location:**
**Sampled:** 11/30/09 13:12 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 4.9 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 109 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 90 | %R | | 12/10/09 | BD |

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC* *Cortland, NY*

**Sample ID:** MW-7 **LSL Sample ID:** 0922114-013
**Location:**
**Sampled:** 11/30/09 13:40 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 2.4 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 109 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 92 | %R | | 12/10/09 | BD |

**Sample ID:** MW-11 **LSL Sample ID:** 0922114-014
**Location:**
**Sampled:** 11/30/09 13:45 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 5.8 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 115 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 90 | %R | | 12/10/09 | BD |

**Sample ID:** MW-9 **LSL Sample ID:** 0922114-015
**Location:**
**Sampled:** 11/30/09 14:20 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | <1 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 110 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 95 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 94 | %R | | 12/10/09 | BD |

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC     Cortland, NY*

**Sample ID:** MW-12D     **LSL Sample ID:** 0922114-016
**Location:**
**Sampled:** 11/30/09 15:00     **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 1.5 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 108 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 96 | %R | | 12/10/09 | BD |

**Sample ID:** MW-12S     **LSL Sample ID:** 0922114-017
**Location:**
**Sampled:** 11/30/09 15:15     **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 12 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 107 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 95 | %R | | 12/10/09 | BD |

**Sample ID:** System Influent     **LSL Sample ID:** 0922114-018
**Location:**
**Sampled:** 11/30/09 12:42     **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| (1) EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 3.2 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 109 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 97 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 99 | %R | | 12/10/09 | BD |

# -- LABORATORY ANALYSIS REPORT --

*Buck Engineering, LLC* *Cortland, NY*

**Sample ID:** Tower Discharge **LSL Sample ID:** 0922114-019
**Location:**
**Sampled:** 11/30/09 13:50 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 2.2 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 112 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 97 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 99 | %R | | 12/10/09 | BD |

**Sample ID:** Cascade Outfall **LSL Sample ID:** 0922114-020
**Location:**
**Sampled:** 11/30/09 21:12 **Sampled By:** JRH
**Sample Matrix:** NPW

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | 1 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 110 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 97 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 98 | %R | | 12/10/09 | BD |

**Sample ID:** Trip Blank **LSL Sample ID:** 0922114-021
**Location:**
**Sampled:** 11/30/09 0:00 **Sampled By:**
**Sample Matrix:** TB

| Analytical Method / Analyte | Result | Units | Prep Date | Analysis Date & Time | Analyst Initials |
|---|---|---|---|---|---|
| *(1)* EPA 8260B Volatiles (Partial List) | | | | | |
| 1,1,1-Trichloroethane | <1 | ug/l | | 12/10/09 | BD |
| 1,1-Dichloroethene | <1 | ug/l | | 12/10/09 | BD |
| 1,2-Dichloroethene, Total | <1 | ug/l | | 12/10/09 | BD |
| Trichloroethene | <1 | ug/l | | 12/10/09 | BD |
| Tetrachloroethene | <1 | ug/l | | 12/10/09 | BD |
| Vinyl chloride | <1 | ug/l | | 12/10/09 | BD |
| Surrogate (1,2-DCA-d4) | 112 | %R | | 12/10/09 | BD |
| Surrogate (Tol-d8) | 96 | %R | | 12/10/09 | BD |
| Surrogate (4-BFB) | 98 | %R | | 12/10/09 | BD |

LSL

## SURROGATE RECOVERY CONTROL LIMITS FOR ORGANIC METHODS

| Method | Surrogate(s) | Water Limits, %R | SHW Limits, %R |
|---|---|---|---|
| EPA 504 | TCMX | 80-120 | NA |
| EPA 508 | DCB | 70-130 | NA |
| EPA 515.4 | DCAA | 70-130 | NA |
| EPA 524.2 | 1,2-DCA-d4, 4-BFB | 80-120 | NA |
| EPA 525.2 | 1,3-DM-2-NB, TPP, Per-d12 | 70-130 | NA |
| EPA 526 | 1,3-DM-2-NB, TPP | 70-130 | NA |
| EPA 528 | 2-CP-3,4,5,6-d4, 2,4,6-TBP | 70-130 | NA |
| EPA 551.1 | Decafluorobiphenyl | 80-120 | NA |
| EPA 552.2 | 2,3-DBPA | 70-130 | NA |
| EPA 601 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | NA |
| EPA 602 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | NA |
| EPA 608 | TCMX, DCB | 30-150 | NA |
| EPA 624 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | NA |
| EPA 625, AE | 2-Fluorophenol | 21-110 | NA |
| EPA 625, AE | Phenol-d5 | 10-110 | NA |
| EPA 625, AE | 2,4,6-Tribromophenol | 10-123 | NA |
| EPA 625, BN | Nitrobenzene-d5 | 35-114 | NA |
| EPA 625, BN | 2-Fluorobiphenyl | 43-116 | NA |
| EPA 625, BN | Terphenyl-d14 | 33-141 | NA |
| EPA 8010 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | 70-130 |
| EPA 8020 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | 70-130 |
| EPA 8021 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | 70-130 |
| EPA 8081 | TCMX, DCB | 30-150 | 30-150 |
| EPA 8082 | DCB | 30-150 | 30-150 |
| EPA 8151 | DCAA | 30-130 | 30-120 |
| EPA 8260 | 1,2-DCA-d4, Tol-d8, 4-BFB | 70-130 | 70-130 |
| EPA 8270, AE | 2-Fluorophenol | 21-110 | 25-121 |
| EPA 8270, AE | Phenol-d5 | 10-110 | 24-113 |
| EPA 8270, AE | 2,4,6-Tribromophenol | 10-123 | 19-122 |
| EPA 8270, BN | Nitrobenzene-d5 | 35-114 | 23-120 |
| EPA 8270, BN | 2-Fluorobiphenyl | 43-116 | 30-115 |
| EPA 8270, BN | Terphenyl-d14 | 33-141 | 18-137 |
| DOH 310-13 | Terphenyl-d14 | 40-110 | 40-110 |
| DOH 310-14 | Terphenyl-d14 | 40-110 | 40-110 |
| DOH 310-15 | Terphenyl-d14 | 40-110 | 40-110 |
| DOH 310-34 | 4-BFB | 50-150 | 50-150 |
| DOH 313-4 | DCB | NA | 30-150 |
| 8015M_GRO | 4-BFB | 50-150 | 50-150 |
| 8015M_DRO | Terphenyl-d14 | 50-150 | 50-150 |

| Units Key: | |
|---|---|
| | ug/l = microgram per liter |
| | ug/kg = microgram per kilogram |
| | mg/l = milligram per liter |
| | mg/kg = milligram per kilogram |
| | %R = Percent Recovery |

Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse, NY 13057
Phone # (315) 445-1105
Telefax # (315) 445-1301

# Chain of Custody Record

0922114
BuckEng

Client: Buck Engineering, LLC
Phone # (607) 753-8010
Address: 87 Central Ave
Cortland, NY 13045
Fax # (607) 753-8037

Contact Person:

LSL Project #:

Client's Site I.D.: S.C.W.P.

Authorization:

Client's Project I.D.:

| LSL Sample Number | Client's Sample Identifications | Sample Date | Sample Time | Type grab | Type comp. | Matrix | Preserv. Added | Containers # | Containers size/type | Analyses | Free Cl (mg/L) | Pres. Check |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 AB | MW-5S | 11-30-09 | 852A | ✓ | | W | HCL | 2 | 40ml | TCE + (See note below) | | |
| 002 | MW-5D | | 9:05A | ✓ | | | | | | | | |
| 003 | MW-1S | | 9:40A | ✓ | | | | | | | | |
| 004 | MW-1D | | 9:40A | ✓ | | | | | | | | |
| 005 | MW-10S | | 10:32A | ✓ | | | | | | | | |
| 006 | MW-10D | | 10:35A | ✓ | | | | | | | | |
| 007 | MW-2S | | 11:00A | ✓ | | | | | | | | |
| 008 | MW-4S | | 11:30A | ✓ | | | | | | | | |
| 009 | MW-4D | | 11:35 | ✓ | | | | | | | | |
| 010 | MW-L16 | | 12:14P | ✓ | | | | | | | | |
| 011 | MW-8 | | 1:10P | ✓ | | | | | | | | |
| 012 | MW-6 | | 1:12P | ✓ | | | | | | | | |
| 013 | MW-7 | | 1:40P | ✓ | | | | | | | | |
| 014 | MW-11 | | 1:45P | ✓ | | | | | | | | |
| 015 | MW-9 | | 2:20P | ✓ | | | | | | | | |
| 016 | MW-12D | | 3:00P | ✓ | | | | | | | | |
| 017 | MW-12S | | 3:15P | ✓ | | | | | | | | |

Notes and Hazard identifications:

**Analyte List:**
Trichloroethene, Tetrachloroethene, 11-Dichloroethene, 12-Dichloroethene, 111 trichloroethane, vinyl chloride

***Custody Transfers***

| | | Date | Time |
|---|---|---|---|
| Sampled By: John R. Hounkaf | Received By: Bill Ooraldra | 12-1-09 | 9:35 |
| Relinquished By: | Received By: | | |
| Relinquished By: Bill Ooraldra | Received for Lab By: [signature] | 12-01-09 | 16:07 RCVD |

Shipment Method:

Samples Received Intact: Y N 4.0°c on Ice

Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse, NY 13057
Phone # (315) 445-1105 Telefax # (315) 445-1301

# Chain of Custody Record

0922114
BuckEng

Client: BUCK ENGINEERING, LLC
Phone # 607-753 8010
Address: POB 427
87 CENTRAL AVE.
CORTLAND, NY 13045-0427
Fax # 607-753 8037
Authorization:
Contact Person: J. BUCK
LSL Proje
Client's Site I.D.: SCWP
Client's Project I.D.: BE 7011

| LSL Sample Number | Client's Sample Identifications | Sample Date | Sample Time | Type grab | Type comp. | Matrix | Preserv. Added | Containers # | Containers size/type | Analyses | Free Cl (mg/L) | Pres. Check |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 018 AB | SYSTEM INFLUENT | 11-30-09 | 12:42p | ✓ | | W | HCl | 2 | 40ml | 8260 - see list below | | |
| 019 ↓ | TOWER DISCHARGE | 11-30-09 | 1:50p | ✓ | | W | HCl | ↓ | ↓ | ↓ | | |
| 020 | CASCADE OUTFALL | 11-30-09 | 9:12A | ✓ | | W | HCl | | | | | |
| | | | | | | | | | | | | |
| 021 AB | Trip Blank | | | | | | | 2 | | | | |

Notes and Hazard identifications:

REPORTING LIMIT = 1.0 ug/l

**Analyte List:**
Trichloroethene, Tetrachloroethene,
11- Dichloroethene, 12-Dichloroethene,
111 trichloroethane, vinyl chloride

| Custody Transfers | | Date | Time |
|---|---|---|---|
| Sampled By: John R Houslap | Received By: Bill Donaldson | 12-1-09 | 9:35 |
| Relinquished By: | Received By: | | |
| Relinquished By: Bill Donaldson | Received for Lab By: [signature] 12-01-09 16:07 RCVD | | |

Shipment Method:
Samples Received Intact: Y N 4.0° on Ice