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Solvents Recovery Service of New England, Inc.
Superfund Site

Southington, CT

Annual State of Compliance Report #4

October 31, 2011 through October 30, 2012

December 2012

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Acronyms and abbreviations used in this Annual Report and associated attachments:

1,1-DCE	1,1-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
1,2-DCA	1,2-dichloroethane
2,3,7,8-TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
ALEP	Action Level Exceedance Plan
AOC	Administrative Order on Consent
AQC	Air Quality Control System
ARARs	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substance and Disease Registry
B&M	Boston & Maine
BACT	Best Available Control Technology
BBL	Blasland, Bouck & Lee, Inc.
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
BTU	British Thermal Unit
°C	degrees Celsius
CA	chloroethane
CBYD	Call Before You Dig
cc	cubic centimeter
cDCE	cis-1,2-dichloroethene
CD	Consent Decree
CEMS	Continuous Emissions Monitoring System
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CH_4	methane
CL&P	Connecticut Light & Power
CO_2	carbon dioxide
COCs	Constituents of Concern
CT	carbon tetrachloride
CTDEP	Connecticut Department of Environmental Protection
CTDPH	Connecticut Department of Public Health
CVOCs	Chlorinated Volatile Organic Compounds
CWA	Clean Water Act
DCE	dichloroethene
DCM	dichloromethane
DCP	Demonstration of Compliance Plan
ddms	*de maximis* Data Management Solutions
DHC	Dehalococcoides
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen

DQA	Data Quality Assessment
DQOs	Data Quality Objectives
DRE	Destruction/Removal Efficiency
DRO	Diesel Range Organics
EISB	Enhanced In-Situ Bioremediation
ELUR	Environmental Land Use Restriction
°F	degrees Fahrenheit
$Fe(OH)_3$	ferrous hydroxide
f_{oc}	fraction of solid organic carbon in soil
FS	Feasibility Study
FSP	Field Sampling Plan
PMC	Pollutant Mobility Criteria applicable to designated Class "GA" groundwater areas
GAC	granular activated carbon
GCTEOS	Groundwater Containment and Treatment Evaluation and Optimization Study
gpm	gallons per minute
GRO	Gasoline Range Organics
GWPC	Groundwater Protection Criteria
GWTF	Groundwater Treatment Facility
H	Henry's Law Constant
H_2	hydrogen
H_2O	water
H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HCl	hydrochloric acid
HCTS	Hydraulic Containment and Treatment System
HDPE	High-Density Polyethylene
HLVs	Hazard Limiting Values
HZ	Heated Zone
ID	inner diameter
IFT	interfacial tension
IMS	Interim Monitoring and Sampling
IQAT	Independent Quality Assurance Team
IRIS	Integrated Risk Information System
ISTD	In-Situ Thermal Desorption
ISTR	In-Situ Thermal Remediation
J&E	Johnson & Ettinger
K_d	soil-water partition coefficient
kg	kilogram
K_{oc}	chemical-specific organic carbon partition coefficient
LAER	Lowest Achievable Emission Rate
lbs	pounds
LNAPL	light non-aqueous phase liquid

MAROS	Monitoring and Remediation Optimization System
MASC	Maximum Allowable Stack Concentration
MCLs	Maximum Contaminant Levels
MCLG	Maximum Contaminant Level Goal
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MIBK	4-methyl-2-pentanone (methyl isobutyl ketone)
mL	milliliter
MNA	Monitored Natural Attenuation
MOA	Memorandum of Agreement
N_2	nitrogen
NA	Natural Attenuation
NAPL	non-aqueous phase liquid
ng/L	nanograms per liter
NH_4^+	ammonia
NOAA	National Oceanic and Atmospheric Administration
NO_2^-	nitrite
NO_3^-	nitrate
NSR	New Source Review
NTCRA	Non-Time-Critical Removal Action
O_2	oxygen
O&M	Operations and Maintenance
OD	outer diameter
OH^-	hydroxyl radical
OIS	On-Site Interceptor System
OMM	Operation, Maintenance and Monitoring
ONOGU	Observed NAPL in the Overburden Groundwater Unit
ORP	oxidation-reduction potential
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCDDs	polychlorinated dibenzo-p-dioxins
PCDFs	polychlorinated dibenzofurans
PCE	tetrachloroethylene
PCR	Polymerase Chain Reaction
PEL	Permissible Exposure Limit
PFD	process flow diagram
PID	photoionization detector
PIPP	Pre-ISTR Preparation Plan
PLC	Programmable Logic Controller
POP	Project Operations Plan
ppb	parts per billion
PPE	personal protective equipment

ppm	parts per million
PSD	Prevention of Significant Deterioration
psig	pounds per square inch, gauge
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
R^2	correlation coefficient
RAOs	Response Action Objectives
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RDWP	Remedial Design Work Plan
RD/RA	Remedial Design/Remedial Action
Redox	Reduction-Oxidation
RDEC	Residential Direct Exposure Criteria
RH	Relative Humidity
RI	Remedial Investigation
ROD	Record of Decision
RSRs	Remediation Standard Regulations
SAP	Sampling and Analysis Plan
SCAP	Supplemental Containment Action Plan
SCM	Site Conceptual Model
SO_4^{2-}	sulfate
SOP	Standard Operating Procedure
SOW	Statement of Work
SPLP	Synthetic Precipitation Leaching Procedure
SRSNE	Solvents Recovery Service of New England, Inc.
SSO	Site Safety Officer
SVOCs	semi-volatile organic compounds
SWD	Southington Water Department
SWPC	Surface Water Protection Criteria
TAL	Target Analyte List
TCE	trichloroethylene
TCH	thermal conduction heating
TCLP	Toxicity Characteristic Leaching Procedure
TEFs	Toxic Equivalency Factors
TEQ	Toxic Equivalence Quotient
TEX	Toluene, Ethylbenzene and Xylenes
TSCA	Toxic Substances Control Act
TTZ	thermal treatment zone
ug/L	micrograms per liter
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UV	ultraviolet
VC	vinyl chloride

VI	Vapor Intrusion
VOC	volatile organic compound
WHO	World Health Organization

A. Introduction

On October 30, 2008, the United States Environmental Protection Agency (USEPA) lodged a Consent Decree (CD) with the United States District Court for the District of Connecticut in connection with Civil Actions No. 3:08cv1509 (SRU) and No. 3:08cv1504 (WWE). The CD was entered by the Court on March 26, 2009. The CD addresses Remedial Design/Remedial Action (RD/RA) activities for the Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site in Southington, Connecticut (Site). Appendix B to the CD is a Statement of Work (SOW) that defines the required RD/RA activities and deliverables.

Section VIII.B of the SOW requires the Settling Defendants to submit an Annual State of Compliance Report one year after lodging of the CD and annually thereafter, to USEPA for approval or modification, after reasonable opportunity for review and comment by Connecticut Department of Environmental Protection (CTDEP). Section 62.e of the CD requires a demonstration of the amounts of the Rolling Oversight Cost Cap and the Available Balance. This ***Annual State of Compliance Report #4*** (report) has been prepared on behalf of the SRSNE Site Group, an unincorporated association of Settling Defendants to the CD, to address these CD and SOW requirements. This report documents Site activities during the period of October 31, 2011 through October 30, 2012 (the “reporting period”).

As specified in SOW Section VIII.B, this report includes a comprehensive evaluation of all monitoring required by this SOW, including, but not limited to:

- compliance with the Performance Standards of the Hydraulic Containment and Treatment System and Severed Plume;
- Institutional Controls;
- construction, operation and maintenance;
- habitat restoration;
- hydraulic containment;
- the Memorandum of Agreement with Southington Water Department / Town of Southington; and
- groundwater monitoring program, including monitored natural attenuation.

Also required in the report is an assessment of the progress being made towards achieving the Performance Standards, as well as recommendations for changes to any monitoring program to address deficiencies identified during the evaluation. Proposals for reductions in monitoring, along with justifications, are provided as appropriate.

B. Background

The SRSNE Site is located on approximately 14 acres of land along Lazy Lane in Southington, Hartford County, Connecticut, approximately 15 miles southwest of the city of Hartford (Figure 1). The physical setting of the Site – including the regional geology, overburden geology, bedrock geology, hydrogeology, groundwater use and classification, drainage, and surface water use and classification – is summarized below. This information is also described in detail in prior report submittals, including the *Remedial Investigation Report* (Blasland, Bouck & Lee, Inc. [BBL] 1998) and the *Feasibility Study Report* (BBL and USEPA 2005), and the draft Remedial Design Work Plan (RDWP) (ARCADIS, April 2009).

The SRSNE Site includes portions of several properties/areas that are referred to within the RDWP consistent with terminology established in prior Site-related documents. These properties/areas include the former SRSNE Operations Area, the former Boston & Maine railroad right-of-way, the former Cianci Property, and the Town of Southington Well Field Property (Town Well Field Property). These areas are shown on Figure 2, and further described below:

- **Former SRSNE Operations Area:** The former SRSNE Operations Area comprises approximately 2.5 paved acres on a 3.7-acre lot South of Lazy Lane in the Quinnipiac River basin approximately 600 feet west of the Quinnipiac River channel. This is the area where SRSNE historically performed solvent recovery and related operations. The Operations Area is bordered on the east (downhill) by an abandoned railroad right-of-way and the former Cianci Property; to the north by commercial businesses; to the west (uphill) by private property; and to the south by private property, the Connecticut Light & Power (CL&P) electrical transmission line easement, and the Town Well Field Property.

- **Railroad Right-of-Way:** The railroad right-of-way is an approximately 50-foot wide corridor running north-south that separates the former Operations Area (to the west) from the former Cianci Property (to the east). The railroad was historically owned and operated by Boston & Maine, but is presently abandoned and the rails have been removed. CT DEP purchased the right-of-way in this area in support of extending the Farmington Canal Heritage Trail, a rails-to-trails greenway, from New Haven to the Massachusetts border (draft *Preliminary Reuse Assessment* [USEPA 2003]).

- **Former Cianci Property:** The former Cianci Property is a 10-acre parcel located immediately east of the Operations Area and railroad right-of-way. The Quinnipiac

River borders the eastern edge of the former Cianci Property. Lazy Lane is to the north, and the Town Well Field Property borders the property to the south.

- **Town Well Field Property:** The Town Well Field Property consists of approximately 28 acres of undeveloped land south of the former Cianci Property and southeast of the Operations Area. The well field is bounded to the east by the Quinnipiac River and to the south by the Quinnipiac River and Curtiss Street. The railroad right-of-way and the Delahunty Property border the western perimeter of the well field. The CL&P easement runs northwest-southeast through the northern portion of the Town Well Field Property.

  Town Production Wells No. 4 and 6 are approximately 2,000 and 1,400 feet south of the SRSNE Property, respectively. The Quinnipiac River divides the area between Wells No. 4 and 6. Production Well No. 6 is accessible using dirt roads originating from Lazy Lane or Curtiss Street, while Well No. 4 is only accessible from Curtiss Street. Production Well No. 4 was installed in August 1965 and provided drinking water to the Town of Southington from July 1966 to December 1977. Production Well No. 6 was installed in April 1976 and was pumped from May through October 1978, May through July 1979, and March 1980. Both wells have been inactive since that time.

  Within these areas, “the Site” includes areas where Site-related constituents have come to be present in soil (including wetland soil) and groundwater at concentrations exceeding SOW-specified cleanup levels. This includes observed and interpreted non-aqueous phase liquid- (NAPL-) containing areas, impacted soils in the Operations Area, railroad right-of-way, and Cianci Property, and areas of impacted groundwater in both the overburden and bedrock zones. These areas, shown on Figures 3A (overburden) and 3B (bedrock), are generally described as follows:

- **Overburden NAPL Area:** This is the area where NAPL has been observed or inferred to exist in overburden soils based on the findings of prior investigations. The estimated extent of the Overburden NAPL Area includes portions of the Operations Area, the railroad right-of-way, and a portion of the Cianci Property, as shown on Figure 3A. This area has been further delineated in the northwest corner of the former Operations Area as component of the pre-design investigations referenced in the RDWP.

- **Overburden Groundwater Area:** The Overburden Groundwater Area is the portion of the Site where dissolved volatile organic compounds (VOC) concentrations in the overburden aquifer exceed cleanup goals. While the overburden groundwater is typically considered in three zones (each approximately one-third of the saturated thickness), the composite extent of this area (based on *Feasibility Study Report* [BBL and USEPA 2005] data) is depicted on Figure 3A. The overburden groundwater VOC plume extends south to the Town Well Field Property. The extent of the overburden groundwater area, particularly to the east of the Quinnipiac River, is subject to further assessment and delineation as part of the investigations referenced in the RDWP.

- **Bedrock NAPL Area:** The Bedrock NAPL Area is the area where NAPL has been observed or is inferred to exist based on prior site investigations. This includes a majority of the former SRSNE Operations Area and Cianci Property, as shown on Figure 3B.

- **Bedrock Groundwater Area:** This includes the portion of the Site where dissolved VOC concentrations in the bedrock aquifer exceed groundwater cleanup goals (based on *Feasibility Study Report* [BBL and USEPA 2005] data). The bedrock groundwater VOC plume extends south into the central portion of the Town Well Field Property, represented in figures 10 and 11 in the Draft 2012 MNA report (ARCADIS, November 2012)

- **Severed Plume:** The portion of the affected groundwater zone that is outside the groundwater capture zone of the Non-Time-Critical Removal Action 1 (NTCRA 1) and NTCRA 2 extraction systems (described below), which contains Site-related constituents (primarily VOCs) above detectable levels is referred to as the severed plume. The approximate location and extent of the severed plume is shown on Figure 3A.

Other key Site features referenced include the Hydraulic Containment and Treatment System (HCTS). The HCTS consists of the on-site groundwater treatment system and the two groundwater extraction systems described as follows:

- **NTCRA 1 Groundwater Extraction System:** The NTCRA 1 groundwater extraction system ("NTCRA 1 system") is located within the NTCRA containment area on the Cianci Property east of the Operations Area (Figure 4). It consists of a steel sheet pile wall through the overburden to the top of bedrock, and 12 overburden groundwater extraction wells (RW-1 through RW-12) west (formerly upgradient) of the sheet pile wall. Groundwater is extracted from the wells to maintain hydraulic gradient reversal across the sheet pile wall. This system was installed in 1995 pursuant to Administrative Order on Consent (AOC) I-94-1045, effective October 4, 1994. Pumping from the NTCRA 1 system was initiated in July 1995.

  In December of 2009, de maximis submitted a letter to the Agencies summarizing changes to the NTCRA-1 Demonstration of Compliance Plan (DCP) as a result of the abandonment of monitoring well CPZ-9 (one of the ten NTCRA I compliance monitoring points) and decommission of recovery wells RW-5 and RW-6. Monitoring well abandonment activities at the site have been undertaken in accordance with Attachment N of the RDWP.

- **NTCRA 2 Groundwater Extraction System:** The NTCRA 2 groundwater extraction system ("NTCRA 2 system") consists of two overburden extraction wells (RW-13 and RW-14) and one bedrock extraction well (RW-1R) just north of the CL&P easement (Figure 4). These wells were installed pursuant to AOC 1-97-1000, effective February 18, 1997, and began operating in 1999, 2007, and 2001, respectively. The NTCRA 2 system includes a groundwater extraction well in the bedrock (RW-1R) and two overburden groundwater extraction wells (RW-13 and RW-14). This extraction well cluster is located in the Town Well Field Property north of the CL&P easement.

In 2012, the average combined NTCRA 1 and NTCRA 2 groundwater extraction systems pumping rate was 30.6 gallons per minute. The capture zones created by the NTCRA 1 and 2 groundwater extraction systems are shown on Figure 3A (overburden) and Figure 3B (bedrock). The operation of the combined NTCRA 1 and NTCRA 2 systems has successfully contained the overburden and bedrock VOC plumes, creating the severed plume within the Town Well Field Property. Approximately 16,059,000 gallons of groundwater were extracted, treated and discharged during this monitoring period.

On-site Groundwater Treatment System: The combined operations of the extraction systems and the treatment facility were previously referred to as the "NTCRA 1 and NTCRA 2 Groundwater Extraction and Treatment System" or "NTCRA 1/2 Groundwater System." Following entry of the CD, continued operation of the NTCRA 1/2 Groundwater System became part of the ROD-specified remedial approach for groundwater, and the system is now referred to as the HCTS (SOW Section V.A).

Groundwater extracted from the NTCRA 1 and 2 systems is treated on site with a process that was originally constructed as part of the NTCRA 1 system (Figure 4). The groundwater extracted by the NTCRA-1 and 2 containment systems is pumped directly to the groundwater treatment facility. The treatment system consists of the following unit processes: metals pretreatment, filtration, ultraviolet oxidation (UV), and granular activated carbon adsorption. Vapor phase carbon adsorption is also used to capture contaminants that volatize during treatment. The system precipitates and extracts metals, reduces suspended solids, and destroys and captures volatile organic contaminants. Treated water is discharged to the Quinnipiac River in accordance with the Revised Connecticut Department of Environmental Protection (CTDEP) Substantive Requirements for Discharge of Pre-Treated Groundwater issued 6 November 1995. Approximately 16,933 pounds of VOCs have been removed from the groundwater since system startup.

C. Site Operational History

The SRSNE facility began operations in Southington in 1955 (ATSDR 1992). From approximately 1955 until the facility's closure in 1991, spent solvents were received from customers and distilled to remove impurities, and the recovered solvents were returned to the customer or sold to others for reuse. Based on a partial record of materials processed at the SRSNE facility (excluding pre-1967 operations files, which were destroyed in a fire), SRSNE handled in excess of 41 million gallons of waste solvents, fuels, paints, etc. Additional details regarding the operational history are provided in the *Remedial Investigation Report* (BBL 1998).

D. Regulatory Status

The SRSNE Site was added to the National Priorities List (NPL) on September 8, 1983. Since that time USEPA and the State of Connecticut have implemented a variety of enforcement, regulatory and response actions, culminating with the issuance of the Proposed Plan and Record of Decision (ROD) in September 2005. After issuing the ROD, the USEPA and SRSNE Site Group negotiated the terms of the CD.

Key regulatory milestones in the recent history of the Site, based on lists included on USEPA's project website (USEPA 2009) and in the fact sheet USEPA developed in support of the 2005 Proposed Plan (USEPA 2005b), are as follows:

Regulatory Milestone	Year
USEPA adds the Site to the NPL; SRSNE signs a consent decree with USEPA to install a groundwater recovery system and store/manage hazardous waste on site.	1983
USEPA and the State of Connecticut take enforcement action to require cleanup of the facility operations and the property.	1983-1988
USEPA initiates the Remedial Investigation for the Site, conducting three phases of investigation that are presented in a four-volume report (HNUS 1994).	1990
SRSNE operations cease.	1991
USEPA conducts a Time-Critical Removal Action to remove contaminated soils from the railroad grade drainage ditch and to remove some chemicals stored at the property to an off-site location.	1992
USEPA and the SRSNE Group enter into an Administrative Order on Consent (AOC) for Removal Action to construct and operate a pump and treat system to contain the principally contaminated overburden groundwater (the NTCRA 1 work). Other work conducted under this AOC included the construction of a mitigation wetland in the northeast corner of the	1994

Cianci Property, implementation of a full-scale phytoremediation study within the NTCRA 1 sheet pile wall, and extension of public water to three buildings adjacent to the Site.	
USEPA issues an Action Memorandum for a second NTCRA (NTCRA 2) to hydraulically contain VOC-impacted bedrock groundwater down gradient of the NTCRA 1 system.	1995
USEPA and the SRSNE Site Group enter into a second AOC for Removal Action and Remedial Investigation/Feasibility Study (RI/FS) to expand the groundwater containment system and complete site investigations. Work under this AOC resulted in the completion of the Site RI/FS, implementation of NTCRA 2, and the decontamination, demolition and removal of the remaining buildings and tanks from the Operations Area.	1996
SRSNE Site Group operates groundwater controls in the overburden and bedrock aquifers, completes remedial investigations, and conducts feasibility studies.	1996 - 2004
USEPA issues the Proposed Plan in June and holds two public meetings; the public comment period runs from June through August.	2005
USEPA issues the ROD for the Site, which describes the final remedy.	2005
USEPA and SRSNE Site Group sign CD to implement the RD/RA activities.	2008
Court enters CD; Remedial Design work initiated.	2009
Annual Report #1	2009
1st Five Year Review Report	2010
USEPA issues Remedial Design Work Plan Approval	2010
USEPA issues approval of PIPP 100% Design and RAWP	2010
Initiated Pre-ISTR Preparation Plan Construction Activities	2010
Annual Report #2	2010
ISTR Conceptual Design Approval	2011
Approval of ISTR 100% Wellfield Design	2011
Annual Report #3	2011
Institutional Control Plan revisions based on March 2012 comments and May 2012 meeting	2012
Approval of the use of Hydrosleeve for interim sampling	2012
Approval for low flow screen length	2012
Completed delineation of extent of groundwater contamination	2012
Completed Pre-ISTR Preparation Plan Construction Activities	2012
Annual Report #4	2012

E. Selected Remedy

The overall purpose of RD/RA activities is to design and implement the selected remedial approach for the Site. The selected remedy, developed by combining components of different alternatives for source control and management of migration to obtain a comprehensive approach for Site remediation, was described in the ROD. Key elements are summarized as follows:

- Treat waste oil and solvents – where present as NAPL in the subsurface in the overburden aquifer (i.e., the Overburden NAPL Area) – using in-situ thermal treatment.

Following in-situ thermal treatment, cap the former SRSNE Operations Area. The cap will be low-permeability and multi-layered and is to be designed, constructed, and maintained to meet the requirements of Resource Conservation and Recovery Act (RCRA) Subtitle C. As described in the “Re-use of Excavated Material from Railroad Right of Way for ISTR Area Fill” memorandum (de maximis, inc., April 29, 2010), soils excavated from the Rail Road Right of Way will be incorporated as fill material in the Thermal Treatment Zone (TTZ). Excavation of soil in a specific portion of the former railroad right-of-way to a depth of 4 feet – followed by backfill to match surrounding grade –will meet the direct exposure criteria (DEC) and pollutant mobility criteria (PMC) requirements of the Connecticut Remediation Standard Regulations with the understanding that an Activity and Use Limitation (ELUR) would subsequently be established for this area.

- Excavate soils exceeding cleanup levels from certain discrete portions of the former Cianci Property. The estimated limits of soil removal on the former Cianci Property (five discrete excavation areas) are shown on Figure G-1 of the *Post-Excavation Confirmatory Sampling Plan* (Attachment G to the RDWP); these limits are subject to modification based on additional sampling proposed as part of remedial design. Provided that concentrations of polychlorinated biphenyls (PCBs) do not warrant off-site disposal, soils excavated from the former Cianci Property (and from other areas excavated outside the cap limits as part of other RD/RA activities) may be relocated to the former SRSNE Operations Area for placement beneath the cap.

- Capture and treat (on site) groundwater in both the overburden and bedrock aquifers that exceeds applicable federal drinking water standards and risk-based levels. This will be achieved through continued operation, maintenance, and modification (as needed) of the HCTS.

- Monitored natural attenuation of the groundwater plume outside the capture zones (i.e., the severed plume, shown on Figure 3A of the RDWP) that exceeds cleanup levels.

- Monitor natural degradation of constituents in the groundwater plume inside the capture zones and within the Bedrock NAPL Area (shown on Figure 3B of the RDWP).

- Implement institutional controls (i.e., Environmental Land Use Restrictions) to minimize the potential for human exposure to Site-related constituents in the subsurface soils and to prohibit activities that might affect the performance or integrity of the cap.

- Monitor groundwater and maintain the cap over the long term.

F. Performance Standards

Section IV of the SOW establishes Performance Standards for the various affected media at the SRSNE Site. It also establishes Performance Standards for other aspects of the RD/RA, including subsurface NAPL in the overburden and bedrock aquifers, performance of the multi-layer cap, hydraulic containment and treatment, the severed plume, habitat restoration, environmental monitoring, and institutional controls. These non-media-specific Performance Standards are summarized and addressed (to the extent applicable at this point in the RD/RA process) in the various task-specific work plans summarized in the RDWP.

Performance Standards for soil, wetland soil, and groundwater have been reviewed and compared to the current applicable USEPA and CTDEP standards and guidance. Based on this review, it was concluded that none of the USEPA or CTDEP criteria for Site-related constituent have been revised since the ROD was issued. However, the CTDEP has published a lower detection limit for 1,2,4-trichlorobenzene in water (0.5 micrograms per liter [ug/L] rather than the prior value of 2 ug/L). Because the detection limit is the cleanup level for groundwater (discussed below), this modification is noted on the copy of Table L-1 from the ROD that is provided as Appendix 1 to the RDWP. No other modifications were warranted to Tables L-1 or L-2 of the ROD to reflect current published guidance and standards.

G. Summary of Activities Completed This Reporting Period

A summary of activities completed during this reporting period is provided within the attached Table 1.

H. Updated Schedule

An updated project schedule is included as Attachment 1 to this report.

I. Hydraulic Containment & Treatment System Operations and Maintenance

The HCTS achieved compliance during this reporting period with the Demonstration of Compliance Requirements (see Attachment B to the SOW). Details of the operation are provided as Attachment 2 to this report.

In addition to the parameters required by the Demonstration of Compliance Requirements, groundwater temperature data have been collected within the sheetpile wall to provide a baseline dataset of temperature variation over time. These data are being collected pursuant to Section 5.3.3 of Appendix N of the RDWP (Monitoring Well Network Evaluation and Groundwater Monitoring Program).

Map views and cross-sections to demonstrate hydraulic containment in accordance with EPA guidance from January 2008 entitled *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems* (EPA/600/R-08/003) are provided in Figures 5 through 9. These figures depict groundwater elevation contours measured on May 10-12, 2010 (i.e., the most current comprehensive groundwater gauging event), and generalized overburden and bedrock capture zone boundaries for the NTCRA 2 extraction wells, which are now part of the HCTS. The estimated capture zone boundaries are based on a combination of measured water level data, historical and recent groundwater modeling results and stagnation point calculations presented in the FS Report (BBL and USEPA, May 2005; Appendix A), and updated VOC concentration data at select monitoring wells (collected in June 2012). Although the extraction rates at the NTCRA 2 wells vary as a function of seasonal and long-term precipitation rates and well redevelopment events, the typical long-term average pumping rate has been approximately 20 to 30 gpm.

To maintain recovery rate and hydraulic control for NTCRA 2, overburden extraction wells RW-13 and RW-14 were redeveloped in October 2012. The combined NTCRA 2 extraction rate during the reporting period averaged 25 gpm.

Figures 5 through 9 also show the locations of former Interim Monitoring and Sampling (IMS) wells that were used to monitor the VOC plume between the completion of the RI and the issuance of the ROD. These wells have the most complete data sets and provide the strongest assessment of statistical concentration trends. Updated VOC concentration trends at these wells are presented in figures 7 through 11 of the Draft 2012 MNA Report). Middle overburden well MW-03 (Figure 8-Draft 2012 MNA Report) and shallow bedrock well MW-127C (Figure 10-Draft 2012 MNA Report) are the only monitoring wells south of the Connecticut Light & Power (CL&P) easement that contained VOC concentrations above the Interim Cleanup Levels (ICLs) before the start-up of the NTCRA 2 system, but they declined to below the ICLs following NTCRA 2 system start up. As shown on Figures 7 through 11of the Draft 2012 MNA Report, the VOC concentration trends at the former IMS wells are generally declining or have too many samples with no detected VOCs to support trend analysis.

One groundwater monitoring location outside of the generalized capture zone that was not below the Action Levels (the more stringent of the Maximum Contaminant Level [MCL] or Groundwater Protection Criteria [GWPC]) for VOCs in May 2012 was deep bedrock well MW-707DR (Figure 9). Benzene was detected at a concentration of 1.1 micrograms per liter (ug/L) in the June 2012 sample, which is above the Action Level of 1.0 ug/L. This well was re-sampled in August 2012 to confirm the result; benzene was detected at a concentration of 1.1 ug/L in the second sample. It is inferred from HCTS operating data and groundwater monitoring data from new, deeper bedrock wells (discussed below in Section N), that either the existing HCTS capture zone may not extend deep enough to provide capture of the deepest bedrock contamination, or that declines in pumping rates (and therefore capture) associated with gradual well fouling, results in intermittent pulses of contamination bypassing the capture zone. An evaluation into these potential causes and an evaluation of options to improve deep bedrock groundwater containment is currently ongoing. MW-707DR will continue being sampled during future events to assess groundwater quality trends in the well.

Trichloroethene (TCE) was detected in monitoring well PZO-2M at a concentration of 9.9 µg/L in the June 2012 sample. This concentration is above the Action Level of 5.0 µg/L, but was the first detection of a Site-related COC above the Action Level at this well. PZO-2M was also re-sampled in August 2012 to confirm this result; TCE was detected at a concentration of 0.42 µg/L, which is below the Action Level, in the second sample. Future additional sampling will also provide a basis to assess groundwater quality trends at this well.

Total manganese was detected at MW-209B in 2012 at a concentration of 507 µg/, the GWPC is 500 µg/L. MW-209B is an upgradient, background well located west of the former Operations Area of the SRSNE Site. No other samples taken during the 2012 sampling event had exceedences for total or dissolved metals

J. Institutional Controls / Access Agreements

Institutional controls in the form of deed restrictions are already in place on the Operations Area and Cianci Properties that prohibit all uses except for those associated with environmental response actions, as further described in CD paragraph 26. No additional institution controls were implemented during this reporting period. In 2010, the SRSNE Site Group took control of the Voting Trusts that control the Operations Area Property and the Cianci Property, respectively, which allows the implementation of additional institutional controls on those properties when appropriate. Additional institutional controls will be implemented pursuant to the Institutional Control Plan that has been developed as required by SOW Section V.B.7. The current Institutional Control Plan has been revised to address comments received in March 2012 and May 2012 meeting. The revised plan includes the use of groundwater modeling to evaluate properties where future pumping may cause migration of the plume. The properties included in this “buffer zone” will be controlled with an ordinance through the local Health Department, a process that has been used by the Town of Southington in recent years.

Access agreements were needed to conduct RD activities obtained from four (4) property owners during this reporting period. Access was granted to six properties in 2009; negotiations for access to the remaining four properties were obtained during 2010.

K. Construction, Operation and Maintenance Activities

The following construction, Operation and Maintenance activities were completed during this reporting period:

- On May 21, 2012 CT DEEP recorded the revised AT&T easement with the Town of Southington. This action enabled AT&T to relocate the fiber optic line from the former Railroad Grade (RR grade) into the new easement, which routes around the Operations Area of the Site. During the last two weeks of July 2012, new fiber optic cable was pulled through conduit that we had previously installed, and this new line was spliced into the existing line north and south of the Site.

- The remaining PIPP activities commenced in September 2012 and were completed in November 2012. The remaining PIPP work included:
    - mobilization of equipment and the re-establishment of erosion control measures,
    - removal of portions, and in-place abandonment of the remaining sections, of 24" concrete culvert that conveys surface water from the ditch adjacent to the former RR grade to the Quinnipiac River,
    - installation of a replacement culvert made of 30" HDPE pipe, with new head wall and rip rap at the discharge end,
    - installation of associated catch basins, man holes, and connection of existing NTCRA discharge line to new 30" HDPE pipe,
    - completing the excavation of impacted soils on the former RR grade and backfill with clean soils,
    - installation of sheet piling extensions to the west at the northern and southern ends of the existing NTCRA 1 sheetpile wall, and
    - final site grading.

L. Habitat Restoration

No habitat restoration activities were conducted during this reporting period. A pre-remediation assessment of the types, extent and condition of existing habitats on site was conducted in June 2009 pursuant to RDWP Attachment H (Habitat Restoration Work Plan).

M. Memorandum of Agreement (MOA) with Southington Water Department / Town of Southington

A draft MOA was prepared during the Annual Report #1 reporting period as required by SOW Section V.B.3. This draft MOA was submitted for EPA review on September 16, 2009 and resubmitted based upon EPA comments on June 23, 2010. EPA provided further comments on the MOA on October 28, 2011. The revised MOA was provided for further EPA review on November 15, 2011.

N. Groundwater Monitoring Program

A comprehensive groundwater monitoring program was scoped in *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Work Plan; Attachment N to the Remedial Design Work Plan [RDWP]; ARCADIS 2010). A summary of the planned sampling frequency is provided in the attached Table N-1 from the RDWP. The following groundwater activities have been performed to date:

- The first comprehensive groundwater sampling event occurred during May/June 2010 which supported the first Five-Year Review, submitted in 2010. This sampling event provided data for the draft 1st Monitored Natural Attenuation Report which was submitted in September 2010.

- In accordance with *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Work Plan; Attachment N to the Remedial Design Work Plan [RDWP]; ARCADIS 2010), the 2012 annual groundwater sampling event was performed in June 2012 and included sampling of groundwater at 44 monitoring wells. The 2012 Groundwater Sampling and Monitored Natural Attenuation Report (Attachment 3) summarizes the 2012 groundwater sampling event performed in accordance with the and presents the results and interpretation of data collected in support of MNA as a remedy for groundwater that contains Site related constituents of concern (COCs) at concentrations exceeding acceptable risk levels or regulatory limits.

- Three monitoring well clusters have been constructed since December 2011, MW-1001R/M, MW-1002R/DR and MW-1003R/DR. These wells were constructed as a supplement to wells previously installed in accordance with the Work Plan and were installed to further delineate the volatile organic compound (VOC) plume. Based on the findings associated with these well installations, no additional well installations are currently planned as delineation of the SRSNE-related plumes is now considered complete. The new wells will be incorporated into the groundwater monitoring program.

O. Recommendations of Changes to any Monitoring Program

The following changes to the groundwater monitoring program have been recommended and/or implemented since the last Annual State of Compliance Report:

The three well clusters that have been added since December 2011 (MW-1001R/M, MW-1002R/DR and MW-1003R/DR) will be included in the groundwater monitoring program.Incorporate the six newly installed wells as follows:

Monitoring Wells	Well Group	Analytical parameters*	Monitoring Frequency
MW-1001M and MW-1001R	C	VOCs, alcohols, 1,4-dioxane, TAL metals, PAHs, PCBs	sampled as part of the comprehensive sampling events to support 5-year reviews
MW-1002R, MW-1002DR, MW-1003R, and MW-1003 DR	R	VOCs and MNA parameters	annually for VOCs and biennially for MNA parameters

P. Groundwater Containment and Treatment Optimization Studies

No optimization studies were conducted during this reporting period.

Q. Costs Incurred this Reporting Period

Paragraph 62 of the CD sets forth "Additional Provisions Regarding Settling Defendants' Payments of U.S. Oversight Costs and State Oversight Costs." Pursuant to this paragraph, an interest bearing "Oversight Costs Payment Subaccount" of the Remedial Trust Account was established on April 27, 2009, in the amount of $5,700,000. The balance in this subaccount at the end of September 2011 was $ 5,662,250.94
. Other defined terms in this paragraph include:

- "Rolling Oversight Cap" – defined as 15% of the total costs incurred by the Settling Defendants in performing the Work through the end of the Oversight Billing Period.
- "Available Balance" equals the Rolling Oversight Cap less the sum of all Settling Defendants prior payments for U.S Oversight Cost and State Oversight Costs.

Paragraph 62.e states that the Settling Defendants shall have the burden of calculating annually the Rolling Oversight Cap and Available Balance. The following table summarizes annually the Rolling Oversight Cap and Available Balance:

Reporting Period	Total Project Costs	Rolling Oversight Cap Amount	Oversight Costs	Available Rolling Oversight Cap Amount
Annual Report #1 *	$1,880,301	$282,045	None billed.	$282,045
Annual Report #2 *	$3,446,824	$517,024	$84,290	$714,779
Annual Report #3 *	$4,037,109	$605,566	$82,851	$1,237,494
Annual Report #4	$1,421,795	$ 213,269.30	$72,642	$1,378,121
Totals:	**$10,786,030**	**$1,617,904**	**$239,783**	**$1,378,121**

* Cost Revised based on Trustee expenditure updates

The total Rolling Oversight Cap amount available is: **$1,378,121**

The total Rolling Costs Cap amount equals the available amount remaining from the Annual Report #3 period and the total amount available from the Annual Report #4 period.

R. References

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Tables

TABLE 1.0
Summary of Activities Completed
October 31, 2011 through October 30, 2012

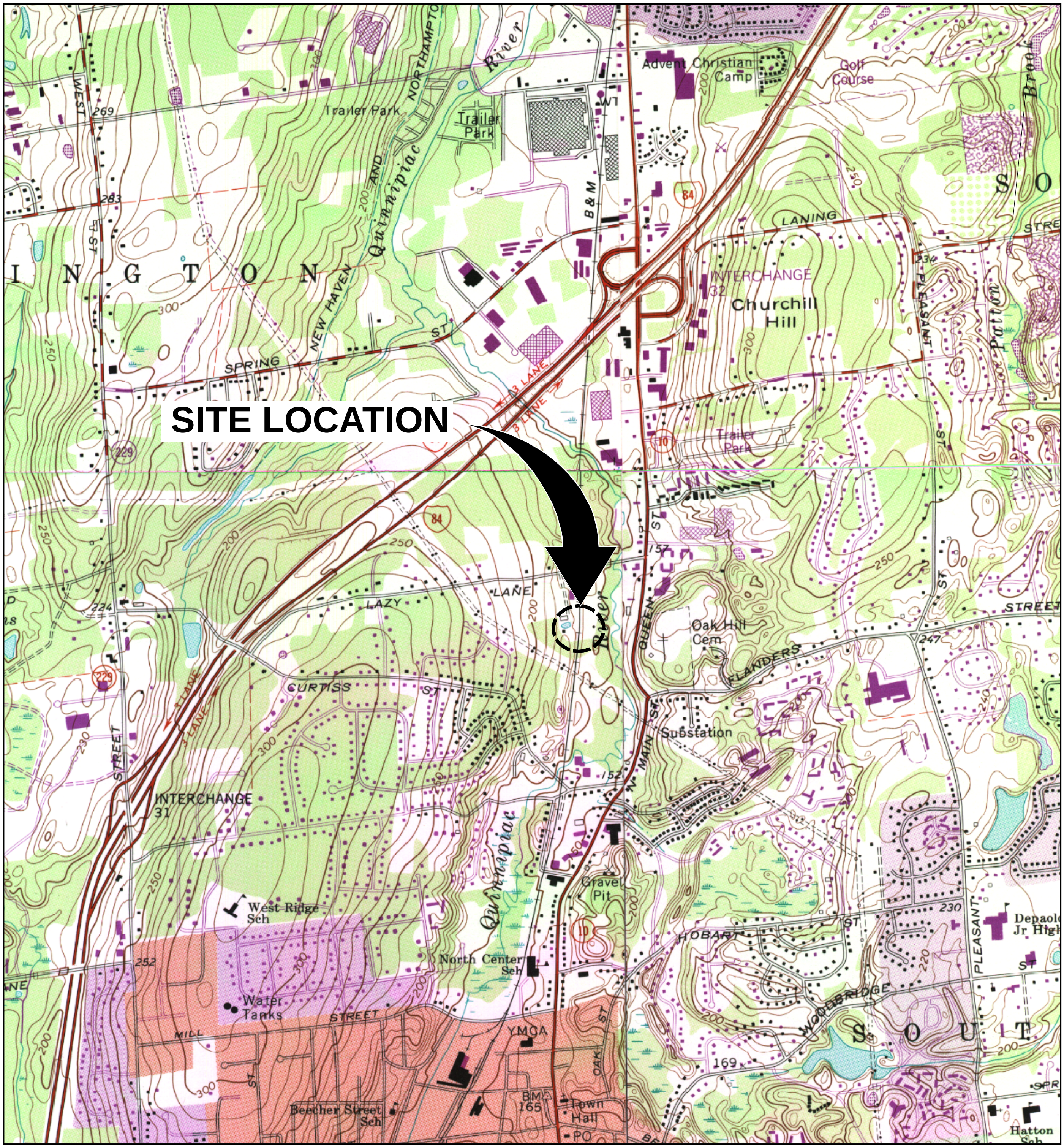
Document Name / Activity	Author(s)	Date Submitted	Date Approved	Type
Final RDWP and POP	ARCADIS	11/19/2010	pending	Deliverable under SOW
Response to Comments on ISTR Conceptual Design	TerraTherm	12/3/2010	7/7/2011	Deliverable under SOW
Annual State of Compliance Report #2	de maximis	12/20/2010	pending	Deliverable under SOW
PIPP Winter Stabilization Plan	de maximis	12/30/2010	pending	Deliverable under SOW
Vapor Intrusion Technical Memorandum	EPA	10/27/2010	1/19/2011	Conditional Approval
Data Comparison - Groundwater Sampling Techniques	ARCADIS	1/4/2011	N/A	Technical Memorandum
Updates to Existing MODFLOW Groundwater Flow Model	ARCADIS	1/5/2011	N/A	Technical Memorandum
Data Comparison - Groundwater Sampling Techniques	ARCADIS	2/10/2011	N/A	Technical Memorandum
Draft Institutional Controls Plan	de maximis/ARCADIS	2/18/2011	pending	Deliverable under SOW
Comments on Response to Comments on ISTR Conceptual Design	EPA	3/2/2011	7/7/2011	EPA comments
PIPP Sheetpile Wall Extension Design	ARCADIS	3/21/2011	4/22/2011	Deliverable under SOW
Data Comparison - HydraSleeve vs. Low-Flow Groundwater Sampling Techniques	ARCADIS	3/22/2011	N/A	Technical Memorandum
Response to Comments on Response to Comments on ISTR Conceptual Design	TerraTherm	4/6/2011	7/7/2011	Deliverable under SOW
Bedrock Outcrop Study	ARCADIS	4/20/2011	N/A	Technical Memorandum
Supplementary Vapor Intrusion Technical Memorandum	ARCADIS	6/6/2011	pending	Deliverable under SOW
Bedrock Modeling Memorandum	ARCADIS	6/6/2011	N/A	Technical Memorandum
Comments on Vapor Intrusion Technical Memorandum	EPA	6/15/2011	pending	EPA comments
ISTR Conceptual Design Approval	EPA	7/7/2011	7/7/2011	Approval
Technical Memorandum - Proposed Use of Hydrasleeve Sampling	ARCADIS	7/8/2011	7/8/2011	Technical Memorandum
Approval of ISTR 100% Wellfield Design	EPA	9/23/2011	9/23/2011	EPA Approval
Comments on Draft Memorandum of Agreement with Town and Southington Water Department	EPA	10/28/2011	pending	EPA comments
Annual State of Compliance Report #3	de maximis	1/12/2012	pending	Deliverable under SOW
Screen Volume Purge vs lowflow groundwater metholds	de maximis	5/11/2011	5/21/2012	Approval
Submittal for the use of hydrosleeve during interim sampling events	de maximis	1/4/2011	6/12/2012	Approval

Table N-1.
Groundwater Monitoring Network and Sampling Events
SRSNE Superfund Site, Southington, CT

Well Group	# Wells	Sampling Period	Sampling Frequency	Analytical Parameters
"C" wells	81	first comprehensive event *	1 event	VOCs, alcohols, 1,4-dioxane, TAL metals, PAHs, PCBs
"R" wells	26			VOCs, alcohols, 1,4-dioxane, TAL metals, PAHs, PCBs, MNA parameters
"N" wells	10			VOCs, alcohols, 1,4-dioxane, TAL metals, PAHs, PCBs, MNA parameters
"M" wells	5			TAL metals, MNA parameters (background)
"B" wells	3			TAL metals (background)
"C" wells	81	subsequent comprehensive events	every 5 years	VOCs, 1,4-dioxane, TAL metals
"R" wells	26			VOCs, 1,4-dioxane, TAL metals, MNA parameters
"N" wells	10			VOCs, 1,4-dioxane, TAL metals, MNA parameters
"M" wells	5			TAL metals, MNA parameters
"B" wells	3			TAL metals
"R" wells	26	after first comprehensive event	annual	VOCs
			biennial	MNA parameters
"M" wells	5	after first comprehensive event	biennial	TAL metals (background)
			biennial	MNA parameters (background)
"N" wells - overburden	8	before thermal treatment	biennial	VOCs, MNA parameters
		during thermal treatment	annual	VOCs, MNA parameters
		after thermal, before equilibrium	3x / year	VOCs, MNA parameters
		after equilibrium	annual	VOCs
			biennial	MNA parameters
"N" wells - bedrock	2	before thermal treatment	annual	VOCs, MNA parameters
		during thermal treatment	annual	VOCs, MNA parameters
		after thermal, before equilibrium	3x / year	VOCs, MNA parameters
		after equilibrium	annual	VOCs
			biennial	MNA parameters
"W" wells	36	all comprehensive events	every 5 years	Water levels only - during all comprehensive events

Notes: 1) biennial = once every two years.
* - Shallow overburden wells MW-501C, MW-903S, and MW-904S will be re-sampled approximately 6 months after the first comprehensive sampling event.

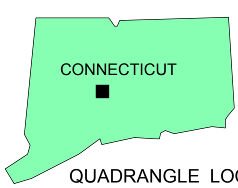
Figures



REFERENCE: SOUTHINGTON, CONN. USGS QUAD. 1968 PR 1992, MERIDEN, CONN. USGS QUAD. 1966 PR 1984, NEW BRITAIN, CONN. USGS QUAD. 1966 PR 1984, & BRISTOL, CONN. USGS QUAD 1967 PR 1984

2000' 0 2000'

APPROX. SCALE: 1" = 2000'



QUADRANGLE LOCATION

DRAFT

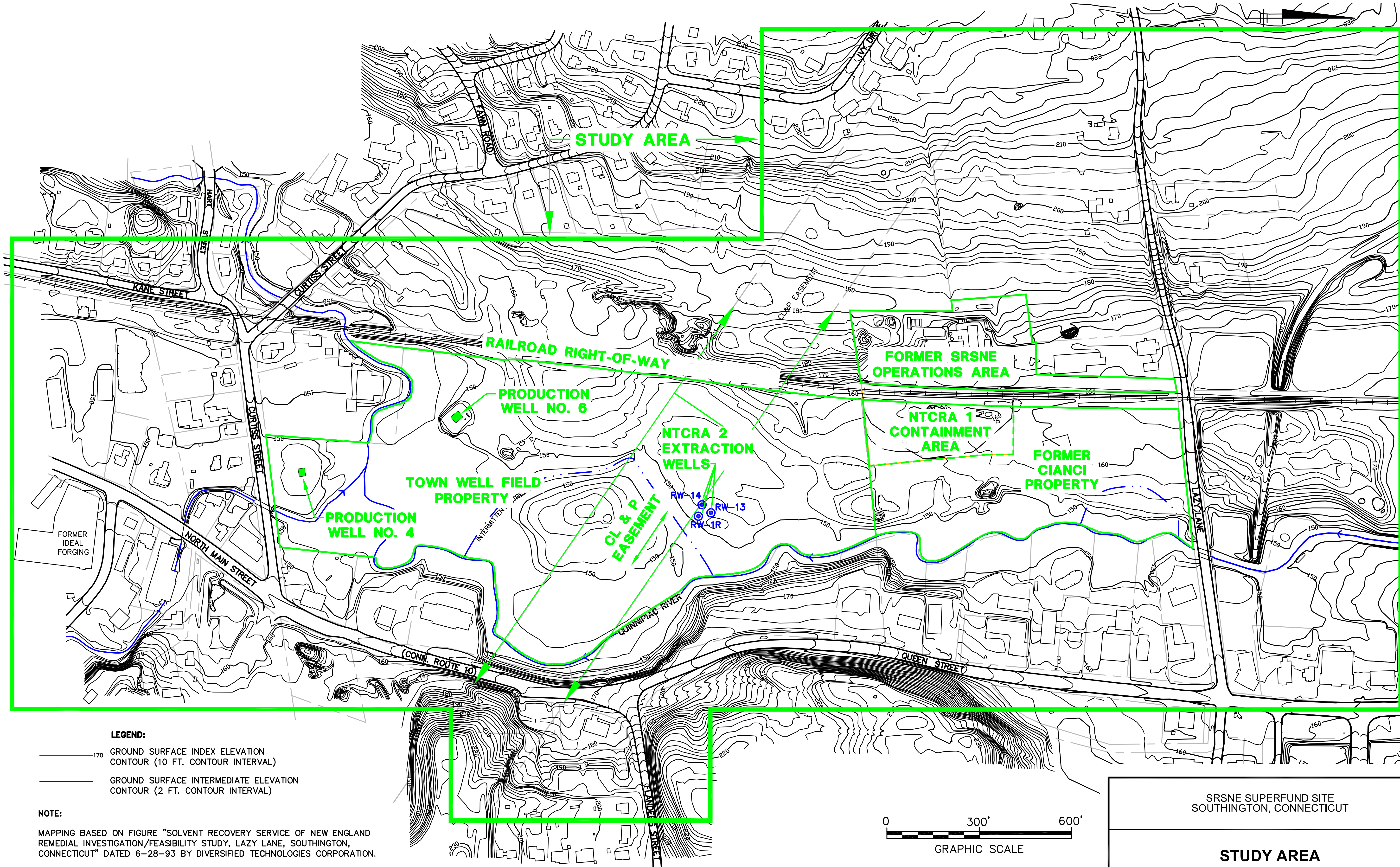
SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
REMEDIAL DESIGN WORK PLAN

SITE LOCATION MAP

ARCADIS

FIGURE
1

02/27/09 SYRACUSE, NY-ENV/CAD DJH, LJP
B0054634\0000\10000\CDR\RDWP\54634N01.CDR



LEGEND:

170 GROUND SURFACE INDEX ELEVATION CONTOUR (10 FT. CONTOUR INTERVAL)

GROUND SURFACE INTERMEDIATE ELEVATION CONTOUR (2 FT. CONTOUR INTERVAL)

NOTE:

MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONNECTICUT" DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

0 300' 600'
GRAPHIC SCALE

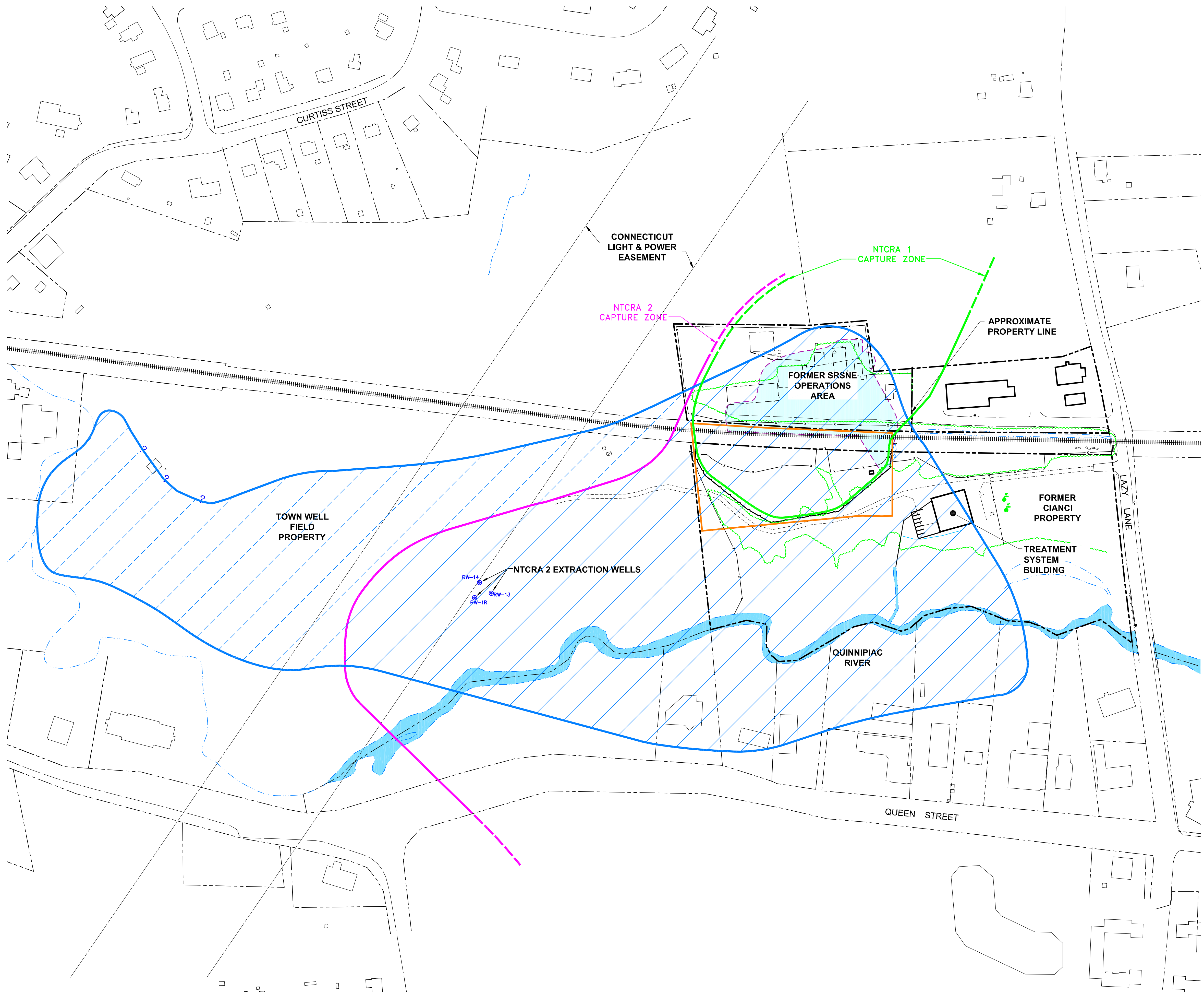
SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

STUDY AREA

ARCADIS

FIGURE
2

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER, R. BASSETT, P. LISTER PM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF
G:\ENVCAD\Manchester\ACT\B0054634\0000\00100\54634B02.DWG LAYOUT: 2 SAVED: 12/20/2012 10:39 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 12/20/2012 10:40 AM BY: SMALL, BRIAN
XREFS: 5463AX01 IMAGES: PROJECTNAME: ---



LEGEND:

- PROPERTY LINE
- PROPERTY LINE – ADJOINER
- BUILDING
- BUILDING – ADJOINER
- FORMER BUILDING
- RAILROAD
- ROAD
- GRAVEL ROAD
- DRAINAGE SWALE
- RIVER
- EASEMENT
- CHAINLINK FENCE
- SHEETPILE
- NTCRA 1 CONTAINMENT AREA
- OVERBURDEN GROUNDWATER AREA
- SEVERED PLUME
- OVERBURDEN NAPL AREA

NOTES:

1. BASEMAP INFORMATION OBTAINED FROM A FIGURE CREATED BY CONKLIN & SOROKA, INC., ENTITLED "TOPOGRAPHIC SURVEY" DATED 1/13/09 AT A SCALE OF 1"=50'.
2. ALL LOCATIONS ARE APPROXIMATE.
3. THIS FIGURE PRESENTS AN OVERLAY OF THE ESTIMATED EXTENTS OF THE GROUNDWATER PLUME IN THREE MONITORED OVERBURDEN ZONES, BASED ON PLUME DELINEATION LIMITS PRESENTED IN THE MONITORED NATURAL ATTENUATION REPORT (ARCADIS 2010).

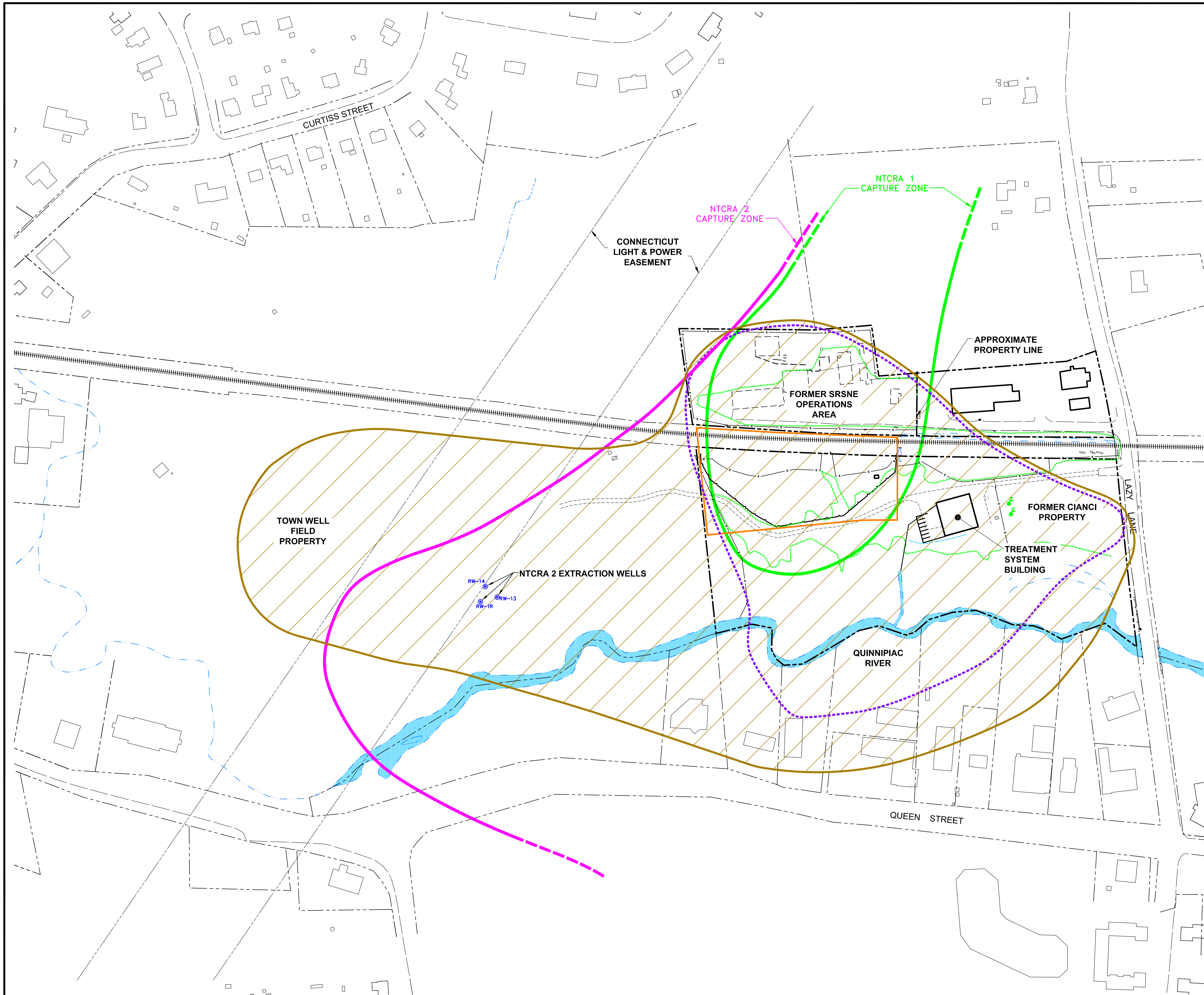
0 120' 240'
GRAPHIC SCALE

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
ANNUAL REPORT #2

ESTIMATED GROUNDWATER PLUME AND NAPL AREAS - OVERBURDEN

ARCADIS

FIGURE
3A



LEGEND:

- PROPERTY LINE
- PROPERTY LINE – ADJOINER
- BUILDING
- BUILDING – ADJOINER
- FORMER BUILDING
- RAILROAD
- ROAD
- GRAVEL ROAD
- DRAINAGE SWALE
- RIVER
- EASEMENT
- CHAINLINK FENCE
- SHEETPILE
- NTCRA 1 CONTAINMENT AREA
- BEDROCK NAPL AREA
- BEDROCK GROUNDWATER AREA

NOTES:

1. BASEMAP INFORMATION OBTAINED FROM A FIGURE CREATED BY CONKLIN & SOROKA, INC., ENTITLED "TOPOGRAPHIC SURVEY" DATED 1/13/09 AT A SCALE OF 1"=50'.
2. ALL LOCATIONS ARE APPROXIMATE.
3. THIS FIGURE PRESENTS AN OVERLAY OF THE ESTIMATED EXTENTS OF THE GROUNDWATER PLUME IN TWO MONITORED BEDROCK ZONES, BASED ON PLUME DELINEATION LIMITS PRESENTED IN THE MONITORED NATURAL ATTENUATION REPORT (ARCADIS 2010).

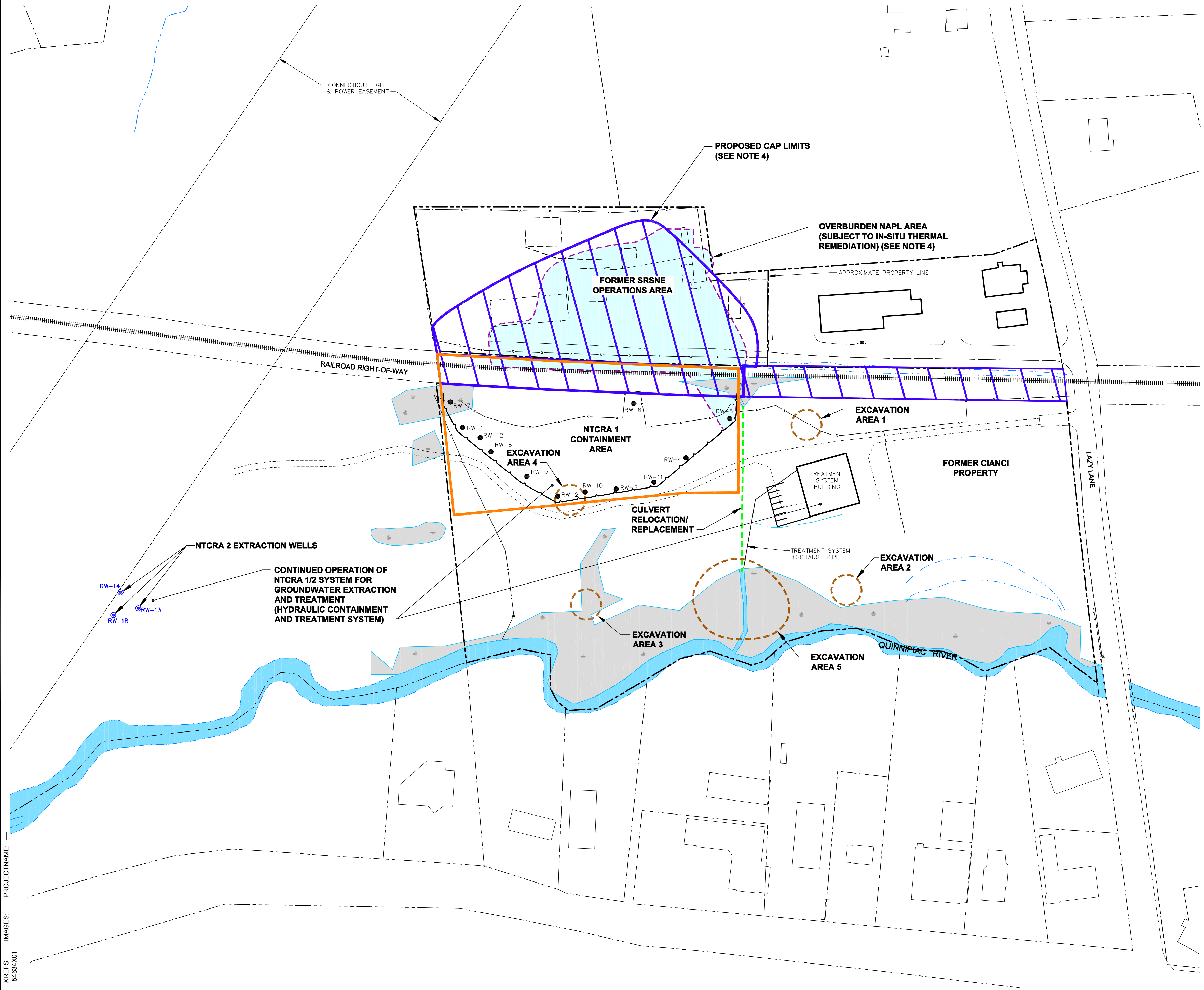
0 120' 240'
GRAPHIC SCALE

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
ANNUAL REPORT #2

ESTIMATED GROUNDWATER PLUME AND NAPL AREAS - BEDROCK

ARCADIS

FIGURE
3B



LEGEND:

- PROPERTY LINE
- PROPERTY LINE – ADJOINER
- BUILDING
- BUILDING – ADJOINER
- FORMER BUILDING
- RAILROAD
- ROAD
- GRAVEL ROAD
- DRAINAGE SWALE
- RIVER
- EASEMENT
- CHAINLINK FENCE
- AREA OF DISCRETE SOIL REMOVAL ON FORMER CIANCI PROPERTY (SEE NOTE 4)
- SHEETPILE
- WETLAND
- RW-1 ● NTCRA 1 OVERBURDEN EXTRACTION WELL

NOTES:

1. SITE PLAN TAKEN FROM DIVERSIFIED TECHNOLOGIES CORP., 556 WASHINGTON AVE., NORTH HAVEN, CT, DATED 6/93. TOPOGRAPHY REPORTED TO HAVE BEEN DIGITIZED FROM TOWN OF SOUTHINGTON TOPOGRAPH MAPS G-7, G-8, G-9; PHOTOGRAPHY DATED NOV. 1978, SCALE: 1"=100'. PROPERTY LINES REPORTED TO HAVE BEEN DIGITIZED AND LOT NUMBERS TAKEN FROM "PROPERTY MAP, TOWN OF SOUTHINGTON" MAPS 134 & 147, SCALE: 1"=100' BY DIVERSIFIED TECHNOLOGIES CORPORATION.
2. BENCHMARK #1 IS AT ELEVATION 164.03. PK NAIL; S'LY SIDE; POLE #9049.
3. WETLAND AREAS WERE TAKEN FROM THE FINAL REMEDIAL INVESTIGATION REPORT (HNUS 1994).
4. THE LIMITS OF REMEDIAL ACTIVITIES ARE PRELIMINARY AND ARE SUBJECT TO CONFIRMATION/MODIFICATION BASED ON REMEDIAL DESIGN ACTIVITIES.

DRAFT

0 80' 160'
GRAPHIC SCALE

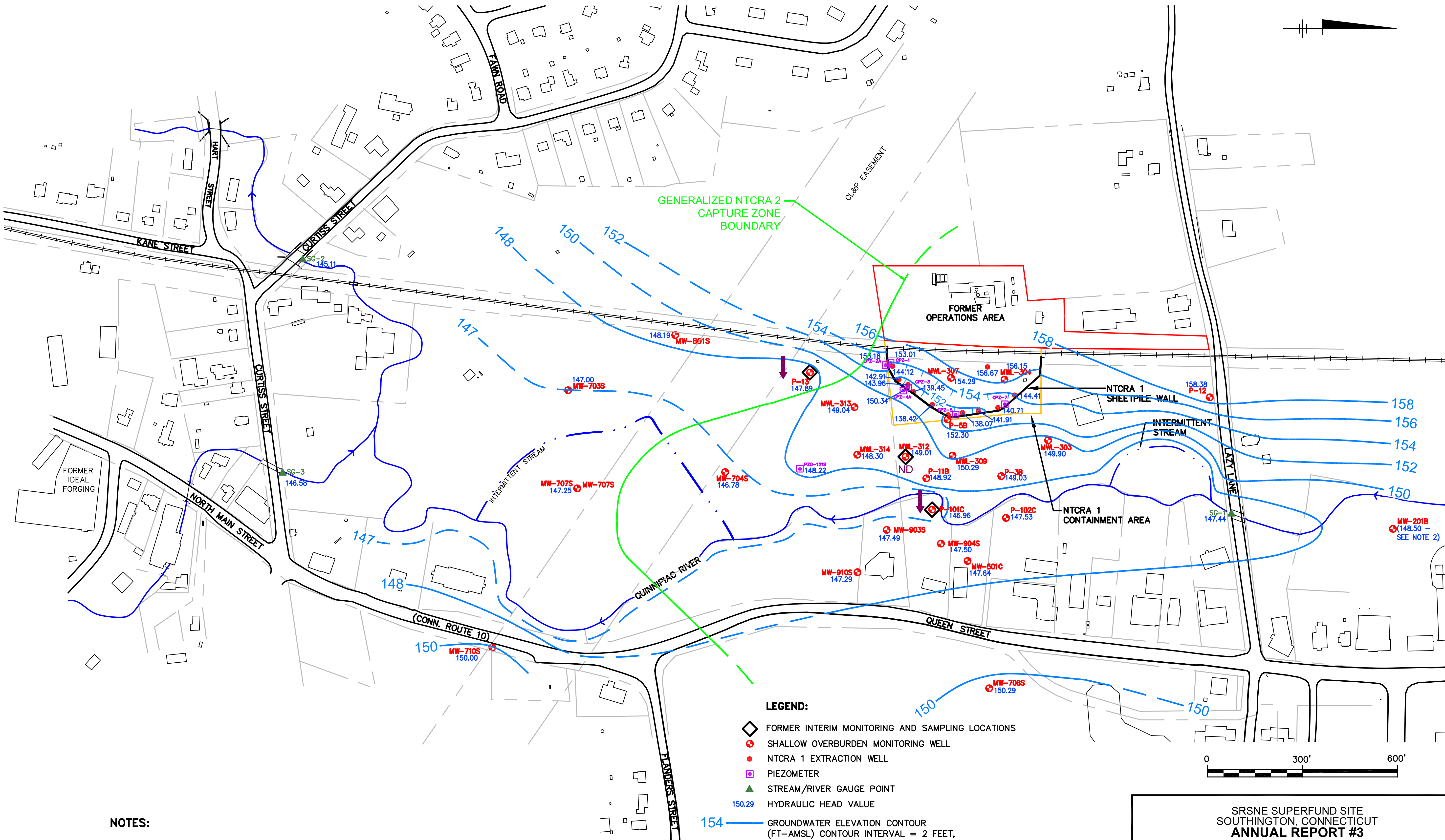
SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
REMEDIAL DESIGN WORK PLAN

PLANNED REMEDIAL ACTIVITIES

ARCADIS

FIGURE
4

CITY: SYRACUSE DIV/GROUP: ENVCAD DB: PGL LAF GMS LD:(Opt) PIC: G CAMERON PM: J HOLDEN TM: J HOLDEN LYR: ON=*;OFF=*REF* [CONCRETE]FLOODPLAIN
G:\ENVCAD\SYRACUSE\ACT\B0054634\0000\00600\DWG\RDWP\54634G03.DWG LAYOUT: 4 SAVED: 2/26/2010 1:47 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LD2B-PDF-CONV PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/26/2010 1:47 PM BY: STOWELL, GARY
XREFS: 54634X01 IMAGES: PROJECTNAME: ----



LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- SHALLOW OVERBURDEN MONITORING WELL
- NTCRA 1 EXTRACTION WELL
- PIEZOMETER
- STREAM/RIVER GAUGE POINT
- 150.29 HYDRAULIC HEAD VALUE
- 154 GROUNDWATER ELEVATION CONTOUR (FT–AMSL) CONTOUR INTERVAL = 2 FEET, UNLESS NOTED OTHERWISE

VOC CONCENTRATION TREND (90% C.I.)

- DECREASING
- ND EVENTS WITH NO DETECTED VOCs PRECLUDE TREND ANALYSIS

0 300' 600'

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6–28–93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.
2. GROUNDWATER ELEVATION AT MW–201B ESTIMATED BASED ON HISTORICAL MEASUREMENTS.

DRAFT

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
ANNUAL REPORT #3

SHALLOW OVERBURDEN GROUNDWATER ELEVATION CONTOURS, MAY 10-12, 2010

ARCADIS

FIGURE
5

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER PM: J. HOLDEN TM/TR: M. GEFELL LYR: ON=*;OFF=REF (FRZ) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 12/22/2011 1:38 PM BY: SMALL, BRIAN
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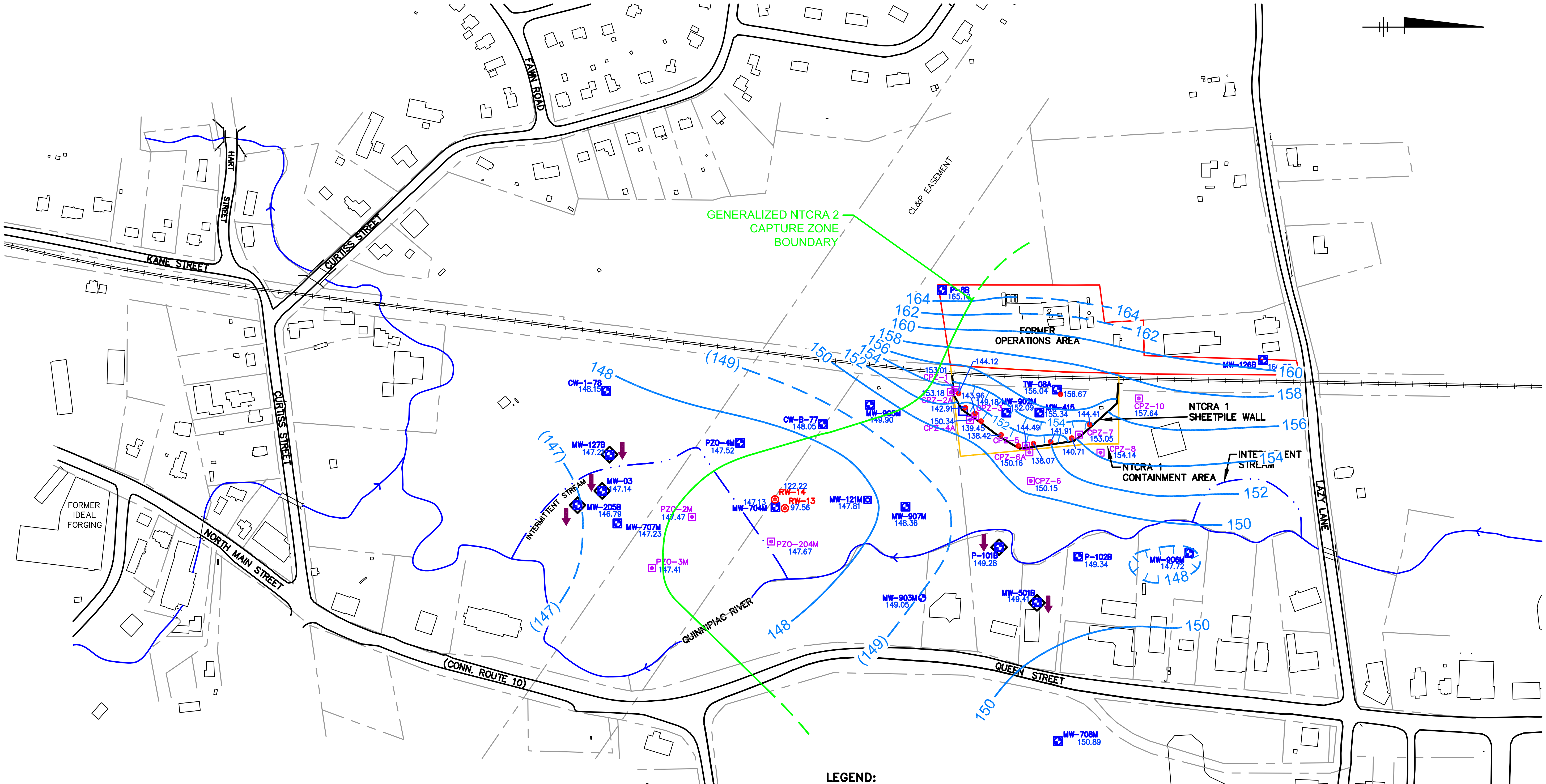

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.
2. HYDRAULIC HEAD VALUES ARE REPORTED IN FEET ABOVE MEAN SEA LEVEL (FT-AMSL) FOR MAY 2010 MEASUREMENT EVENT.
3. HEAD VALUES IN PARENTHESES WERE NOT USED FOR CONTOURING.

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- MIDDLE OVERBURDEN MONITORING WELL
- PIEZOMETER
- NTCRA 1 EXTRACTION WELL
- NTCRA 2 EXTRACTION WELL
- MW-205B — WELL ID
- 146.79 — HYDRAULIC HEAD VALUE
- 154 — GROUNDWATER ELEVATION CONTOUR (FT-AMSL) CONTOUR INTERVAL = 2 FEET, UNLESS NOTED OTHERWISE (DASHED WHERE INFERRED)
- VOC CONCENTRATION TREND (90% C.I.)
- DECREASING

0 300' 600'

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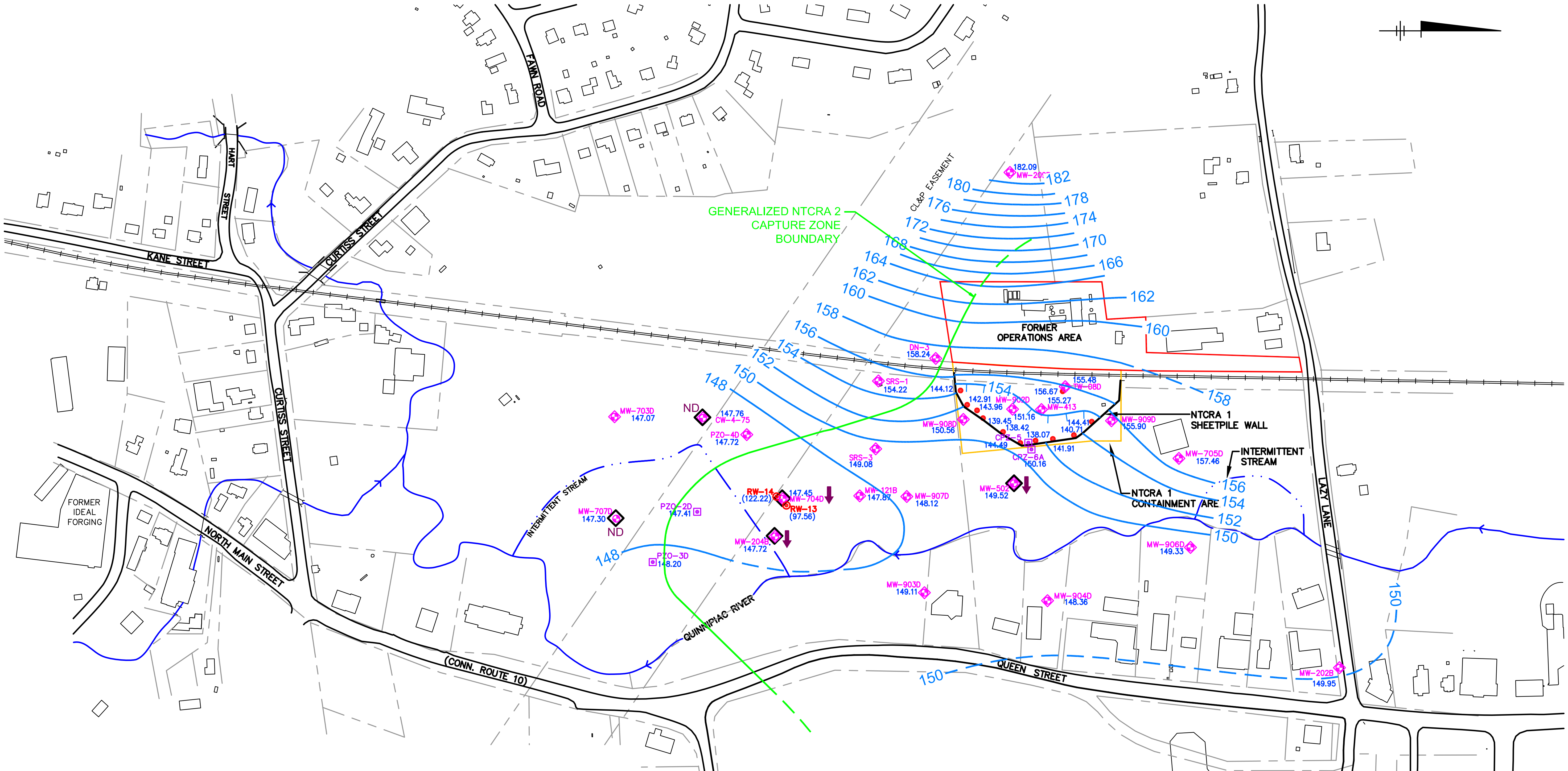
ANNUAL REPORT #3

MIDDLE OVERBURDEN GROUNDWATER ELEVATION CONTOURS, MAY 10-12, 2010

ARCADIS

FIGURE
6



LEGEND:

- ◇ FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- DEEP OVERBURDEN MONITORING WELL
- NTCRA 1 EXTRACTION WELL
- PIEZOMETER
- NTCRA 2 EXTRACTION WELL
- 149.11 HYDRAULIC HEAD VALUE
- 154 GROUNDWATER ELEVATION CONTOUR (FT-AMSL) CONTOUR INTERVAL = 2 FEET, UNLESS NOTED OTHERWISE
- VOC CONCENTRATION TREND (90% C.I.)
- DECREASING
- ND EVENTS WITH NO DETECTED VOCs PRECLUDE TREND ANALYSIS

0 300' 600'

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.
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DEEP OVERBURDEN GROUNDWATER ELEVATION CONTOURS, MAY 10-12, 2010

ARCADIS

FIGURE
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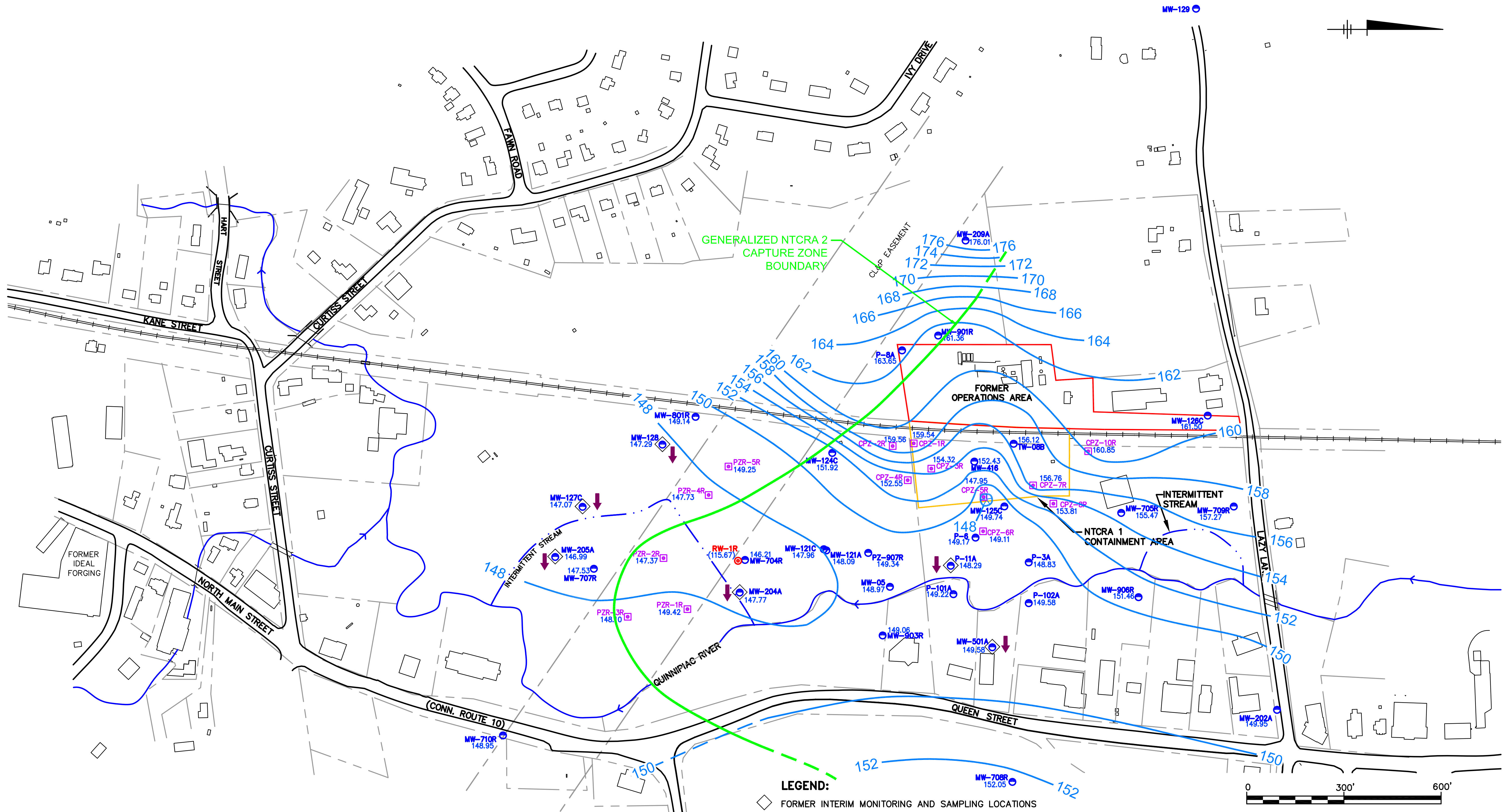

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- SHALLOW BEDROCK MONITORING WELL
- PIEZOMETER
- NTCRA 2 EXTRACTION WELL
- 152.05 HYDRAULIC HEAD VALUE
- 154 GROUNDWATER ELEVATION CONTOUR (FT–AMSL) CONTOUR INTERVAL = 2 FEET, UNLESS NOTED OTHERWISE (DASHED WHERE INFERRED)
- VOC CONCENTRATION TREND (90% C.I.)
- DECREASING

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6–28–93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.
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3. HEAD VALUES IN PARENTHESES WERE NOT USED FOR CONTOURING.

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SHALLOW BEDROCK GROUNDWATER ELEVATION CONTOURS, MAY 10-12, 2010

ARCADIS

FIGURE
8

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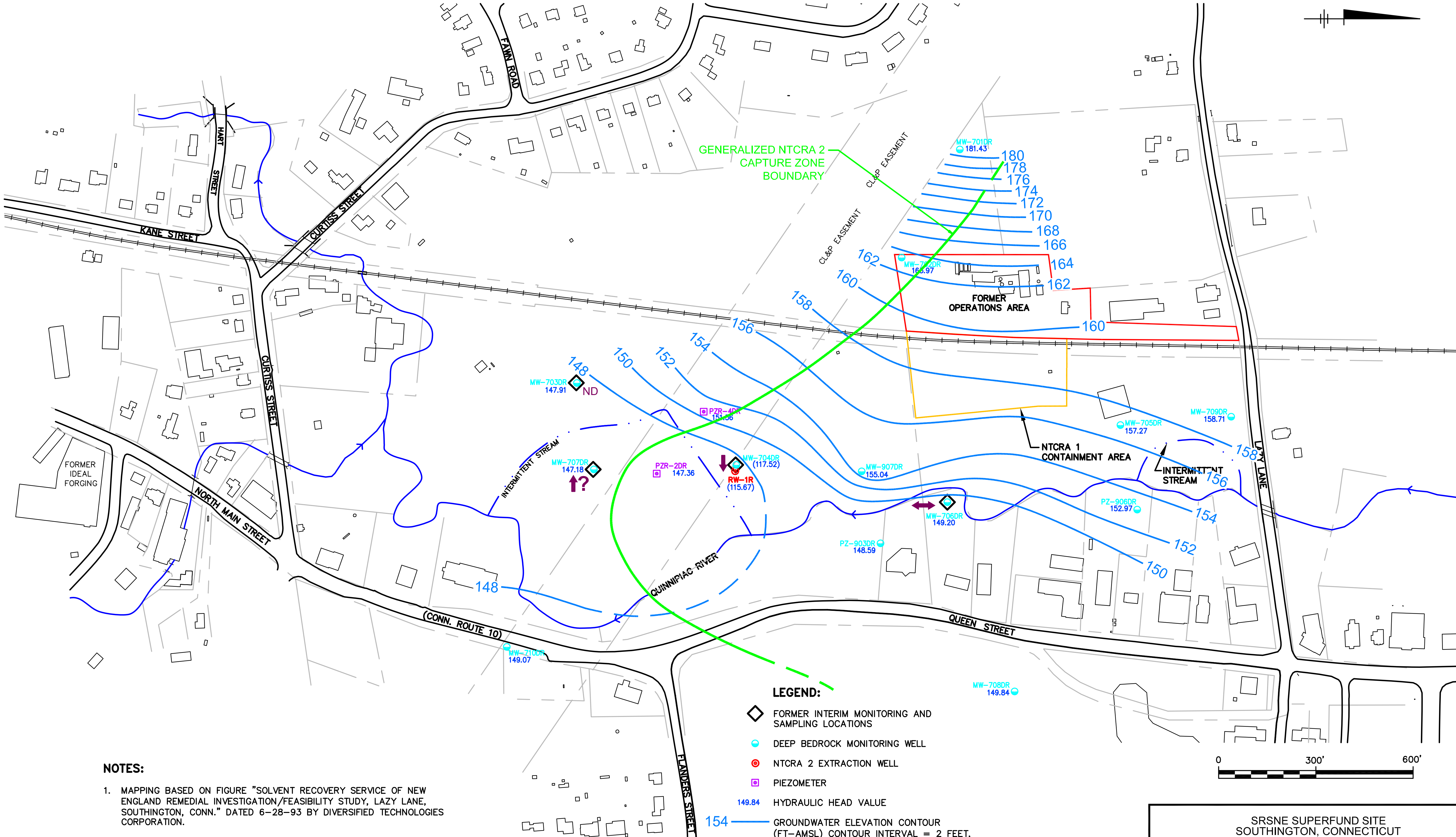

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LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- DEEP BEDROCK MONITORING WELL
- NTCRA 2 EXTRACTION WELL
- PIEZOMETER
- 149.84 HYDRAULIC HEAD VALUE
- 154 GROUNDWATER ELEVATION CONTOUR (FT-AMSL) CONTOUR INTERVAL = 2 FEET, UNLESS NOTED OTHERWISE (DASHED WHERE INFERRED)

VOC CONCENTRATION TREND (90% C.I.)

- ? INCREASING OR NO TREND
- NO TREND
- DECREASING
- ND EVENTS WITH NO DETECTED VOCs PRECLUDE TREND ANALYSIS

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DEEP BEDROCK GROUNDWATER ELEVATION CONTOURS, MAY 10-12, 2010

ARCADIS

FIGURE
9

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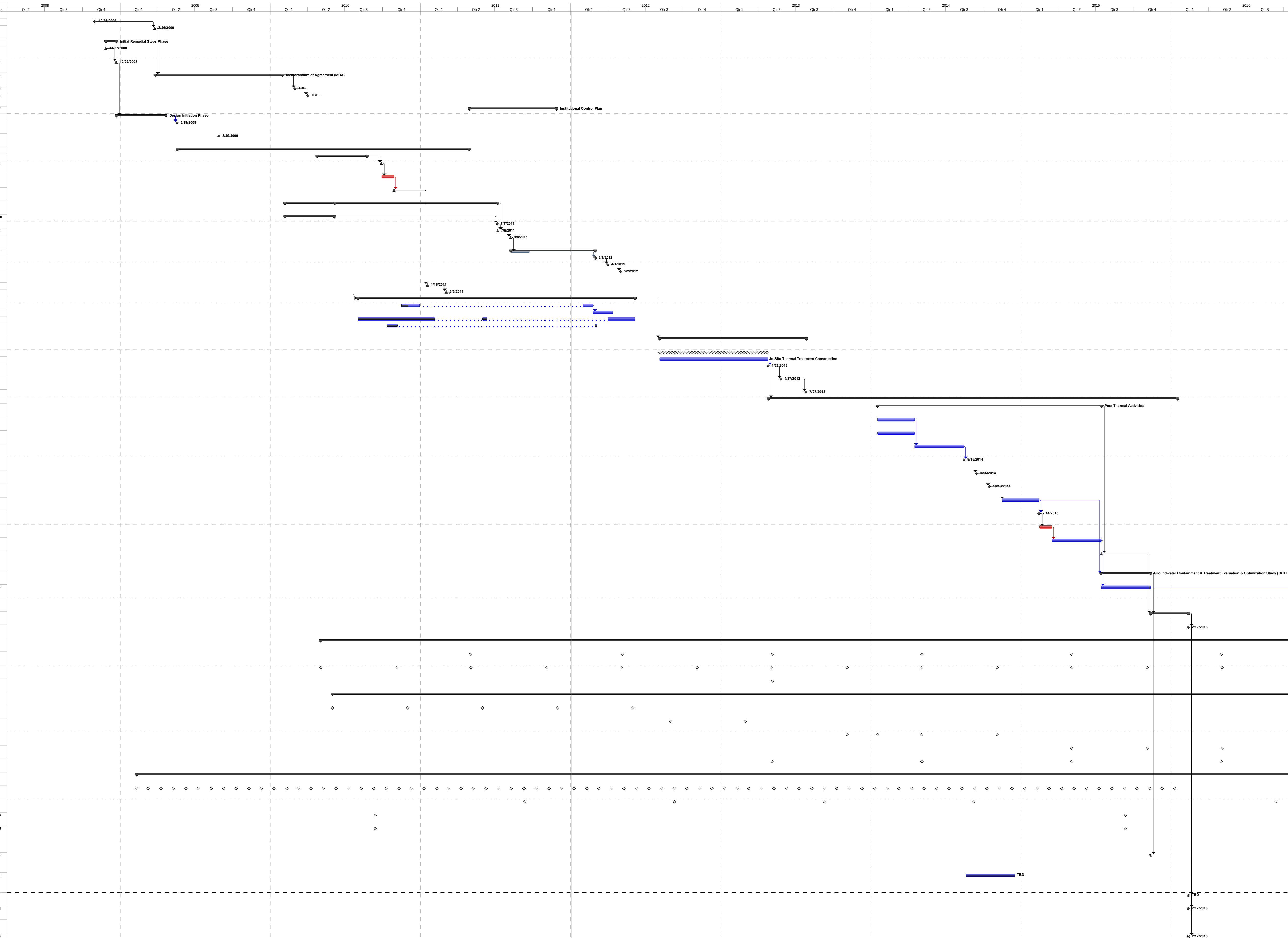
Attachments

de maximis, inc.

SRSNE RD/RA Project Schedule
Annual State of Compliance Report #4

ID	Deliverable/Activity	Trigger	Time Frame	SOW Sections
0	**RDRA Schedule**			
1	**Lodging of the Consent Decree**			
2	**Entry of the CD**			
3	**Initial Remedial Steps Phase**	EPA Approval of Contractors		V.B
4	**Notification of Supervising Contractor/Project Coordinator**	Lodging of the CD	Satisfied in the draft SOW.	V.B.1
5	**Notification/Selection of a Remedial Design Contractor**	Lodging of the CD	Notification/Selection of a Remedial Design Contractor	V.B.2
6	**Memorandum of Agreement (MOA)**	Entry of the CD.	Within 180 days of Entry of CD	V.B.3
10	**Supplemental Containment Action Plan**	EPA Approval of MOA	Within 30 days of signed MOA.	V.B.5
11	**Implementation of Supplemental Containment Action Plan (TBD)**	Upon notification by EPA, and consistent with the terms of the Memorandum of Agreement	As specified by EPA.	V.B.6
12	**Institutional Control Plan**	Completion of Vapor Intrusion Study	Within 30 days of completion of Vapor Intrusi	V.B.7
19	**Design Initiation Phase**			V.C
43	**Agency Review and Comment on Accelerated Pre Design Studies**			
44	**Agency Review and Comment on Remedial Design Work Plan and POP**			
45	**Pre-Design Studies**			
64	**Pre-ISTR Final Design Package (100 % Design)**	EPA approval or modification of Conce	Within 90 days of notice by EPA.	V.E.1
71	**Technical Information Meeting**	Submittal of 100% Design.		V.E.2
72	**Agency Review/Comment**			
73	**Agency Approval of Pre-ISTR Package (100% Design) with Comments**			
74	**ISTR Conceptual Design Package (75% Design)**	EPA approval or modification of RD Work Plan.	Within 120 days of EPA approval that necessary pre-design studies to be described in the RD Work Plan are complete	V.D.1
75	**Pre-Design Activities Reports**			V.D.1.a
80	**Submit 75% Design Package**			
81	**Technical Information Meeting**			V.D.3
82	**Agency Approval of 75% Design Package with Comments**			
83	**ISTR Final Design Package (100% Design)**			V.E.3
86	**Submit ISTR Final Draft Package (100% Design)**			
87	**Technical Information Meeting**			
88	**Agency Approval of ISTR Design Package (100% Design) with Comments**			
89	**Pre-construction Conference(s)**	EPA approval or modification of Final D	Within 30 days of notice by EPA.	VI.C
90	**Pre-construction Public Meeting(s)**	EPA approval or modification of Final D	Within 45 days of notice by EPA.	VI.D
91	**Accelerated ISTR Construction Activities**			
92	AT&T Fiber Optic Relocation			
93	Partial CP-2 (culvert relocation) Construction			
94	OAR-2 Surface Preparation for ISTR Work			
95	Thermal Infrastructure Installation (gas, sewer, power)			
96	**Initiation of Remedial Action Construction Activities (ISTR and Soils)**	**EPA approval or modification of Final Design.**	**Within 60 days of notice by EPA.**	VI.E
97	**Meetings During Construction**	**Start of Construction**	**Weekly during construction**	VI.F
172	In-Situ Thermal Treatment Construction			
173	Thermal Final Construction Inspection	Within 60 days of notice by Settling Defendants.		VI.G
174	Submit Construction Completion Report	Within 30 days of Final Construction Inspection.	Within 30 Days	VI.H
175	Agency Approval of Completion Report			
176	**Thermal Treatment**			
181	**Post Thermal Activities**			
182	**Soil Investigation**	After In-Situ Thermal to re-assess the size of the area to be capped		V.C.i
183	**Vapor Control System Evaluation**	After In-Situ Thermal to determine whether (or not) a vapor control system is needed below the cap.		V.C.j
184	**Final Soil & RCRA C Cap Conceptual Design**			
185	**Final Soil & Multi Layer Cap Submit 75% Design Package**			
186	**Technical Information Meeting**			
187	**Agency Approval of 75% Final Soil & Multi Layer Cap Design Package with Comments**			
188	**Final Soil & Multi Layer Cap 100% Design Submittal**			
189	**Technical Information Meeting**			
190	**Agency Approval of Final Soil & Multi Layer Cap 100% Design**			
191	**Final Soil & Multi Layer Cap Construction**			
192	**Final Construction Inspection**	Settling Defendants conclude construction complete.	Within 60 days of notice by Settling Defendants.	VI.G
193	**Groundwater Containment & Treatment Evaluation & Optimization Study (GCTEOS**			V.C.4
194	**Optimization Studies**	Upon completion of the in-situ Thermal Treatment and capping components of the remedy	As directed by the EPA, or proposed by the Settling Defendants, no less frequently than every 10 years	V.C.6
195	**Additional Optimization Study(s) (TBD)**			V.C.6
196	**Completion Report**	Final construction inspection.	Within 30 days of inspection.	VI.H
212	**Commencement of Operation and Maintenance**	EPA approval or modification of Construction Completion Report.	Immediately upon notice by EPA.	VI.I
213	**Compliance Monitoring (CM)**			VII.B
214	**Annual Groundwater Sampling Event**			
226	**Biennial Groundwater Sampling Event**			
247	**Five-Year Review Sampling Event**			
251	**Sampling between Railroad Tracks and NTCRA 1 Sheet Pile Wall**			
252	**Pre ISTR Sampling**			
258	**ISTR Sampling**			
261	**Post ISTR Sampling (During Time to Achieve Equilibrium)**			
266	**Post ISTR Equilibrium Sampling**			
277	**Background Sampling Event (Metals Only)**			
283	**Compliance Reporting**			VIII
284	**Monthly Progress Reports**	**Lodging of the CD.**	**On the 10th day following lodging and monthly thereafter.**	VIII.A
369	**Annual State of Compliance Reports**	**One Year After the Lodging of the Consent Decree**	**Annually**	VIII.B
381	**Five Year Review Reports**	**Five Years after the date of the Record of Decision**	**Every Five years**	VII.A.D
385	**Compliance Monitoring (CM) Work Plan Evaluation(s)**	**No less frequently than once after implementation of the excavation and capping component, and long-term groundwater containment and treatment system.**	**As part of the five-year reviews.**	VII.B.3
389	**Interim Remedial Action Report**	EPA determination that long-term groundwater containment and treatment system is operational and functional.	Within 90 days of notice by EPA.	VIII.C
390	**Determination of Background Metals in Groundwater (TBD)**	Compliance with Interim Cleanup Levels for Groundwater.	No sooner than 365 days prior to submittal of Demonstration of Compliance Report.	VIII.E
391	**Demonstration of Compliance Report (TBD)**	Compliance with cleanup levels.	As demonstrated by Settling Defendants.	VIII.F
392	**Risk Assessment**			IV.A.1
393	**Site Closure (TBD)**			
394	**Summary of Cost Information (TBD)**	Compliance with cleanup levels.	As demonstrated by Settling Defendants.	VIII.G



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Hydraulic Containment and Treatment System Annual Demonstration of Compliance Report No. 4

31 October 2011 Through 30 October 2012

Solvents Recovery Service of New England, Inc.
Superfund Site
Southington, Connecticut

Prepared for:
SRSNE PRP Group

Prepared by:

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13 NOVEMBER 2012

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Infrastructure · Water · Environment · Buildings

SRSNE Site Group

2012 Groundwater Sampling and Monitored Natural Attenuation Report

Solvents Recovery Service of New England, Inc.
(SRSNE) Superfund Site
Southington, Connecticut

December 2012

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DRAFT

Disclaimer: *This document is a DRAFT document prepared by the Settling Defendants under a government Consent Decree. This document has not undergone formal review by the EPA and CT DEEP. The opinions, findings, and conclusions, expressed are those of the author and not those of the U.S. Environmental Protection Agency or the CT Department of Energy and Environmental Protection.*

2012 Groundwater Sampling and Monitored Natural Attenuation Report

Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

Prepared for:
SRSNE Site Group

Prepared by:
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Our Ref.:
B0054634.0000.02200

Date:
December 2012

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Appendices

A Profile Sheets and Well Construction Logs

B Geophysical Applications Report

C Hydraulic Conductivity Calculations

D Field Sampling Forms

E Equipment Calibration Logs

Executive Summary

This *2012 Groundwater Sampling and Monitored Natural Attenuation Report* (MNA Report) has been prepared to address certain requirements of the Statement of Work (SOW) for the Remedial Design/Remedial Action (RD/RA) activities at the Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site in Southington, Connecticut (Site). Specifically, this report summarizes the 2012 groundwater sampling event performed in accordance with the *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Work Plan; Attachment N to the Remedial Design Work Plan [RDWP]; ARCADIS 2010c), and presents the results and interpretation of data collected in support of MNA as a remedy for groundwater that contains Site-related constituents of concern (COCs) at concentrations exceeding acceptable risk levels or regulatory limits. Monitored natural attenuation is a component of the overall remedial strategy for Site groundwater as set forth in the United States Environmental Protection Agency's (USEPA's) 2005 Record of Decision (ROD) for the Site.

This MNA Report also summarizes activities associated with installation and testing of three monitoring well clusters that were constructed since December 2011 (MW-1001R/M, MW-1002R/DR and MW-1003R/DR). As a supplement to wells previously installed in accordance with the Work Plan, these wells were installed to further delineate the volatile organic compound (VOC) plume. Based on the findings associated with these well installations, no additional well installations are currently planned as delineation of the SRSNE-related plumes is now considered complete. The new wells will be incorporated into the groundwater monitoring program.

In accordance with the Work Plan, the 2012 annual groundwater sampling event was performed in June 2012 and included sampling of groundwater at 44 monitoring wells. Having been sampled for the full suite of potential site-related constituents in 2010 as part of the "comprehensive" event, the analytical suite for these wells in 2012 included only VOCs, target analyte list (TAL) metals, and/or MNA parameters, as indicated in the Work Plan. Results indicate that:

- VOCs above USEPA Maximum Contaminant Levels (MCLs) or Connecticut Class GA Groundwater Protection Criteria (GWPC) are generally contained within the previously estimated containment boundary of the hydraulic containment and treatment system (HCTS). The exception is at monitoring well MW-707DR, a deep bedrock monitoring well located just beyond the southern extent of the estimated capture zone boundary. Benzene was detected at a concentration of 1.1 micrograms per liter (μg/L) in the June 2012 sample, which is slightly above the Action Level (the more stringent of the MCL or GWPC criterion) of 1.0 μg/L. This well was re-sampled in August 2012 to confirm this result; benzene was again detected at a concentration of 1.1 μg/L in the second sample. An evaluation of cause and corrective measures is currently underway, and future additional sampling will provide a basis to assess groundwater quality trends at this well.

- Trichloroethene (TCE) was detected in monitoring well PZO-2M at a concentration of 9.9 μg/L in the June 2012 sample, which is above the Action Level of 5.0 μg/L. This was the first detection of a Site-related COC above the Action Level at this well. As such, this well was also re-sampled in August 2012 to confirm this result; TCE was detected at a concentration of 0.42 μg/L in the second sample. Future additional sampling will also provide a basis to assess groundwater quality trends at this well.

- No metals (either total or dissolved) exceeded their respective MCLs or GWPC, with the exception of total manganese measured at MW-209B in 2012 (507 μg/L total manganese, compared to the GWPC of 500 μg/L). MW-209B is an upgradient, background well located west of the former Operations Area of the SRSNE Site.

This MNA Report fulfills the requirement set forth in Section VII.A.2 of the SOW and the reporting approach outlined in the MNA Plan that was presented as Attachment L to the RDWP (ARCADIS 2009). This MNA Report presents results of an evaluation of the effectiveness of MNA as a remedial measure for COCs in groundwater in the Site. As an extension of the prior evaluations (presented in the 2010 and 2011 MNA Reports), this evaluation considers groundwater monitoring results from the June 2012 annual groundwater monitoring event for VOCs, TAL metals and MNA parameters at a subset of monitoring wells; evaluation of current concentration trends for total VOCs in groundwater at select monitoring locations; estimates of bulk attenuation rates for total VOCs in groundwater; and presentation of HCTS COC mass extraction rates with time. Results of these evaluations indicated:

- Detected concentrations of VOCs above Action Levels are contained within the previously estimated containment boundary of the HCTS. The exception is in monitoring well MW-707DR, as discussed above.

- Groundwater total VOC concentrations are generally declining or remaining stable with time throughout the Site groundwater COC plume. One notable exception is an increase in VOC concentrations at shallow bedrock monitoring well P-11A, which is located downgradient of the former Operations Area and within the HCTS capture zone.

- Estimated bulk VOC attenuation rates were comparable to attenuation rates for individual COCs presented in the *Feasibility Study* (FS) (Blasland, Bouck & Lee, Inc. [BBL] and USEPA 2005).

- Compliance monitoring data from the HCTS indicate generally stable COC mass extraction rates since the early 2000s.

These results support continued use of MNA as a remedy for COCs in Site groundwater.

One modification to the MNA monitoring program was implemented during the 2012 sampling event based on the results of the 2010 and 2011 MNA monitoring. Namely, sulfide was originally proposed for monitoring in support of the MNA evaluations; it is not a site-related COC or used for compliance monitoring. Sulfide was not detected in MNA-related analyses to date. Based on the highly reactive nature of sulfide and the lack of detectable concentrations of sulfide in site groundwater, along with the adequate characterization of site groundwater redox conditions using other MNA parameter data, sulfide was removed from the MNA parameter analyte list following the 2011 sampling event. The recommendation to remove sulfide was originally made in the 2010 MNA Report, and was approved by the USEPA in an email to *de maximis* dated September 15, 2011.

1. Introduction

1.1 Purpose

This *2012 Groundwater Sampling and Monitored Natural Attenuation Report* (MNA Report) was prepared on behalf of the SRSNE Site Group, an unincorporated association of Settling Defendants to a Consent Decree (CD), to address certain requirements of the Statement of Work (SOW) for the Remedial Design/Remedial Action (RD/RA) at the Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site in Southington, Connecticut (Site) (Figure 1). The CD was lodged on October 30, 2008 with the United States District Court for the District of Connecticut in connection with Civil Actions No. 3:08cv1509 (SRU) and No. 3:08cv1504 (WWE) and was entered by the Court on March 26, 2009.

This MNA Report presents the results and evaluation of data collected during the June 2012 annual groundwater monitoring event conducted in accordance with the Remedial Design Work Plan (RDWP) and the MNA Plan (Attachment L to the RDWP [ARCADIS 2009]), and in fulfillment of the requirements of the SOW (Sections IV.B.5.e and IV.B.5.f). It also presents the results for August 2012 re-sampling at two wells (MW-707DR and PZO-2M) based on the June 2012 sampling results at these wells. Finally, this MNA Report summarizes the activities associated with installation and testing of three monitoring well clusters that were constructed since December 2011 (MW-1001R/M, MW-1002R/DR and MW-1003R/DR). These wells were installed to supplement the wells previously installed in accordance with the Work Plan and further delineate the volatile organic compound (VOC) plume.

Section VII.A.2 of the SOW requires the submittal of annual MNA Reports as part of the Annual State of Compliance Reports. Monitored natural attenuation is a component of the overall remedial strategy set forth for the Site in the Record of Decision (ROD) (United States Environmental Protection Agency [USEPA] 2005) for groundwater containing Site-related constituents of concern (COCs) at concentrations exceeding acceptable risk levels or regulatory limits.

1.2 Scope

In accordance with the *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Work Plan; Attachment N to the RDWP [ARCADIS 2010c]), the 2012 annual groundwater sampling event was performed in June 2012 and included sampling of groundwater from 27 “R”, 4 “M”, 3 “B” and 10

"N"-designated monitoring wells. As further described in Section 3.1, the letter designations generally pertain to the locations, monitoring scope, and sampling frequency of monitoring wells. Having been sampled for all parameters in 2010, the analytical suite for these wells in 2012 included only VOCs, target analyte list (TAL) metals, and/or MNA parameters, as indicated in the Work Plan for each well designation.

Monitored natural attenuation refers to the reliance on natural attenuation (NA) processes, within the context of a carefully controlled and monitored site cleanup approach, to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by more active methods. Natural attenuation is the reduction in mass or concentration of COCs in groundwater over time or distance from the source of the impact due to naturally occurring processes. Attenuation processes include nondestructive physical processes (e.g., advection, dilution, dispersion, volatilization, dissolution, and sorption) and destructive chemical and biological processes.

The MNA remedy at the Site applies to the groundwater and non-aqueous phase liquid (NAPL) and addresses the following areas of the Site, in accordance with the SOW:

- Groundwater and saturated glacial deposits (gravel, sand, silt and clay) in the "Overburden Groundwater" unit that contain COC concentrations above acceptable risk levels or regulatory criteria; and

- Groundwater and fractured rock in the "Bedrock Groundwater" unit that contain COC concentrations above acceptable risk levels or regulatory criteria.

As part of the MNA remedy, COCs in overburden and bedrock groundwater are monitored. The Site COCs include VOCs such as chlorinated ethenes and ethanes, ketones, aromatic compounds and 1,4-dioxane; TAL metals; semi-volatile organic compounds (SVOCs); and polychlorinated biphenyls (PCBs).

In addition to monitoring COC concentrations, the MNA Plan specifies long-term monitoring of a suite of geochemical parameters ("MNA parameters") to confirm geochemical evidence of NA and to verify that biochemical processes continue to support COC degradation in Site groundwater. The MNA parameters monitored at the Site include anions (sulfate, sulfide, chloride, nitrate, nitrite), total organic carbon (TOC), iron (ferric, ferrous), divalent manganese, light hydrocarbons (methane, ethane, ethene), dissolved oxygen (DO), oxidation/reduction potential (ORP), pH, alkalinity, and temperature.

1.3 Document Organization

The remainder of this MNA Report is organized into the following sections:

- **Section 2 – 2012 Well Installation Summary:** summarizes the installation and testing activities associated with construction of monitoring well clusters MW-1001M/R, MW-1002R/DR and MW-1003R/DR.

- **Section 3 – Annual Groundwater Sampling Event – 2012:** summarizes the groundwater sampling activities performed in June/August 2012 and evaluates the data.

- **Section 4 – MNA Background:** describes the MNA performance monitoring program at the Site, including the Site conceptual model, MNA remedy, and performance standards.

- **Section 5 – Performance Monitoring:** describes the MNA performance monitoring program at the Site, including monitoring locations, parameters, frequency and objectives.

- **Section 6 – MNA Evaluation:** evaluates Site data based on results from the June 2012 annual sampling event, and discusses the analysis of performance monitoring data, including the data quality assessment process, data interpretation approach, and statistical procedures.

- **Section 7 – Summary:** presents a summary of conclusions from the MNA evaluation and provides recommendations for action.

- **Section 8 – References:** lists the references cited within this MNA Report.

2. New Monitoring Well Installations

The Work Plan proposed, among other things, installation of several new monitoring wells for the purpose of providing a suitable monitoring well network and program for the RD/RA activities. The initial well installation program was subsequently implemented between November 2009 and June 2010, and the results were summarized in a *Summary of Monitoring Well Network Modifications* (ARCADIS 2010b) report submitted to the USEPA in October 2010. Based on the initial installation and sampling of those wells, additional monitoring wells were proposed to help satisfy the following objectives:

- Characterization of plume extent in all five hydrostratigraphic zones, and
- Facilitate evaluation of hydraulic capture of all groundwater that exceeds federal drinking water standards and other risk-based levels.

The need for and locations of additional wells were discussed with the USEPA, and summarized in documents including memoranda dated May 27 and November 10, 2011. This progressively resulted in the installation and testing of three monitoring well clusters beginning in December 2011 and extending through October 2012, including monitoring wells MW-1001M/R, MW-1002R/DR and MW1003R/DR. This section summarizes the installation and testing (including groundwater sampling) performed for each of the well clusters installed in 2012, and identifies the proposed approach for incorporating the new wells into the ongoing groundwater monitoring program. For each of the five hydrostratigraphic units defined for the site, the updated monitoring well network is illustrated on Figures 2 through 6.

2.1 MW-1001M and MW-1001R

2.1.1 Well Installation

Between December 7 and 23, 2011, monitoring wells MW-1001M (middle overburden) and MW-1001R (shallow bedrock) were installed adjacent to the access road for Oak Hill Cemetery, east of Queen Street (see Figure 3). As outlined in the draft memorandum dated May 27, 2011 entitled *SRSNE Bedrock DNAPL Zone and Plume Evaluation and Recommended Monitoring Well Locations* (ARCADIS 2011a), the additional wells were installed to further delineate the VOC plume in the middle overburden and the shallow bedrock east of the Quinnipiac River.

Monitoring well MW-1001M was completed on December 16, 2011, and is screened from 85.6 feet to 95.6 feet below ground surface (bgs) based on the qualitatively coarsest soil sample in the middle overburden. Monitoring well MW-1001R was completed on December 23, 2011, and is screened from 175.3 feet to 190.3 feet bgs based on discussion with the USEPA in consideration of core sample observations and packer testing/vertical profiling results, which are summarized in Appendix A. The boreholes were drilled using rotasonic methods within the overburden and, for well MW-1001R, conventional HQ coring in bedrock. The open borehole at MW-1001R was subject to down-hole geophysical logging to measure fracture orientations in the bedrock. The geophysical logging was performed by Geophysical Applications, Inc. of Holliston, Massachusetts, and a copy of the associated report is included in Appendix B. Monitoring well construction logs are included in Appendix A.

Each of the two new wells was developed and subject to specific capacity testing on December 28, 2011. Specific capacity calculations and complete calculations are included in Appendix C. After reviewing the development data, it was determined that the removal of additional water was required at MW-1001M. Therefore, further development was performed at MW-1001M on January 17 and 20, 2012.

2.1.2 Groundwater Sampling

Groundwater samples were collected from wells MW-1001M and MW-1001R on February 6 and 7, 2012, approximately two weeks after completing well development. The monitoring wells were sampled using the low-flow methods described in the Field Sampling Plan (FSP; [Rev. 3] ARCADIS 2012a). Samples were submitted to Connecticut Testing Laboratories (CTL) in Meriden, Connecticut, for analysis of VOCs, 1,4-dioxane and Target Analyte List (TAL) metals (total and dissolved). Groundwater analytical data are summarized on Tables 1 and 2, and further discussed in Section 2.3 below.

2.2 MW-1002R and MW-1002DR

2.2.1 Well Installation

Monitoring wells MW-1002R (shallow bedrock) and MW-1002DR (deep bedrock) were installed between February 20 and March 15, 2012 (see Figures 5 and 6, respectively). These wells are adjacent to and just north of the Connecticut Light & Power (CL&P) easement. As outlined in the May 27, 2011 memorandum and revised in the November 10, 2011 memorandum (ARCADIS 2011b), these new wells were intended to further delineate the downgradient extent of trichloroethene (TCE) in the bedrock zone. The drilling location is near the edge of the simulated TCE plume in bedrock based on the recalibrated modeling results presented in the November 10, 2011 memorandum, and further south along the particle track that goes through the PZ-903DR location. The new wells are also intended to confirm the TCE plume attenuation downgradient of PZ-903DR.

Prior to drilling the MW-1002 wells, samples from the first batch of drill water were collected and submitted to CTL for VOC analysis. The purpose of these samples was to demonstrate that clean drilling water and storage vessels were being used. Data from these samples are summarized on Table 3. As indicated on that table, low concentrations of chloroform and/or chloromethane were detected in these samples. This is consistent with prior sampling of water supply sources and not uncommon for chlorinated water supplies.

Monitoring well MW-1002R was completed on March 14, 2012, and is screened from 105 feet to 120 feet bgs. Monitoring well MW-1002DR was completed on March 15, 2012, and is screened from 171 feet to 186 feet bgs; screen intervals for both wells were determined based on discussion with the USEPA in consideration of core sample observations and packer testing/ vertical profiling results, which are summarized in Appendix A. Both of the boreholes were drilled using rotasonic methods within the overburden and conventional HQ coring in bedrock. The open borehole at MW-1002DR was subject to down-hole geophysical logging to measure fracture orientations in the bedrock. The geophysical logging was performed by Geophysical Applications, Inc. and a copy of the associated report is included in Appendix B. Monitoring well construction logs are included in Appendix A.

MW-1002R and MW-1002DR were developed and specific capacity tested on March 20, 2012. Specific capacity calculations are included in Appendix C.

2.2.2 Groundwater Sampling

Groundwater samples were collected from monitoring wells MW-1002R/DR on April 4 and 5, 2012, approximately two weeks after development. The monitoring wells were sampled using the low-flow methods described in the FSP. Samples were submitted to CTL for analysis of VOCs and TAL metals (total and dissolved). In addition to sampling these two wells, monitoring well MW-1001R was re-sampled to confirm results from the February 2012 sample.

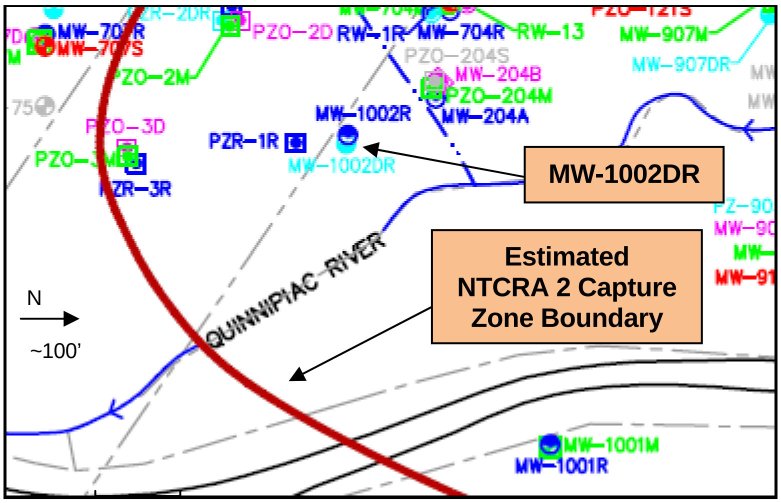
Groundwater analytical data are summarized on Tables 1 and 2, and are discussed below.

2.3 Data Summary – MW-1001R/M and MW-1002R/DR

As indicated above, groundwater samples were collected from wells MW-1001M, MW-1001R, MW-1002R, and MW-1002DR following their construction and development. The samples were analyzed according to their anticipated well group designation (further discussed in Section 2.5), and as summarized in the following table:

Monitoring Well	Well Group	Sample Date	Analytical Parameters
MW-1001M	C	2/7/12	VOCs, 1,4-dioxane, TAL metals
MW-1001R	C	2/6/12	VOCs, 1,4-dioxane, TAL metals
		4/5/12	VOCs, TAL metals
MW-1002R	R	4/4/12	VOCs
MW-1002DR	R	4/5/12	VOCs

Table 1 (VOCs) and Table 2 (TAL metals) summarize the resulting analytical data. Note that the data from these specific sampling events were not validated because (1) CTL did not provide data packages suitable for validation, and (2) CTL performed these analyses on an interim basis pending the selection of a new laboratory. VOCs were detected in each monitoring well at concentrations below Action Levels with the exception of trichloroethene (TCE), which was detected at a concentration of 212 micrograms per liter (μg/L) at monitoring well MW-1002DR; the Action Level for TCE is 5 μg/L. As presented in the *Summary of Initial (2010) Comprehensive Groundwater Sampling Event* (ARCADIS 2011a), the estimated Non-Time-Critical Removal Action (NTCRA) 2 capture zone encompasses the MW-1002DR location. The figure below depicts the MW-1002DR location in relation to the estimated NTCRA 2 capture zone boundary. Groundwater north of (to the right of) the capture zone boundary is hydraulically controlled by the NTCRA 2 extraction wells, which are approximately 200 feet northwest of well MW-1002DR.



Several TAL metals were also detected in each well analyzed, as shown on Table 2. All TAL metals detected were at concentrations below Action Levels, with the exception of total chromium in monitoring well MW-1001R. Chromium was initially detected at a concentration of 240 µg/L in the sample collected from this well on February 6, 2012. The well was resampled on April 5, 2012, and total chromium was again detected above Action Levels, albeit at a lower concentration (190 µg/L; the Action Level for chromium is 100 µg/L). The source of the chromium at shallow bedrock monitoring well MW-1001R is unknown. Possible sources could include:

- Natural groundwater quality in the bedrock in that area
- Metals associated with caskets interned at the cemetery property where this well was installed
- Artifact of the permanent black steel casing used in the construction of the well (the sand pack of the completed monitoring well extends upward into the bottom of the steel casing because a noteworthy bedrock fracture was observed immediately below the black steel casing)

The chromium in MW-1001R is not likely Site-related because several shallow bedrock wells (e.g., MW-05, MW-501A and P-101A) between well MW-1001R and the Site did not contain detectable levels of chromium during the initial comprehensive groundwater sampling event conducted in 2010. Groundwater quality at this well will continue to be monitored as part of the comprehensive groundwater sampling events.

2.4 MW-1003R and MW-1003DR

2.4.1 Well Installation

Because MW-1002DR did not fully delineate the extent of VOCs exceeding action levels, an additional downgradient well location was targeted in consultation with the USEPA. Monitoring wells MW-1003R (shallow bedrock) and MW-1003DR (deep bedrock) were subsequently installed in the CL&P easement, south of MW-1002R/DR and between PZR-2R and PZR-3R. These wells were installed between August 6 and September 6, 2012.

The boreholes were drilled using rotasonic methods within the overburden and conventional HQ coring methods in bedrock. The open borehole at MW-1003DR was subject to down-hole geophysical logging to measure fracture orientations in the bedrock. The geophysical logging was performed by Geophysical Applications, Inc. of Holliston, Massachusetts, and a copy of the associated report is included in Appendix B. Based on the data from the vertical profiling process (Appendix A) and consultation with USEPA, monitoring well MW-1003R was screened from 103 feet to 118 feet bgs and monitoring well MW-1003DR was screened from 177 feet to 192 feet bgs. Both well screen intervals were selected based on packer test samples collected from each borehole. Well construction logs are included in Appendix A.

Each of the two new wells was developed and specific capacity tested on September 24 and 26, 2012. Complete specific capacity calculations, including a summary, are included in Appendix C.

2.4.2 Groundwater Sampling

Groundwater samples were collected from wells MW-1003R and MW-1003DR on October 15, 2012, approximately two weeks after completing well development. The monitoring wells were sampled using the low-flow methods described in the Field Sampling Plan (FSP; [Rev. 3] ARCADIS 2012a). Samples were submitted to Alpha for analysis of VOCs, and to Microseeps for analysis of MNA parameters. The resulting analytical data are presented in Table 4; low concentrations of VOCs were detected, below their respective Action Levels.

2.5 Incorporation of New Wells into the Groundwater Monitoring Program

The Work Plan identified the planned scope of the groundwater monitoring program for the site based on the existing and planned wells at that time. The six new monitoring wells completed in 2012 were not contemplated at the time the work plan was prepared, but were installed for the purpose of further investigation and delineation based on the results from prior well construction and sampling. Having installed the new wells, they are anticipated to be incorporated into the groundwater monitoring program as follows:

Monitoring Wells	Well Group	Analytical parameters*	Monitoring Frequency
MW-1001M and MW-1001R	C	VOCs, alcohols, 1,4-dioxane, TAL metals, PAHs, PCBs	sampled as part of the comprehensive sampling events to support 5-year reviews
MW-1002R, MW-1002DR, MW-1003R, and MW-1003 DR	R	VOCs and MNA parameters	annually for VOCs and biennially for MNA parameters

*Analytical parameters are subject to change (pending USEPA concurrence) as part of future monitoring events

3. Annual Groundwater Sampling Event – 2012

3.1 Scope of Work

The 2012 annual groundwater sampling event was conducted to satisfy the requirements of SOW Sections IV.B.5.d, IV.B.5.e and IV.B.5.f. A brief summary of the requirements of each of these sections is presented below:

- **IV.B.5.d** – biennial monitoring of VOCs and MNA parameters at a select subset of monitoring wells in the overburden aquifer in the area between the railroad tracks and the non-time-critical removal action (NTCRA) 1 sheet pile wall (i.e., overburden "N" wells).

- **IV.B.5.e** – annual monitoring of VOCs and MNA parameters at a select subset of monitoring wells in the bedrock aquifer in the area between the railroad tracks and the NTCRA 1 sheet pile wall (i.e., bedrock "N" wells).

- **IV.B.5.f** – annual monitoring of VOCs and biennial monitoring of MNA parameters at a select subset of monitoring wells in the overburden and bedrock aquifers in the area outside the NTCRA 1 sheet pile wall (i.e., "R" wells).

In addition to the SOW-required sampling, the background monitoring wells – specifically the "M" and "B" wells – were sampled for TAL metals; the "M" wells were also sampled for MNA parameters in accordance with the Work Plan. As outlined in SOW Section VIII.F, Interim Cleanup Levels (ICLs) for metals need to be established prior to submittal of the Demonstration of Compliance Report. To that end, metals will be analyzed on an annual basis to establish a dataset sufficient for determining the appropriate background metals concentrations at the Site.

In total, 44 monitoring wells were sampled as part of the 2012 monitoring event. Of these, 10 were sampled using low-flow methods and the remainder (34) were sampled using HydraSleeve™ samplers.

3.2 Summary of Field Activities

The 2012 annual groundwater sampling event was conducted June 11-15, 2012. Procedures used for gauging and sampling the 10 monitoring wells using low-flow methods were consistent with those outlined in the *Summary of Initial (2010) Comprehensive Groundwater Sampling Event* (ARCADIS

January 2011a). HydraSleeves™ were used to collect samples from 34 of the 44 wells consistent with the approach proposed in a memorandum dated July 7, 2011, and approved by the USEPA in a letter dated May 21, 2012. In summary, the approved HydraSleeve™ sampling approach included the following conditions:

- Used for “routine” samples collected for tracking changes and trends in the groundwater over time. It does not apply to samples collected for specific decision points such as evaluating remedy protectiveness for five-year reviews, capture zone analysis, confirming results of modeling, risk assessments, etc.

- To be used only for sampling of VOCs and MNA parameters.

- Used for any well that has been given an “R” or “N” designation and that contains one or more constituents at a concentration greater than or equal to ten times the ICL, or, is located within the hydraulic capture zone.

Samples were submitted to Alpha Analytical (Alpha) of Westborough, Massachusetts, for analysis of VOCs and TAL Metals, and to Microseeps, Inc. of Pittsburgh, Pennsylvania for analysis of MNA parameters. A tabular summary of the sampling event is provided below:

SOW Section	Well Group	# of Wells Intended		# of Wells Sampled		Analytical Parameters
		LF	HS	LF	HS	
IV.B.5.d	Overburden “N”	0	8	0	8	VOCs, MNA Parameters
IV.B.5.e	Bedrock “N”	0	2	0	2	
IV.B.5.f	“R”	3	25	3	24	
VIII.F	“M”	5	--	4	--	TAL Metals, MNA Parameters
	“B”	3	--	3	--	TAL Metals

LF – Wells sampled using low-flow method
HS – Wells sampled using HydraSleeve™ samplers

Deviations from the intended scope were based on the following:

- Monitoring well CPZ-8R was not sampled due to the continued presence of dense non-aqueous phase liquid (DNAPL) in the well.

- Monitoring well MW-901D was not sampled due to insufficient water in the well (i.e., dry) at the time of sampling.

In addition to the above scope, two monitoring wells, MW-707DR and PZO-2M, were re-sampled in August 2012 to confirm the results of the initial June 2012 sample. Monitoring well locations in each of the five hydrostratigraphic zones are shown on Figures 2 through 6. Field sampling forms and equipment calibration logs from the sampling event are included in Appendices D and E, respectively.

3.3 Results

Groundwater analytical results from the June 2012 annual groundwater monitoring event are provided in Tables 1, 2, and 4 for VOCs (including August 2012 re-sampling results), metals and MNA parameters, respectively. Groundwater data were validated consistent with the procedures outlined in the *Summary of Initial (2010) Comprehensive Groundwater Sampling Event* (ARCADIS January 2011a). Qualifiers and modifications made via the validation process are reflected in Tables 1, 2, and 4.

3.3.1 Groundwater Elevations

Synoptic groundwater elevation measurements are only collected in conjunction with five-year comprehensive monitoring events, and therefore were not collected during the June 2012 groundwater monitoring event. Groundwater gauging data from the initial comprehensive event (May-June 2010) were included in the *Summary of Initial (2010) Comprehensive Groundwater Sampling Event* (ARCADIS January 2011a).

3.3.2 VOCs

Groundwater VOC concentrations from the June 2012 groundwater monitoring event (and subsequent sampling in August and October 2012 for selected wells discussed above) are provided in Table 1. Groundwater VOC concentrations were compared against USEPA Maximum Contaminant Levels (MCLs) and Connecticut Class GA Groundwater Protection Criteria (GWPC), with the lower of the two criteria used as the criterion for the comparison. Groundwater VOC concentrations that exceeded their respective groundwater criterion are highlighted in Table 1. Groundwater VOC concentrations were also compared to the ICLs specified in Table L-1 of the ROD (USEPA 2005), and concentrations that exceeded their respective ICLs are highlighted in Table 1.

Concentrations of VOCs greater than MCLs or GWPC are generally contained within the previously estimated containment boundary of the Hydraulic Containment and Treatment System (HCTS). The exception is in monitoring well MW-707DR, a deep bedrock well located just beyond the southern extent of the capture zone boundary. Benzene was detected at a concentration of 1.1 micrograms per liter (μg/L) in the June 2012 sample, which is above the Action Level (the more stringent of the MCL or GWPC criterion) of 1.0 μg/L. This well was re-sampled in August 2012 to confirm this result; benzene was also detected at a concentration of 1.1 μg/L (Table 1) in the second sample. An evaluation of NTCRA 2 system operating data is being conducted to assess potential correlations between groundwater extraction rates, well development periods, and recent detections of benzene in this well, which is located just south of the Connecticut Light & Power (CL&P) easement.

TCE was detected in a sample from PZO-2M at a concentration of 9.9 μg/L in the June 2012 sample, which is above the Action Level of 5.0 μg/L. This was the first detection of a Site-related COC above the Action Level at this well. As such, this well was also re-sampled in August 2012 to confirm this result; TCE was detected at a concentration of 0.42 μg/L in the second sample. Future additional sampling will also provide a basis to assess groundwater quality trends at these wells.

VOC concentrations at shallow bedrock monitoring well P-11A increased notably relative to prior events. This well is located at the downgradient edge of the bedrock NAPL zone delineated during the Remedial Investigation (RI; Blasland, Bouck & Lee, Inc. [BBL] June 1998a), and within the HCTS capture zone. The total VOC concentration in June 2012 (approximately 26 milligrams per liter [mg/L]) was greater than the 2011 result (583 μg/L) and above the highest historical total VOC concentration at this well (13 mg/L in December 1994). VOC concentrations at this well will continue to be monitored as part of future sampling events.

VOC Plume Delineation

Data from the 2010-2012 groundwater monitoring events were used to update the VOC plume maps, originally presented in the *Summary of Initial (2010) Comprehensive Groundwater Sampling Event* (ARCADIS January 2011a), for each of the five hydrostratigraphic units. Using the approach that was initially presented in the Remedial Investigation (RI; BBL June 1998a), groundwater VOC results (the most recent data available at each well) were used to derive VOC regulatory exceedance ratios by dividing detected concentrations of VOCs by the lower of their respective groundwater regulatory criteria, which generally represent drinking water standards. Exceedance ratio values greater than 1.0 indicate that the detected VOC concentration exceeded the lower of the federal standard (MCL) or the state standard (GWPC). Exceedance ratio values less than 1.0 indicate that the detected VOC concentration was less than the MCL or GWPC. The highest VOC exceedance ratio for each well, and the specific compound associated with that ratio, are summarized for each hydrostratigraphic unit on Figures 7 through 11. These regulatory exceedance ratios were used to delineate groundwater with VOCs above MCLs or GWPCs, as shown by the light green contour lines on Figures 7 through 11.

3.3.3 SVOCs and PCBs

SVOC and PCB data are only collected in conjunction with five-year comprehensive monitoring events, and therefore were not included in the June 2012 groundwater monitoring event. Previously collected SVOC and PCB data (May-June 2010) were evaluated in the *Monitored Natural Attenuation Report* (ARCADIS September 2010a).

3.3.4 TAL Metals

Groundwater concentrations of TAL metals during the June 2012 groundwater monitoring event are summarized in Table 2. Groundwater TAL metals concentrations were compared against MCLs and GWPC; ICLs have not yet been developed for metals in groundwater because they are a function of background concentrations, which are to be established in the future based on background sampling performed through that time.

No metals (either total or dissolved) exceeded their respective MCLs or GWPCs, with the exception of total manganese measured at MW-209B in 2012 (507 µg/L total manganese, compared to the GWPC of 500 µg/L). MW-209B is an upgradient, background well located west of the former Operations Area of the SRSNE Site.

3.3.5 MNA Parameters

Concentrations and distributions of electron acceptors, electron donors, and byproducts of microbially mediated reactions are evaluated to verify the types of geochemical and biodegradation processes active in Site groundwater. Concentrations of MNA parameters during the June 2012 annual groundwater monitoring event (and subsequent sampling in August and October 2012) are provided in Table 4.

4. MNA Background

An MNA remedy requires a strong scientific basis supported by appropriate monitoring. When properly employed, MNA is an effective remedy – based on thorough analysis of site-specific data – to understand, monitor, predict, and document COC transport and NA processes.

4.1 Site Conceptual Model

For any MNA remedy to succeed, it is important to understand the Site Conceptual Model (SCM). The SCM combines available site information into a comprehensive picture of the nature and extent of the COCs and the processes controlling their transport and fate in the environment. The level of site characterization necessary to support a comprehensive evaluation of MNA can be more detailed than that needed to support active remediation.

The SCM, including information regarding the Site operational history, regulatory status, geology, hydrogeology, and surface water hydrology, and the distribution and mass of COCs in Site groundwater, including delineation of NAPL zones and dissolved-phase groundwater plume, and VOC mass estimates, is provided in Section 2 of the RDWP (ARCADIS 2009) and fulfills the requirements set forth in the SOW, Section V.C.1.l.

The MNA conceptual model for the Site may be described in terms of source condition, dissolved plume stability, and MNA processes, and is summarized as follows:

Source Condition: The source of groundwater-quality impacts was extensively characterized during the Remedial Investigation (RI; BBL 1998a) and FS, and consists of zones containing NAPL in overburden soils and bedrock. The NAPL is a complex mixture of chlorinated and other solvents. The NAPL zones in overburden soils and bedrock contain mixtures of dissolved NAPL-related chlorinated ethenes, ethanes and methanes, as well as aromatic hydrocarbons, ketones, phthalates, ethers, furan and alcohols. These NAPL zones are currently hydraulically contained by the NTCRA 1 sheet-pile wall and overburden groundwater extraction wells and the NTCRA 2 overburden and bedrock extraction wells. Upon entry of the CD, the NTCRA 1 and NTCRA 2 systems became known as the HCTS. The NAPL zones have formed a dissolved-phase chemical plume that has been severed by the HCTS. The Overburden NAPL zone contains the majority of the Site VOCs, and will be treated with in-situ thermal remediation to remove the vast majority of these

VOCs, resulting in a greatly diminished source zone upgradient of the NTCRA 1 sheet-pile wall.

Dissolved Plume Stability: The dissolved-phase chemical plumes in overburden and bedrock groundwater within the source area are stable and are likely shrinking in time due to the combination of hydraulic containment and active *in situ* biodegradation processes in groundwater within the capture zone of the HCTS. *In situ* biodegradation processes within the capture zone of the HCTS were characterized as “robust” in the FS (BBL and USEPA 2005). The dissolved-phase chemical plume in overburden and bedrock groundwater in the severed portion of the plume, beyond the capture zone of the HCTS, are shrinking with time due to the combination of hydraulic containment of the higher concentration portions of the dissolved-phase chemical plume and NA processes. Evaluations of trends in total dissolved-phase VOC concentrations in groundwater within the HCTS containment boundary and the severed plume indicate statistically significantly decreasing concentration trends.

NA Processes: Natural attenuation processes that have contributed to plume stabilization and shrinkage within the overburden and bedrock include *in situ* abiotic and biodegradation reactions, sorption to aquifer solids, flow path mixing, and matrix diffusion. Reductive dechlorination is a prominent removal mechanism that continues to operate at the Site, as evidenced by the production of cis-1,2-dichloroethene (cDCE), vinyl chloride (VC), 1,1-dichloroethane (1,1-DCA), ethene, ethane, and chloride, which are dechlorination (i.e., “breakdown”) products of tetrachloroethene (PCE), TCE, and 1,1,1-trichloroethane (TCA). There are also anaerobic oxidation reactions occurring that remove cDCE, VC, and ethene by oxidation to carbon dioxide (CO_2).

4.2 Selection of MNA Remedy

As a result of the demonstrated efficacy of NA for treating COCs in Site groundwater, MNA was included as a component of several remedial alternatives evaluated in the FS (BBL and USEPA 2005). Based on evaluations presented in the FS, the USEPA selected MNA as a component of the remedial approach for the Site.

The ROD for the Site was issued by the USEPA in September 2005 (USEPA 2005). The selected remedy consists of MNA of the groundwater plume, including:

- Groundwater outside the capture zone of the HCTS until groundwater cleanup levels are achieved;

- Groundwater within the capture zone of the HCTS until groundwater cleanup levels are achieved; and

- Groundwater in the NAPL area of the overburden and bedrock aquifers, until groundwater cleanup levels are achieved.

4.3 Identified Data Gaps

The SOW identified two data gaps associated with implementing the MNA remedy component at the Site. The identified data gaps and the strategies used for addressing them are as follows:

- *Incomplete plume delineation in the severed plume*. This data gap has been addressed by the installation and sampling of additional groundwater monitoring wells near the eastern edge of the severed plume, east of the Quinnipiac River and in the CL&P easement as presented in the *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Attachment N to the RDWP) and subsequent discussions with EPA. In addition to the new plume delineation wells installed prior to the start of the May–June 2010 comprehensive groundwater sampling (including MW-903S, MW-903M, MW-903D, MW-903R, PZ-903DR, MW-904S, MW-904D, MW-906M, MW-906D, MW-906R, PZ-906DR, and MW-910S), three other well clusters (MW-1001M/MW-1001R, MW-1002DR/MW-1002R and MW-1003DR/MW-1003R) have been installed to address this data gap.

- *Long-term monitoring data demonstrating the effectiveness of MNA as a remedy component.* This data gap is being addressed through the preparation, submittal, approval, and implementation of the MNA Plan.

4.4 Objectives of MNA Performance Monitoring

The MNA Plan, in conjunction with the *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Attachment N to the RDWP), describes the monitoring and analysis steps required to meet the following objectives of MNA performance monitoring, as specified in Section VII.A.1 of the SOW:

- Complete the delineation of COCs in groundwater in three dimensions;
- Assess the temporal and spatial variations in groundwater chemistry and geochemistry;
- Assess the progress in meeting the long-term remedial goal of groundwater restoration throughout the Site to its natural quality; and
- Evaluate the effectiveness of institutional controls.

Based on the results of MNA performance monitoring, decisions related to the MNA program, described in detail in the MNA Plan, may include:

- Continuation of the performance monitoring program without change.
- Continuation of the performance monitoring program with action.
- Modification of the institutional controls.

4.5 Performance Standards

The remedial action will be implemented in compliance with applicable or relevant and appropriate requirements (ARARs) identified in the ROD (USEPA 2005). These requirements include compliance with performance standards for the affected groundwater, soil and wetland soil, and for NAPL that is present in the subsurface in the overburden and bedrock. The following subsections discuss performance standards applicable to MNA and the means for demonstrating compliance with these standards.

4.5.1 MNA-Related Performance Standards

Performance standards pertaining to MNA at the Site, as set forth in the SOW, are described in detail in the MNA Plan for Groundwater, NAPL outside of the Overburden NAPL Area, and the Severed Plume.

4.5.2 Demonstration of Compliance Report

As specified in Section VIII.F of the SOW, a Demonstration of Compliance Report will be prepared in accordance with the evaluation procedures defined in 40 C.F.R. Section 264.97 when groundwater COC concentrations have remained within the interim cleanup levels for three consecutive years. If the USEPA, after reasonable opportunity for review and comment by the Connecticut Department of Energy and Environmental Protection (CT DEEP), approves the Demonstration of Compliance Report and agrees that the interim cleanup levels have been achieved, a risk assessment of residual groundwater conditions will be performed.

5. MNA Performance Monitoring

5.1 Introduction

The MNA Plan specified the performance monitoring program for Site groundwater as it relates to the MNA component of the remedy, while Section IV.B.5 of the SOW set forth requirements for an environmental monitoring program to be implemented to evaluate the performance of the HCTS and the overall effectiveness of the Site remedy, including the MNA component. These groundwater MNA monitoring requirements were summarized in the MNA Plan.

The following subsections describe the MNA program monitoring locations, monitoring frequency, monitoring parameters, and data quality objectives (DQOs) designed to meet the environmental monitoring program requirements set forth in Section IV.B.5 of the SOW. Groundwater monitoring is conducted to monitor changes in groundwater COC concentrations, changes in plume size and shape, and the effectiveness of NA processes in reducing concentrations of COCs in groundwater. Groundwater samples from June 2012 were collected in accordance with the monitoring frequency outlined in the MNA Plan.

5.2 Groundwater Performance Monitoring Locations

Groundwater performance monitoring locations were chosen to provide robust, three-dimensional coverage of COCs in overburden and bedrock groundwater at the Site, with monitoring well cluster locations providing vertical assessment of COC concentrations and groundwater geochemistry. Monitoring locations were identified in the *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Attachment N to the RDWP) and are shown on Figures 2 through 6 of this MNA Report.

In accordance with the SOW, selected MNA monitoring locations include upgradient (background) sampling locations, in-plume sampling locations (HCTS capture zones and severed plume), side-gradient sampling locations outside of plume areas, and downgradient locations. Monitoring locations are designated by well groups (i.e., “N”) to define the purpose of each sampling location. Well group designations that are relevant to MNA monitoring are summarized in the MNA Plan and shown on Figures 2 through 6.

5.3 MNA Monitoring Parameters

The primary classes of data included in the MNA monitoring program are: Site-specific groundwater COCs; groundwater MNA parameters; groundwater hydraulic information; and HCTS COC mass removal estimates. Each of these primary data classes are described below.

Site-specific COCs are the chemical constituents that were identified during Site investigations and risk assessment and are required to be addressed by the response actions set forth in the ROD (USEPA 2005). Site-specific COCs for groundwater include selected VOCs, 1,4-dioxane, TAL metals, SVOCs, and PCBs.

Groundwater MNA parameters were selected to confirm dominant biotransformation processes, evaluate the potential for continued transformation of COCs, and identify zones of dominant geochemical conditions. These parameters include: iron (ferric and ferrous), divalent manganese, light hydrocarbons (methane, ethane, ethane), alkalinity, chloride, nitrate–nitrogen, nitrite–nitrogen, pH, sulfate, sulfide and TOC. In addition to laboratory-analyzed MNA parameters, the following MNA parameters are collected as field measurements: pH, DO, ORP, and temperature.

The hydraulic parameter of interest is groundwater elevation. Groundwater elevations are characterized in all five groundwater depth zones, and provide a basis to assess the horizontal and vertical components of hydraulic gradients that control three-dimensional migration of COCs. Synoptic groundwater elevation measurements are only collected in conjunction with five-year comprehensive monitoring events, and therefore were not collected during the June 2012 groundwater monitoring event.

Estimates of groundwater COC mass removal from the HCTS, obtained as part of the compliance monitoring program for the HCTS operations, are used to evaluate potential trends in COC mass removal from the HCTS and can be used to evaluate future efficacy of groundwater remedies, including MNA.

5.4 Monitoring Frequency

Monitoring frequencies were designed to meet requirements of the environmental monitoring program set forth in Section IV.B.5 of the SOW and are summarized in the MNA Plan. Detailed monitoring frequency information is provided in the *Monitoring Well Network Evaluation and Groundwater Monitoring Program* (Attachment N to the RDWP). Any proposed changes to the long-term monitoring program will be submitted as part of the Annual State of Compliance Report(s).

5.5 MNA Monitoring Objectives

The MNA performance monitoring program set forth in the MNA Plan was designed to evaluate the MNA monitoring objectives listed below (USEPA 1999; USEPA 2004) and described in detail in the MNA Plan.

- Provide timely warning of potential impact to receptors
- Detect changes in plume size/concentration
- Determine temporal variability of data
- Detect changes in geochemistry that warn of potential changes in COC attenuation
- Yield data necessary to reliably evaluate progress toward COC reduction objectives

5.6 Data Quality Objectives

The DQO process is a systematic planning tool based on the scientific method that is used to establish criteria for data quality and to develop data collection designs (USEPA 1994). The DQOs for the data described in this MNA Report are provided in the *Quality Assurance Project Plan* (QAPP; [Rev. 2] ARCADIS 2012b Attachment C to the RD Project Operations Plan [POP]).

6. MNA Evaluation

This section evaluates the effectiveness of the MNA program based on the data collected to date (including the June 2012 groundwater monitoring event, and August 2012 re-sampling of MW-707DR and PZO-2M). Data analysis, interpretation and reporting methods were completed in accordance with the following regulatory guidance documents:

- *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water* (USEPA 1998)

- *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites* (USEPA 1999)

- *Performance Monitoring of MNA Remedies for VOCs in Ground Water* (USEPA 2004)

In general, data interpretation included:

- Placing the MNA performance monitoring data in the context of time, location, sampling and analytical methods.

- Applying appropriate statistical tests to detect changes and trends in COC concentrations, and attainment of remedial objectives.

These data interpretation methods and results are presented in the following sections.

6.1 Total VOC Concentration Trends

Data collected during previous sampling events (RI and Interim Monitoring Sampling [IMS] events) and presented in the MNA Plan, the 2010 MNA report, and the 2011 MNA Report indicated an overall decline in groundwater concentrations with time, supporting the selection of MNA as a remedial measure for COCs in groundwater at the Site. This section builds upon results of the previous MNA evaluations discussed in detail in the MNA Plan, the 2010 MNA report, and the 2011 MNA report. Included in this section are a discussion of concentration trends for total VOCs in groundwater at select monitoring locations, estimates of bulk attenuation rates for total VOCs in groundwater at locations with decreasing concentration trends, and presentation of COC mass extraction rates and cumulative mass removal for the HCTS.

6.1.1 Trend Analysis

Trend analyses were previously conducted using total VOC concentration data collected at 25 IMS monitoring locations (within the NTCRA 2 portion of the HCTS, the severed plume, and the interior of the VOC plume) during the RI, IMS, 2010, and 2011 groundwater sampling events. These trend analyses have been updated with total VOC concentrations measured in samples collected during the June 2012 annual groundwater monitoring event, and the August 2012 re-sampling of MW-707DR. The trend evaluation results are summarized in Table 5. Because only 11 of the monitoring locations with long-term time-concentration data sets were sampled during the June 2012 sampling event, only those trend analyses were updated. However, the previous results of trend tests for wells that were not sampled in June 2012 are also included in Table 5. Results of the 2012 trend analyses are similar to the results of the trend analyses conducted in 2010 and 2011, which indicated that a majority of the IMS monitoring locations had statistically significant declining groundwater total VOC concentration trends.

Groundwater total VOC concentrations plotted versus time were updated for the 11 IMS monitoring locations that were sampled during the July 2012 biennial groundwater sampling event (Figures 12 through 16). As shown on the figures, total VOC concentrations are generally declining or stable at all groundwater depth intervals, consistent with previous results.

Non-parametric Mann-Kendall and Sen's slope trend analyses and parametric linear regression trend analyses were conducted to evaluate trend direction and statistical significance of the groundwater total VOC concentration trends at the Site. The Mann-Kendall test provides a yes/no determination for the existence of a slope that is significantly different from zero, while the Sen's slope test provides an estimate of the value for the slope. The linear regression test estimates slope and confidence level and quantifies how well the data correlate to the estimated trend line. Trend analyses were conducted with natural log (ln) normalized total VOC concentrations using all three test methods for all sampling locations.

A 90% confidence level with a corresponding p-value less than or equal to 0.10 was used to determine statistical significance for the trend analyses. Mann-Kendall and linear regression trend results with p-values greater than 0.10 were not considered to be statistically significant. The trend direction was defined as decreasing if total VOC concentrations decreased with time (negative slope), and increasing if total VOC concentrations increased with time (positive slope); however, the trend was not considered significant unless the relationship for the test was significant at a confidence level of 90%. For the linear regression analysis, the correlation coefficient, or R^2, is a measure of how well the linear regression fits the data. Values close to 1 are considered to be a good fit, while R^2 values close to 0 are considered to be a poor fit.

Results of the trend analyses indicate significant decreasing total VOC concentration trends at 17 of the 21 monitoring locations (9 of the 11 wells sampled in June 2012) based on the Mann-Kendall and/or the linear regression test. The Sen's slope test indicates 13 (7 from June 2012) significant decreasing total VOC concentration trends of the 21 monitoring locations analyzed.

Monitoring wells sampled in June 2012 that indicate statistically significant decreasing total VOC concentration trends with linear regression and/or Mann-Kendall analysis include P-13, P-101C, MW-03, P-101B, MW-502, MW-704D, MW-127C, P-11A, and MW-704DR (Table 5). While monitoring well P-11A indicates a significant decreasing overall trend with Mann-Kendall analysis, the linear regression and Sen's slope results indicate no significant trend, and the total VOC concentration in June 2012 (26,400 μg/L) was higher than recent analytical results (see discussion above).

Total VOCs in groundwater at MW-706DR remained elevated (8,418 μg/L in June 2012 relative to 10,860 μg/L in May 2011). Linear regression, Mann-Kendall, and Sen's slope tests all indicate no significant trend at MW-706DR, potentially indicating the presence of DNAPL in the vicinity of this deep bedrock monitoring location.

Only one location, MW-707DR, indicates a significant increasing total VOC concentration trend based on the Mann-Kendall and linear regression tests using data through August 2012. This is consistent with the total VOC concentration trend results in 2010 and 2011 at this location. The maximum total VOC concentration measured at MW-707DR was 18 μg/L (April 2000), and 37% of the historical samples have been below detection for all VOC constituents, indicating generally low concentrations of VOCs in groundwater at this location. The total VOC concentration measured at MW-707DR in June 2012 was 4.41 μg/L, and the total VOC concentration measured in August 2012 was 5.06 μg/L. These total VOC concentrations are similar to the September 2011 result (4.22 μg/L) and less than the May 2011 result (16.86 μg/L). Although the linear regression and Mann-Kendall trend tests for data collected at MW-707DR indicate statistically significant increasing concentration trends overall, the total VOC concentrations measured at this location during the last three monitoring events (September 2011, June 2012, and August 2012) are the lowest since 2003.

6.1.2 Total VOC Attenuation Rate

Results from the linear regression and Sen's slope analyses were used to estimate attenuation rates for total VOCs in groundwater at the Site. Attenuation rates were calculated in accordance with the USEPA guidance document on determining first-order attenuation rate constants for MNA studies (USEPA 2002). Following this guidance, the natural log of COC groundwater concentration versus time was used and a best-fit linear regression line was generated for total VOC concentrations for each monitoring location that had a statistically significant decreasing total VOC concentration trend. Slopes derived from the Sen's slope test were also used to estimate attenuation rates. The slope of the linear regression line and the slope from the Sen's slope test provide estimates of the total VOC attenuation rate constant (k_{point}) in groundwater at the respective monitoring locations.

$$k_{point} = [\text{slope of best-fit regression line}]$$

The half-life ($t_{1/2}$) for total VOC concentrations in groundwater was estimated for each sampling location from the equation:

$$t_{1/2} = 0.693 / k_{point}$$

where: 0.693 is the negative of the natural log of 0.5 (half of the starting total VOC concentration).

Estimated half-life values for total VOCs in groundwater range from 562 to 3,274 days (1.5 to 8.9 years) based on linear regression results and from 542 to 3,518 days (1.4 to 9.6 years) based on Sen's slope results. These estimated half-life values for total VOC concentrations compare well with literature values of attenuation rates presented for individual compounds in Appendix H of the FS (BBL and USEPA 2005) and indicate that overall COC concentrations in groundwater are attenuating.

6.2 Estimate of COC Mass Flux in Groundwater

As part of the compliance monitoring program, COC mass extraction rates and cumulative mass removal are monitored for the HCTS. With the exception of the severed plume and incidental discharge to surface water, the HCTS captures the entire dissolved phase groundwater COC plume at the Site. Therefore, the HCTS COC mass extraction rates and cumulative mass extraction data represent the total mass flux for the dissolved phase COC groundwater plume and can be used to monitor changes in groundwater total dissolved-phase COC mass flux with time.

Total VOC mass extraction rates and cumulative mass extraction for the HCTS were plotted for the July 1995 to July 2012 time period (Figure 17). Mass extraction rates are expressed in units of pounds per day and the cumulative mass extraction is expressed in units of pounds. Mass extraction rates have ranged between about 0.1 to 10 pounds per day and appear to be generally stable with time since about 2001. The total mass of VOCs removed by the HCTS since system startup in 1995 is approximately 16,933 pounds. The mass of COCs removed via the HCTS is small compared with the estimated mass removal that is occurring via in situ degradation. As described in detail in the FS (BBL and USEPA 2005) and summarized in the MNA Plan (ARCADIS November 2010), the quantity of TCE and degradation products being biodegraded in situ was calculated to be approximately 17,000 to 41,000 pounds per year within the NTCRA 1 area alone.

The mass extraction data will continue to be collected as part of the HCTS compliance monitoring program and will be periodically evaluated as part of the MNA performance monitoring program.

6.3 Distribution of VOCs in NAPL and Groundwater

An assessment of the distribution of select VOCs in NAPL and groundwater samples was conducted as part of the 2010 comprehensive MNA report to gain insight into how VOC distributions in NAPL and Site groundwater varied by location and with time. VOCs evaluated in the assessment included:

- chlorinated ethenes (PCE, TCE, cDCE, 1,1-dichloroethene (1,1-DCE), and VC);
- chlorinated ethanes (TCA, 1,1-DCA, and chloroethane (CA));
- ketones (2-butanone (MIBK), 4-methyl-2-pentanone (MIBK), and acetone);
- toluene, ethylbenzene, and xylenes (TEX); and
- methylene chloride, styrene, tetrahydrofuran (THF), and 1,4-dioxane.

Data used for assessment of distribution of VOCs in NAPL and groundwater were presented in the 2010 comprehensive MNA report. The assessment concluded that NAPL samples were composed primarily of PCE, TCE, TCA, TEX, methylene chloride, and styrene, with lesser contributions from cDCE, 1,1-DCE, and 1,1-DCA. Ketones generally were not detected in NAPL samples. 1,4-dioxane were not analyzed for these samples. Overall, the results indicated that the detected groundwater constituents are generally consistent with NAPL constituents, with the exception of ketones. The general absence of detectable ketones in the NAPL samples likely relates to the elevated detection levels associated with the NAPL samples.

Molar VOC concentration plots were also presented in the 2010 comprehensive MNA report. In general, constituent concentrations in groundwater were greatest in the NTCRA 1 area with consistently decreasing primary constituent (e.g., TCE, TCA, ketones, and TEX) concentrations observed in directions downgradient from the NTCRA 1 area. These results clearly demonstrate that degradation of the parent compounds is occurring in Site groundwater.

Groundwater molar VOC concentration plots for select groundwater monitoring locations with samples collected during multiple sampling events illustrate that some locations have clear declining concentrations trends for most or all constituents. Shifts in the relative distribution of chlorinated VOCs (CVOCs) towards greater proportions of daughter products to parent demonstrate ongoing degradation of CVOCs in Site groundwater.

In summary, molar concentration plots of select CVOCs provide a means for readily comparing the distribution of COC concentrations in Site groundwater with distance from the source area, as well as with depth and with time at discrete locations. Molar concentration plots will be updated as part of the five-year comprehensive MNA event.

6.4 Evaluation of Monitoring Objectives

6.4.1 Evaluation of Changes in Environmental Conditions that May Reduce Efficiency of MNA

MNA data will be used to evaluate potential changes in environmental conditions that may reduce the efficiency of MNA. Currently, the only anticipated environmental changes that may reduce the efficiency of MNA are within the capture zone of the Site NTCRA 1 groundwater containment system due to the addition of heat and removal of electron donors during in-situ thermal treatment of the Overburden NAPL Area. Future MNA Reports will assess potential effects on MNA efficiency due to thermal treatment in the Overburden NAPL Area.

Changes in the composition and availability of electron donors with time may affect the efficiency of NA. As electron donors, such as ketones, aromatic compounds, and alcohols are consumed, the efficiency of NA may decline. As noted in the 2010 comprehensive MNA report, alcohols are currently only minimally detected in Site groundwater. As concentrations of these readily available electron donors decline, other electron donor sources may be available to support continued NA of COCs in Site groundwater. Other potential electron donor sources include natural organic matter in the aquifer matrix, natural organic matter in groundwater, as well as recycling of microbial biomass. The efficiency of NA for remediation of COCs in Site groundwater will continue to be monitored via the MNA remedial program using techniques set forth in the MNA Plan and in this MNA Report including, but not limited to:

- Defining changes in the VOC regulatory plume boundaries, including exceedance of MCLs and GWPC as well as exceedance of ICLs

- Evaluation of COC concentration trends with time

- Assessment of changes in the distribution of COCs, especially ketones, alcohols, and aromatic compounds

- Continued monitoring of groundwater redox conditions

If changes in the efficiency of NA result in a loss of effectiveness of MNA as a remedy for COCs in Site groundwater, contingencies will be considered as described in the MNA Plan.

6.4.2 Evaluation of Potentially Toxic and/or Mobile Transformation Products

Potentially toxic transformation products include regulated chemical intermediates, such as cDCE, 1,1-DCE, 1,1-DCA, CA, and VC, and regulated transition metals (e.g., manganese and arsenic). Locations with concentrations of cDCE, 1,1-DCE, 1,1-DCA, CA, VC that exceed MCLs or GWPC are within the overburden and bedrock groundwater containment boundary. With exception to the total manganese concentration at monitoring well upgradient/ background well MW-209B at (507 μg/L) exceeding the screening criteria of 500 μg/L, metals detected in groundwater samples collected in 2012 did not exceed MCLs or GWPC screening levels (Table 2).

6.4.3 Evaluation of Plume Stability

In terms of plume stability, a dissolved-phase chemical plume in groundwater may be characterized as a:

- Shrinking plume, in which the plume volume decreases through time

- Stable plume, in which the plume volume does not change through time

- Growing plume, in which the plume volume increases through time

In general, shrinking plumes are indicated by decreasing chemical concentrations through time, growing plumes may be indicated by increasing or stable chemical concentrations through time, and stable plumes are indicated by plume volume estimates that do not change significantly through time. Currently available long-term monitoring data indicate that the plume of COCs in Site groundwater is shrinking or is stable.

6.4.4 Evaluation of No Unacceptable Impacts to Downgradient Receptors

Groundwater and surface water monitoring data collected during the RI and the IMS program indicate that there are no potential impacts to downgradient receptors. The water supply wells within the Town Well Field Property are dormant and are beyond the zone of COC concentrations in groundwater that are above drinking water standards. Therefore, there are no receptors within the vicinity of the groundwater plume with COC concentrations above drinking water standards. Monitoring of surface water in the Quinnipiac River demonstrated that surface water is not impacted by the Site COC-impacted groundwater plume. Monitoring of groundwater within the Town Well Field will continue as part of the MNA program.

6.4.5 Evaluation of New Releases of COCs

Evaluation of new releases of COCs is not needed because potential sources of new releases have been removed from the Site, the former source area is located within the capture zone of the HCTS, and the Overburden NAPL Area (also within the capture zone) is to be remediated via in-situ thermal remediation.

6.4.6 Evaluation of Institutional Controls

The draft *Institutional Control Plan* (IC Plan), which is a remedial design submittal required by Section V.B.7 of the SOW, was initially submitted to the USEPA in February 2011. Based on comments received and further coordination with the regulatory agencies, a revised draft IC Plan is being prepared for submittal. It describes the proposed scope and monitoring program associated with institutional controls to be implemented at the Site. Once the IC Plan is approved and institutional controls are established, any observed or pending changes in land or resource uses or ownership (e.g., property ownership change, housing developments, and well installations) will be evaluated in view of their current and possible future impact on the effectiveness of the institutional controls and the performance monitoring operations.

6.4.7 COC Mass Flux / Mass Reduction

COC mass flux and mass reduction can be conservatively evaluated by monitoring groundwater COC mass recovery from the HCTS. Because extraction of groundwater COCs by the HCTS does not account for the mass of COCs degraded in situ, this method of estimating mass reduction provides a minimum estimate of mass reduction. With the exception of the severed plume and de minimis discharges to surface water immediately adjacent to the river, the Site-related groundwater plume is essentially contained within the HCTS capture zone. As a result, the groundwater extracted from via the HCTS represents the majority of the mass flux of COCs within the plume. Groundwater extraction rate and COC concentration information collected periodically during system operation, maintenance and monitoring (OMM) activities as part of the compliance monitoring program for the HCTS will be used to evaluate changes in COC mass flux with time. As shown on Figure 17, COC mass extraction rates have been relatively stable since the early 2000s.

6.5 Contingency Measures

An evaluation of contingency measures will be performed if progress in meeting long-term groundwater restoration goals is inadequate, as determined by the USEPA. While the specific measures to be undertaken may depend on several factors (e.g., the nature, location, apparent source, or timeframe at which the inadequacy is identified), examples of possible contingency measures are provided in the MNA Plan. Any contingency measure considered will first be approved by USEPA, in consultation with CT DEEP, prior to implementation.

7. Summary

Three monitoring well clusters (MW-1001R/M, MW-1002R/DR, and MW-1003R/DR) were completed in 2012 for the purpose of further investigation and delineation of the groundwater plume. These wells provide data to support delineation of the affected groundwater area to the east and south. In combination with the pre-existing monitoring well network and supporting groundwater modeling, they collectively achieve the relevant investigation objectives such that additional monitoring well installations are not presently anticipated. Pertinent to these new wells, total chromium was detected in monitoring well MW-1001R (shown on Figure 5) at concentrations above Action Levels during two sampling events (February and April 2012). The source of the chromium at shallow bedrock monitoring well MW-1001R is unknown, but concluded to be non-site-related given substantially lower concentrations at multiple monitoring wells between the former Operations Area and this well location. The new wells will be incorporated into the groundwater monitoring program for the site.

The 2012 annual groundwater monitoring event was conducted June 11-15, 2012, and included the sampling of 44 monitoring wells for VOCs, MNA parameters and/or TAL metals. Results from the annual event indicate that:

- VOCs above USEPA Maximum Contaminant Levels (MCLs) or Connecticut Class GA Groundwater Protection Criteria (GWPC) are generally contained within the previously estimated containment boundary of the hydraulic containment and treatment system (HCTS). The exception is in monitoring well MW-707DR, a deep bedrock well located just beyond the southern extent of the capture zone boundary. Benzene was detected at a concentration of 1.1 μg/L in the June 2012 sample and a subsequent August 2012 confirmation sample. This result is slightly above the Action Level (the more stringent of the MCL or GWPC criterion) of 1.0 μg/L. An evaluation of NTCRA 2 system operating data is being conducted to assess potential correlations between groundwater extraction rates, well development periods, and recent detections of benzene in this well, which is located just south of the CL&P easement. Future additional sampling will also provide a basis to assess groundwater quality trends at this well.

- TCE was detected in a sample from PZO-2M at a concentration of 9.9 μg/L in the June 2012 sample, which is above the Action Level of 5.0 μg/L. This was the first detection of a Site-related COC above the Action Level at this well. As such, this well was also re-sampled in August 2012 to confirm this result; TCE was detected at a concentration of 0.42 μg/L in the second sample. Future additional sampling will also provide a basis to assess groundwater quality trends at these wells.

- No metals (either total or dissolved) exceeded their respective MCLs or GWPC, with the exception of total manganese measured at MW-209B in 2012 (507 μg/L total manganese, compared to the GWPC of 500 μg/L). MW-209B is an upgradient, background well located west of the former Operations Area of the SRSNE Site.

Section 6 presents an evaluation of the effectiveness of MNA as a remedial measure for COCs in groundwater in the Site, including presentation of groundwater monitoring results from the June 2012 annual groundwater monitoring event; evaluation of concentration trends for total VOCs in groundwater at select monitoring locations; estimates of bulk attenuation rates for total VOCs in groundwater; and presentation of HCTS COC mass extraction rates with time. Results of these evaluations indicate:

- Detected concentrations of VOCs above Action Levels are contained within the previously estimated containment boundary of the HCTS. The only exception is monitoring well MW-707DR, as discussed above.

- Groundwater total VOC concentrations are generally declining or remaining stable with time throughout the Site groundwater COC plume. One exception was that VOC concentrations at shallow bedrock monitoring well P-11A increased relative to prior events. This well is located at the downgradient edge of the bedrock NAPL zone delineated during the RI (BBL, June 1998a), and within the HCTS capture zone. The total VOC concentration in June 2012 (approximately 26 mg/L) was greater than the 2011 result (583 μg/L) and above the highest historical total VOC concentration at this well (13 mg/L in December 1994). VOC concentrations at this well will continue to be monitored as part of future sampling events.

- Estimated bulk VOC attenuation rates were comparable to attenuation rates for individual COCs presented in the FS (BBL and USEPA 2005).

- Compliance monitoring data from the HCTS indicate generally stable COC mass extraction rates since the early 2000s.

These results support continued use of MNA as a remedy for COCs in Site groundwater.

One modification to the MNA monitoring program was implemented for the 2012 sampling event based on the results of the 2010 and 2011 MNA monitoring. Namely, sulfide was originally proposed for monitoring in support of the MNA evaluations; it is not a site-related COC or used for compliance monitoring. Sulfide was not detected in MNA-related analyses through 2011. Based on the highly reactive nature of sulfide and the lack of detectable concentrations of sulfide in site groundwater, along with the adequate characterization of site groundwater redox conditions using other MNA parameter data, sulfide was removed from the MNA parameter analyte list following the 2011 sampling event. This recommendation to remove sulfide was originally made in the 2010 MNA Report, and was approved by the USEPA in an email to *de maximis* dated September 15, 2011.

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ARCADIS

Tables

Table 1 – VOCs – Groundwater Sample Summary Results – February - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample Location	MW-1001M		MW-1001M		MW-1001R		MW-1001R		MW-1002DR		MW-1002R		CPZ-4A		MW-03		MW-1002DR	
				Sample Date	2/7/2012		2/7/2012		2/6/2012		4/5/2012		4/5/2012		4/4/2012		6/14/2012		6/15/2012		6/13/2012	
				Field Sample ID	MW-1001M-02072012		DUP-02072012-#1		MW-1001R-02062012		MW-1001R-040512		MW-1002DR-040512		MW-1002R-040412		CPZ-4A-HS-06142012		MW-03-06152012		MW-1002DR-HS-06132012	
				Well Group	C		C		C		C		R		R		R		R		R	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**																		
VOCs (8260B)																						
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**0.7**	--	0.5	U	0.5	U	0.5	U	2.5	U
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.75	U	0.75	UJ	3.8	U
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**0.6**	--	0.5	U	**0.32**	J	**0.63**	J	3.8	U
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**3**	--	0.5	U	0.5	U	0.5	U	**3.2**	--
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	UJ	2.5	UJ	12	U
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U	12	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.17**	J	0.5	U	2.5	U
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U	12	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	25	U
2-Hexanone	591-78-6	ug/L	140	5	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	UJ	25	UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	25	U
Acetone	67-64-1	ug/L	700	5	2	U	2	U	**30**	--	2	U	**5**	--	2	U	5	UJ	5	UJ	25	UJ
Benzene	71-43-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**0.5**	--	0.5	U	**0.56**	--	0.5	U	2.5	U
Bromomethane	74-83-9	ug/L	9.8	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	UJ	1	UJ	5	U
Carbon disulfide	75-15-0	ug/L	700	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5	U	5	U	25	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	U
Chlorobenzene	108-90-7	ug/L	100	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.3**	J	0.5	U	2.5	U
Chloroethane	75-00-3	ug/L	12.1	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	5	U
Chloroform	67-66-3	ug/L	6	0.5	0.5	U	0.5	U	**1.7**	--	**0.8**	--	0.5	U	**0.6**	--	0.75	U	0.75	U	3.8	U
Chloromethane	74-87-3	ug/L	2.7	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U	12	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**22.9**	--	0.5	U	0.5	U	0.5	U	**24**	--
Ethylbenzene	100-41-4	ug/L	700	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.42**	J	**0.72**	--	2.5	U
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.6	U	0.6	U	3	U
Methylene chloride	75-09-2	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**4.7**	--	0.5	U	5	U	5	U	5.9	U
Naphthalene	91-20-3	ug/L	280	0.5	0.5	U	0.5	U	**1.1**	--	0.5	U	0.5	U	0.5	U	2.5	UJ	2.5	UJ	12	UJ
Styrene	100-42-5	ug/L	100	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	5	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	0.5	U	0.5	U	**2.1**	--	**1.1**	--	**4.8**	--	0.5	U	0.5	U	0.5	U	**13**	--
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	1	U	1	U	1	U	1	U	1	U	1	U	**20**	--	5	UJ	25	U
Toluene	108-88-3	ug/L	1000	0.5	0.5	U	0.5	U	**1.2**	--	**1.2**	--	**2.2**	--	**0.7**	--	0.75	U	**2.4**	--	3.8	U
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.75	U	0.75	U	3.8	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	2.5	UJ
Trichloroethene	79-01-6	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	**0.8**	--	**212**	--	0.5	U	0.5	U	**0.66**	--	**380**	--
Vinyl chloride	75-01-4	ug/L	2	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	1	U	5	U
Xylenes, Total	1330-20-7	ug/L	530	0.5	**0.6**	J	**0.6**	J	**3**	--	**0.8**	J	**0.5**	J	1	U	1.95	UJ	**4.2**	--	10	U
1,4-Dioxane	123-91-1	ug/L	20	--	1	U	1	U	1	U	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--

Notes:
U = Analyte not detected above the laboratory reporting limit
J = Analyte result is estimated
NA = not analyzed
ug/L = micrograms per liter
VOCs = volatile organic compounds
Standard = GW-SRSNE Action Level (ARARs-Based Limits)
ICL = Interim Cleanup Level based on Table L-1 from Record of Decision Summary, September 2005
Bold = Analyte detected above the laboratory reporting limit
Shaded Cell = Analyte detected above the Standard/Action Level
February and April 2012 sampling events were analyzed by CTL but validation was not completed on these analytical results.

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Table 1 – VOCs – Groundwater Sample Summary Results – February - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample Location	MW-1002R		MW-1003DR		MW-1003R		MW-1003R		MW-121B		MW-121C		MW-121M		MW-124C		MW-127C	
				Sample Date	6/13/2012		10/15/2012		10/15/2012		10/15/2012		6/14/2012		6/14/2012		6/13/2012		6/12/2012		6/12/2012	
				Field Sample ID	MW-1002R-HS-06132012		MW-1003DR-10152012		DUP-GW-10152012-#1		MW-1003R-10152012		MW-121B-HS-06142012		MW-121C-HS-06142012		MW-121M-HS-06132012		MW-124C-HS-06122012		DUP-GW-06122012-#1	
				Well Group	R		R		R		R		R		R		R		R		R	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**																		
VOCs (8260B)																						
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	0.5	U	**0.16**	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**6.5**	--	**3.2**	--
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	0.75	U	0.75	UJ	0.75	UJ	0.75	UJ	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	0.75	U	**0.25**	J	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	**1.6**	--	**5.4**	--
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**3.5**	--	**1.3**	--
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	2.5	U	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	UJ	2.5	U	2.5	UJ	2.5	U
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	5	UJ	5	U	5	U	5	U	5	U	5	U	5	UJ	5	U	5	U
2-Hexanone	591-78-6	ug/L	140	5	5	UJ	5	U	5	U	5	U	5	U	5	U	5	UJ	5	U	5	U
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	ug/L	700	5	5	UJ	**8.1**	J	**1.6**	J	**1.7**	J	5	UJ	5	UJ	5	UJ	5	U	5	U
Benzene	71-43-2	ug/L	1	0.5	**6**	--	**0.88**	--	**0.46**	J	**0.47**	J	**17**	--	**16**	--	**3**	--	0.5	U	**0.54**	--
Bromomethane	74-83-9	ug/L	9.8	0.5	1	U	1	UJ	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	75-15-0	ug/L	700	0.5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	ug/L	100	0.5	0.5	U	0.5	U	0.5	U	0.5	U	**8.6**	--	**6.9**	--	**2**	--	0.5	U	0.5	U
Chloroethane	75-00-3	ug/L	12.1	0.5	1	U	1	U	1	U	1	U	**38**	--	**36**	--	**38**	--	1	U	1	U
Chloroform	67-66-3	ug/L	6	0.5	**0.79**	--	1.1	U	0.75	U	0.68	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Chloromethane	74-87-3	ug/L	2.7	0.5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	0.5	U	0.5	U	**0.7**	--	**0.67**	--	0.5	U	0.5	U	0.5	U	**5.4**	--	**1.8**	--
Ethylbenzene	100-41-4	ug/L	700	0.5	0.5	U	**1**	--	**0.61**	--	**0.61**	--	0.5	U	0.5	U	0.5	U	0.5	U	**1**	--
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	0.6	U	0.6	UJ	0.6	UJ	0.6	UJ	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Methylene chloride	75-09-2	ug/L	5	0.5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3	ug/L	280	0.5	2.5	U	**0.26**	J	2.5	U	2.5	U	2.5	UJ	2.5	UJ	2.5	U	2.5	UJ	2.5	UJ
Styrene	100-42-5	ug/L	100	0.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	5	U	5	U	5	U	5	U	**98**	--	**74**	--	**16**	--	5	U	5	U
Toluene	108-88-3	ug/L	1000	0.5	**0.3**	J	**6.8**	--	**4.1**	--	**4.1**	--	0.26	U	0.33	U	0.75	U	**0.23**	J	**5.8**	--
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U
Trichloroethene	79-01-6	ug/L	5	0.5	0.5	UJ	0.5	U	**1**	J	**1.1**	J	0.5	U	0.5	U	0.5	UJ	**1.4**	--	0.51	U
Vinyl chloride	75-01-4	ug/L	2	0.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Xylenes, Total	1330-20-7	ug/L	530	0.5	2	U	**5.4**	--	**3.1**	J	**3**	J	**1.4**	J	1.4	UJ	**1.73**	J	2	U	**5.1**	--
1,4-Dioxane	123-91-1	ug/L	20	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--

Notes:
U = Analyte not detected above the laboratory reporting limit
J = Analyte result is estimated
NA = not analyzed
ug/L = micrograms per liter
VOCs = volatile organic compounds
Standard = GW-SRSNE Action Level (ARARs-Based Limits)
ICL = Interim Cleanup Level based on Table L-1 from Record of Decision Summary, September 2005
Bold = Analyte detected above the laboratory reporting limit
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February and April 2012 sampling events were analyzed by CTL but validation was not completed on these analytical results.

Table 1 – VOCs – Groundwater Sample Summary Results – February - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample Location	MW-127C		MW-413		MW-415		MW-416		MW-502		MW-704D		MW-704DR		MW-704M		MW-704M	
				Sample Date	6/12/2012		6/15/2012		6/15/2012		6/15/2012		6/13/2012		6/14/2012		6/14/2012		6/14/2012		6/14/2012	
				Field Sample ID	MW-127C-06122012		MW-413-HS-06152012		MW-415-HS-06152012		MW-416-HS-06152012		MW-502-HS-06132012		MW-704D-HS-06142012		MW-704DR-HS-06142012		DUP-GW-06142012-#1		MW-704M-HS-06142012	
				Well Group	R		N		N		N		R		R		R		R		R	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**																		
VOCs (8260B)																						
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	0.5	U	20	U	2	U	2.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	**3.3**	--	**18**	J	**1.1**	J	**56**	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	0.75	U	30	UJ	3	UJ	3.8	UJ	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	**5.5**	--	**58**	--	**13**	--	**14**	--	0.75	U	**1**	--	**2**	--	0.75	U	0.75	U
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	**1.4**	--	20	U	2	U	**44**	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	2.5	UJ	100	U	**4.4**	J	12	UJ	2.5	U	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	2.5	U	100	U	**1.5**	J	12	U	**0.26**	J	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	0.5	U	20	U	**2.4**	--	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	2.5	U	100	U	10	U	12	U	**0.29**	J	2.5	U	2.5	U	2.5	U	2.5	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	5	U	200	U	20	U	25	U	5	UJ	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	ug/L	140	5	5	U	200	UJ	20	UJ	25	UJ	5	UJ	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	5	U	200	U	20	U	25	U	**5**	--	5	U	5	U	5	U	5	U
Acetone	67-64-1	ug/L	700	5	5	U	200	UJ	20	UJ	25	UJ	5	UJ	5	UJ	5	UJ	5	UJ	5	UJ
Benzene	71-43-2	ug/L	1	0.5	**0.49**	J	20	U	**2.2**	--	2.5	U	**47**	--	**0.27**	J	**1.9**	--	**0.2**	J	0.5	UJ
Bromomethane	74-83-9	ug/L	9.8	0.5	1	U	40	U	4	U	5	UJ	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	75-15-0	ug/L	700	0.5	5	U	200	U	20	U	25	U	5	U	5	U	5	U	5	U	5	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	0.5	U	20	U	2	U	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	ug/L	100	0.5	0.5	U	**11**	J	2	U	2.5	U	**19**	--	**2.9**	--	**1.6**	--	**3.9**	--	**3.8**	--
Chloroethane	75-00-3	ug/L	12.1	0.5	1	U	40	U	4	U	5	U	**49**	--	1	U	1	U	1	U	1	U
Chloroform	67-66-3	ug/L	6	0.5	0.75	U	30	U	3	U	3.8	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Chloromethane	74-87-3	ug/L	2.7	0.5	2.5	U	100	U	10	U	12	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	**1.6**	--	**36**	--	**10**	--	**270**	--	0.5	U	0.5	U	**0.55**	--	0.5	U	0.5	U
Ethylbenzene	100-41-4	ug/L	700	0.5	**0.94**	--	**240**	--	**210**	--	2.5	U	**67**	--	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	0.6	U	24	U	2.4	U	3	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Methylene chloride	75-09-2	ug/L	5	0.5	5	U	**23**	J	20	U	25	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	91-20-3	ug/L	280	0.5	2.5	UJ	100	UJ	10	UJ	12	UJ	**1.8**	J	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Styrene	100-42-5	ug/L	100	0.5	1	U	40	U	4	U	5	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	0.5	U	20	U	2	U	**15**	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	5	U	200	UJ	**14**	J	25	UJ	**2400**	--	**4.9**	J	**5.1**	--	**12**	J	**8.8**	J
Toluene	108-88-3	ug/L	1000	0.5	**5.4**	--	**2600**	--	**77**	--	3.8	U	**10**	--	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	0.75	U	30	U	3	U	**2.2**	J	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	0.5	U	20	UJ	2	UJ	2.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
Trichloroethene	79-01-6	ug/L	5	0.5	0.52	U	20	U	2	U	**240**	--	0.5	UJ	**0.17**	J	0.5	U	0.5	U	0.5	U
Vinyl chloride	75-01-4	ug/L	2	0.5	1	U	**24**	J	**2.6**	J	**24**	--	1	U	1	U	1	U	1	U	1	U
Xylenes, Total	1330-20-7	ug/L	530	0.5	**4.8**	--	**690**	--	**233**	--	10	U	**110**	J	2	U	2	U	2	U	2	U
1,4-Dioxane	123-91-1	ug/L	20	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--

Notes:
- **U** = Analyte not detected above the laboratory reporting limit
- **J** = Analyte result is estimated
- **NA** = not analyzed
- **ug/L** = micrograms per liter
- **VOCs** = volatile organic compounds
- **Standard** = GW-SRSNE Action Level (ARARs-Based Limits)
- **ICL** = Interim Cleanup Level based on Table L-1 from Record of Decision Summary, September 2005
- **Bold** = Analyte detected above the laboratory reporting limit
- **Shaded Cell** = Analyte detected above the Standard/Action Level
- February and April 2012 sampling events were analyzed by CTL but validation was not completed on these analytical results.

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Table 1 – VOCs – Groundwater Sample Summary Results – February - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample Location	MW-705DR		MW-706DR		MW-707DR		MW-707DR		MW-902D		MW-902M		MW-907D		MW-907DR		MW-907M	
				Sample Date	6/13/2012		6/14/2012		6/12/2012		8/27/2012		6/15/2012		6/15/2012		6/14/2012		6/15/2012		6/14/2012	
				Field Sample ID	MW-705DR-HS-06132012		MW-706DR-HS-06142012		MW-707DR-06122012		MW-707DR-08272012		MW-902D-HS-06152012		MW-902M-HS-06152012		MW-907D-HS-06142012		MW-907DR-HS-06152012		MW-907M-HS-06142012	
				Well Group	R		R		R		R		N		N		R		R		R	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**																		
VOCs (8260B)																						
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	2500	U	50	U	0.5	UJ	0.5	U	25	U	50	U	0.5	U	500	U	50	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	**20000**	--	**28**	J	**1.1**	--	**0.76**	J	25	U	**110**	--	0.5	U	**800**	--	50	U
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	3800	U	75	U	0.75	U	0.75	U	38	UJ	75	UJ	0.75	U	750	UJ	75	U
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	3800	U	75	U	**1.5**	--	**1.5**	--	**22**	J	**450**	--	**1**	--	750	U	75	U
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	**4200**	--	**85**	--	0.5	U	**0.23**	J	25	U	50	U	0.5	U	**250**	J	50	U
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	12000	U	250	UJ	2.5	U	2.5	U	120	UJ	250	UJ	2.5	UJ	2500	UJ	250	UJ
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	12000	U	250	U	2.5	U	2.5	U	120	U	250	U	**0.4**	J	2500	U	250	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	2500	U	50	U	0.5	U	0.5	U	25	U	50	U	0.5	U	500	U	50	U
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	12000	U	250	U	2.5	U	2.5	U	120	U	250	U	**0.39**	J	2500	U	250	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	**26000**	--	500	U	5	UJ	5	U	250	U	500	U	5	U	5000	U	500	U
2-Hexanone	591-78-6	ug/L	140	5	25000	UJ	500	UJ	5	UJ	5	U	250	UJ	500	UJ	5	U	5000	UJ	500	U
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	**28000**	--	**190**	J	5	U	5	U	250	U	**43**	J	5	U	5000	U	500	U
Acetone	67-64-1	ug/L	700	5	25000	UJ	500	UJ	5	UJ	5	U	250	UJ	500	UJ	5	UJ	5000	UJ	500	UJ
Benzene	71-43-2	ug/L	1	0.5	2500	U	50	U	**1.1**	--	**1.1**	--	**11**	J	50	U	**31**	--	500	U	**48**	J
Bromomethane	74-83-9	ug/L	9.8	0.5	5000	U	100	UJ	1	U	1	UJ	50	UJ	100	UJ	1	U	1000	UJ	100	UJ
Carbon disulfide	75-15-0	ug/L	700	0.5	25000	U	500	U	5	U	5	U	250	U	500	U	5	U	5000	U	500	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	2500	U	50	U	0.5	U	0.5	U	25	U	50	U	0.5	U	500	U	50	U
Chlorobenzene	108-90-7	ug/L	100	0.5	2500	U	50	U	0.5	U	0.5	U	**33**	--	50	U	**15**	--	500	U	**25**	J
Chloroethane	75-00-3	ug/L	12.1	0.5	5000	U	100	U	1	U	1	U	50	U	**7000**	--	**68**	--	1000	U	100	U
Chloroform	67-66-3	ug/L	6	0.5	3800	U	75	U	0.75	U	0.75	U	38	U	75	U	0.75	U	750	U	75	U
Chloromethane	74-87-3	ug/L	2.7	0.5	12000	U	250	U	2.5	U	2.5	U	120	U	250	U	2.5	U	2500	U	250	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	**29000**	--	**750**	--	**0.71**	--	**0.64**	--	**12**	J	**750**	--	0.5	U	**440**	J	50	U
Ethylbenzene	100-41-4	ug/L	700	0.5	**3100**	--	50	U	0.5	U	0.5	U	**1500**	--	**4400**	--	0.5	U	**370**	J	50	U
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	3000	U	60	U	0.6	U	0.6	U	30	U	60	U	0.6	U	600	U	60	U
Methylene chloride	75-09-2	ug/L	5	0.5	**20000**	J	**85**	J	5	U	5	U	250	U	500	U	0.54	U	5000	U	500	U
Naphthalene	91-20-3	ug/L	280	0.5	12000	UJ	250	UJ	2.5	U	2.5	U	120	UJ	250	UJ	**2.3**	J	**1400**	J	250	UJ
Styrene	100-42-5	ug/L	100	0.5	5000	U	100	U	1	U	1	U	50	U	100	U	1	U	1000	U	100	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	**27000**	--	**240**	--	0.5	U	0.5	U	25	U	50	U	0.5	U	**3400**	--	50	U
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	25000	U	500	U	5	U	5	U	250	UJ	500	UJ	**660**	--	5000	UJ	**3300**	--
Toluene	108-88-3	ug/L	1000	0.5	**34000**	--	**140**	--	0.75	U	**0.47**	J	**2900**	--	**6800**	--	0.36	U	**2500**	--	75	U
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	3800	U	75	U	0.75	U	0.75	U	38	U	75	U	0.75	U	750	U	75	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	2500	UJ	50	UJ	0.5	UJ	0.5	U	25	UJ	50	UJ	0.5	UJ	500	UJ	50	UJ
Trichloroethene	79-01-6	ug/L	5	0.5	**570000**	--	**6900**	--	0.5	UJ	0.5	U	25	U	50	U	0.5	U	**52000**	--	50	U
Vinyl chloride	75-01-4	ug/L	2	0.5	5000	U	100	U	1	U	1	U	**120**	--	100	U	1	U	1000	U	100	U
Xylenes, Total	1330-20-7	ug/L	530	0.5	**7800**	J	200	U	2	U	**0.36**	J	**3430**	--	**1810**	--	**9**	J	1580	UJ	165	UJ
1,4-Dioxane	123-91-1	ug/L	20	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--

Notes:
- **U** = Analyte not detected above the laboratory reporting limit
- **J** = Analyte result is estimated
- **NA** = not analyzed
- **ug/L** = micrograms per liter
- **VOCs** = volatile organic compounds
- **Standard** = GW-SRSNE Action Level (ARARs-Based Limits)
- **ICL** = Interim Cleanup Level based on Table L-1 from Record of Decision Summary, September 2005
- **Bold** = Analyte detected above the laboratory reporting limit
- **Shaded Cell** = Analyte detected above the Standard/Action Level

February and April 2012 sampling events were analyzed by CTL but validation was not completed on these analytical results.

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Table 1 – VOCs – Groundwater Sample Summary Results – February - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample Location	MWL-304		MWL-307		MWL-309		P-101B		P-101C		P-11A		P-13		PZO-2D		PZO-2M	
				Sample Date	6/14/2012		6/15/2012		6/13/2012		6/14/2012		6/14/2012		6/14/2012		6/15/2012		6/13/2012		6/13/2012	
				Field Sample ID	MWL-304-HS-06142012		MWL-307-HS-06152012		MWL-309-HS-06132012		P-101B-HS-06142012		P-101C-HS-06142012		P-11A-HS-06142012		P-13-HS-06152012		PZO-2D-HS-06132012		PZO-2M-HS-06132012	
				Well Group	N		N		R		R		R		R		R		R		R	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**																		
VOCs (8260B)																						
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	1.2	U	20	U	0.5	UJ	0.5	U	0.5	U	120	U	0.5	U	0.5	UJ	0.5	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	**0.55**	J	**46**	--	0.5	U	0.5	U	0.5	U	**120**	--	**5.5**	--	0.5	U	**0.37**	J
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	1.9	U	30	UJ	0.75	U	0.75	U	0.75	U	190	U	0.75	UJ	0.75	U	0.75	U
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	**9**	--	**160**	--	**3.4**	--	**0.79**	--	**8**	--	190	U	**1.6**	--	0.75	U	0.75	U
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	1.2	U	20	U	0.5	U	0.5	U	0.5	U	**230**	--	**0.95**	J	0.5	U	0.5	U
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	6.2	UJ	100	UJ	2.5	U	2.5	UJ	2.5	UJ	620	UJ	2.5	UJ	2.5	U	2.5	U
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	6.2	U	100	U	2.5	U	2.5	U	2.5	U	620	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	1.2	U	20	U	**1.3**	--	0.5	U	**0.51**	--	120	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	6.2	U	100	U	2.5	U	2.5	U	2.5	U	620	U	2.5	U	2.5	U	2.5	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	12	U	200	U	5	U	5	U	5	U	1200	U	5	U	5	U	5	U
2-Hexanone	591-78-6	ug/L	140	5	12	U	200	UJ	5	UJ	5	U	5	U	1200	U	5	UJ	5	UJ	5	UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	12	U	200	U	5	U	5	U	5	U	1200	U	5	U	5	U	5	U
Acetone	67-64-1	ug/L	700	5	12	UJ	200	UJ	5	U	5	UJ	5	UJ	1200	UJ	5	UJ	5	UJ	5	UJ
Benzene	71-43-2	ug/L	1	0.5	**1.1**	J	20	U	**0.4**	J	**4.5**	--	**3**	--	120	U	0.5	U	0.5	U	0.5	U
Bromomethane	74-83-9	ug/L	9.8	0.5	2.5	UJ	40	UJ	1	U	1	U	1	U	250	UJ	1	UJ	1	U	1	U
Carbon disulfide	75-15-0	ug/L	700	0.5	12	U	200	U	5	U	5	U	5	U	1200	U	5	U	5	U	5	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	1.2	U	20	U	0.5	U	0.5	U	0.5	U	120	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	ug/L	100	0.5	1.2	U	**30**	--	**1.9**	--	**1.9**	--	**1.4**	--	120	U	0.5	U	0.5	U	0.5	U
Chloroethane	75-00-3	ug/L	12.1	0.5	2.5	U	40	U	1	U	**16**	--	1	U	250	U	1	U	1	U	1	U
Chloroform	67-66-3	ug/L	6	0.5	1.9	U	30	U	0.75	U	0.75	U	0.75	U	190	U	0.75	U	0.75	U	0.75	U
Chloromethane	74-87-3	ug/L	2.7	0.5	6.2	U	100	U	2.5	U	2.5	U	2.5	U	620	U	2.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	**75**	--	**570**	--	**0.45**	J	**0.25**	J	**2.7**	--	**13000**	--	**3.1**	--	**0.44**	J	**0.31**	J
Ethylbenzene	100-41-4	ug/L	700	0.5	**16**	--	**490**	--	0.5	U	0.5	U	0.5	U	**730**	--	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	1.5	U	24	U	0.6	U	0.6	U	0.6	U	150	U	0.6	U	0.6	U	0.6	U
Methylene chloride	75-09-2	ug/L	5	0.5	12	U	200	U	5	U	5	U	5	U	1200	U	5	U	5	U	5	U
Naphthalene	91-20-3	ug/L	280	0.5	6.2	UJ	100	UJ	2.5	U	2.5	UJ	2.5	UJ	620	UJ	2.5	UJ	2.5	U	2.5	UJ
Styrene	100-42-5	ug/L	100	0.5	2.5	U	40	U	1	U	1	U	1	U	250	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	1.2	U	20	U	0.5	U	0.5	U	0.5	U	**1200**	--	0.5	U	**0.28**	J	**0.4**	J
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	12	U	200	UJ	**13**	--	**6**	--	**8.9**	--	1200	U	5	UJ	5	U	5	U
Toluene	108-88-3	ug/L	1000	0.5	0.97	U	**1200**	--	0.75	U	0.75	U	0.3	U	**2000**	--	0.75	U	0.75	U	0.77	U
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	1.9	U	**11**	J	0.75	U	0.75	U	**0.44**	J	190	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	1.2	UJ	20	UJ	0.5	UJ	0.5	UJ	0.5	UJ	120	UJ	0.5	UJ	0.5	UJ	0.5	UJ
Trichloroethene	79-01-6	ug/L	5	0.5	1.2	U	20	U	0.5	UJ	0.5	U	0.5	U	**5200**	--	**0.67**	--	**1.2**	J	**9.9**	J
Vinyl chloride	75-01-4	ug/L	2	0.5	**170**	--	**440**	--	1	U	1	U	**9.3**	--	**2300**	--	1	U	1	U	1	U
Xylenes, Total	1330-20-7	ug/L	530	0.5	**3.2**	J	**1370**	--	2	U	1.46	UJ	2	U	**1620**	J	2	U	2	U	2	U
1,4-Dioxane	123-91-1	ug/L	20	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--

Notes:
U = Analyte not detected above the laboratory reporting limit
J = Analyte result is estimated
NA = not analyzed
ug/L = micrograms per liter
VOCs = volatile organic compounds
Standard = GW-SRSNE Action Level (ARARs-Based Limits)
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Table 1 – VOCs – Groundwater Sample Summary Results – February - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample Location	PZO-2M		PZO-2M		PZR-2R		TW-08A		TW-08B		TW-08D	
				Sample Date	8/27/2012		8/27/2012		6/13/2012		6/14/2012		6/15/2012		6/15/2012	
				Field Sample ID	DUP-GW-08272012-#1		PZO-2M-08272012		PZR-2R-HS-06132012		TW-08A-HS-06142012		TW-08B-HS-06152012		TW-08D-HS-06152012	
				Well Group	R		R		R		N		N		N	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**												
VOCs (8260B)																
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	0.5	U	0.5	U	0.5	UJ	25	U	5000	U	120	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	0.5	U	0.5	U	0.5	U	**21**	J	**11000**	--	120	U
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	0.75	U	0.75	U	0.75	U	38	U	7500	UJ	190	UJ
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	0.75	U	0.75	U	0.75	U	**66**	--	7500	U	**110**	J
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	0.5	U	0.5	U	0.5	U	25	U	**2800**	J	120	U
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	2.5	U	2.5	U	2.5	U	120	UJ	25000	UJ	620	UJ
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	2.5	U	2.5	U	2.5	U	120	U	25000	U	620	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U	25	U	5000	U	**59**	J
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	2.5	U	2.5	U	2.5	U	120	U	25000	U	620	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	5	U	5	U	5	U	250	U	50000	U	1200	U
2-Hexanone	591-78-6	ug/L	140	5	5	U	5	U	5	UJ	250	U	50000	UJ	1200	UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	5	U	5	U	5	U	250	U	50000	U	1200	U
Acetone	67-64-1	ug/L	700	5	5	U	5	U	5	UJ	250	UJ	50000	UJ	1200	UJ
Benzene	71-43-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U	25	U	5000	U	**50**	J
Bromomethane	74-83-9	ug/L	9.8	0.5	1	UJ	1	UJ	1	U	50	UJ	10000	UJ	250	UJ
Carbon disulfide	75-15-0	ug/L	700	0.5	5	U	5	U	5	U	250	U	50000	U	1200	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	25	U	5000	U	120	U
Chlorobenzene	108-90-7	ug/L	100	0.5	0.5	U	0.5	U	0.5	U	25	U	5000	U	120	U
Chloroethane	75-00-3	ug/L	12.1	0.5	1	U	1	U	1	U	50	U	10000	U	250	U
Chloroform	67-66-3	ug/L	6	0.5	0.75	U	0.75	U	0.75	U	38	U	7500	U	190	U
Chloromethane	74-87-3	ug/L	2.7	0.5	2.5	U	2.5	U	2.5	U	120	U	25000	U	620	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	0.5	U	0.5	U	0.5	U	**920**	--	**420000**	--	**6400**	--
Ethylbenzene	100-41-4	ug/L	700	0.5	0.5	U	0.5	U	0.5	U	**220**	--	**2900**	J	**1100**	--
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	0.6	U	0.6	U	0.6	U	30	U	6000	U	150	U
Methylene chloride	75-09-2	ug/L	5	0.5	5	U	5	U	5	U	250	U	50000	U	1200	U
Naphthalene	91-20-3	ug/L	280	0.5	2.5	U	2.5	U	2.5	U	120	UJ	25000	UJ	620	UJ
Styrene	100-42-5	ug/L	100	0.5	1	U	1	U	1	U	50	U	10000	U	250	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	0.5	U	0.5	U	0.5	U	25	U	**9700**	--	120	U
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	5	U	5	U	5	U	250	U	50000	UJ	**350**	J
Toluene	108-88-3	ug/L	1000	0.5	**0.49**	J	**0.51**	J	0.75	U	**110**	--	**32000**	--	**3200**	--
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	0.75	U	0.75	U	0.75	U	38	U	7500	U	190	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	0.5	U	0.5	U	0.5	UJ	25	UJ	5000	UJ	120	UJ
Trichloroethene	79-01-6	ug/L	5	0.5	**0.42**	J	**0.46**	J	0.5	UJ	25	U	**230000**	--	120	U
Vinyl chloride	75-01-4	ug/L	2	0.5	1	U	1	U	1	U	**1900**	--	**8900**	J	**8700**	--
Xylenes, Total	1330-20-7	ug/L	530	0.5	1	U	1	U	2	U	**187**	--	15400	UJ	**1770**	--
1,4-Dioxane	123-91-1	ug/L	20	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--

Notes:
U = Analyte not detected above the laboratory reporting limit
J = Analyte result is estimated
NA = not analyzed
ug/L = micrograms per liter
VOCs = volatile organic compounds
Standard = GW-SRSNE Action Level (ARARs-Based Limits)
ICL = Interim Cleanup Level based on Table L-1 from Record of Decision Summary, September 2005
Bold = Analyte detected above the laboratory reporting limit
Shaded Cell = Analyte detected above the Standard/Action Level
February and April 2012 sampling events were analyzed by CTL but validation was not completed on these analytical results.

Table 2 – Metals – Groundwater Sample Summary Results – February - June 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

			Sample Location	MW-1001M		MW-1001M		MW-1001R		MW-1001R		MW-126B		MW-126C		MW-209A		MW-209B		MW-701DR		MW-901R		MW-901R		P-12	
			Sample Date	2/7/2012		2/7/2012		2/6/2012		4/5/2012		6/13/2012 9:50		6/13/2012 11:10		6/14/2012 17:00		6/15/2012 7:50		6/15/2012 8:45		6/14/2012 0:00		6/14/2012 16:30		6/12/2012 15:30	
			Field Sample ID	MW-1001M-02072012		DUP-02072012-#1		MW-1001R-02062012		MW-1001R-040512		MW-126B-06132012		MW-126C-06132012		MW-209A-06142012		MW-209B-06152012		MW-701DR-06152012		DUP-GW-06142012-#3		MW-901R-06142012		P-12-06122012	
			Well Group	C		C		C		C		M		B		B		B		M		M		M		M	
Analyte	**CAS No.**	**Unit**	**Standard**																								
Metals (6020A)																											
Aluminum (Dissolved)	7429-90-5	ug/L	--	100	U	100	U	100	U	100	U	10	U	11.2	U	10	U	**35**	--	10	U	**56.5**	--	**72.3**	--	10	U
Aluminum (Total)	7429-90-5	ug/L	--	**400**	--	**400**	--	100	U	**200**	--	31.2	U	**465**	--	**15.4**	--	**1300**	--	**96.7**	--	**969**	--	**1100**	--	**866**	--
Antimony (Dissolved)	7440-36-0	ug/L	--	6	U	6	U	6	U	6	U	0.862	U	0.592	U	0.688	U	0.5	U	0.5	U	0.5	U	0.907	U	1.032	U
Antimony (Total)	7440-36-0	ug/L	6	6	U	6	U	6	U	6	U	0.5	U	0.5	U	0.887	U	0.802	U	0.694	U	0.5	U	0.59	U	**0.83**	--
Arsenic (Dissolved)	7440-38-2	ug/L	--	10	U	10	U	10	U	10	U	0.845	U	0.883	U	0.728	U	0.851	U	1.45	U	0.749	U	0.798	U	0.5	U
Arsenic (Total)	7440-38-2	ug/L	10	10	U	10	U	10	U	10	U	0.58	U	0.835	U	2.37	U	5.081	U	2.889	U	2.64	U	4.973	U	0.728	U
Barium (Dissolved)	7440-39-3	ug/L	--	**110**	--	**110**	--	**200**	--	**140**	--	**471**	--	**403**	--	**224.4**	--	**177.2**	--	**102.5**	--	**279.2**	--	**273.4**	--	**152.1**	--
Barium (Total)	7440-39-3	ug/L	1000	**110**	--	**120**	--	**200**	--	**150**	--	**428.4**	--	**408.3**	--	**228.8**	--	**228.4**	--	**111.2**	--	**316.4**	--	**326.4**	--	**164.1**	--
Beryllium (Dissolved)	7440-41-7	ug/L	--	4	U	4	U	4	U	4	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Beryllium (Total)	7440-41-7	ug/L	4	4	U	4	U	4	U	4	U	0.5	U	0.5	U	0.5	U	**0.165**	J	0.5	U	**0.161**	J	**0.164**	J	0.5	U
Cadmium (Dissolved)	7440-43-9	ug/L	--	5	U	5	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cadmium (Total)	7440-43-9	ug/L	5	5	U	5	U	5	U	5	U	**0.051**	J	0.5	U	0.5	U	**0.163**	J	0.5	U	**0.057**	J	**0.053**	J	0.5	U
Chromium (Dissolved)	7440-47-3	ug/L	--	10	U	10	U	**240**	--	**180**	--	0.5	U	0.5	U	0.638	U	**0.345**	J	0.918	U	0.518	U	0.505	U	0.5	U
Chromium (Total)	7440-47-3	ug/L	100	10	U	10	U	**240**	--	**190**	--	**0.808**	--	0.971	U	0.73	U	**1.918**	--	1.067	U	**1.734**	--	**1.904**	--	**1.446**	--
Cobalt (Dissolved)	7440-48-4	ug/L	--	10	U	10	U	10	U	10	U	**0.121**	J	0.5	U	0.5	U	**0.852**	--	0.5	U	0.5	U	0.5	U	0.5	U
Cobalt (Total)	7440-48-4	ug/L	10	10	U	10	U	10	U	10	U	**0.154**	J	**0.415**	J	0.5	U	**1.753**	--	0.5	U	**0.576**	--	**0.613**	--	**0.661**	--
Copper (Dissolved)	7440-50-8	ug/L	--	10	U	10	U	**10**	--	**10**	--	1.063	U	1.103	U	**0.609**	--	**1.279**	--	**1.084**	--	**1.588**	--	**1.065**	--	**1.519**	--
Copper (Total)	7440-50-8	ug/L	1300	10	U	10	U	**10**	--	**20**	--	1.042	U	1.379	U	**1.021**	--	**5.276**	--	**1.482**	--	**2.476**	--	**2.777**	--	**1.57**	--
Iron (Dissolved)	7439-89-6	ug/L	--	50	U	50	U	**80**	--	**370**	--	50	U	**18.2**	J	50	UJ	**24.1**	J	50	U	**28.2**	J	**47.2**	J	50	U
Iron (Total)	7439-89-6	ug/L	--	**730**	--	**690**	--	**110**	--	**370**	--	**49.1**	J	**474**	J	**37.2**	J	**1100**	--	**98.7**	--	**750**	--	**854**	--	**981**	--
Lead (Dissolved)	7439-92-1	ug/L	--	5	U	5	U	5	U	5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.268**	J	**0.259**	J	0.5	U
Lead (Total)	7439-92-1	ug/L	15	**7**	--	5	U	5	U	5	U	0.5	U	**0.476**	J	0.5	U	**2.506**	--	**0.3**	J	**1.297**	--	**1.39**	--	**0.459**	J
Manganese (Dissolved)	7439-96-5	ug/L	--	**40**	--	**50**	--	10	U	10	U	39.14	U	1.013	U	**0.345**	J	**450.1**	--	**0.827**	--	**13.96**	--	**13.94**	--	**1.7**	--
Manganese (Total)	7439-96-5	ug/L	500	**70**	--	**60**	--	10	U	10	U	**57.74**	--	18.01	U	**1.926**	--	**507**	--	**6.518**	--	**53.14**	--	**57.18**	--	**31.11**	--
Nickel (Dissolved)	7440-02-0	ug/L	--	10	U	10	U	10	U	10	U	0.904	U	0.529	U	**0.254**	J	**2.156**	--	**1.645**	J	**1.977**	J	**0.344**	J	**1.148**	--
Nickel (Total)	7440-02-0	ug/L	100	10	U	10	U	10	U	10	U	0.904	U	0.832	U	**0.238**	J	**5.091**	--	**0.355**	J	**1.629**	--	**1.819**	--	**1.437**	--
Silver (Dissolved)	7440-22-4	ug/L	--	10	U	10	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Silver (Total)	7440-22-4	ug/L	36	10	U	10	U	10	U	10	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Thallium (Dissolved)	7440-28-0	ug/L	--	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Thallium (Total)	7440-28-0	ug/L	2	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vanadium (Dissolved)	7440-62-2	ug/L	--	10	U	10	U	10	U	10	U	0.5	U	**1.005**	--	**0.961**	J	**0.278**	J	**8.343**	--	**1.286**	--	**1.225**	--	**0.864**	--
Vanadium (Total)	7440-62-2	ug/L	50	10	U	10	U	10	U	10	U	0.62	U	**2.183**	--	**0.823**	J	**2.353**	--	**8.567**	--	**3.98**	--	**4.01**	--	**3.389**	--
Zinc (Dissolved)	7440-66-6	ug/L	--	50	U	50	U	50	U	50	U	13.49	U	12.61	U	16.05	U	32.39	U	11.6	U	22.28	U	16.06	U	17.36	U
Zinc (Total)	7440-66-6	ug/L	5000	50	U	50	U	50	U	50	U	18.85	U	17.58	U	20.32	U	39.98	U	17.91	U	17.79	U	27.38	U	20.07	U

Notes:
U = Analyte not detected above the laboratory reporting limit
J = Analyte result is estimated
ug/L = micrograms per liter
Standard = GW-SRSNE Action Level (ARARs-Based Limits)
Bold = Analyte detected above the laboratory reporting limit
Shaded Cell = Analyte detected above the Standard/Action Level
February and April 2012 sampling events were analyzed by CTL but validation was not completed on these analytical results.

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Table 3 - Drilling Water Analytical Data Summary - February 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

				Sample ID	New Tank 1		New Tank 2		Chase Tank X	
				Sample Date	2/13/2012		2/13/2012		2/21/2012	
Analyte	**CAS No.**	**Unit**	**Standard**	**ICL**						
VOCs (8260B)										
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	1	0.5	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	ug/L	200	0.5	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.5	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	75-34-3	ug/L	70	0.5	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	75-35-4	ug/L	7	0.5	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	120-82-1	ug/L	70	2	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	95-50-1	ug/L	600	0.5	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	107-06-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	ug/L	75	0.5	0.5	U	0.5	U	0.5	U
2-Butanone (MEK)	78-93-3	ug/L	400	5	2	U	2	U	2	U
2-Hexanone	591-78-6	ug/L	140	5	2	U	2	U	2	U
4-Methyl-2-pentanone (MIBK)	108-10-1	ug/L	350	5	2	U	2	U	2	U
Acetone	67-64-1	ug/L	700	5	2	U	2	U	2	U
Benzene	71-43-2	ug/L	1	0.5	0.5	U	0.5	U	0.5	U
Bromomethane	74-83-9	ug/L	9.8	0.5	0.5	U	0.5	U	0.5	U
Carbon disulfide	75-15-0	ug/L	700	0.5	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	56-23-5	ug/L	5	0.5	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	ug/L	100	0.5	0.5	U	0.5	U	0.5	U
Chloroethane	75-00-3	ug/L	12.1	0.5	0.5	U	0.5	U	0.5	U
Chloroform	67-66-3	ug/L	6	0.5	**3.2**		**3.1**		**2.1**	
Chloromethane	74-87-3	ug/L	2.7	0.5	**0.8**		0.5	U	0.5	U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	0.5	0.5	U	0.5	U	0.5	U
Ethylbenzene	100-41-4	ug/L	700	0.5	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	87-68-3	ug/L	0.45	0.45	0.45	U	0.45	U	0.45	U
Methylene chloride	75-09-2	ug/L	5	0.5	0.5	U	0.5	U	0.5	U
Naphthalene	91-20-3	ug/L	280	0.5	0.5	U	0.5	U	0.5	U
Styrene	100-42-5	ug/L	100	0.5	0.5	U	0.5	U	0.5	U
Tetrachloroethene	127-18-4	ug/L	5	0.5	0.5	U	0.5	U	0.5	U
Tetrahydrofuran	109-99-9	ug/L	4.6	0.5	1	U	1	U	1	U
Toluene	108-88-3	ug/L	1000	0.5	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	156-60-5	ug/L	100	0.5	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	10061-02-6	ug/L	0.5	0.5	0.5	U	0.5	U	0.5	U
Trichloroethene	79-01-6	ug/L	5	0.5	0.5	U	0.5	U	0.5	U
Vinyl chloride	75-01-4	ug/L	2	0.5	0.5	U	0.5	U	0.5	U
Xylenes, Total	1330-20-7	ug/L	530	0.5	1	U	1	U	1	U

Notes:
U = analyte not detected above the laboratory reporting limit
ug/L = micrograms per liter
VOCs = volatile organic compounds
Standard = GW-SRSNE Action Level (ARARs-Based Limits)
ICL = Interim Cleanup Level based on Table L-1 from Record of Decision Summary, September 2005
Bold = Analyte detected above the laboratory reporting limit
Shaded Cell = Analyte detected above the Standard/Action Level
Third party validation was not completed on these analytical results

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Table 4 – MNA Parameters – Groundwater Sample Summary Results – June - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

		Sample Location	CPZ-4A		MW-03		MW-1002DR		MW-1002R		MW-1003DR		MW-1003R		MW-1003R		MW-121B		MW-121C		MW-121M	
		Sample Date	6/14/2012		6/15/2012		6/13/2012		6/13/2012		10/15/2012		10/15/2012		10/15/2012		6/14/2012		6/14/2012		6/13/2012	
		Field Sample ID	CPZ-4A-HS-06142012		MW-03-06152012		MW-1002DR-HS-06132012		MW-1002R-HS-06132012		MW-1003DR-10152012		DUP-GW-10152012-#1		MW-1003R-10152012		MW-121B-HS-06142012		MW-121C-HS-06142012		MW-121M-HS-06132012	
		Well Group	R		R		R		R		R		R		R		R		R		R	
Analyte	**CAS No.**	**Unit**																				
MNA (Water)																						
Alkalinity	ALK	mg/L	**160**	--	**100**	--	**39**	J	**17**	J	810	--	56	--	56	-	**230**	--	**230**	--	**110**	J
Chloride	16887-00-6	mg/L	**2.6**	--	**16**	--	**670**	--	**1000**	--	**180**	--	**160**	--	**160**	-	**46**	--	**49**	--	**33**	--
Sulfate	14808-79-8	mg/L	**2.9**	--	**11**	--	**230**	--	**710**	--	**96**	--	**360**	--	**360**	-	**0.2**	J	**0.96**	J	**0.43**	J
Nitrite as N	14797-65-0	mg/L	0.02	U	**0.02**	J	0.05	U	0.05	U	0.1	U	**0.12**	--	**0.12**	-	0.03	U	0.02	U	0.05	U
Nitrate as N	14797-55-8	mg/L	0.07	U	0.1	U	**0.13**	--	0.1	U	0.98	--	0.64	--	0.67	-	0.08	U	0.05	U	0.1	U
Iron (Dissolved)	7439-89-6	ug/L	**12000**	--	50	U	50	U	50	U	50	U	50	U	50	U	**1300**	--	**2300**	--	**3600**	--
Manganese (Dissolved)	7439-96-5	ug/L	**2520**	--	**476**	--	10	U	21.3	U	10	U	10	U	10	U	**2470**	--	**2010**	--	**4420**	--
Total Organic Carbon	TOC	mg/L	**3.5**	J	1	UJ	0.8	UJ	**2.5**	J	4.9	J	1.8	J	1.9	J	**4.5**	J	**3.8**	J	**2.6**	J
MNA (Water Gas)																						
Ethane	74-84-0	ug/L	**200**	--	0.06	U	**3.5**	--	**0.057**	--	0.13	--	0.076	--	0.074	--	**510**	--	**420**	--	**88**	--
Ethene	74-85-1	ug/L	**83**	--	0.024	U	0.15	U	0.46	U	0.23	--	0.14	--	0.14	--	**0.3**	--	**0.49**	--	**0.35**	--
Methane	74-82-8	ug/L	**13000**	--	1	U	**45**	J	**0.92**	J	1.1	J	0.88	J	0.57	J	**15000**	--	**12000**	--	**2100**	--

Notes:
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- **ug/L** = micrograms per liter
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Table 4 – MNA Parameters – Groundwater Sample Summary Results – June - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

		Sample Location	MW-124C		MW-126B		MW-126B		MW-127C		MW-127C		MW-413		MW-415		MW-416		MW-502		MW-701DR	
		Sample Date	6/12/2012		6/13/2012		6/13/2012		6/12/2012		6/12/2012		6/15/2012		6/15/2012		6/15/2012		6/13/2012		6/15/2012	
		Field Sample ID	MW-124C-HS-06122012		DUP-GW-06132012#1		MW-126B-06132012		DUP-GW-06122012-#1		MW-127C-06122012		MW-413-HS-06152012		MW-415-HS-06152012		MW-416-HS-06152012		MW-502-HS-06132012		MW-701DR-06152012	
		Well Group	R		M		M		R		R		N		N		N		R		M	
Analyte	**CAS No.**	**Unit**																				
MNA (Water)																						
Alkalinity	ALK	mg/L	**66**	--	**110**	J	**110**	J	**120**	--	**120**	--	**100**	--	**130**	--	**100**	--	**320**	J	**84**	--
Chloride	16887-00-6	mg/L	**12**	--	**59**	--	**68**	--	**18**	--	**20**	--	**42**	--	**8.6**	--	**9.9**	--	**140**	--	**6.5**	--
Sulfate	14808-79-8	mg/L	**30**	--	**14**	--	**13**	--	**14**	--	**14**	--	**1.2**	--	1	U	**76**	--	**3**	--	**80**	--
Nitrite as N	14797-65-0	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	**0.02**	J	**0.03**	J	**0.06**	--	0.05	U	0.05	U
Nitrate as N	14797-55-8	mg/L	**1.1**	--	0.13	U	0.14	U	**1.3**	--	**1.3**	--	**0.21**	--	0.11	U	**0.55**	--	0.1	U	**0.68**	--
Iron (Dissolved)	7439-89-6	ug/L	**80**	--	50	U	50	U	50	U	50	U	**11000**	--	**16000**	--	50	U	**14000**	--	50	U
Manganese (Dissolved)	7439-96-5	ug/L	**5.9**	J	35.6	U	39.14	U	**4.6**	J	**5.2**	J	**3570**	--	**3780**	--	**21.7**	--	**2380**	--	**0.827**	--
Total Organic Carbon	TOC	mg/L	1.9	UJ	**2.4**	J	**2.8**	J	1.1	UJ	1	UJ	**27**	J	**6**	J	0.86	UJ	**12**	J	**0.36**	J
MNA (Water Gas)																						
Ethane	74-84-0	ug/L	<0.05	U	0.05	UJ	**0.016**	J	0.015	U	0.015	U	**14**	--	**610**	J	**1.1**	--	**350**	--	<0.05	U
Ethene	74-85-1	ug/L	0.035	U	0.085	U	0.03	U	0.035	U	0.033	U	**580**	J	**7.3**	--	**1.8**	--	**27**	--	0.042	U
Methane	74-82-8	ug/L	0.58	U	**290**	J	**260**	J	**13**	J	**13**	J	**1300**	--	**2200**	--	**77**	J	**26000**	--	0.24	U

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ug/L = micrograms per liter
Bold = Analyte detected above the laboratory reporting limit

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Table 4 – MNA Parameters – Groundwater Sample Summary Results – June - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

		Sample Location	MW-704D		MW-704DR		MW-704M		MW-705DR		MW-706DR		MW-707DR		MW-901R		MW-902D		MW-902M		MW-907D	
		Sample Date	6/14/2012		6/14/2012		6/14/2012		6/13/2012		6/14/2012		6/12/2012		6/14/2012		6/15/2012		6/15/2012		6/14/2012	
		Field Sample ID	MW-704D-HS-06142012		MW-704DR-HS-06142012		MW-704M-HS-06142012		MW-705DR-HS-06132012		MW-706DR-HS-06142012		MW-707DR-06122012		MW-901R-06142012		MW-902D-HS-06152012		MW-902M-HS-06152012		MW-907D-HS-06142012	
		Well Group	R		R		R		R		R		R		M		N		N		R	
Analyte	**CAS No.**	**Unit**																				
MNA (Water)																						
Alkalinity	ALK	mg/L	**150**	--	**130**	--	**180**	--	**83**	J	**15**	--	**82**	--	**90**	--	**150**	--	**210**	--	**260**	--
Chloride	16887-00-6	mg/L	**15**	--	**120**	--	**30**	--	**42**	--	**21**	--	**95**	--	**11**	--	**26**	--	**31**	--	**130**	--
Sulfate	14808-79-8	mg/L	**3.9**	--	**54**	--	**0.18**	J	**150**	--	**1100**	--	**88**	--	**10**	--	**0.48**	J	1	U	**2.6**	--
Nitrite as N	14797-65-0	mg/L	0.02	U	0.02	U	0.03	U	0.1	U	0.02	U	0.05	U	**0.02**	J	**0.03**	J	**0.04**	J	0.02	U
Nitrate as N	14797-55-8	mg/L	0.07	U	0.08	U	0.06	U	0.1	U	0.07	U	**0.46**	--	**0.87**	--	0.1	U	0.1	U	0.07	U
Iron (Dissolved)	7439-89-6	ug/L	**160**	--	**76**	--	**300**	--	50	U	50	U	50	U	**47.2**	J	**27000**	--	**23000**	--	**6000**	--
Manganese (Dissolved)	7439-96-5	ug/L	**2120**	--	**735**	J	**2760**	--	10	U	**78.6**	J	**31.5**	--	**13.94**	--	**4610**	--	**4910**	--	**2920**	--
Total Organic Carbon	TOC	mg/L	1.9	UJ	**2.1**	J	**2.2**	J	**99**	J	0.64	UJ	**3.1**	J	**2.8**	J	**16**	J	**13**	J	**7.1**	J
MNA (Water Gas)																						
Ethane	74-84-0	ug/L	**130**	--	**22**	--	**87**	--	**6.6**	--	0.056	U	**0.14**	--	<0.025	U	**180**	--	**760**	J	**430**	--
Ethene	74-85-1	ug/L	0.073	U	**0.54**	--	0.071	U	**25**	--	**0.38**	--	0.27	U	**0.022**	J	**2200**	J	**920**	J	**3**	--
Methane	74-82-8	ug/L	**3500**	--	**920**	--	**4300**	--	**230**	J	**2.2**	J	**6.1**	J	**0.18**	J	**3900**	--	**5300**	--	**16000**	--

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ug/L = micrograms per liter
Bold = Analyte detected above the laboratory reporting limit

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Table 4 – MNA Parameters – Groundwater Sample Summary Results – June - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

		Sample Location	MW-907DR		MW-907M		MWL-304		MWL-307		MWL-309		MWL-309		P-101B		P-101C		P-101C		P-11A	
		Sample Date	6/15/2012		6/14/2012		6/14/2012		6/15/2012		6/13/2012		6/13/2012		6/14/2012		6/14/2012		6/14/2012		6/14/2012	
		Field Sample ID	MW-907DR-HS-06152012		MW-907M-HS-06142012		MWL-304-HS-06142012		MWL-307-HS-06152012		DUP-GW-06132012#2		MWL-309-HS-06132012		P-101B-HS-06142012		DUP-GW-06142012-#2		P-101C-HS-06142012		P-11A-HS-06142012	
		Well Group	R		R		N		N		R		R		R		R		R		R	
Analyte	**CAS No.**	**Unit**																				
MNA (Water)																						
Alkalinity	ALK	mg/L	**17**	--	**360**	--	**340**	--	**120**	--	**310**	J	**240**	J	**170**	--	--	--	**130**	--	**65**	--
Chloride	16887-00-6	mg/L	**76**	--	**180**	--	**4.6**	--	**13**	--	--	--	**92**	--	**27**	--	**20**	--	**20**	--	**17**	--
Sulfate	14808-79-8	mg/L	**1100**	--	**0.18**	J	**4.6**	--	**0.32**	J	--	--	**4.6**	--	**7.6**	--	**9.7**	--	**13**	--	**170**	--
Nitrite as N	14797-65-0	mg/L	**0.02**	J	0.02	U	0.03	U	**0.04**	J	--	--	0.05	U	0.02	U	0.046	U	0.03	U	0.02	U
Nitrate as N	14797-55-8	mg/L	0.1	U	0.06	U	0.07	U	0.1	U	--	--	**0.18**	--	0.08	U	0.096	U	0.09	U	0.07	U
Iron (Dissolved)	7439-89-6	ug/L	50	U	**11000**	--	**47000**	--	**17000**	--	--	--	**360**	--	**1500**	--	**41**	J	**84**	--	**190**	--
Manganese (Dissolved)	7439-96-5	ug/L	**38.3**	--	**3350**	--	**8740**	--	**3100**	J	--	--	**2380**	J	**1260**	--	**1480**	--	**1470**	--	**442**	--
Total Organic Carbon	TOC	mg/L	1.4	UJ	**14**	J	**10**	J	**15**	J	1.8	UJ	**1.8**	J	1.4	UJ	--	--	0.95	UJ	1.1	UJ
MNA (Water Gas)																						
Ethane	74-84-0	ug/L	0.075	U	**470**	--	**3.6**	--	**85**	--	**4.1**	--	**3.4**	--	**220**	--	--	--	**190**	--	**28**	--
Ethene	74-85-1	ug/L	0.23	U	**0.53**	--	**110**	--	**790**	J	0.077	U	0.067	U	**2.6**	--	--	--	**7.1**	--	**110**	--
Methane	74-82-8	ug/L	1.9	U	**26000**	--	**5400**	--	**2600**	--	**130**	J	**82**	J	**3300**	--	--	--	**1500**	--	**410**	--

Notes:
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ug/L = micrograms per liter
Bold = Analyte detected above the laboratory reporting limit

Table 4 – MNA Parameters – Groundwater Sample Summary Results – June - October 2012
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

		Sample Location	P-12		P-13		PZO-2D		PZO-2M		PZR-2R		TW-08A		TW-08B		TW-08D	
		Sample Date	6/12/2012		6/15/2012		6/13/2012		6/13/2012		6/13/2012		6/14/2012		6/15/2012		6/15/2012	
		Field Sample ID	P-12-06122012		P-13-HS-06152012		PZO-2D-HS-06132012		PZO-2M-HS-06132012		P2R-2R-HS-06132012		TW-08A-HS-06142012		TW-08B-HS-06152012		TW-08D-HS-06152012	
		Well Group	M		R		R		R		R		N		N		N	
Analyte	**CAS No.**	**Unit**																
MNA (Water)																		
Alkalinity	ALK	mg/L	**72**	--	**110**	--	**86**	--	**91**	J	**38**	J	**100**	--	**200**	--	**170**	--
Chloride	16887-00-6	mg/L	**28**	--	**9.2**	--	**17**	--	**12**	--	**63**	--	**15**	--	**230**	--	**69**	--
Sulfate	14808-79-8	mg/L	**6.4**	--	**8**	--	**12**	--	**12**	--	**210**	--	**2**	--	**2.8**	--	1	U
Nitrite as N	14797-65-0	mg/L	0.05	U	0.05	U	0.05	U	**0.05**	J	0.05	U	0.03	U	**0.02**	J	**0.04**	J
Nitrate as N	14797-55-8	mg/L	0.15	U	**1**	--	**1.1**	--	**0.97**	--	0.14	U	0.07	U	0.1	U	**0.29**	--
Iron (Dissolved)	7439-89-6	ug/L	50	U	**310**	--	50	U	50	U	71	U	**13000**	--	**6300**	--	**1500**	--
Manganese (Dissolved)	7439-96-5	ug/L	**1.7**	--	**49.4**	--	10	U	10	U	15.5	U	**3190**	--	**5540**	--	**8200**	--
Total Organic Carbon	TOC	mg/L	1.4	U	**0.7**	J	**0.4**	J	**1.9**	J	1	UJ	**2.3**	J	**32**	J	**28**	J
MNA (Water Gas)																		
Ethane	74-84-0	ug/L	<0.05	U	<0.05	U	<0.05	U	<0.05	U	**0.034**	J	**11**	--	**51**	--	**43**	--
Ethene	74-85-1	ug/L	**0.023**	J	0.12	U	0.025	U	0.041	U	0.035	U	**940**	J	**800**	J	**7000**	J
Methane	74-82-8	ug/L	0.33	UJ	0.13	U	**0.33**	J	0.16	UJ	**1.5**	J	**400**	--	**2300**	--	**1400**	--

Notes:
U = Analyte not detected above the laboratory reporting limit
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ug/L = micrograms per liter
Bold = Analyte detected above the laboratory reporting limit

Table 5 - Statistical Summary of Groundwater Total VOC Concentration Trends
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

		Data Range					Linear Regression Analysis						Mann-Kendall Analysis			Sen's Slope Analysis	
Well	Constituent	Minimum Concentration (µg/L)	Maximum Concentration (µg/L)	% of Data Below Laboratory Minimum Detection Limit	Start Date	End Date	Correlation Coefficient, R^2	p-value of Correlation	Estimated Attenuation Half-life (days)	Trend Direction (slope of trend line)	Trend Significant?	Comments	p-value of Correlation	Trend Direction	Trend Significant?	Estimated Attenuation Half-life (days)	Trend Direction
Shallow Overburden Wells																	
P-13	Total VOCs	2.4	69	0	3/28/1995	6/15/2012	0.45	0.002	2,079	Decreasing	Yes		< 0.001	Decreasing	Yes	1,893	Decreasing
MWL-312	Total VOCs	<0.5	49	76	3/27/1995	5/20/2010	0.18	0.09	1,400	Decreasing	Yes	76% of results below detection	0.245	Decreasing	No	NA	No Trend
P-101C	Total VOCs	34.3	479	0	3/27/1995	6/14/2012	0.62	<0.001	2,200	Decreasing	Yes		< 0.001	Decreasing	Yes	2,180	Decreasing
Middle Overburden Wells																	
MW-03	Total VOCs	0.7	120	0	12/5/1996	6/15/2012	0.20	0.06	1,601	Decreasing	Yes		0.048	Decreasing	Yes	1,120	Decreasing
MW-205B	Total VOCs	<0.5	24	12	3/23/1995	5/14/2010	0.26	0.04	1,644	Decreasing	Yes		0.008	Decreasing	Yes	1,690	Decreasing
P-101B	Total VOCs	12	187,400	0	3/27/1995	6/14/2012	0.69	<0.001	562	Decreasing	Yes		< 0.001	Decreasing	Yes	542	Decreasing
MW-127B	Total VOCs	<0.5	22	12	3/23/1995	5/19/2010	0.22	0.06	1,643	Decreasing	Yes		0.059	Decreasing	Yes	1,824	No Trend
MW-501B	Total VOCs	1.8	65	0	3/24/1995	5/24/2010	0.55	<0.001	1,022	Decreasing	Yes		0.001	Decreasing	Yes	990	Decreasing
Deep Overburden Wells																	
MW-204B	Total VOCs	<0.5	87	18	3/28/1995	5/17/2010	0.23	0.05	1,251	Decreasing	Yes		0.002	Decreasing	Yes	642	Decreasing
MW-502	Total VOCs	630	118,160	0	3/21/1995	6/13/2012	0.69	<0.001	1,010	Decreasing	Yes		0.002	Decreasing	Yes	2,471	Decreasing
MW-704D	Total VOCs	7.0	665	0	12/18/1996	6/14/2012	0.11	0.18	NA	Decreasing	No		0.094	Decreasing	Yes	NA	NS
MW-707D	Total VOCs	<0.5	21	56	12/6/1996	5/13/2010	<0.001	0.92	NA	No Trend	No	56% of results below detection	0.482	NS	No	NA	No Trend
Shallow Bedrock Wells																	
MW-127C	Total VOCs	20	147	0	3/23/1995	6/12/2012	0.39	0.01	3,274	Decreasing	Yes		0.012	Decreasing	Yes	3,518	Decreasing
MW-128	Total VOCs	3.0	15	0	3/23/1995	5/19/2010	0.46	0.003	3,060	Decreasing	Yes		0.001	Decreasing	Yes	2,310	Decreasing
MW-204A	Total VOCs	2.0	682	0	3/28/1995	5/15/2010	0.55	<0.001	773	Decreasing	Yes		< 0.001	Decreasing	Yes	654	Decreasing
MW-501A	Total VOCs	10	118	0	3/24/1995	5/21/2010	0.82	<0.001	1,590	Decreasing	Yes		< 0.001	Decreasing	Yes	1,507	Decreasing
P-11A	Total VOCs	223	26,400	0	3/27/1995	6/14/2012	0.01	0.76	NA	No Trend	No	Changed from decreasing in 2011	0.093	Decreasing	Yes	NA	NS
Deep Bedrock Wells																	
MW-703DR	Total VOCs	<0.5	8.0	81	12/9/1996	5/12/2010	<0.001	0.97	NA	No Trend	No	81% of results below detection	0.482	NS	No	NA	No Trend
MW-704DR	Total VOCs	11	455	0	12/17/1996	6/14/2012	0.54	<0.001	2,053	Decreasing	Yes		0.003	Decreasing	Yes	2,562	Decreasing
MW-706DR	Total VOCs	4,409	11,240	0	12/10/1996	6/14/2012	0.001	0.88	NA	No Trend	No		0.47	NS	No	NA	NS
MW-707DR	Total VOCs	<0.5	18	35	12/30/1996	8/27/2012	0.25	0.03	NA	Increasing	Yes		0.019	Increasing	Yes	NA	No Trend

Notes and Assumptions:

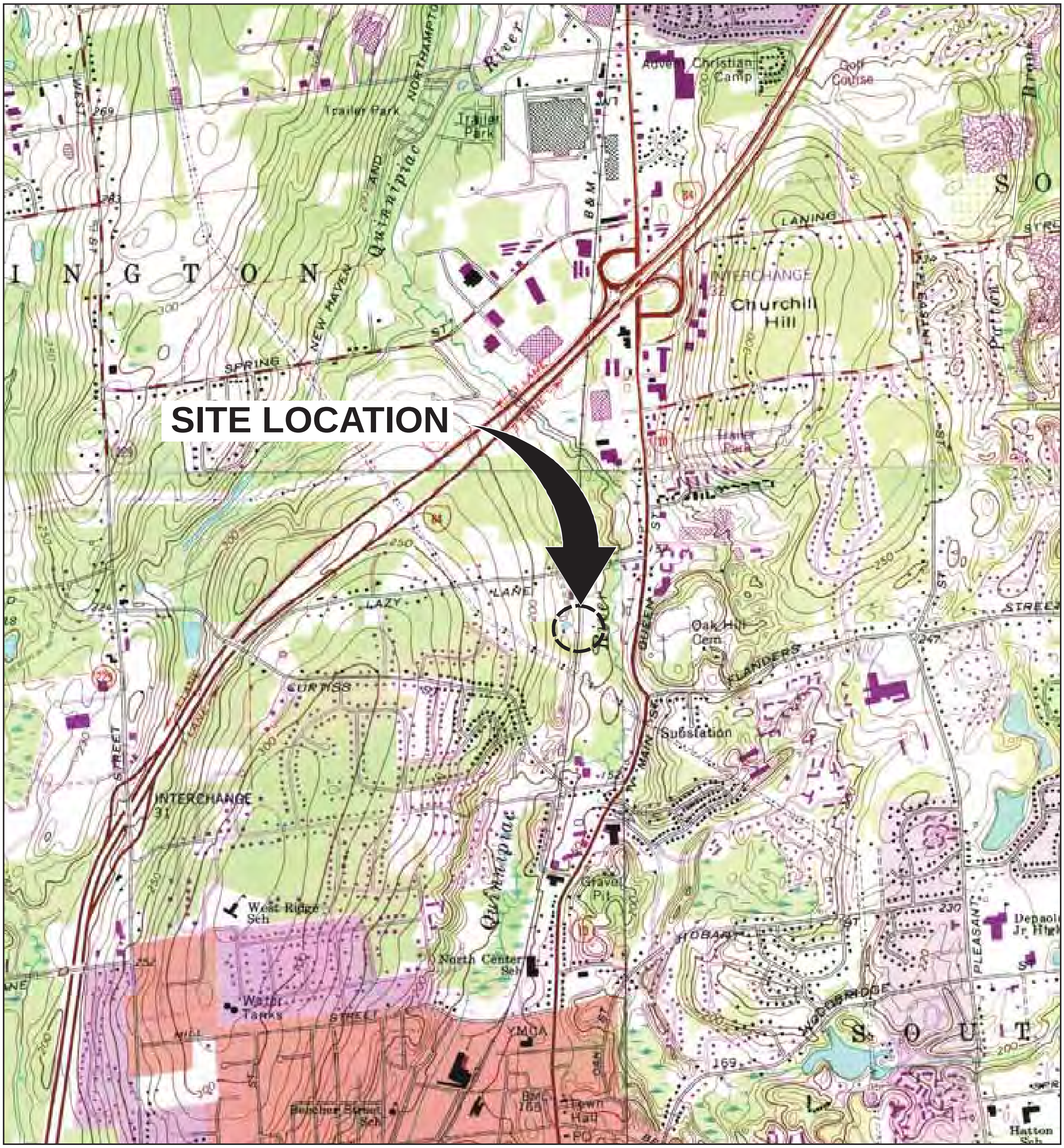
µg/L = micrograms per liter

NS = no significant trend

NA = not applicable due to increasing trend or non-significant trend

ARCADIS

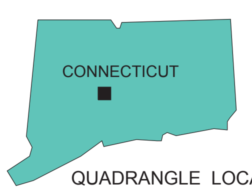
Figures



REFERENCE: SOUTHINGTON, CONN. USGS QUAD. 1968 PR 1992, MERIDEN, CONN. USGS QUAD. 1966 PR 1984, NEW BRITAIN, CONN. USGS QUAD. 1966 PR 1984, & BRISTOL, CONN. USGS QUAD 1967 PR 1984

2000' 0 2000'

APPROX. SCALE: 1" = 2000'



QUADRANGLE LOCATION

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

SITE LOCATION MAP

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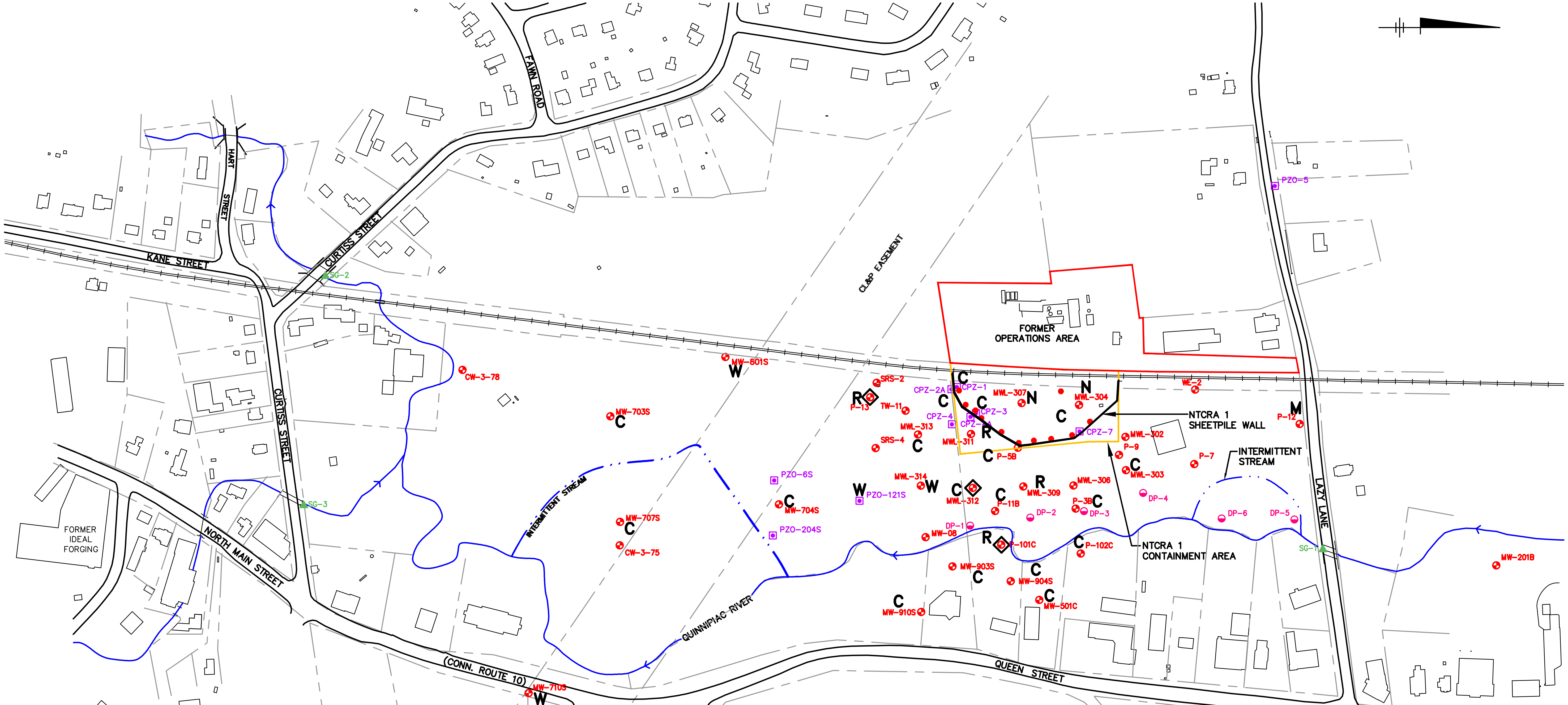
FIGURE
1

09/16/2010 SYRACUSE, NY-ENV/CAD DJHOWES, LJPOSENAUER
B0054634\0000\02200\CDR\54634N01.CDR



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. NON-GRAY WELLS AND PIEZOMETERS WITH NO BOLD BLACK LETTER PROPOSED FOR DORMANT STATUS.

KEY:

- **N** NTCRA 1 AREA MONITORING WELL
- **M** BACKGROUND MONITORING WELL FOR METALS SAMPLING ONLY
- **R** MONITORING WELL FOR ROUTINE VOC AND MNA MONITORING
- **C** MONITORING WELL FOR COMPREHENSIVE SAMPLING ROUNDS ONLY
- **W** MONITORING WELL FOR WATER LEVEL MEASUREMENT ONLY

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- SHALLOW OVERBURDEN MONITORING WELL
- NTCRA 1 EXTRACTION WELL
- PIEZOMETER
- NTCRA 1 WETLAND DRIVEPOINT
- STREAM/RIVER GAUGE POINT

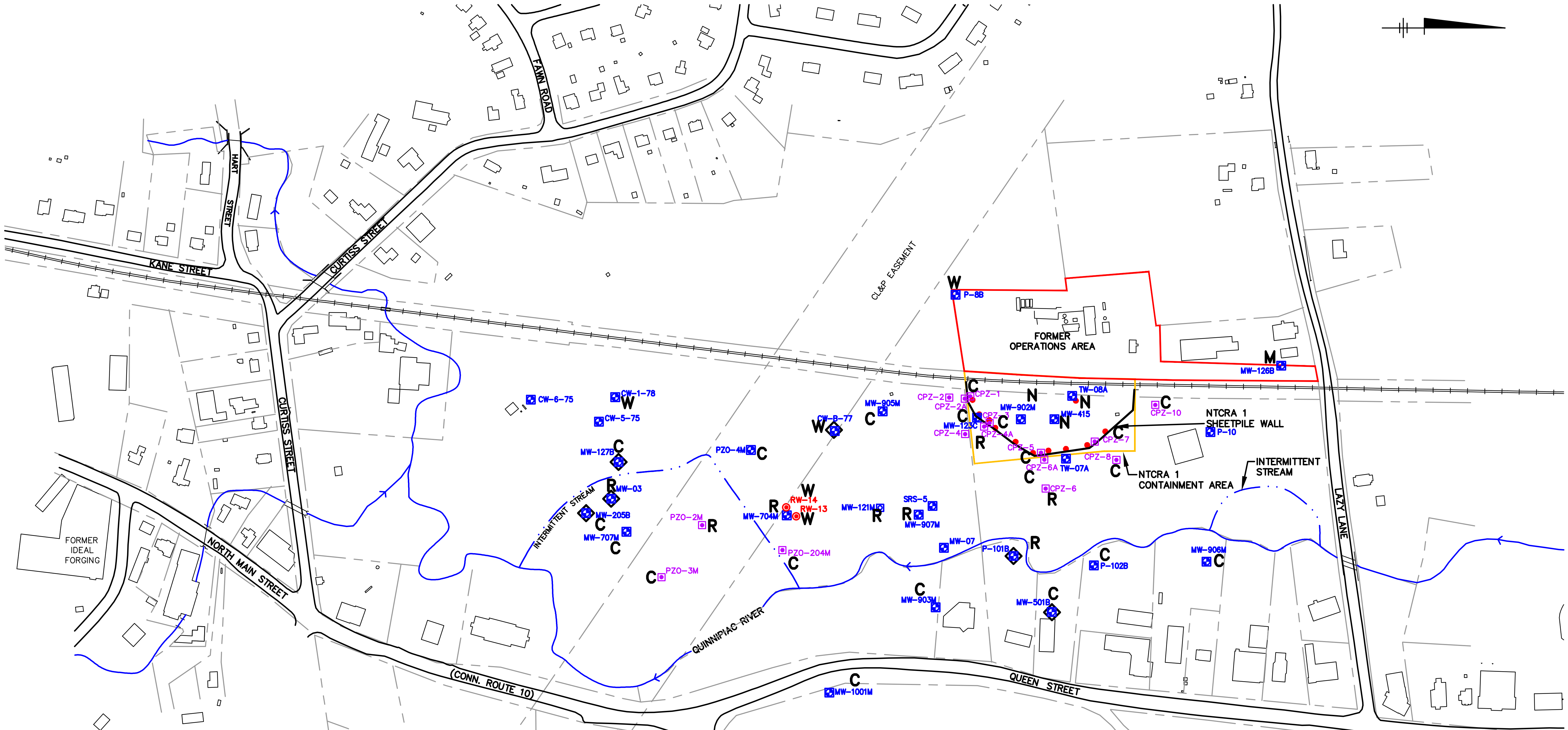
SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER MONITORING LOCATIONS SHALLOW OVERBURDEN

ARCADIS

FIGURE
2

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER PM: M. GEFELL TM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF (FRZ) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/20/2012 8:13 PM BY: SMALL, BRIAN
G:\ENVCAD\Manchester\ACT\B0054634\0000\02200\MNA 2012\54634C02.DWG LAYOUT: 2 SAVED: 8/20/2012 7:13 PM ACADVER: 18.1S (LMS TECH)
XREFS: 54634X01 IMAGES: Figure 27.jpg Figure 32.jpg PROJECTNAME: ----



DRAFT

NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. NON-GRAY WELLS AND PIEZOMETERS WITH NO BOLD BLACK LETTER PROPOSED FOR DORMANT STATUS.

KEY:

- **N** NTCRA 1 AREA MONITORING WELL
- **M** BACKGROUND MONITORING WELL FOR METALS SAMPLING ONLY
- **R** MONITORING WELL FOR ROUTINE VOC AND MNA MONITORING
- **C** MONITORING WELL FOR COMPREHENSIVE SAMPLING ROUNDS ONLY
- **W** MONITORING WELL FOR WATER LEVEL MEASUREMENT ONLY

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- MIDDLE OVERBURDEN MONITORING WELL
- PIEZOMETER
- NTCRA 1 EXTRACTION WELL
- NTCRA 2 EXTRACTION WELL

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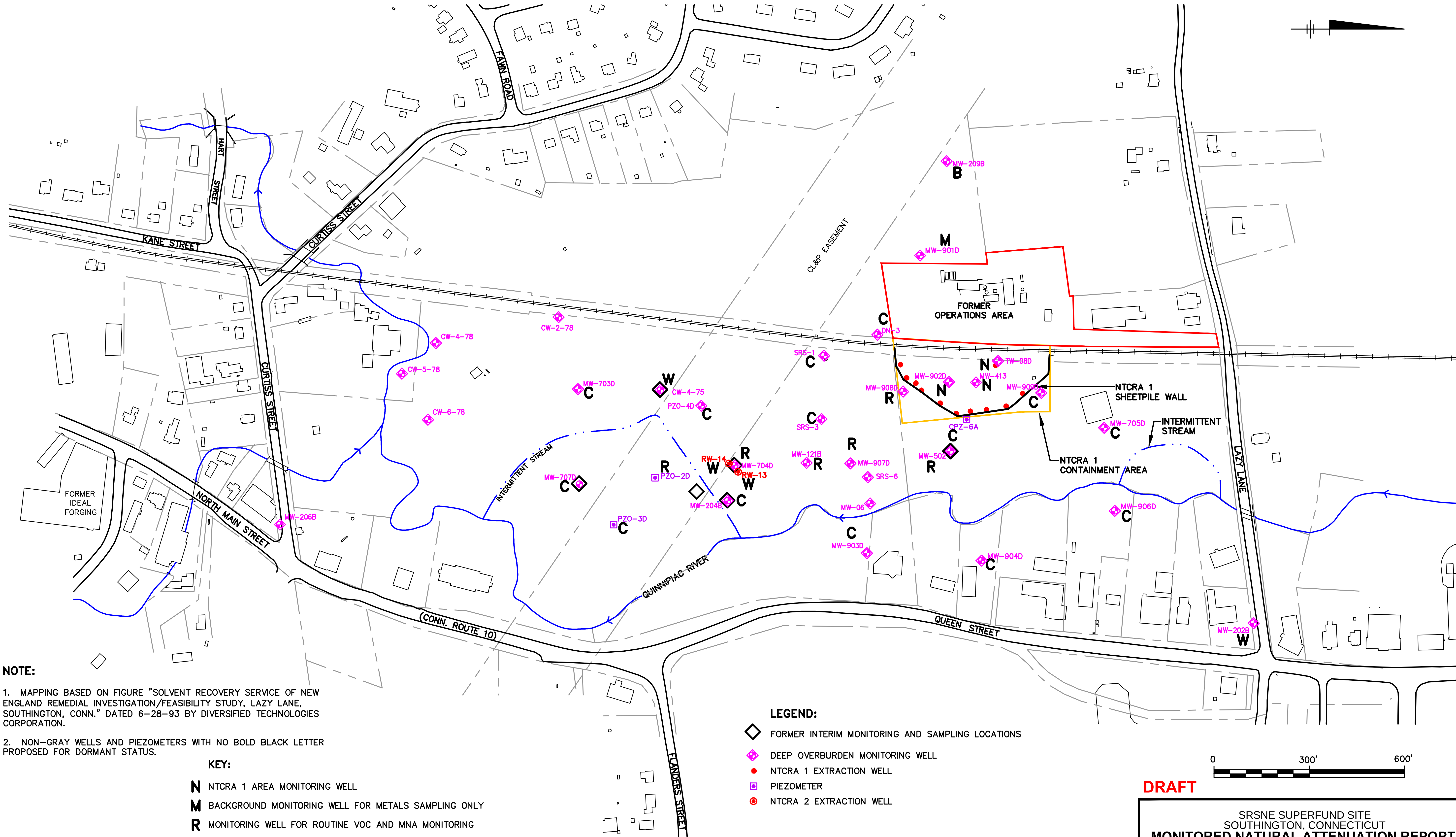
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER MONITORING LOCATIONS MIDDLE OVERBURDEN

ARCADIS

FIGURE 3

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER PM: M. GEFELL TM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF, (FRZ) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/20/2012 8:11 PM BY: SMALL, BRIAN
G:\ENVCAD\Manchester\ACT\B0054634\0000\02200\MNA 2012\54634C03.DWG LAYOUT: 3 SAVED: 8/20/2012 7:29 PM ACADVER: 18.1S (LMS TECH)
XREFS: 54634X01 IMAGES: Figure 28.jpg PROJECTNAME: ----



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. NON-GRAY WELLS AND PIEZOMETERS WITH NO BOLD BLACK LETTER PROPOSED FOR DORMANT STATUS.

KEY:

- **N** NTCRA 1 AREA MONITORING WELL
- **M** BACKGROUND MONITORING WELL FOR METALS SAMPLING ONLY
- **R** MONITORING WELL FOR ROUTINE VOC AND MNA MONITORING
- **B** BACKGROUND MONITORING WELL FOR METALS AND MNA SAMPLING
- **C** MONITORING WELL FOR COMPREHENSIVE SAMPLING ROUNDS ONLY
- **W** MONITORING WELL FOR WATER LEVEL MEASUREMENT ONLY

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- DEEP OVERBURDEN MONITORING WELL
- NTCRA 1 EXTRACTION WELL
- PIEZOMETER
- NTCRA 2 EXTRACTION WELL

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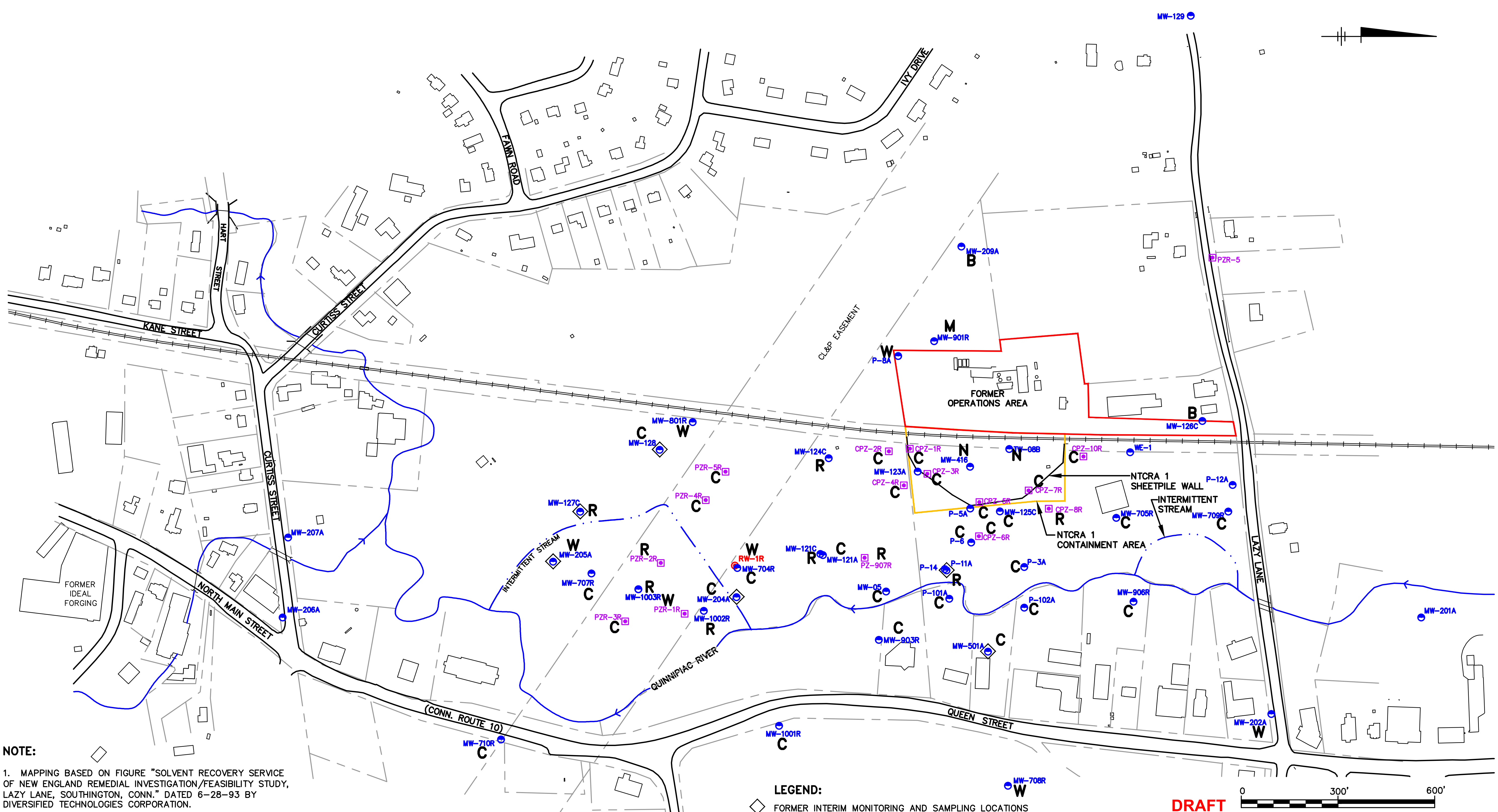
MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER MONITORING LOCATIONS DEEP OVERBURDEN

ARCADIS

FIGURE
4

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER PM: M. GEFELL TM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF (FRZ) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/21/2012 8:49 AM BY: SMALL, BRIAN
G:\ENVCAD\Manchester\ACT\B0054634\0000\02200\MNA 2012\5463404.DWG LAYOUT: 4 SAVED: 8/20/2012 8:10 PM ACADVER: 18.1S (LMS TECH)
XREFS: 5463X01 IMAGES: Figure 29.jpg PROJECTNAME: ----



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. NON-GRAY WELLS AND PIEZOMETERS WITH NO BOLD BLACK LETTER PROPOSED FOR DORMANT STATUS.

KEY:

- **N** NTCRA 1 AREA MONITORING WELL
- **M** BACKGROUND MONITORING WELL FOR METALS SAMPLING ONLY
- **R** MONITORING WELL FOR ROUTINE VOC AND MNA MONITORING
- **B** BACKGROUND MONITORING WELL FOR METALS AND MNA SAMPLING
- **C** MONITORING WELL FOR COMPREHENSIVE SAMPLING ROUNDS ONLY
- **W** MONITORING WELL FOR WATER LEVEL MEASUREMENT ONLY

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- SHALLOW BEDROCK MONITORING WELL
- PIEZOMETER
- NTCRA 2 EXTRACTION WELL

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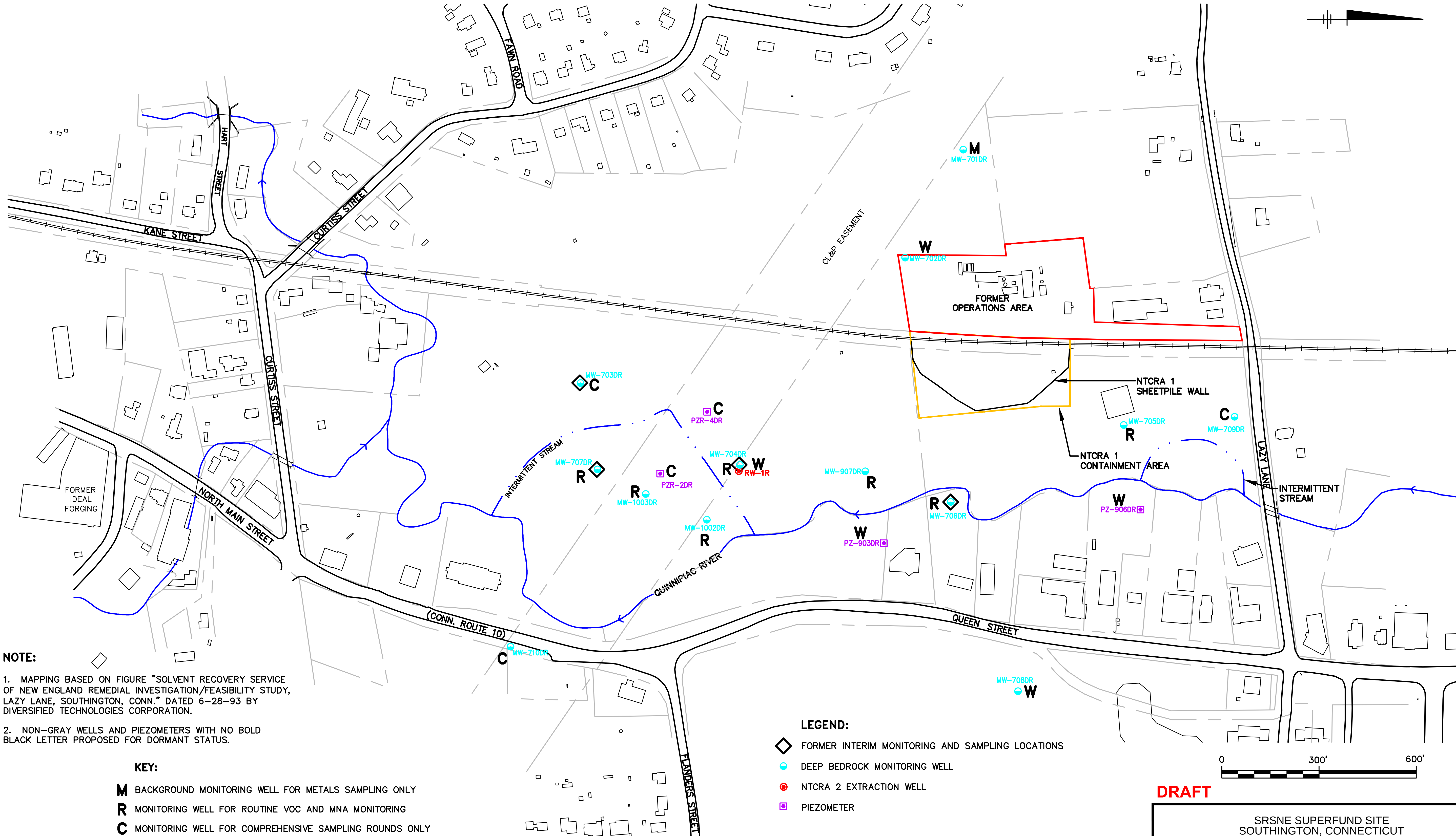
MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER MONITORING LOCATIONS SHALLOW BEDROCK

ARCADIS

FIGURE 5

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER PM: M. GEFELL TM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF (FRZ)
G:\ENVCAD\SYRACUSE\ACT\B0054634\0000\01700\DWG\54634C05.DWG LAYOUT: 5 SAVED: 11/30/2012 10:30 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/30/2012 10:30 AM BY: LISTER, PAUL
XREFS: 5463X01 IMAGES: Figure 30.jpg PROJECTNAME: ----



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. NON-GRAY WELLS AND PIEZOMETERS WITH NO BOLD BLACK LETTER PROPOSED FOR DORMANT STATUS.

KEY:

- **M** BACKGROUND MONITORING WELL FOR METALS SAMPLING ONLY
- **R** MONITORING WELL FOR ROUTINE VOC AND MNA MONITORING
- **C** MONITORING WELL FOR COMPREHENSIVE SAMPLING ROUNDS ONLY
- **W** MONITORING WELL FOR WATER LEVEL MEASUREMENT ONLY

LEGEND:

- FORMER INTERIM MONITORING AND SAMPLING LOCATIONS
- DEEP BEDROCK MONITORING WELL
- NTCRA 2 EXTRACTION WELL
- PIEZOMETER

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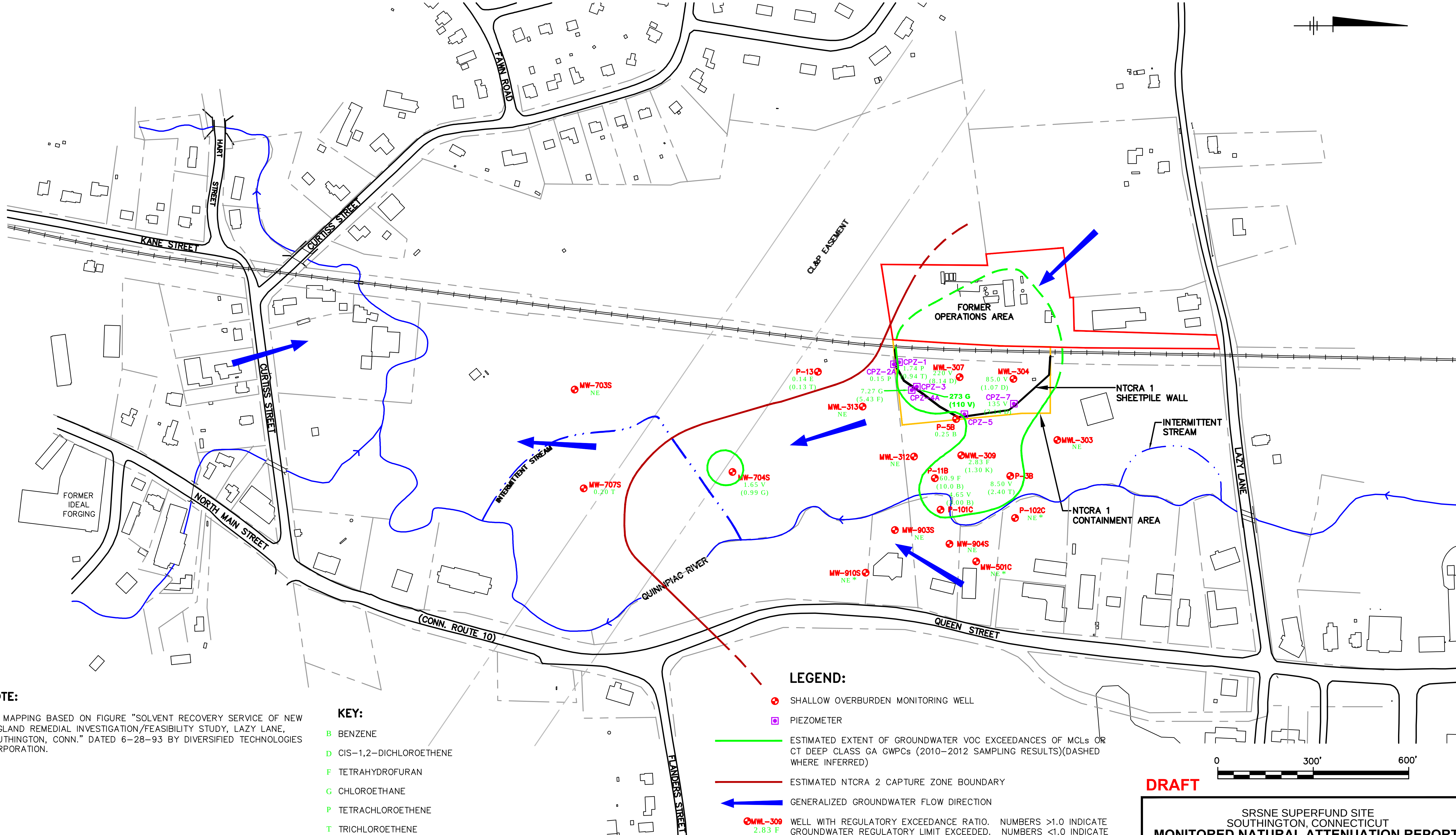
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER MONITORING LOCATIONS DEEP BEDROCK

ARCADIS

FIGURE
6

CITY: SYRACUSE, NY DIV/GROUP: ENV/IM-DV DB: P. LISTER PM: J. HOLDEN TM/TR: R. STEVENSON LYR: ON=*;OFF=REF* (FRZ)
G:\ENVCAD\SYRACUSE\ACT\B0054634\0000\01700\DWG\54634C06.DWG LAYOUT: 6 SAVED: 11/30/2012 10:31 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/30/2012 10:31 AM BY: LISTER, PAUL
XREFS: 54634X01 IMAGES: PROJECTNAME: ----



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

KEY:

- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- E 1,1-DICHLOROETHENE
- K 1,2-DICHLOROETHANE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- SHALLOW OVERBURDEN MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2010–2012 SAMPLING RESULTS)(DASHED WHERE INFERRED)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MWL-309 2.83 F (1.30 K) WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.
- * NO DETECTIONS ABOVE INTERIM CLEANUP LEVELS (ICLs) AT THIS LOCATION.

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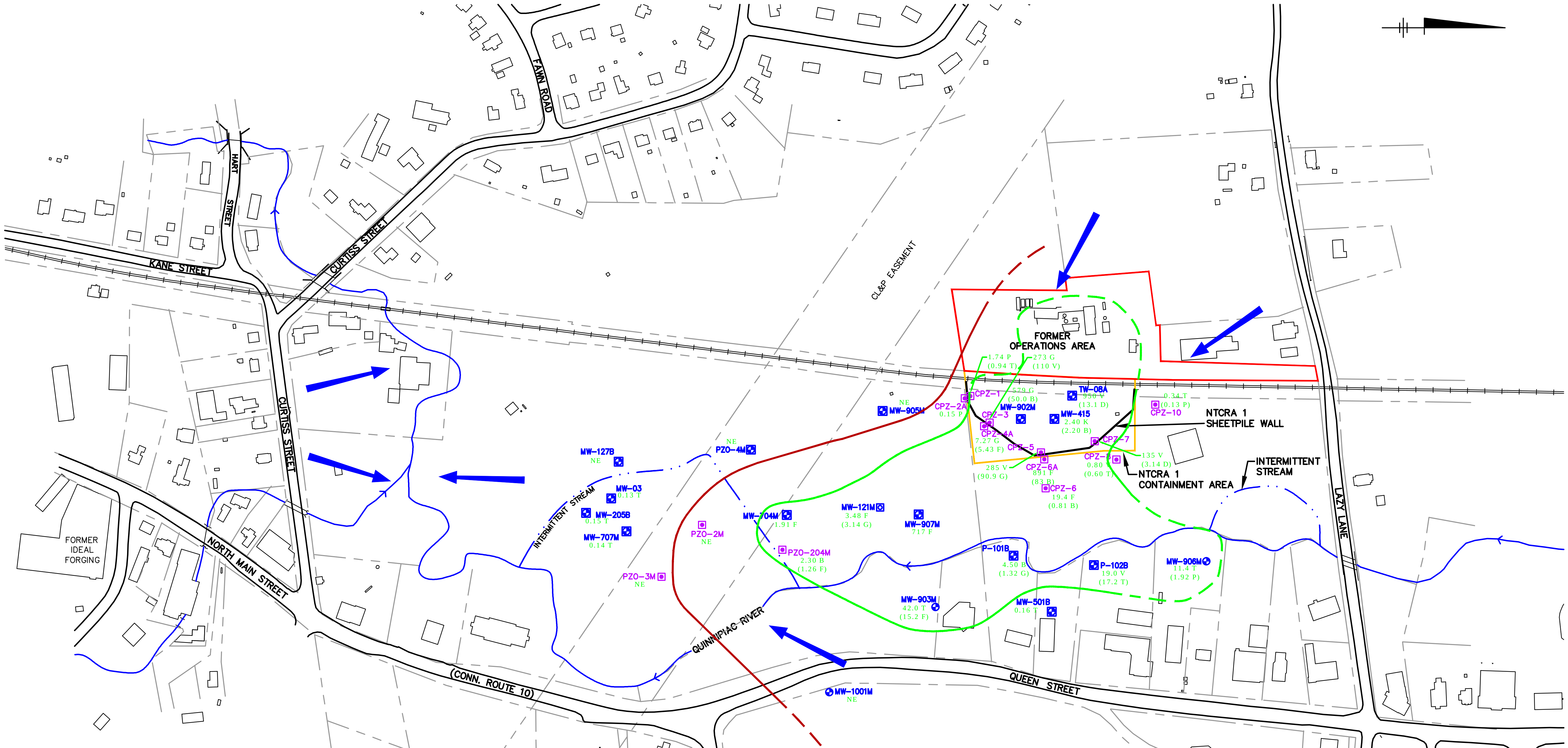
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME
SHALLOW OVERBURDEN

ARCADIS

FIGURE
7

CITY: SYRACUSE, NY DIV/GROUP: ENV/IM-DV DB: P. LISTER PM: J. HOLDEN TM/TR: R. STEVENSON LYR: ON=*;OFF=REF* (FRZ)
G:\ENVCAD\SYRACUSE\ACT\B0054634\0000\02200\DWG\54634C02.DWG LAYOUT: 7 SAVED: 9/10/2012 3:14 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 9/10/2012 3:15 PM BY: LISTER, PAUL
XREFS: 54634X01 IMAGES: PROJECTNAME: ----



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6–28–93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

KEY:

- B BENZENE
- D CIS–1,2–DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- K 1,2–DICHLOROETHANE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- MIDDLE OVERBURDEN MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2010–2012 SAMPLING RESULTS)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MW–903M 42.0 T (15.2 F) WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.

0 300' 600'

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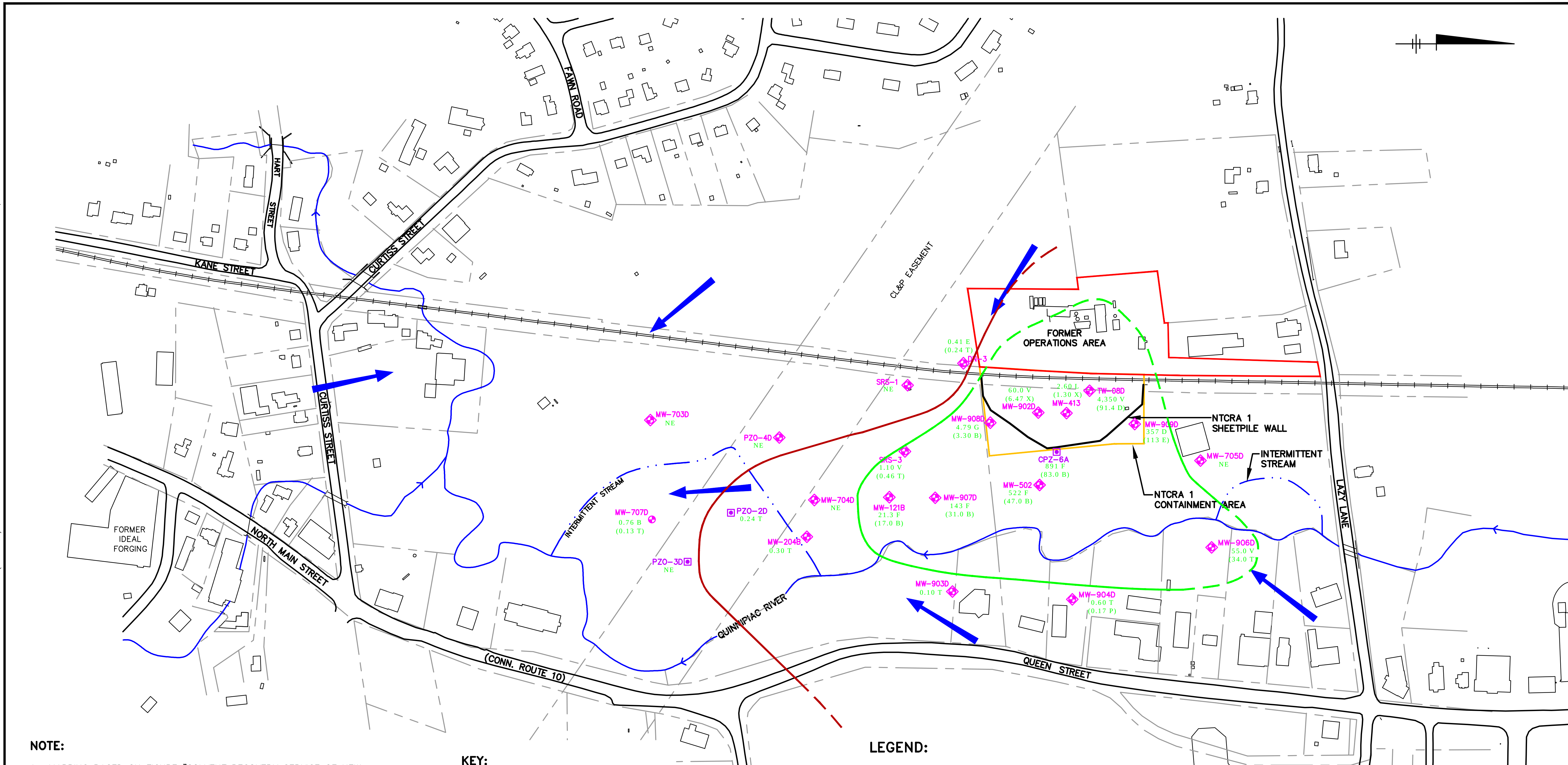
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME
MIDDLE OVERBURDEN

ARCADIS

FIGURE
8



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

KEY:

- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- X TOTAL XYLENES
- E 1,1-DICHLOROETHENE
- L TOLUENE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- DEEP OVERBURDEN MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2010-2012 SAMPLING RESULTS)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MW-502 522 F (47.0 B) WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.

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SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

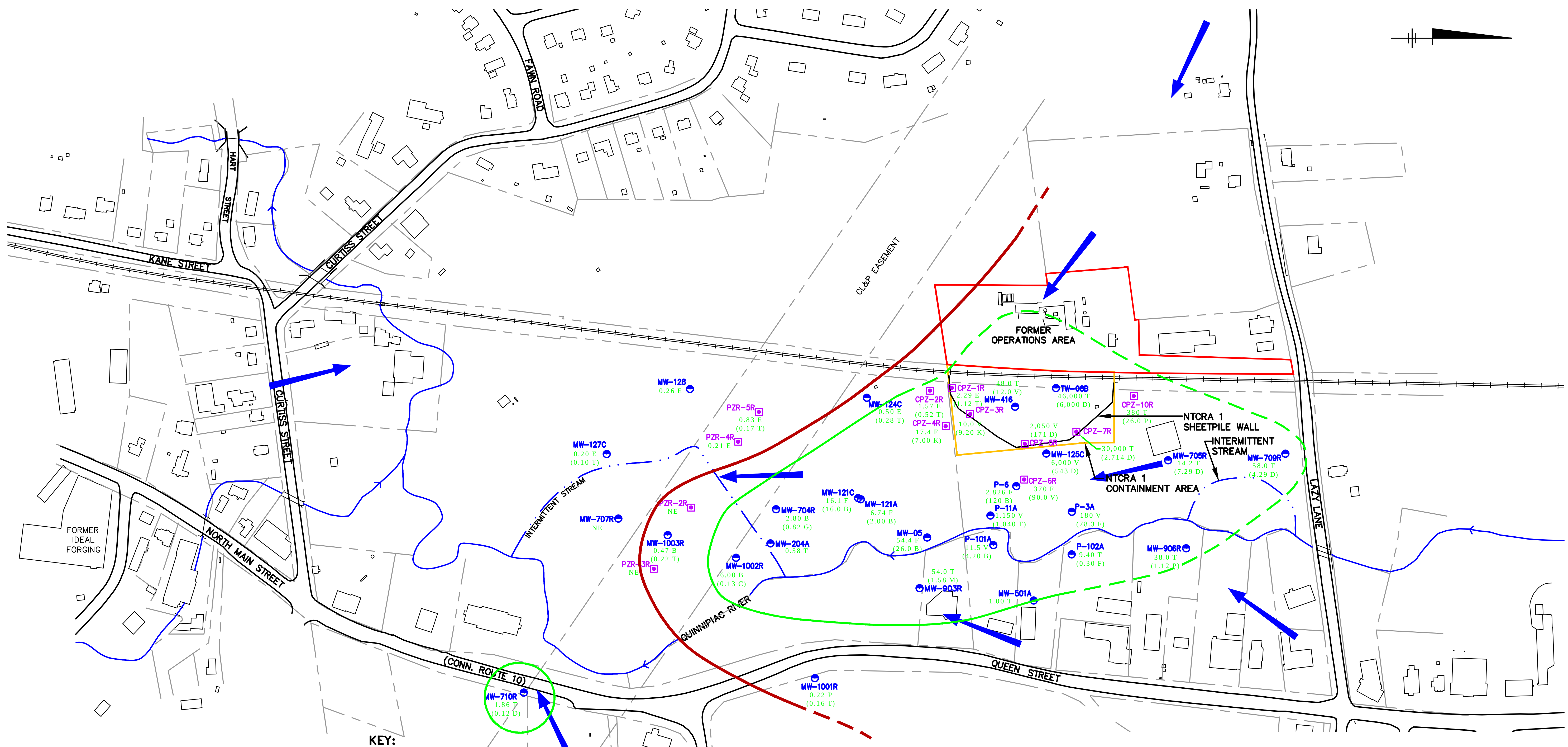
VOC EXCEEDANCE PLUME
DEEP OVERBURDEN

ARCADIS

FIGURE
9

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER PM: M. GEFELL TM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF, (FRZ) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/28/2012 12:51 PM BY: LISTER, PAUL
G:\ENVCAD\SYRACUSE\ACT\B0054634\0000\02200\DWG\54634C04.DWG LAYOUT: 9 SAVED: 8/28/2012 12:51 PM ACADVER: 18.1S (LMS TECH)
XREFS: 54634X01 IMAGES: PROJECTNAME: ----

CITY: SYRACUSE, NY DIV/GROUP: ENV/IM-DV DB: P. LISTER PM: J. HOLDEN TM/TR: R. STEVENSON LYR: ON=*;OFF=REF (FRZ) ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/15/2012 11:43 AM BY: LISTER, PAUL
G:\ENVCAD\SYRACUSE\ACT\B0054634\0000\01700\DWG\54634C10.DWG LAYOUT: 10 SAVED: 11/15/2012 11:42 AM
XREFS: 5463X01 IMAGES: PROJECTNAME: ----



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

KEY:

- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- C CHLOROFORM
- K 1,2-DICHLOROETHANE
- E 1,1-DICHLOROETHENE
- M METHYLENE CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- SHALLOW BEDROCK MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2010–2012 SAMPLING RESULTS)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- P-11A 1,150 V (1,040 T) WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.

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0 300' 600'

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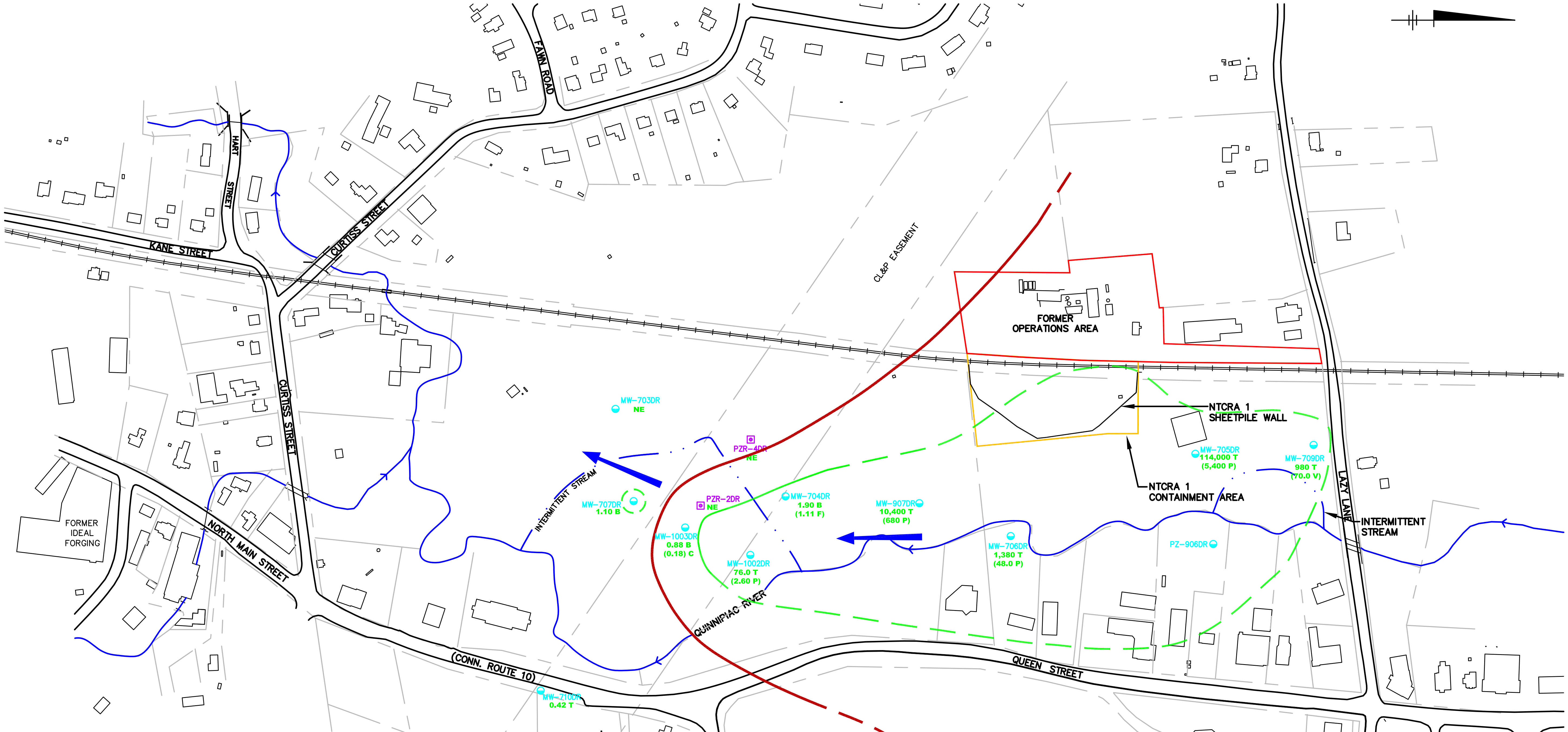
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME
SHALLOW BEDROCK

ARCADIS

FIGURE
10



NOTE:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

KEY:

- B BENZENE
- C CHLOROFORM
- F TETRAHYDROFURAN
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- DEEP BEDROCK MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2010–2012 SAMPLING RESULTS)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MW-907DR 10,400 T (680 P) — WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.

0 300' 600'

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SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME DEEP BEDROCK

ARCADIS

FIGURE 11

CITY: SYRACUSE, NY DIV/GROUP: ENV/IM-DV DB: P. LISTER PM: J. HOLDEN TM/TR: R. STEVENSON LYR: ON=*;OFF=REF, (FRZ) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/30/2012 8:49 AM BY: LISTER, PAUL
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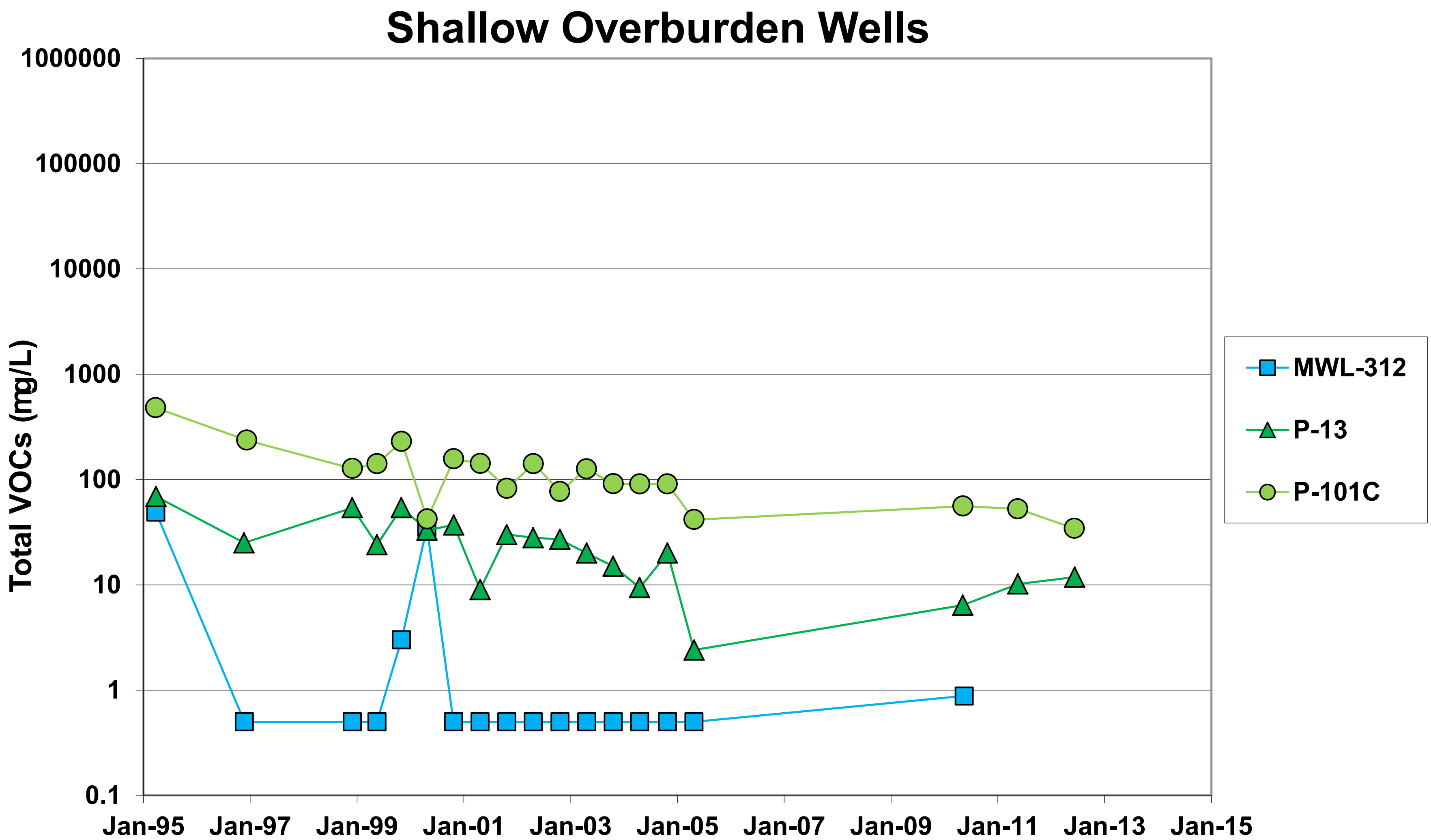
XREFS: 54634X01 IMAGES: PROJECTNAME: ----



SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

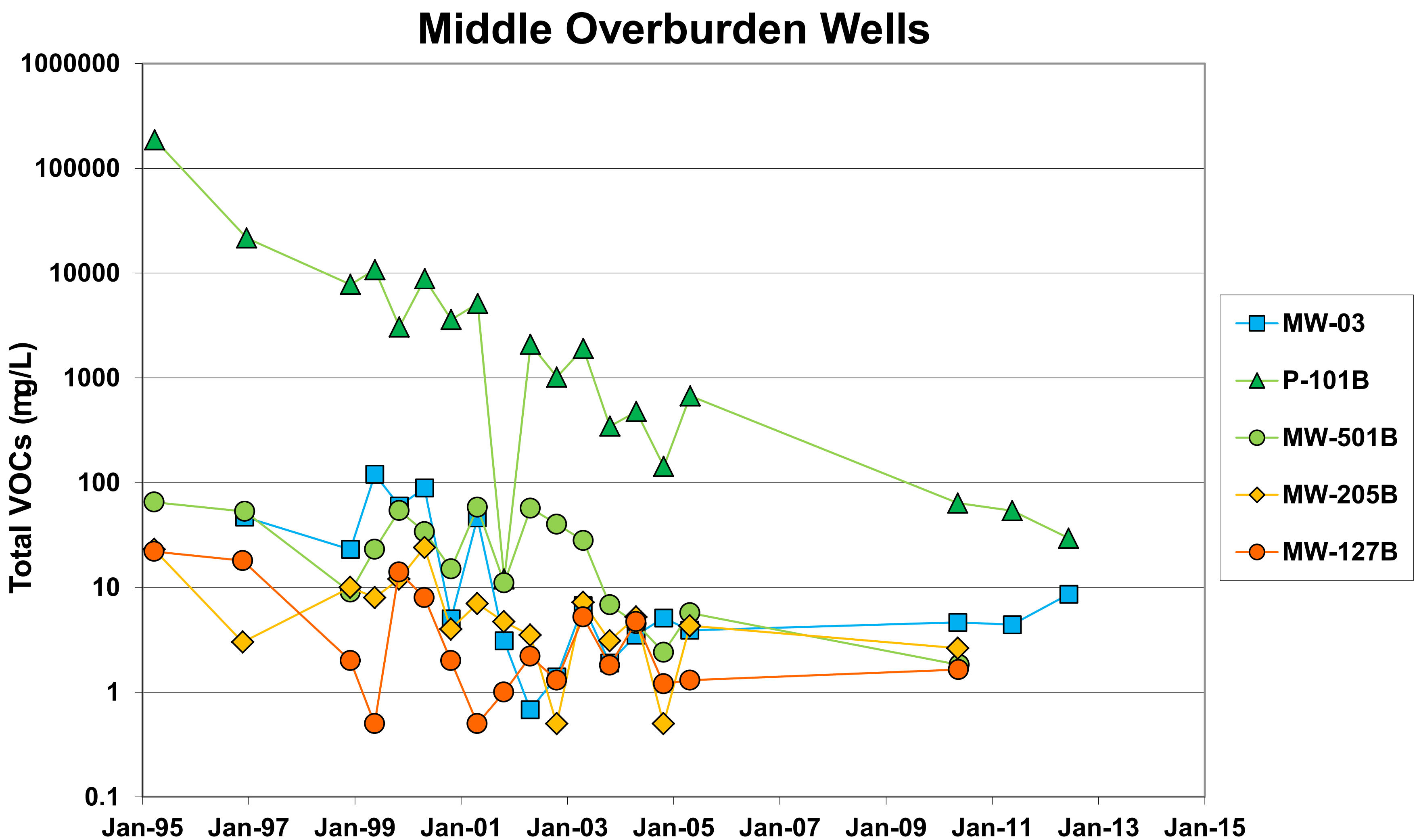
MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER TOTAL VOC CONCENTRATIONS WITH TIME SHALLOW OVERBURDEN

ARCADIS

FIGURE
12

08/29/2012 SYRACUSE, NY-ENV/CAD-K.SARTORI
B0054634/0000/02200/CDR/54634G02.CDR



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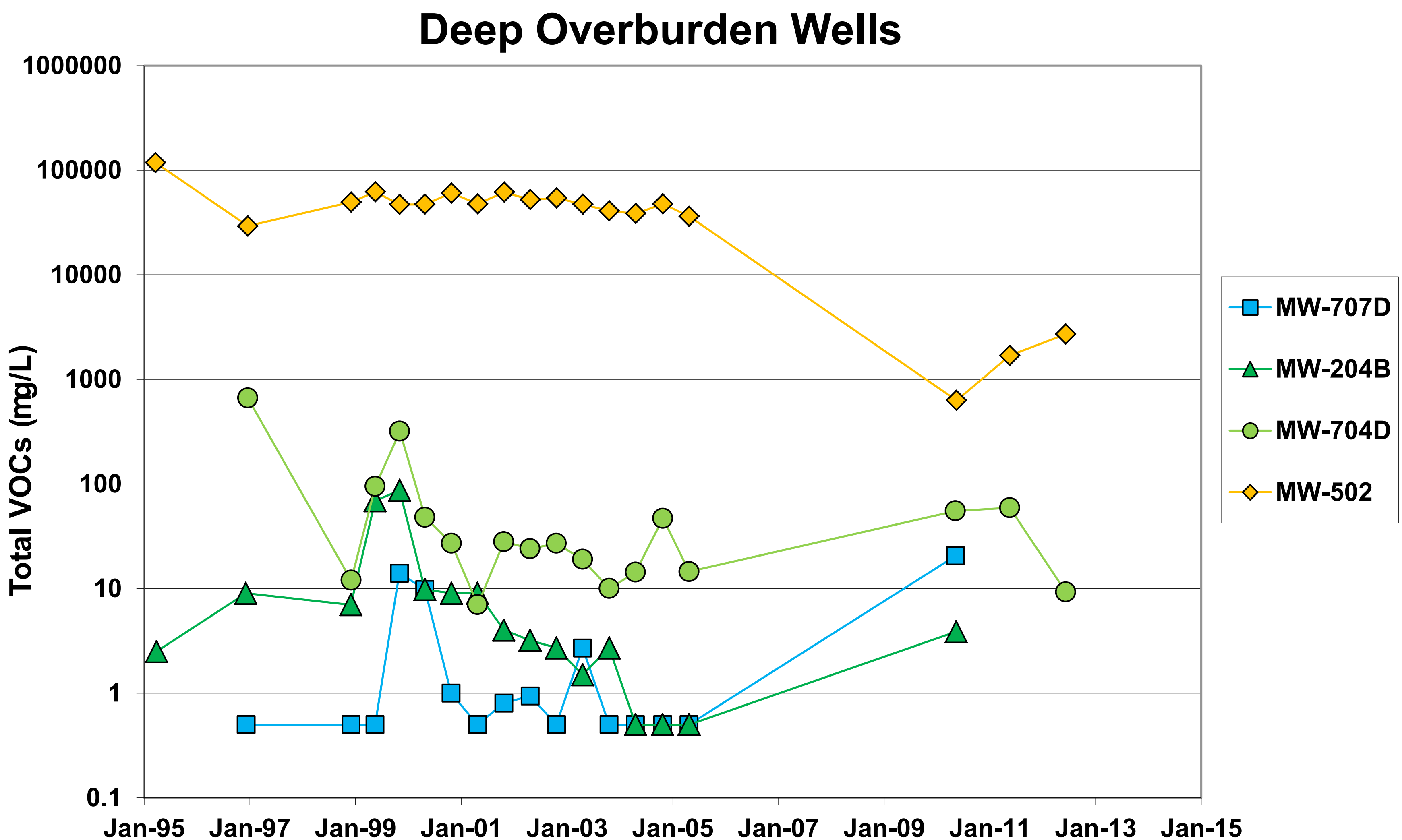
SOUTHINGTON, CONNECTICUT

MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER TOTAL VOC CONCENTRATIONS WITH TIME MIDDLE OVERBURDEN

ARCADIS

FIGURE
13



SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER TOTAL VOC CONCENTRATIONS WITH TIME DEEP OVERBURDEN

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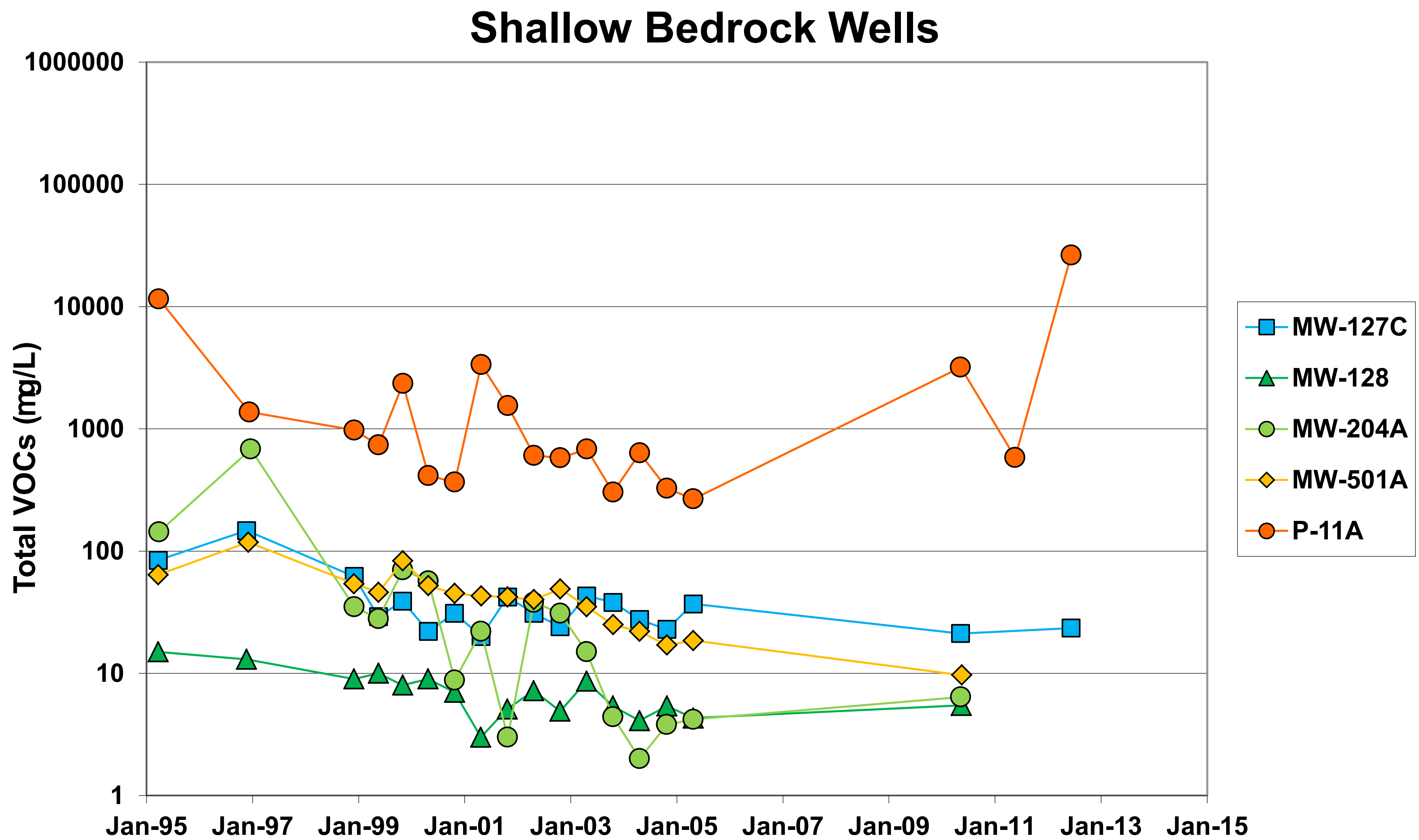
FIGURE
14



SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER TOTAL VOC CONCENTRATIONS WITH TIME SHALLOW BEDROCK

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FIGURE
15

08/29/2012 SYRACUSE, NY-ENV/CAD-K.SARTORI
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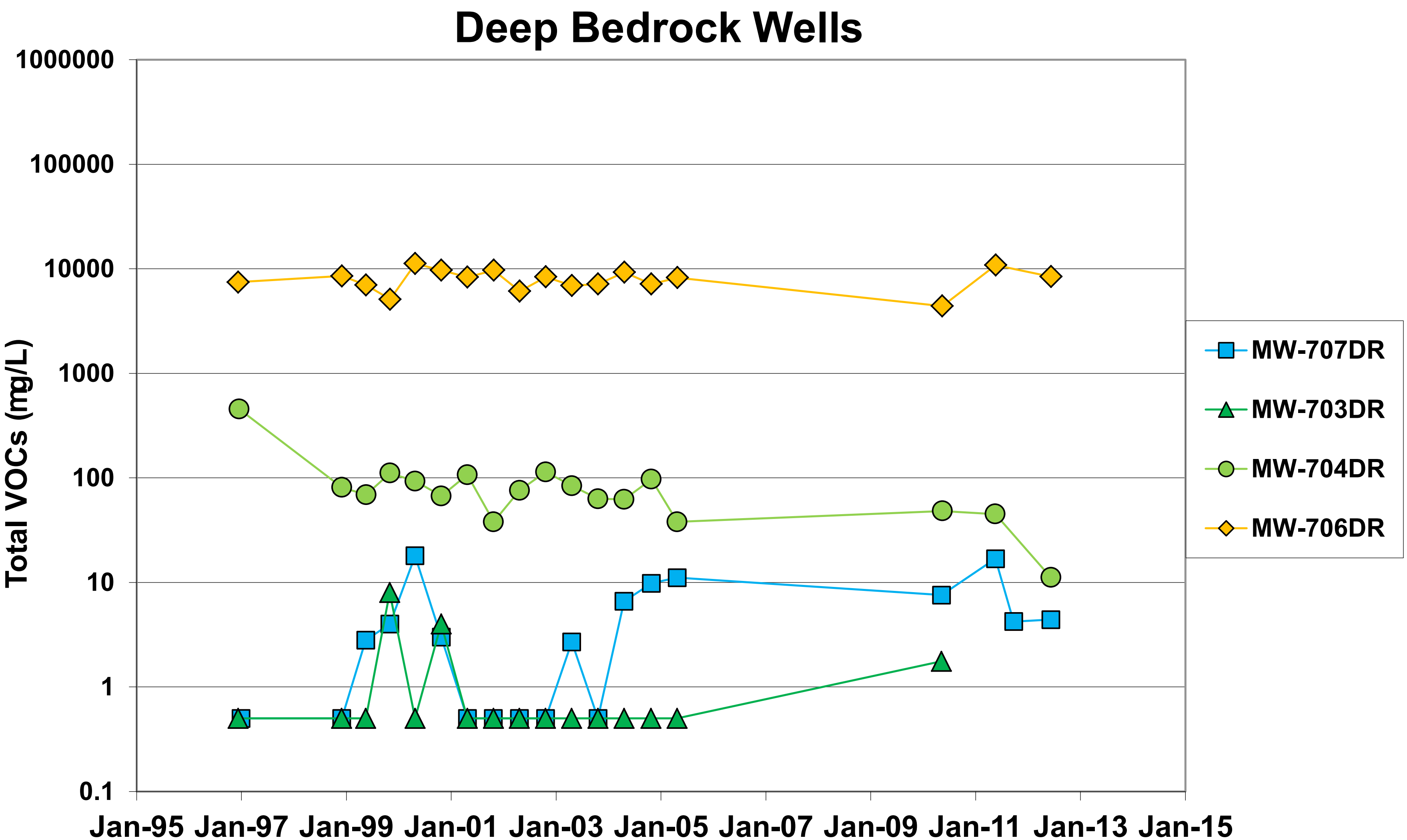

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

MONITORED NATURAL ATTENUATION REPORT

GROUNDWATER TOTAL VOC CONCENTRATIONS WITH TIME DEEP BEDROCK

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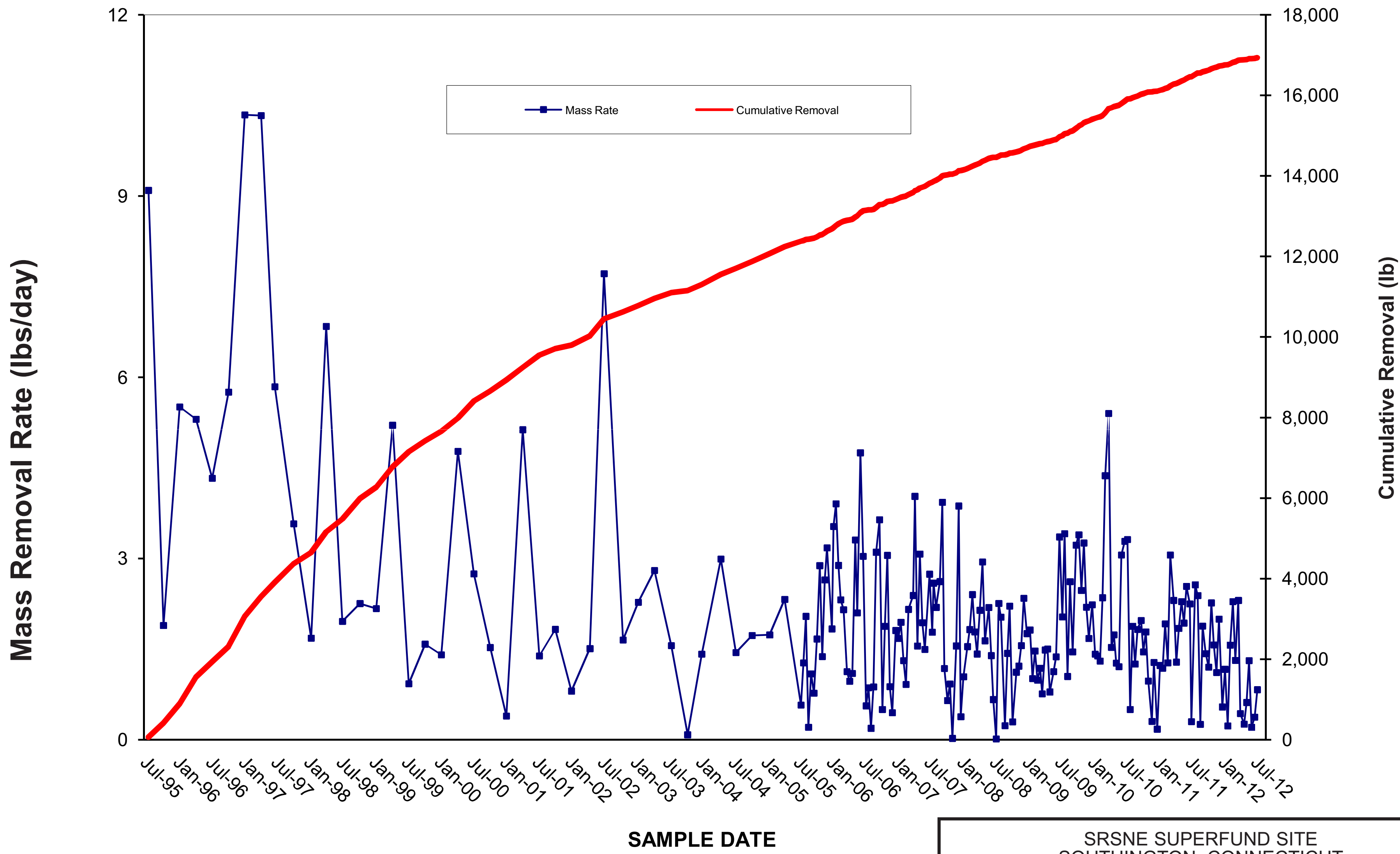
FIGURE
16



SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

MONITORED NATURAL ATTENUATION REPORT

TOTAL MASS OF VOCs REMOVED BY NTCRA 1 AND NTCRA 2 GROUNDWATER EXTRACTION WELLS

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FIGURE
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Appendices

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Appendix A

Profile Sheets and Well Construction Logs

MW-1001R VERTICAL PROFILING RESULTS (FOR MW-1001M SCREEN DEPTH SELECTION)

Zone	Depth (ft bgs)	Profiling Sample Depth (ft bgs)[1]	Profiling Total VOCs (ug/L)	Highest Single VOC (ug/L)	Other VOCs (ug/L)	Geologic Description	Screen Interval (ft)
	0						
	10	Drill Water 120911	9.5	5.2 PCE	4.3 clf		
	20	Drill Water-2 121211	8.7	7.1 clf	0.8 cm 0.8 tol		
	30					47.0-50.5: SILT, little medium to fine Sand, trace coarse Sand	
	40	Water Supply 121211	3.5	2.4 clf	1.1 cm	50.5-55: Fine SAND, trace Silt	
		water table at approximately 48 feet bgs				55-60: No recovery	
Shallow OB 48-87.3'	50					60-65: Fine SAND	
		58-60	13.2	9.5 clf	2.8 PCE	65-69.5: SILT, little fine Sand	
	60				0.9 cm	69.5-70: Fine SAND, little Silt	
		68-70	2.8	2.8 clf		70-72.5: SILT, trace fine Sand	
	70					72.5-73: Fine SAND, little Silt	
		78-80	3.1	2.4 clf	0.7 PCE	73-80: Medium SAND, trace fine SAND	
Middle OB 87.3-126.7'	80					80-85: SILT, trace to some fine Sand	**MW-1001M**
		88-90	5.5	3.8 clf	1.7 PCE	85-90: Fine SAND, little Silt	**screen 85.6'-95.6'**
	90					90-100: SILT, trace Clay	**sand 82'-95.9'**
		98-100	5.1	2.7 clf	1.7 PCE		
	100				0.7 tol	100-102: Silty CLAY, trace fine Sand	
		108-110	7.1	5.5 clf	1.1 PCE	102-110: SILT, little fine Sand, trace Clay	
	110				0.5 tol	110-119.5: Fine SAND, some Silt, trace Clay	
		118-120	6.8	6.3 clf	0.5 PCE		
	120					119.5-130: SILT, some fine Sand, little to some coarse, medium and fine Gravel, trace	
Deep OB 126.7-166'	130					130-140.6: Coarse SAND, loose	
	140					140.6-150: SAND and GRAVEL, loose	
	150					150-166: Dense TILL	
	160	Top of rock depth 166 feet bgs					
Shallow BR 166-196'	170						
	180						**MW-1001R** **screen 175.3'-190.3'** **sand 170'-193'**
	190						
Deep BR 196'+	200						

Depth Interval Calculations	
Shallow Overburden	
Top (water table)	48
Bottom	87.3
Middle Overburden	
Top	87.3
Bottom	126.7
Deep Overburden	
Top	126.7
Bottom (top of rock)	166

Notes:

thf = tetrahydrofuran
bz = benzene
cd = carbon disulfide
MIBK = 4-Methyl-2-pentanone
ce = chloroethane
cm = chloromethane
tol = toluene
ace = acetone
clf = chloroform
11dca = 1,1-dichloroethane
mc = methylene chloride
ipbz = isopropylbenzene

xyl = xylenes
cis12 = cis-1,2-Dichloroethene
cdbm = chlorodibromomethane
dcbm = dichlorobromomethane
TCE = trichloroethene
PCE = tetrachloroethene
vc = vinyl chloride
VOCs = volatile organic compounds
ft bgs = feet below ground surface
ug/L = micrograms per liter

1 - Overburden samples collected with HydroPunch.

Date Start/Finish: 12/16/11	**Northing:** 285686.6207	**Well ID/Boring ID:** **MW-1001M**	
Drilling Company: ADT	**Easting:** 566071.0571	**Client:** SRSNE Site Group	
Driller's Name: Jamey Meyers/Jeremy Meyers	**Casing Elevation:** 195.32' AMSL		
Drilling Method: Rotary Sonic	**Borehole Depth:** 95.9' bgs	**Site Location:** SRSNE Superfund Site Southington, CT	
Casing Size: 5" Steel Casing	**Surface Elevation:** 195.86' AMSL		
Rig Type: CRS-17C/AMS Sonic Track Rig	**Descriptions By:** Dave Cornell		
Sampling Method: Blind Drilled			

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
										Drilled without soil sampling to set middle overburden well; stratigraphic descriptions from MW-1001R.	Concrete Pad; Steel flushmount manhole
0	195									2.5YR 3/2, Dark brown, SILT, trace Clay, fine Sand and Organics, soft, non-plastic, moist.	J-Plug
										2.5YR 3/4, Dark reddish brown, fine to coarse subangular GRAVEL, some Silt, moist.	Sand Drain (0.8-1.2' bgs)
											5" borehole (0-95.9' bgs)
5	190										2" Sch. 40 PVC Riser (0.5-85.6' bgs)
10	185										Bentonite/Cement Grout (1.2-79' bgs)
15	180									2.5YR 3/4, Dark reddish brown, fine SAND, trace Silt, moist.	

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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Client: SRSNE Site Group

Well/Boring ID: **MW-1001M**

Borehole Depth: 95.9' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
										2.5YR 3/4, Dark reddish brown, fine SAND, trace Silt, moist.	
20	175										5" borehole (0-95.9' bgs)
25	170										2" Sch. 40 PVC Riser (0.5-85.6' bgs)
30	165										Bentonite/Cement Grout (1.2-79' bgs)
35	160										

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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Client: SRSNE Site Group

Well/Boring ID: **MW-1001M**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 95.9' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
40	155									2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, moist, odor.	5" borehole (0-95.9' bgs)
										2.5YR 3/4, Dark reddish brown, medium SAND, odor, moist.	
45	150										2" Sch. 40 PVC Riser (0.5-85.6' bgs)
										2.5YR 3/4, Dark reddish brown, SILT, little fine to medium Sand, trace coarse Sand, moist.	
50	145									2.5YR 3/4, Dark reddish brown, fine SAND, trace Silt, moist.	Bentonite/Cement Grout (1.2-79' bgs)
55	140										

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Client: SRSNE Site Group

Well/Boring ID: **MW-1001M**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 95.9' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
										2.5YR 3/4, Dark reddish brown, fine SAND, moist to wet.	
60	135										5" borehole (0-95.9' bgs)
65	130									2.5YR 3/4, Dark reddish brown, SILT, little fine Sand, moist to wet.	2" Sch. 40 PVC Riser (0.5-85.6' bgs)
										2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, moist to wet.	
70	125									2.5YR 3/4, Dark reddish brown, SILT, trace fine sand, moist to wet.	Bentonite/Cement Grout (1.2-79' bgs)
										2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, moist to wet.	
										2.5YR 3/4, Dark reddish brown, medium SAND, trace fine Sand, moist to wet.	
75	120										

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Client: SRSNE Site Group

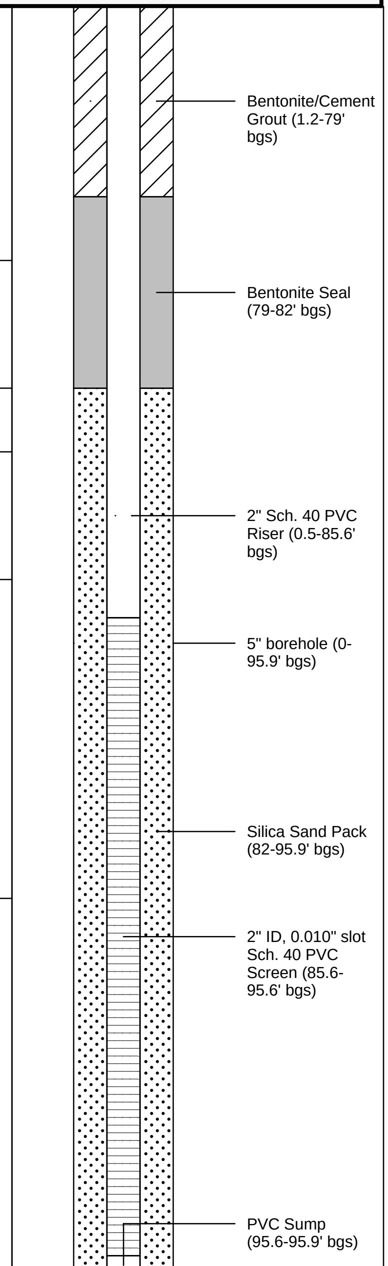
Well/Boring ID: **MW-1001M**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 95.9' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
80	115									2.5YR 3/4, Dark reddish brown, SILT, trace fine Sand, wet.	
										2.5YR 3/4, Dark reddish brown, SILT and fine SAND, wet.	
										2.5YR 3/4, Dark reddish brown, SILT, trace fine Sand, wet.	
85	110									2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, wet.	
90	105									2.5YR 3/4, Dark reddish brown, SILT, trace Clay, non-plastic, wet.	
95	100										



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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Date Start/Finish: 12/7/11 - 12/23/11 **Drilling Company:** ADT **Driller's Name:** Jamey Meyers/Jeremy Meyers **Drilling Method:** Rotary Sonic **Casing Size:** 5" Steel/7" Override Casing **Rig Type:** CRS-17C/AMS Sonic Track Rig **Sampling Method:** 3" x 5' Sampler	**Northing:** 285697.9343 **Easting:** 566068.136 **Casing Elevation:** 196.47' AMSL **Borehole Depth:** 198.5 ft bgs **Surface Elevation:** 196.93' AMSL **Descriptions By:** D. Cornell/L. Terrell	**Well ID/Boring ID:** **MW-1001R** **Client:** SRSNE Site Group **Site Location:** SRSNE Superfund Site Southington, CT	

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
0										2.5YR 3/2, Dark brown, SILT, trace Clay, fine Sand and Organics, soft, non-plastic, moist.	Concrete Pad; Steel flushmount manhole; J-Plug
	195									2.5YR 3/4, Dark reddish brown, fine to coarse subangular GRAVEL, some Silt, moist. Fine to medium Sand from 1.5-2' bgs.	Sand Drain (0.8-1.2' bgs)
5		1	0-10	NA	NA	6.0	0.0 0.0 0.0 0.0				4" Black Steel Casing (2-172' bgs)
	190										Bentonite/Cement Grout (1.2-172' bgs); 2" Sch. 40 PVC Riser (0.5-175.3' bgs)
10	185	NA	NA	NA	NA	NA	NA			Poor recovery from 10-15'.	7" borehole (0-172' bgs)
15										2.5YR 3/4, Dark reddish brown, fine SAND, trace Silt, moist.	

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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 198.5 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	180	2	15-20	NA	NA	4.0	0.0 0.0 0.0 0.0			2.5YR 3/4, Dark reddish brown, fine SAND, trace Silt, moist.	
20	175	3	20-25	NA	NA	3.0	0.0 0.0 0.0 0.0			No Gravel between 20-25' bgs.	4" Black Steel Casing (2-172' bgs) Bentonite/Cement Grout (1.2-172' bgs)
25	170	4	25-30	NA	NA	3.0	0.0 0.0 0.0 0.0			Trace fine, medium and coarse round Gravel below 25' bgs.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
30	165	5	30-35	NA	NA	4.0	0.0 0.0 0.0 0.0				7" borehole (0-172' bgs)
35											

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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 198.5 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	160	6	35-40	NA	NA	5.0	0.0 0.0 0.1 1.1 11.2			No Gravel from 35-39.6' bgs.	
40										2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, moist, odor.	4" Black Steel Casing (2-172' bgs)
	155	7	40-45	NA	NA	5.0	0.0 0.5 6.8 10.5			2.5YR 3/4, Dark reddish brown, medium SAND, odor, moist.	Bentonite/Cement Grout (1.2-172' bgs)
45										No odor from 45-47' bgs.	
	150	8	45-50	NA	NA	5.0	0.0 0.0 0.0 0.0			2.5YR 3/4, Dark reddish brown, SILT, little fine to medium Sand, trace coarse Sand, moist. Trace clay from 49.9-50' bgs.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
50										2.5YR 3/4, Dark reddish brown, fine SAND, trace Silt, moist.	7" borehole (0-172' bgs)
	145	9	50-55	NA	NA	5.0	0.0 0.0 0.0 0.0				
55											

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

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Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 198.5 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Stratigraphic Description	Well Construction
	140	10	55-60	NA	NA	NA	NA	2.5YR 3/4, Dark reddish brown, fine SAND, moist to wet. Collected a vertical profile groundwater sample from 58-60' bgs.	
60	135	11	60-65	NA	NA	4.0	0.0 0.0 0.0 0.0		4" Black Steel Casing (2-172' bgs); Bentonite/Cement Grout (1.2-172' bgs)
65	130	12	65-70	NA	NA	5.0	0.0 0.0 0.0 0.0	2.5YR 3/4, Dark reddish brown, SILT, little fine Sand, moist to wet. Collected a vertical profile groundwater sample from 68-70' bgs. Clayey Silt lamination at 69' bgs. 2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, moist to wet.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
70	125	13	70-75	NA	NA	4.0	0.0 0.0 0.0 0.0	2.5YR 3/4, Dark reddish brown, SILT, trace fine sand, moist to wet. 2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, moist to wet. 2.5YR 3/4, Dark reddish brown, medium SAND, trace fine Sand, moist to wet.	7" borehole (0-172' bgs)
75									

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

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Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Borehole Depth: 198.5 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	120										
		14	75-80	NA	NA	5.0	0.0 0.0 0.0 0.0			Fining downward from fine Sand to Silt from 75-80' bgs. Collected vertical profile groundwater sample from 78-80' bgs.	
80										2.5YR 3/4, Dark reddish brown, SILT, trace fine Sand, wet.	4" Black Steel Casing (2-172' bgs)
	115										
		15	80-85	NA	NA	5.0	0.7 0.8 0.7 0.8			2.5YR 3/4, Dark reddish brown, SILT and fine SAND, wet.	Bentonite/Cement Grout (1.2-172' bgs)
										2.5YR 3/4, Dark reddish brown, SILT, trace fine Sand, wet.	
85										2.5YR 3/4, Dark reddish brown, fine SAND, little Silt, wet. Note: PID readings recorded in soils between 80 and 90' bgs were consistent with ambient air readings; likely "false positives" due to moisture.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
	110										
		16	85-90	NA	NA	3.5	0.6 0.7 0.7 0.6			Collected vertical profile groundwater sample from 88-90' bgs.	
90										2.5YR 3/4, Dark reddish brown, SILT, trace Clay, non-plastic, wet.	7" borehole (0-172' bgs)
	105										
		17	90-95	NA	NA	3.5	0.0 0.0 0.0 0.0				
95											

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

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Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 198.5 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	100	18	95-100	NA	NA	3.5	0.0 0.0 0.0 0.0			2.5YR 3/4, Dark reddish brown, SILT, trace Clay, non-plastic, wet. Collected vertical profile groundwater sample from 98-100' bgs.	
100	95									Red brown, SILTY CLAY, trace fine Sand, saturated, slightly plastic.	4" Black Steel Casing (2-172' bgs)
										Red brown, SILT, little fine Sand, trace Clay, saturated, non-plastic.	Bentonite/Cement Grout (1.2-172' bgs)
105	90	19	100-110	NA	NA	8.5	0.0			Trace fine Gravel from 106-108' bgs. Collected vertical profile groundwater sample from 108-110' bgs.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
110	85									Red brown, fine SAND, some Silt, trace Clay, saturated, non-plastic.	7" borehole (0-172' bgs)
115		20	110-120	NA	NA	10	NA				

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Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	80									Vertical profiling groundwater sample collected from 118-120' bgs.	4" Black Steel Casing (2-172' bgs)
										Red brown, SILT, some to little fine Sand, little fine, medium and coarse subangular to subrounded Gravel, trace Clay, saturated, non-plastic, possible Till.	
120										Red brown, SILT and fine SAND, some fine, medium and coarse subrounded Gravel, trace medium Sand and Clay (Till).	Bentonite/Cement Grout (1.2-172' bgs)
	75										
125		21	120-130	NA	NA	10	0.0			Driller indicates harder drilling below 125' bgs.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
	70									Becoming very dense, decreasing Clay content from 128.5-130' bgs.	
130										Red brown, coarse SAND, some medium Sand, little fine Gravel and fine Sand, trace Silt, loose, saturated.	7" borehole (0-172' bgs)
	65									Slightly more dense between 133.6 and 133.9' bgs and between 135.3' and 136' bgs.	
135		22	130-140	NA	NA	10	0.0			Driller indicates much easier drilling - slightly stiffer at bottom (~139' bgs).	

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 198.5 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	60									Increasing Silt content and decreasing coarse Sand; becoming more dense from 139.5-140' bgs.	
140	55	23	140-150	NA	NA	5.0	NA			Red brown, medium to coarse SAND, little fine Sand and fine, medium and coarse subrounded Gravel, trace Silt, loose, saturated.	4" Black Steel Casing (2-172' bgs)
145	50									Red brown, fine to medium subrounded GRAVEL, little Silt and coarse Gravel, trace Cobbles and fine, medium and coarse Sand, loose, saturated. Driller indicates easy drilling from 140-150' bgs.	Bentonite/Cement Grout (1.2-172' bgs); 2" Sch. 40 PVC Riser (0.5-175.3' bgs)
150	45	24	150-155	NA	NA	4.0	NA			Red brown, SILT, some fine, medium and coarse subrounded Gravel, little fine Sand, trace Clay, dense (Till). Driller indicates very dense at 154' bgs.	7" borehole (0-172' bgs)
155											

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

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Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 198.5 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	40									Trace Cobbles.	
		25	155-160	NA	NA	5.0	0.0			Driller indicates very dense drilling from 155-160' bgs.	
160	35										7" borehole (0-172' bgs)
		26	160-167	NA	NA	7.0	NA				4" Black Steel Casing (2-172' bgs)
165										BEDROCK at 166' bgs.	2" Sch. 40 PVC Riser (0.5-175.3' bgs)
	30									Red brown SANDSTONE (Arkose).	
		27	167-171	NA	NA	4.0	NA				
170	25										
									HZ	Maroon, coarse grained SANDSTONE.	Silica Sand Pack (170-193' bgs)
175											3.8" borehole (172-198.5' bgs)

Remarks: bgs = below ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Description; ppm = parts per million; PID = photoionization detector.

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Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

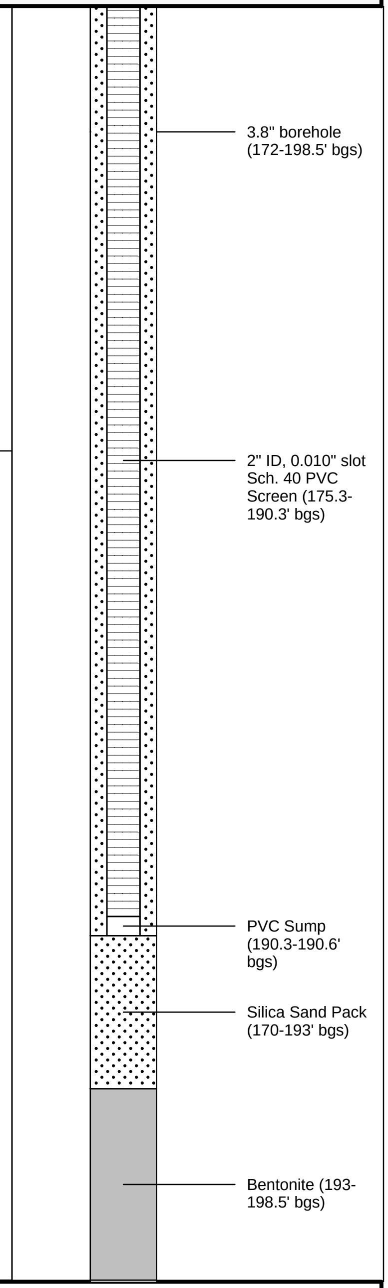
Borehole Depth: 198.5 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
	20								M	Sandstone becoming fine grained below 177.45' bgs; large clast (~1.2" in diameter) at 177.4' bgs.
		BR1	172.8-183	NA	100	10.3	NA			Trace areas (patches) of gray coloration (GLEY 2 4/5B).
180	15								M	
									HZ	Maroon, fine grained SANDSTONE.
185	10									Trace areas (patches) of gray coloration (GLEY 2 4/5B).
		BR2	183-193.3	NA	100	10.3	NA			
190	5									
195		BR3	193.3-198.5	NA	100	5.3	NA		M	

Well Construction



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Client: SRSNE Site Group

Well/Boring ID: **MW-1001R**

Borehole Depth: 198.5 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	0								M	Maroon, fine grained SANDSTONE.	3.8" borehole (172-198.5' bgs); Bentonite (193-198.5' bgs)
200	-5									End of Boring at 198.5' bgs.	
205	-10										
210	-15										
215											

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MW-1002DR VERTICAL PROFILING RESULTS

Zone	Depth (ft bgs)	Profiling Sample Depth (ft bgs)	Profiling Total VOCs (ug/L)	Highest Single VOC (ug/L)	Other VOCs (ug/L)	Bedrock Packer Tests: Average Purge Rate (gpm)	Bedrock Packer Tests: Drawdown (ft)	Bedrock Packer Tests: Specific Capacity (gpm/ft)	Horiz. Frac.	Screen Interval (ft)
	0					water table at approximately 4 feet bgs				
Shallow OB 4-33.5'	10	New Tank 1 021312	4.0	3.2 clf	0.8 cm					
	20	New Tank 2 021312	3.1	3.1 clf	ND					
	30									
Middle OB 33.5-63'	40	Chase Tank X 022012	2.1	2.1 clf	ND					
	50									
	60									
Deep OB 63-92.5'	70									
	80									
	90			Top of rock depth 92.5 feet bgs						
Shallow BR 92.5-122.5'	100									
	110	101-120	ND	ND	ND	0.1450 (total purge vol. = 66 gallons)	2.8500	0.0509		MW-1002R scr 105-120' sand 101-121'
Deep BR 122.5'+	120									
	130	120-140	80.4	79.3 tol	1.1 clf	0.1485 (total purge vol. = 56 gallons)	12.6500	0.0117		
	140									
	150	140-160	252.3	200.1 tol	49.6 ace 2.6 clf	0.0803 (total purge vol. = 34 gallons)	17.5800	0.0046		
	160									
	170	160-180	226.3	**171 TCE**	24.2 cis12; **1.1 bz** 14.6 tol; **6.8 PCE**;	0.0457 (total purge vol. = 67 gallons)	9.2200	0.0050		MW-1002DR scr 171-186' sand 168-188'
	180									
	190	180-200	44.6	37.7 tol	4.8 TCE; 1.2 cm; 0.8 clf	0.4800 (total purge vol. = 252 gallons)	0.6000	0.8000		
	200									

Depth Interval Calculations	
Shallow Overburden	
Top (water table)	4
Bottom	33.5
Middle Overburden	
Top	33.5
Bottom	63.0
Deep Overburden	
Top	63.0
Bottom (top of rock)	92.5

Bedrock Drilling

Core Run	RQD
101.9-110.3 ft bgs	92%
110.3-120.3 ft bgs	99%
120.3-130.3 ft bgs	100%
130.3-140.3 ft bgs	99%
140.3-150.3 ft bgs	100%
150.3-160.3 ft bgs	100%
160.3-170.3 ft bgs	100%
170.3-180.3 ft bgs	96%
180.3-190.3 ft bgs	100%
190.3-200.3 ft bgs	100%

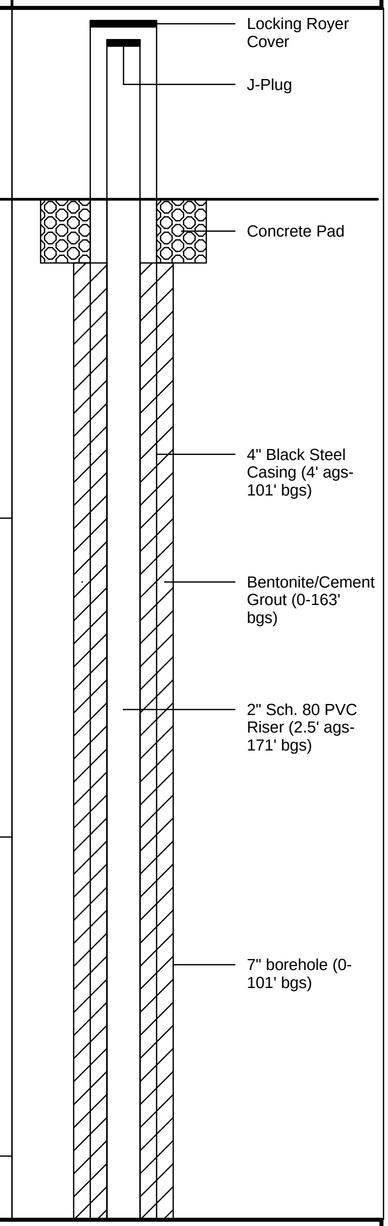
Notes:

thf = tetrahydrofuran
bz = benzene
cd = carbon disulfide
MIBK = 4-Methyl-2-pentanone
ce = chloroethane
cm = chloromethane
tol = toluene
ace = acetone
clf = chloroform
11dca = 1,1-dichloroethane
mc = methylene chloride
ipbz = isopropylbenzene
xyl = xylenes
cis12 = cis-1,2-Dichloroethene
cdbm = chlorodibromomethane
dcbm = dichlorobromomethane
TCE = trichloroethene
PCE = tetrachloroethene
vc = vinyl chloride
VOCs = volatile organic compounds
ft bgs = feet below ground surface
ug/L = micrograms per liter

Date Start/Finish: 2/20/12 - 3/15/12	**Northing:** 285462.7832	**Well ID/Boring ID:** **MW-1002DR**
Drilling Company: ADT	**Easting:** 565721.5553	**Client:** SRSNE Site Group
Driller's Name: Tommy Sheerin/Tim Sabo	**Casing Elevation:** 149.50' AMSL	**Site Location:** SRSNE Superfund Site Southington, CT
Drilling Method: Sonic Casing	**Borehole Depth:** 200.3 ft bgs	
Casing Size: 5" Steel/7" Override Casing	**Surface Elevation:** 150.30' AMSL	
Rig Type: CRS-17C/AMS Sonic Track Rig	**Descriptions By:** Dave Cornell	
Sampling Method: 3" x 5' Sampler, HQ Rock Coring		

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
0–5	150									Blind drilled to 5' bgs to set surface seal.
5–10	145	1	5-10	NA	NA	1.5	0.0			Red-brown, fine, medium and coarse GRAVEL, some fine to medium Sand, trace Silt and Cobbles, saturated, non-plastic. Cobble stuck in drive shoe.
10–15	140	2	10-15	NA	NA	4.0	0.0			Red-brown, fine SAND and SILT, saturated, non-plastic.
15–	135									Red-brown, fine SAND, some Silt, saturated, non-plastic.

Well Construction



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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 101-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs and 180-200' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
		3	15-20	NA	NA	4.5	0.0			Red-brown, fine SAND, some Silt, saturated, non-plastic.	
20	130	4	20-25	NA	NA	5.0	0.0 0.2 0.5 0.4 0.3			Red-brown, SILT, little fine Sand, trace Clay, saturated, non-plastic. Red-brown, medium to coarse SAND, saturated, non-plastic. Red-brown, SILT, little Clay, trace fine Sand, saturated, slightly plastic.	4" Black Steel Casing (4' ags-101' bgs); Bentonite/Cement Grout (0-163' bgs)
25	125	5	25-30	NA	NA	5.0	0.0 0.3 0.0			Gray-brown/red from 25-26.6' bgs. Red-brown, fine SAND, trace medium Gravel, saturated, non-plastic. Containing little Silt below 28.8' bgs.	2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
30	120	6	30-35	NA	NA	3.1	0.3 0.0 0.0			Red-brown, SILT and fine, medium and coarse subrounded to subangular GRAVEL, little fine to medium Sand, little to trace Clay, saturated, non-plastic.	7" borehole (0-101' bgs)
35	115									Red-brown, fine, medium and coarse subrounded GRAVEL, some fiine, medium and coarse Sand and rounded Cobbles, trace Silt, saturated, non-plastic.	

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
		7	35-40	NA	NA	1.5	0.0			Red-brown, fine, medium and coarse subrounded GRAVEL, some fiine, medium and coarse Sand and rounded Cobbles, trace Silt, saturated, non-plastic.	
40	110	8	40-45	NA	NA	2.0	0.0				4" Black Steel Casing (4' ags-101' bgs); Bentonite/Cement Grout (0-163' bgs)
45	105	9	45-50	NA	NA	2.5	0.0				2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
50	100	10	50-55	NA	NA	2.4	0.0			Red-brown, fine, medium and coarse SAND, little fine, medium and coarse subrounded Gravel, trace Silt, saturated, non-plastic.	7" borehole (0-101' bgs)
55	95										

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Borehole Depth: 200.3 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
		11	55-60	NA	NA	3.0	0.0			Containing little to some Gravel below 55' bgs.	
60	90									Red-brown, SILT and fine, medium and coarse subrounded GRAVEL, little fine to medium Sand, trace Cobbles, coarse Sand and Clay (possible Till).	4" Black Steel Casing (4' ags-101' bgs)
		12	60-65	NA	NA	4.2	0.0			Decreasing Clay and increasing coarse Sand from 61.8-62.7' bgs.	Bentonite/Cement Grout (0-163' bgs)
65	85									Some round Cobbles, little fine Sand, trace Clay and medium to coarse Sand, saturated, non-plastic, dense below 65' bgs.	2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
		13	65-70	NA	NA	2.2	0.0				
70	80										7" borehole (0-101' bgs)
		14	70-75	NA	NA	2.1	0.0				
75	75									Red-brown, SILTY CLAY, saturated, plastic between 75.9 and 76.1' bgs.	

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Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
		15	75-80	NA	NA	2.6	0.0			Red brown, SILT, some fine Sand and fine, medium and coarse subrounded Gravel, trace Cobbles and Clay (dense Till), moist, non-plastic.	
80	70	16	80-85	NA	NA	5.0	0.0				4" Black Steel Casing (4' ags-101' bgs); Bentonite/Cement Grout (0-163' bgs)
85	65	17	85-90	NA	NA	5.0	0.0			Red brown, chunks of ARKOSE (bedrock) with intermittent seams of fine Sand and Clay. Silty fine Sand seams from 87.2-87.4' bgs and from 87.9-88.15' bgs. SILTY CLAY seams from 87.55-87.65' bgs, 87.75-87.9' bgs, 88.5-88.65' bgs and 89-89.15' bgs.	2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
90	60	18	90-92.5	NA	NA	2.5	0.0			ARKOSE pieces.	7" borehole (0-101' bgs)
95	55										

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Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
		19	92.5-100.5	NA	NA	6.0	0.0			ARKOSE bedrock.	7" borehole (0-101' bgs)
100	50										4" Black Steel Casing (4' ags-101' bgs)
										Maroon, medium-grained SANDSTONE (Arkose), 2.5YR 3/3.	Bentonite/Cement Grout (0-163' bgs)
105	45								M	Becoming coarser grained below 104.7' bgs.	
		BR1	101.8-110.3	NA	92	8.3	0.0		M		2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
									M M		
									M		
110	40								10 10 20 20	Possible Silt in fracture at 109.5' bgs; very fine grained below 109.5' bgs.	3.8" borehole (101-200.3' bgs)
										Maroon, very fine- to fine-grained SANDSTONE (Arkose).	
									M		
										Becoming finer grained below 113.8' bgs.	
115	35										
		BR2	110.3-120.3	NA	99	10	0.0				

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
									HZ	Maroon, very fine-grained SANDSTONE (Arkose), 2.5YR 3/3.	
120	30								M		
125	25	BR3	120.3-130.3	NA	100	10	0.0		M		Bentonite/Cement Grout (0-163' bgs); 2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
130	20								M		3.8" borehole (101-200.3' bgs)
									5		
									5	Becoming coarser grained below 132' bgs (conglomerate-like).	
135	15								M		
		BR4	130.3-140.3	NA	99	9.9	0.0				

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Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	10								M	Maroon, very fine-grained SANDSTONE (Arkose), 2.5YR 3/3.	
140											
									M	Maroon, very fine- to medium-grained SANDSTONE (Arkose), 2.5YR 3/3.	Bentonite/Cement Grout (0-163' bgs)
	5										
145		BR5	140.3-150.3	NA	100	10	0.0				2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
	0										
150											3.8" borehole (101-200.3' bgs)
	-5										
155									HZ		
		BR6	150.3-160.3	NA	100	10	0.0				

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Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
										Maroon, very fine- to medium-grained SANDSTONE (Arkose), 2.5YR 3/3.	3.8" borehole (101-200.3' bgs)
160	-10										Bentonite/Cement Grout (0-163' bgs)
											2" Sch. 80 PVC Riser (2.5' ags-171' bgs)
165	-15	BR7	160.3-170.3	NA	100	10	0.0			Fine- to coarse-grained conglomerate structure from 161' 3" to 162' 1" bgs; from 167' 8" to 168' 5" bgs; and from 169' to 170' bgs.	Bentonite (163-168' bgs)
170	-20									Conglomerate structure from 170' 3" to 171' 10.5" bgs.	
									8 75	Silt in fracture at 171' 10.5" bgs. Very fine-grained SANDSTONE below 171' 10.5" bgs (abrupt change).	#0 Silica Sand Pack (168-188' bgs)
175	-25	BR8	170.3-180.3	NA	96	9.8	0.0				2" ID, 0.010" slot Sch. 80 PVC Screen (171-186' bgs)

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Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Borehole Depth: 200.3 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
									HZ	Maroon, very fine- to medium-grained SANDSTONE (Arkose), 2.5YR 3/3.	3.8" borehole (101-200.3' bgs)
180	-30										
									65	Maroon, very fine- to fine-grained SANDSTONE (Arkose), 2.5YR 3/3.	2" ID, 0.010" slot Sch. 80 PVC Screen (171-186' bgs)
											#0 Silica Sand Pack (168-188' bgs)
185	-35								50 70 10		
		BR9	180.3-190.3	NA	90	10	0.0		HZ		PVC Sump (186-186.35' bgs)
										Coarse-grained sandstone from 186' to 186' 8" bgs and from 188' 2" to 189' 2" bgs.	
190	-40										
											Bentonite (188-200.3' bgs)
195	-45										
		BR10	190.3-200.3	NA	100	10	0.0				

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 101-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs and 180-200' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 200.3 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	-50									Gravel-sized conglomerate below 199' bgs.	3.8" borehole (101-200.3' bgs); Bentonite (188-200.3' bgs)
200										End of Boring at 200.3' bgs	
	-55										
205											
	-60										
210											
	-65										
215											

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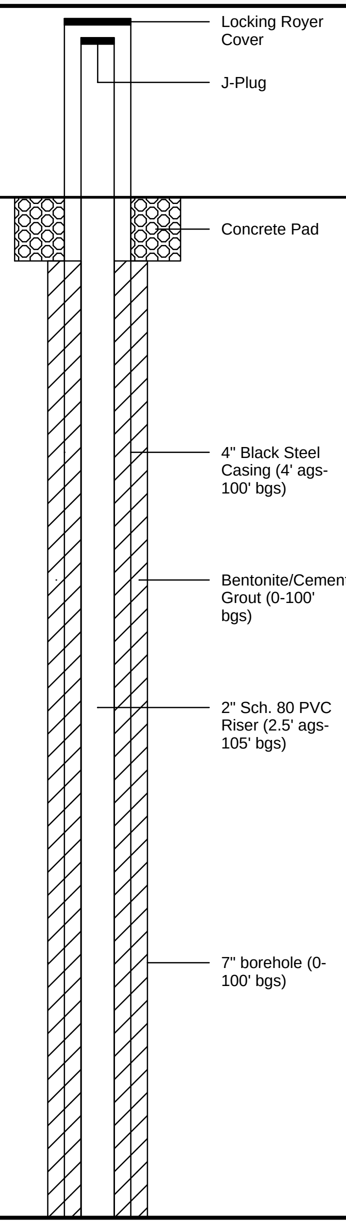
Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 101-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs and 180-200' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Date Start/Finish: 3/13/12 - 3/14/12	**Northing:** 285464.4798	**Well ID/Boring ID:** **MW-1002R**	
Drilling Company: ADT	**Easting:** 565711.7136	**Client:** SRSNE Site Group	
Driller's Name: Tommy Sheerin/Tim Sabo	**Casing Elevation:** 152.37' AMSL		
Drilling Method: Rotary Sonic	**Borehole Depth:** 125 ft bgs		
Casing Size: 5" Steel/7" Override Casing	**Surface Elevation:** 150.20' AMSL		
Rig Type: CRS-17C/AMS Sonic Track Rig		**Site Location:** SRSNE Superfund Site Southington, CT	
Sampling Method: 3" x 5' Sampler, HQ Rock Coring	**Descriptions By:** Dave Cornell		

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	155										
0											
	150										
5										Drilled without soil sampling to 100' bgs with 5" and 7" sonic casing to set 4" permanent steel casing into bedrock; see MW-1002DR for overburden drilling details.	
	145										
10											
	140										
15											



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Client: SRSNE Site Group

Well/Boring ID: **MW-1002R**

Borehole Depth: 125 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	135										
20											4" Black Steel Casing (4' ags-100' bgs)
	130										Bentonite/Cement Grout (0-100' bgs)
25											2" Sch. 80 PVC Riser (2.5' ags-105' bgs)
	125										
30											7" borehole (0-100' bgs)
	120										
35											

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

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Client: SRSNE Site Group

Well/Boring ID: **MW-1002R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 125 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	115										
40											4" Black Steel Casing (4' ags-100' bgs)
	110										Bentonite/Cement Grout (0-100' bgs)
45											2" Sch. 80 PVC Riser (2.5' ags-105' bgs)
	105										
50											7" borehole (0-100' bgs)
	100										
55											

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	95										
60											4" Black Steel Casing (4' ags-100' bgs)
	90										Bentonite/Cement Grout (0-100' bgs)
65											2" Sch. 80 PVC Riser (2.5' ags-105' bgs)
	85										
70											7" borehole (0-100' bgs)
	80										
75											

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002R**

Borehole Depth: 125 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	75										
80											4" Black Steel Casing (4' ags-100' bgs)
	70										Bentonite/Cement Grout (0-100' bgs)
85											2" Sch. 80 PVC Riser (2.5' ags-105' bgs)
	65										
90											7" borehole (0-100' bgs)
	60										
95											

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002R**

Borehole Depth: 125 ft bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	55										7" borehole (0-100' bgs); Bentonite/Cement Grout (0-100' bgs); Bentonite (96-101' bgs); 4" Black Steel Casing (4' ags-100' bgs)
100										Maroon, coarse-grained SANDSTONE (Arkose), 2.5YR 3/3	
	50								HZ		2" Sch. 80 PVC Riser (2.5' ags-105' bgs)
									HZ, 28	Coarse-grained (Gravel-sized) conglomerate from 102.2' to 103.6' bgs and from 104.5' to 105.9' bgs.	
									HZ, 12, HZ		
105		BR1	100-110	NA	94	9.4	0.0				3.8" borehole (100-125' bgs)
									HZ, 45, HZ	Changes to fine-grained SANDSTONE (Arkose) below 105.9' bgs.	
	45								HZ		
									M		#0 Silica Sand Pack (101-121' bgs)
110										Maroon, fine-grained SANDSTONE (Arkose), 2.5YR 3/3	2" ID, 0.010" slot Sch. 80 PVC Screen (105-120' bgs)
	40										
115		BR2	110-120	NA	100	10	0.0				

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1002R**

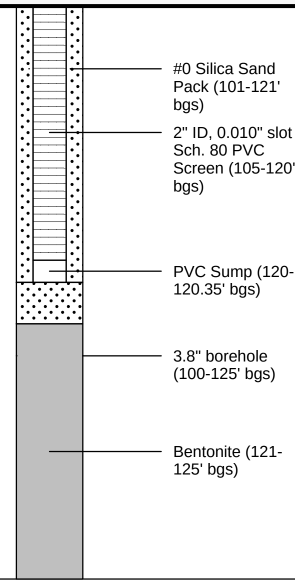
Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 125 ft bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
	35									Maroon, fine-grained SANDSTONE (Arkose), 2.5YR 3/3
120	30	BR3	120-125	NA	100	5.0	0.0			Maroon, fine- to medium-grained SANDSTONE (Arkose).
125										End of Boring at 125' bgs
130	25									
135	20									

Well Construction



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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

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MW-1003DR VERTICAL PROFILING RESULTS

Zone	Depth (ft bgs)	Profiling Sample Depth (ft bgs)	Profiling Total VOCs (ug/L)	Highest Single VOC (ug/L)	Other VOCs (ug/L)	Bedrock Packer Tests: Average Purge Rate (gpm)	Bedrock Packer Tests: Drawdown (ft)	Bedrock Packer Tests: Specific Capacity (gpm/ft)	Screen Interval (ft)
	0								
	10	Chase Tank 081512	5.6	3.3 clf	1.9 tol, 0.43 bz				
						water table at approximately 20 feet bgs			
Shallow OB 20-45' bgs	20								
	30								
Middle OB 45-70' bgs	40								
	50								
	60								
Deep OB 70-95' bgs	70								
	80								
	90								
				Top of rock depth 95 feet bgs		Permanent Steel Casing Set at 100' bgs			
Shallow BR 95-125' bgs	100	100-120	8.2	3.7 clf, ace	0.31 tol, 0.27 TCE 0.24 bz	1.5600 (total purge vol. = 29 gallons)	7.2000	0.217	MW-1003R scr 103-118' sand 100-120'
	110								
Deep BR 125'+	120	120-140	120.2	111 tol	7.3 ace, 2.1 clf	0.2590 (total purge vol. = 50 gallons)	25.9800	0.010	
	130								
	140	140-160	297.2	292 tol	3.8 clf, 1.3 TCE	0.4890 (total purge vol. = 60 gallons)	24.6500	0.0198	
	150								
	160	160-180	373.6	370 tol	3.5 clf	0.8375 (total purge vol. = 51 gallons)	45.8500	0.0183	
	170								
	180	180-200	580	568 tol	10.3 ace, **1.7 bz**	0.5700 (total purge vol. = 55 gallons)	39.3900	0.0145	MW-1003DR scr 177-192' sand 174-194'
	190								
	200	200-220	32.2	19 tol	8.7 ace, 4.7 clf	0.3340 (total purge vol. = 49 gallons)	27.4900	0.0121	
	210								
	220	220-240	50.4	38 tol	6.3 clf*, 5.0 ace, 1.4 xyl	0.3690 (total purge vol. = 55 gallons)	27.7100	0.0133	
	230								
	240								

*** - chloroform is attributed to potable water used for drilling (see charts)**

Depth Interval Calculations	
Shallow Overburden	
Top (water table)	20
Bottom	45.0
Middle Overburden	
Top	45.0
Bottom	70.0
Deep Overburden	
Top	70.0
Bottom (top of rock)	95

Bedrock Drilling		
Core Run	RQD	
100-110 ft bgs	95%	
110-120 ft bgs	96%	
120-130 ft bgs	100%	
130.3-140.55 ft bgs	97.5%	
140.55-150.15 ft bgs	99%	
150.15-160.35 ft bgs	99%	
160.45-170.45 ft bgs	100%	
170.45-180 ft bgs	87%	multiple fractures at 178' indicated in core, ATV and caliper
180-190 ft bgs	100%	
190-200 ft bgs	100%	
200-210 ft bgs	100%	
210-220 ft bgs	100%	
220-230 ft bgs	100%	
230-240 ft bgs	100%	

Notes:

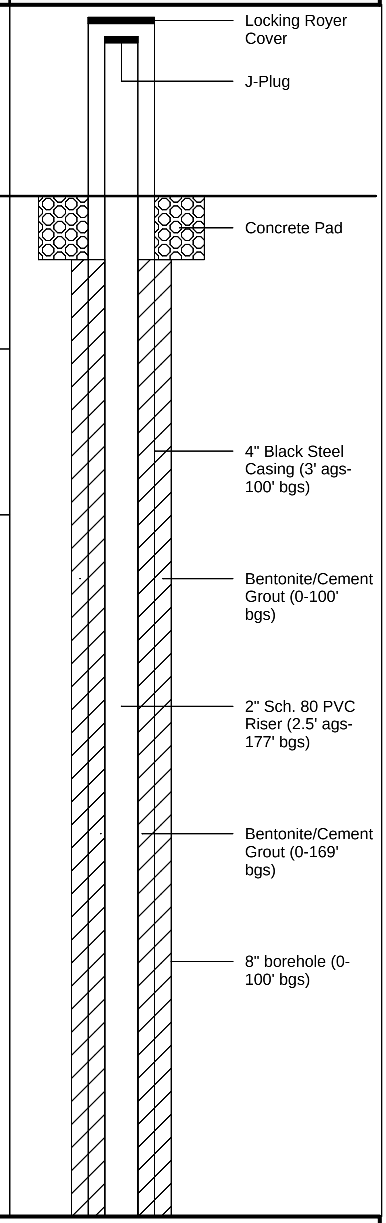
thf = tetrahydrofuran
bz = benzene
cd = carbon disulfide
MIBK = 4-Methyl-2-pentanone
ce = chloroethane
cm = chloromethane
tol = toluene
ace = acetone
clf = chloroform
11dca = 1,1-dichloroethane
mc = methylene chloride

xyl = xylenes
cis12 = cis-1,2-Dichloroethene
cdbm = chlorodibromomethane
dcbm = dichlorobromomethane
TCE = trichloroethene
PCE = tetrachloroethene
vc = vinyl chloride
VOCs = volatile organic compounds
ft bgs = feet below ground surface
ug/L = micrograms per liter
BOLD - exceedance of Action Level

Date Start/Finish: 8/6/12 - 9/6/12 **Drilling Company:** ADT **Driller's Name:** Chris Jenkins/Tim Sabo **Drilling Method:** Sonic/HQ Coring **Casing Size:** 6" Outer/8" Override **Rig Type:** Geoprobe 8140 LC Mini-Sonic/CME-75 HSA Rig **Sampling Method:** 4" Sonic Core Barrel; HQ Rock Coring Barrel	**Northing:** 285274.2351 **Easting:** 565642.1165 **Casing Elevation:** 154.77' AMSL **Borehole Depth:** 240' bgs **Surface Elevation:** 152.15' AMSL **Descriptions By:** L. Terrell, M. Eriksson, D. Cornell	**Well ID/Boring ID:** **MW-1003DR** **Client:** SRSNE Site Group **Site Location:** SRSNE Superfund Site Southington, CT	

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
	155									4-inch Sonic Core Barrel Sampling from 0-100' bgs. HQ Rock Coring from 100-240' bgs.
0										Light brown-gray fine SAND, some Silt, trace medium Sand and Roots. moist, non-plastic, 7.5YR 3/3. Red-brown, 7.5YR 4/6.
	150	1	0-5	NA	NA	3.2	ND			Gray-brown medium to fine SAND, 7.5YR 4/3.
5	145	2	5-10	NA	NA	5.0	ND			Brown coarse, medium and fine SAND, moist, non-plastic, 7.5YR 4/2.
10	140	3	10-15	NA	NA	5.0	ND			Trace fine Gravel from 10-15' bgs.
15										

Well Construction



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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	135	4	15-20	NA	NA	4.5	ND			Moist to wet from 15-19.5' bgs.	Bentonite/Cement Grout (0-169' bgs)
20										Brown-gray.	4" Black Steel Casing (3' ags-100' bgs)
	130	5	20-25	NA	NA	2.4	ND				Bentonite/Cement Grout (0-100' bgs)
25										Gray-brown coarse SAND, some medium Sand, little fine Sand and fine Gravel (multi-colored).	2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	125	6	25-30	NA	NA	5.0	ND			Trace Cobbles at 27.4' bgs.	
										Red-brown/maroon SILT, trace fine Sand and Clay, saturated, non-plastic, 2.5YR 3/4.	
30											8" borehole (0-100' bgs)
	120	7	30-35	NA	NA	3.4	ND			Maroon Silty coarse, medium and fine SAND, some coarse, medium and fine subrounded Gravel, trace Cobbles and Clay, saturated, non-plastic, 2.5YR 3/4.	
35										Maroon medium to fine SAND, some coarse, medium and fine subrounded Gravel, little coarse Sand and Silt, trace Clay and Cobbles, saturated, non-plastic.	

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 240' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	115	8	35-40	NA	NA	3.1	ND				Bentonite/Cement Grout (0-169' bgs)
40											4" Black Steel Casing (3' ags-100' bgs)
	110	9	40-45	NA	NA	NR	NA			No recovery from 40-45' bgs.	Bentonite/Cement Grout (0-100' bgs)
45										Maroon coarse, medium and fine SAND, trace medium to fine Gravel and Silt, saturated, non-plastic.	2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	105	10	45-50	NA	NA	4.4	ND			Maroon medium to fine SAND, trace coarse Sand and fine Gravel, saturated, non-plastic.	
50											8" borehole (0-100' bgs)
	100										
55		11	50-60	NA	NA	8.1	ND			Maroon Silty coarse, medium and fine SAND, some coarse, medium and fine subrounded Gravel, little Clay, saturated, non-plastic.	

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
	95									Maroon coarse, medium and fine SAND, little to trace coarse, medium and fine subrounded Gravel, saturated, non-plastic.
										Maroon SILT, some coarse, medium and fine subrounded Gravel, little fine Sand, trace Cobbles, dense (Till-like), non-plastic.
60	90									
										Maroon coarse, medium and fine SAND and coarse, medium and fine subrounded GRAVEL, trace Silt and Cobbles, saturated, non-plastic, 2.5YR 3/4.
										Maroon SILT, some fine Sand, some to little coarse, medium and fine subrounded Gravel, trace Cobbles and Clay, moderately dense (Till).
65		12	60-70	NA	NA	6.5	ND			
	85									
70	80									Maroon SILT and fine SAND, some coarse, medium and fine subrounded Gravel, little coarse to medium Sand, trace Cobbles and Clay (Till), moist to wet, non-plastic, dense.
75		13	70-79.5	NA	NA	5.5	ND			

Well Construction

- Bentonite/Cement Grout (0-169' bgs)
- 4" Black Steel Casing (3' ags-100' bgs)
- Bentonite/Cement Grout (0-100' bgs)
- 2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
- 8" borehole (0-100' bgs)

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	75										Bentonite/Cement Grout (0-169' bgs)
80										Gray COBBLE/BOULDER (possible limestone).	4" Black Steel Casing (3' ags-100' bgs)
	70	14	79.5-85	NA	NA	3.3	ND			Gray (GLEY 1 2.5/N) turning maroon fine Sandy SILT, some coarse, medium and fine subrounded Gravel and Cobbles, little coarse to medium Sand, trace Clay, wet, non-plastic, dense.	Bentonite/Cement Grout (0-100' bgs)
85											2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	65	15	85-90	NA	NA	3.2	ND				
90										Maroon (with gray mottling) SILT, some to little coarse, medium and fine subrounded Gravel and Cobbles (dense Till), little fine Sand and Clay, moist, non-plastic.	8" borehole (0-100' bgs)
	60	16	90-95	NA	NA	5.0	ND				
										Maroon pulverized ARKOSE, dry.	
95										Maroon ARKOSE (Bedrock).	

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	55	17	95-100	NA	NA	5.0	ND				8" borehole (0-100' bgs); Bentonite/Cement Grout (0-100' bgs); 4" Black Steel Casing (3' ags-100' bgs)
100									5	Dark reddish brown, coarse-grained SANDSTONE, trace coarse Clasts (green-gray), 2.5YR 3/3.	
	50								5, HZ, 30, M	Dark reddish brown, fine-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	Bentonite/Cement Grout (0-169' bgs)
105		BR1	100-110	NA	95	9.5	NA		M	Dark reddish brown, coarse-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	45									Dark reddish brown, fine-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	
110									HZ	Dark reddish brown, coarse-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	3.8" borehole (100-240' bgs)
	40									Dark reddish brown, fine-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	
										Dark reddish brown, medium-grained SANDSTONE (fining downward), trace gray-green mottling, 2.5YR 3/3.	
115		BR2	110-120	NA	96	9.6	NA		M, M, 10	Dark reddish brown, fine-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 240' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	35								15		
									5		
									10		
									10		
120											
	30									Coarsening downward.	Bentonite/Cement Grout (0-169' bgs)
										Dark reddish brown, coarse-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	
125		BR3	120-130	NA	100	10.3	NA		M		
									HZ		
									30		2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	25										
130									M		3.8" borehole (100-240' bgs)
									HZ		
	20										
135									M	Dark reddish brown, fine-grained SANDSTONE, 2.5YR 3/3.	
		BR4	130.3-140.55	NA	97.5	10	NA		HZ		
									HZ		

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	15									Coarse-grained between 137.8' and 138.2' bgs.	
140									HZ	Coarse-grained between 139.3' and 139.7' bgs.	
										Coarse-grained between 140.3' and 140.55' bgs.	
										Dark reddish brown, coarse-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	
	10									Dark reddish brown, fine-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	Bentonite/Cement Grout (0-160' bgs)
										Coarse-grained between 143.4' and 143.65' bgs.	
									M		
145		BR5	140.55-150.15	NA	99	9.6	NA		HZ		2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	5										
									20		
									M		
									M		
150									M		3.8" borehole (100-240' bgs)
									HZ		
									HZ		
	0								M		
									M		
155										Coarsening downward.	
		BR6	150.15-160.35	NA	99	10.2	NA				

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	-5								HZ		3.8" borehole (100-240' bgs)
									M		
160										Dark reddish brown, medium- to coarse-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	
	-10										Bentonite/Cement Grout (0-169' bgs)
									M		
165		BR7	160.45-170.45	NA	100	10	NA		HZ		2" Sch. 80 PVC Riser (2.5' ags-177' bgs)
	-15										
									M		
170											
	-20										Bentonite (169-174' bgs)
									HZ		
175		BR8	170.45-180	NA	87	8.3	NA				#0 Silica Sand Pack (174-194' bgs)

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 240' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	-25								HZ HZ	Fracture zone from 177.6-178.45' bgs.	2" Sch. 80 PVC Riser (2.5' ags-177' bgs) 3.8" borehole (100-240' bgs)
180	-30								M	Dark reddish brown, fine-grained SANDSTONE, trace gray-green mottling, 2.5YR 3/3.	
185	-35	BR9	180-190	NA	100	10	NA		10 M	Fine-grained Conglomerate from 189.5-190' bgs.	2" ID, 0.010" slot Sch. 80 PVC Screen (177-192' bgs) #0 Silica Sand Pack (174-194' bgs)
190	-40										PVC Sump (192-192.4' bgs)
195		BR10	190-200	NA	100	10	NA		M	Dark reddish brown, coarse-grained SANDSTONE and fine-grained CONGLOMERATE, 2.5YR 3/3.	Bentonite (194-217' bgs)

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	-45								M M		3.8" borehole (100-240' bgs)
200									M	Red/gray/brown fine-, medium- and coarse-grained CONGLOMERATE and reddish brown fine-grained SANDSTONE.	
	-50									Reddish brown fine-grained SANDSTONE, little mottling.	
205		BR11	200-210	NA	100	10	NA		M		Bentonite (194-217' bgs)
	-55								M M		
210											
	-60										
215		BR12	210-220	NA	100	10	NA		M M	Fine-to medium-grained Conglomerate between 210' and 220' bgs.	

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

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Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Borehole Depth: 240' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	-65								M		Bentonite (194-217' bgs); 3.8" borehole (100-240' bgs)
220	-70								M		
225	-75	BR13	220-230	NA	100	10	NA				Bentonite/Cement Grout (217-240' bgs)
230	-80								M	No Conglomerate from 233.8-240' bgs.	
235		BR14	230-240	NA	100	10	NA				

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Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003DR**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 240' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	-85										3.8" borehole (100-240' bgs) Bentonite/Cement Grout (217-240' bgs)
240										End of Boring at 240' bgs	
	-90										
245											
	-95										
250											
	-100										
255											

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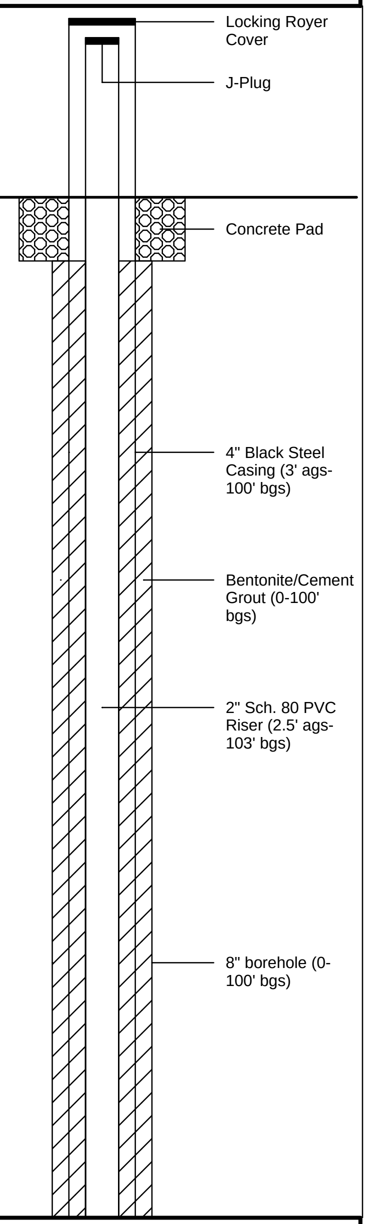
Conducted packer testing to estimate specific capacity of bedrock intervals and collect vertical profile groundwater samples at 100-120' bgs, 120-140' bgs, 140-160' bgs, 160-180' bgs, 180-200' bgs, 200-220' bgs and 220-240' bgs.
Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Date Start/Finish:	8/6/12 - 9/5/12	**Northing:**	285261.6391	**Well ID/Boring ID:**	**MW-1003R**
Drilling Company:	ADT	**Easting:**	565644.5985	**Client:**	SRSNE Site Group
Driller's Name:	Chris Jenkins/Tim Sabo	**Casing Elevation:**	155.23' AMSL	**Site Location:**	SRSNE Superfund Site Southington, CT
Drilling Method:	Sonic/HQ Coring	**Borehole Depth:**	120' bgs		
Casing Size:	6" Outer/8" Override	**Surface Elevation:**	152.76' AMSL		
Rig Type:	Geoprobe 8140 LC Mini-Sonic/CME-75 HSA Rig	**Descriptions By:**	L. Terrell, M. Eriksson, D. Cornell		
Sampling Method:	4" Sonic Core Barrel; HQ Rock Coring Barrel				

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
	155									4-inch Sonic Core Barrel Sampling from 0-100' bgs. HQ Rock Coring from 100-120' bgs.
0										
	150									
5										Drilled without soil sampling to 100' bgs with 6" and 8" sonic casing to set 4" permanent steel casing into bedrock; see MW-1003DR for overburden and bedrock drilling details.
	145									
10										
	140									
15										

Well Construction



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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003R**

Borehole Depth: 120' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	135										
20											4" Black Steel Casing (3' ags-100' bgs)
	130										Bentonite/Cement Grout (0-100' bgs)
25											2" Sch. 80 PVC Riser (2.5' ags-103' bgs)
	125										
30											8" borehole (0-100' bgs)
	120										
35											

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 120' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	115										
40											4" Black Steel Casing (3' ags-100' bgs)
	110										Bentonite/Cement Grout (0-100' bgs)
45											
											2" Sch. 80 PVC Riser (2.5' ags-103' bgs)
	105										
50											8" borehole (0-100' bgs)
	100										
55											

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Remarks: bgs = below ground surface; ags = above ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 120' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	95										
60											4" Black Steel Casing (3' ags-100' bgs)
	90										Bentonite/Cement Grout (0-100' bgs)
65											2" Sch. 80 PVC Riser (2.5' ags-103' bgs)
	85										
70											8" borehole (0-100' bgs)
	80										
75											

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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 120' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
	75										
80											4" Black Steel Casing (3' ags-100' bgs)
	70										Bentonite/Cement Grout (0-100' bgs)
85											2" Sch. 80 PVC Riser (2.5' ags-103' bgs)
	65										
90											8" borehole (0-100' bgs)
	60										
95											

Remarks: bgs = below ground surface; ags = above ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

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Client: SRSNE Site Group

Well/Boring ID: **MW-1003R**

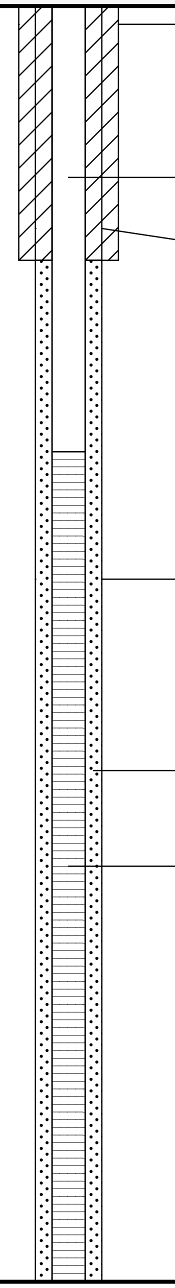
Borehole Depth: 120' bgs

Site Location:

SRSNE Superfund Site
Southington, CT

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description
	55									
100										Maroon coarse-grained SANDSTONE (Arkose), gray patches of discoloration throughout, 2.5YR 3/3.
									HZ	Becoming very coarse-grained (conglomerate-like) between 101.1' and 102.7' bgs.
	50								HZ 5 HZ	Becoming finer grained between 102.7' and 104' bgs.
105		BR1	100-110	NA	97	10	NA		M	
										2.5YR 3/2 between 107' and 109' bgs.
	45								M	
									M	
110										Maroon coarse-grained SANDSTONE (Arkose), 2.5YR 3/3.
	40	BR2	110-120	NA	98	10	NA		15	Becoming finer grained below 113.4' bgs.
115									M	

Well Construction



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Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

Client: SRSNE Site Group

Well/Boring ID: **MW-1003R**

Site Location:

SRSNE Superfund Site
Southington, CT

Borehole Depth: 120' bgs

Depth (ft. bgs)	Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Blow Counts	N - Value / RQD (%)	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Bedrock Fractures	Stratigraphic Description	Well Construction
									HZ		2" ID, 0.010" slot Sch. 80 PVC Screen (103-118' bgs)
	35	BR3	110-120	NA	98	10	NA		15		3.8" borehole (100-120' bgs)
									15		PVC Sump (118-118.4' bgs)
									15 60 15		#0 Silica Sand Pack (100-120' bgs)
120										End of Boring at 120' bgs	
	30										
125											
	25										
130											
	20										
135											

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Remarks: bgs = below ground surface; ags = above ground surface; NA = not applicable/available; AMSL = above mean sea level; HZ = horizontal fracture; M = mechanical break; RQD = Rock Quality Designation; ppm = parts per million; PID = photoionization detector.

Numerical values in the Bedrock Fractures column represent dip angles (in degrees).

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Appendix B

Geophysical Applications Report

Borehole Geophysics Logging Report
Wells MW-1001R & MW-1002DR
SRSNE Site
Southington, Connecticut

Prepared for
ARCADIS U.S., INC.
May 2012

GEOPHYSICAL APPLICATIONS

GEOPHYSICAL
APPLICATIONS
INCORPORATED

May 9, 2012

Mr. Ray Stevenson
ARCADIS U.S., INC.
160 Chapel Road – Suite 201
Manchester, CT 06042

phone: 860-533-9917
email: rstevenson@arcadis-us.com

Subject: Borehole Geophysics Logging Report
Wells MW-1001R & MW-1002DR
SRSNE Site
Southington, Connecticut

Dear Mr. Stevenson:

This report describes borehole geophysics logging performed by Geophysical Applications, Inc. at the above-noted site, to help identify and characterize hydraulically-active bedrock fractures encountered by two bedrock boreholes. MW-1001R was adjacent to the Oak Hill Cemetery entrance driveway, near the intersection of Route 10 and Flanders Street. MW-1002DR was located west of Route 10, in a low-lying wooded area.

The contracted logging suite included conventional logs (caliper, fluid temperature, and fluid resistivity) and acoustic televiewer imaging. Heat-pulse flowmeter testing during both ambient and pumping conditions was also requested at MW-1001R.

METHODS OF INVESTIGATION

Survey Control

All borehole log depths were referenced to depths below ground surface. The geophysical logging winch contains an optical depth encoder, to maintain depth measurements accurate within approximately $\pm$ 0.2 feet throughout a borehole.

Borehole Geophysics Logging

A Mount Sopris model 4MXB logging winch was used with a Mount Sopris caliper probe to obtain the conventional geophysical-log data. These logs were recorded at 0.1-foot depth increments, as determined by the logging winch's digital depth encoder.

Fluid temperature (FTemp) and fluid resistivity (FRes) logs were recorded during the first logging run at each well, using a downward logging speed of approximately five feet per minute, to help identify subtle variations in those fluid properties. A sub-assembly on the bottom of the caliper probe obtained these fluid measurements. Caliper logging was subsequently performed while pulling the probe upward through the borehole at approximately 12 feet per minute.

Acoustic televiewer (ABI) data were obtained using an Advanced Logic Technologies (ALT) model ABI40 acoustic televiewer probe, with the Mount Sopris winch and an ALT model Abox electronics console. ATV data were recorded at 0.01-foot depth intervals, with one pixel for each 1.25-degree arc-segment around the borehole wall, at a logging speed of approximately 3.3 feet per minute.

A pair of centralizer assemblies positioned the televiewer probe near the middle of the boreholes. Each centralizer included four stainless-steel bow springs, clamped to the probe housing with brass compression fittings, at positions recommended by the probe manufacturer to minimize the risk of interference with the probe's internal three-component magnetometers.

Flowmeter data were recorded at MW-1001R with a Mount Sopris heat-pulse flowmeter probe, at specific depths inferred from field plots of the FRes, FTemp, caliper and acoustic televiewer logs. Flowmeter data were initially recorded under ambient conditions. The same test depths were subsequently repeated while pumping from a short distance below the water level with a variable-speed Fultz pump.

All geophysical log data were recorded on a laptop computer's hard drive, and copied to CD-ROM as a backup precaution.

Post-survey plot scales were adjusted to display as much detail as possible. All conventional logs and flowmeter data were merged onto one plot, to aid data correlation. Televiewer logs are presented on a separate page, at an expanded vertical scale, for clarity.

Equipment Decontamination Procedures

On-site decontamination consisted of an Alconox scrub and tap-water rinse of the logging cable and probes after each logging run.

SURVEY LIMITATIONS

Measured geophysical-log depths are estimated to be accurate within ± 0.2 feet at this site, allowing for some slippage of the winch's depth-measurement wheel.

The caliper-probe's arms can measure borehole diameters up to approximately 16 inches. Caliper logs can most-confidently detect fractures that cross a borehole at moderate angles, e.g. less than approximately 70 degrees from horizontal. Caliper logs may not accurately detect near-vertical fractures.

The acoustic televiewer probe relies on three-component magnetometers to orient the recorded images with respect to magnetic north. Per Arcadis' request, the televiewer images were rotated to correct for magnetic declination (13.93 degrees west), resulting in televiewer logs and interpretations that are referenced to true north. Dip orientations of televiewer-inferred features within four to six feet of a steel casing are therefore approximate.

The heat-pulse flowmeter probe can measure water flow rates between 0.02 and approximately 1.2 gallons per minute (gpm). Higher flow rates may be erroneously characterized as zero flow by this probe.

Hydraulically-active fracture zones were inferred by correlating numerous geophysical logs. These interpretations are a subjective judgment based upon available data.

RESULTS

Geophysical log data and generalized log interpretations are described below. Specific interpretations regarding possible hydraulically-active depths are listed in the "comments" column on the conventional log plot.

All geophysical logs described in this report are presented in Appendix A. Summary televiewer interpretations are provided in Appendix B. This televiewer-interpretation table is an Excel spreadsheet listing observed planar-feature depths, down-dip compass direction for each planar feature (note that these are perpendicular to the strike direction, and are referenced to true north), dip angles with respect to horizontal, and whether an inferred feature was judged to be relatively open or less-open.

The caliper log is presented in the left-most conventional log-plot column. Inflections to the right indicate borehole enlargements, for example where the drill bit passed through a fracture zone.

Fluid temperature (FTemp) and fluid resistivity (FRes) logs are presented in the next panel on each conventional-log plot. Localized inflections or changes in slope of FTemp or FRes logs typically represent water entering or exiting a borehole. Large inflections at the very bottom of a borehole may represent only accumulated sediments with temperature or electrical properties that contrast with the water column.

Heat-pulse flowmeter data are presented on the caliper column (ambient flow measurements) and on the FTemp/FRes column (flow measurements while pumping) on the MW-1001R conventional log plot. Shaded boxes to the left of centerline on either panel would represent downward water flow, with the box length indicating the flow magnitude in gpm. Shaded boxes to the right of a panel's centerline represent upward water flow. Filled circles represent depths where "zero" flow was observed (i.e., flow less than the probe's minimum detectable rate, approximately 0.02 gpm).

Flow rates shown on the conventional log plot are as reported by the instrument vendor's data-acquisition software.

Acoustic televiewer data are presented via two columns (ABI40 "traveltime" and "amplitude"), where each column represents a cylindrical image sliced down the north edge and laid flat on the printed page. True north is at the left edge of each column, and the images progress through east, south, west, and back to north at the right-hand edge.

The acoustic televiewer log was evaluated using WellCAD's image-processing module, to measure planar-feature dip angles and down-dip azimuths. All interpreted down-dip azimuths are referenced to true north. Measured feature orientations are indicated by a tadpole plot, where each filled-circle indicates a feature's dip angle from horizontal (plotted on a graph that ranges between 0 and 90 degrees from left to right). Each tadpole tail points in the down-dip azimuth, assuming true north is straight up on the printed page. Note that the down-dip azimuth indicated by each tadpole tail is perpendicular to the feature's strike direction.

Features represented on both the ABI travel-time and amplitude plots are denoted as "open". Features represented only on the ABI amplitude plots are likely to have smaller apertures (or possibly represent bedding planes or thin, mineral-filled joints), and are therefore judged relatively "less open". Red tadpoles, and red sine-curve lines superimposed on the ABI plots, represent inferred "open" fractures. Black tadpoles, and black sine curves on the ABI plots, represent interpreted "less-open" features.

Televiewer interpretations are also summarized using rose diagrams, to indicate the predominant down-dip azimuths of planar features observed in each well. These rose diagrams are presented with true north oriented straight up on the printed page. The red rose diagram represents inferred open features, and the black rose diagram represents inferred less-open features.

A stereoplot also summarizes the open and less-open feature orientations inferred from the acoustic televiewer log. The stereoplot was prepared using an equal-angle (Schmidt) projection of the southern hemisphere.

Annotations on the conventional log plot describe interpreted hydraulically-active depths, based on correlations between all of the available log data. Selected observations that may be of particular interest are described below.

MW-1001R

This well's caliper log shows steel casing to approximately 171 feet deep. The uncased section shows very little variation in diameter, except for an enlargement immediately below the casing bottom.

FTemp and/or FRes changes judged to possibly represent hydraulically active zones were observed near the following depths: 174, 177, possibly 178, 185, 186, 190, 194.5, and 196 feet.

Ambient flowmeter tests did not disclose measurable water flow, indicating that transmissive fractures encountered by this borehole may have similar hydraulic head.

Pumping flowmeter tests disclosed weak upward flow possibly entering between 192 to 195 feet deep, and exiting at a zone of lower head between 182 to 187 feet. Additional upward flow while pumping may have entered between 173 to 178 feet deep; some of this upward flow may have exited at a zone of lower hydraulic head near the casing bottom (the remainder flowed upward through the casing as the water level recovered).

Note that the submersible pump lowered the water level by approximately 1.5 feet, before the pump motor failed. The water level remained near that lowered elevation during the subsequent "pumping" flowmeter tests.

Note that the acoustic televiewer image shows an uncommonly smooth borehole wall, with very few fractures.

Most interpreted less-open planar features (black rose diagram) dip down toward the southwest, with a few additional planes dipping down toward the west, northwest, and east-northeast.

Only one open planar feature was observed, nearly coincident with the casing bottom. That plane dips down toward the west-northwest, as shown on the red rose plot.

The stereoplot shows two small clusters of planar-feature poles. The larger cluster, located to the right of the stereoplot's center, represents less-open and open planes that dip less than 10 degrees from horizontal down toward the southwest, west, and northwest.

A second small cluster of feature poles is plotted slightly left of the stereoplot's center. This cluster's black poles represent less-open planes that dip down toward the east-northeast between 10 to 15 degrees from horizontal.

MW-1002DR

This borehole's caliper log shows steel casing to approximately 101 feet, and the uncased section at greater depth. Minor enlargements in diameter are visible near 152, 172, 185 and 189 feet.

FRes and/or FTemp inflections judged likely to represent hydraulically active zones were noted near the following depths: 105, 108 to 109, 119 to 120, 125, 130, 133 to 136, 140.5, 142, 145, 148, 150, 154, 172, 177, 185, 189, possibly 193 to 195, and 196 feet. The FRes increase near 198 feet deep probably represents accumulated drilling residue.

The black rose diagram shows that most less-open planes dip down toward the northeast and southeast. Additional less-open planes dip down toward the east, east-southeast south, north, northwest, and west.

Observed open planar features (red rose diagram) dip down toward the south-southwest, southeast, and north-northwest.

The stereoplot diagram shows a group of five black poles below and left of the diagram's center that represent less-open planes dipping down toward the north-northeast to northeast between 20 and 40 degrees from horizontal. Red and black poles plotted left and slightly above the diagram's center represent open and less-open planes that dip down toward the east, east-southeast, and southeast, between 15 to 30 degrees from horizontal.

Three black poles plotted a short distance above the diagram's center represent less-open planes dipping down toward the south. Two red poles and one black pole located above and slightly right of the diagram's center represent open and less-open planes dipping down toward the south-southwest at approximately 30 degrees from horizontal. The red pole plotted near the stereoplot's lower-right edge represents an open plane dipping down toward the north-northwest at roughly 70 degrees from horizontal.

* * * * *

We appreciate this opportunity to provide geophysical services, and we welcome questions concerning this report. Please call the undersigned at 508/429-2430 if we may provide additional information that would benefit Arcadis' project.

Sincerely,

GEOPHYSICAL APPLICATIONS, INC.

M. Blackey

Mark E. Blackey
Principal and Geophysicist

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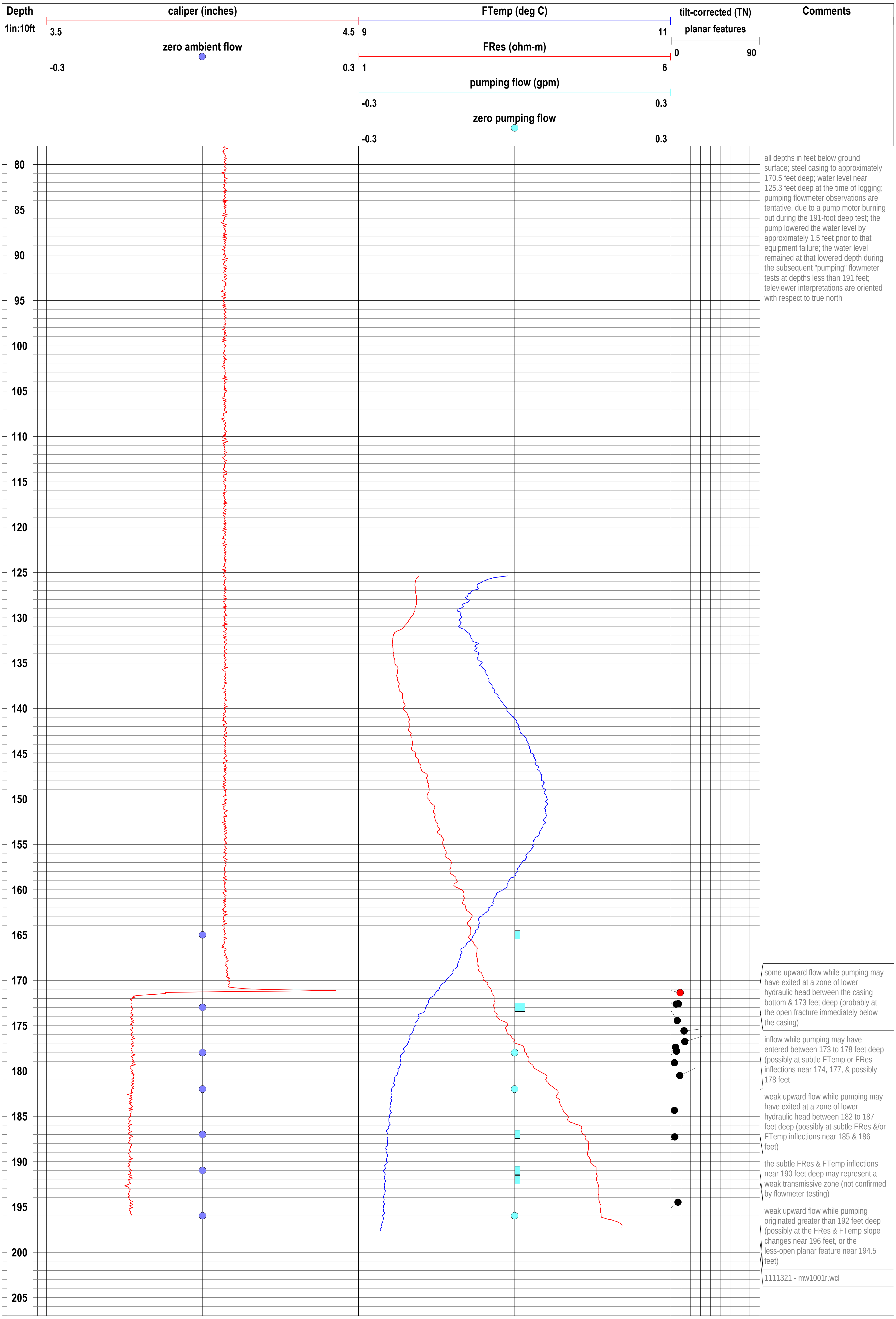
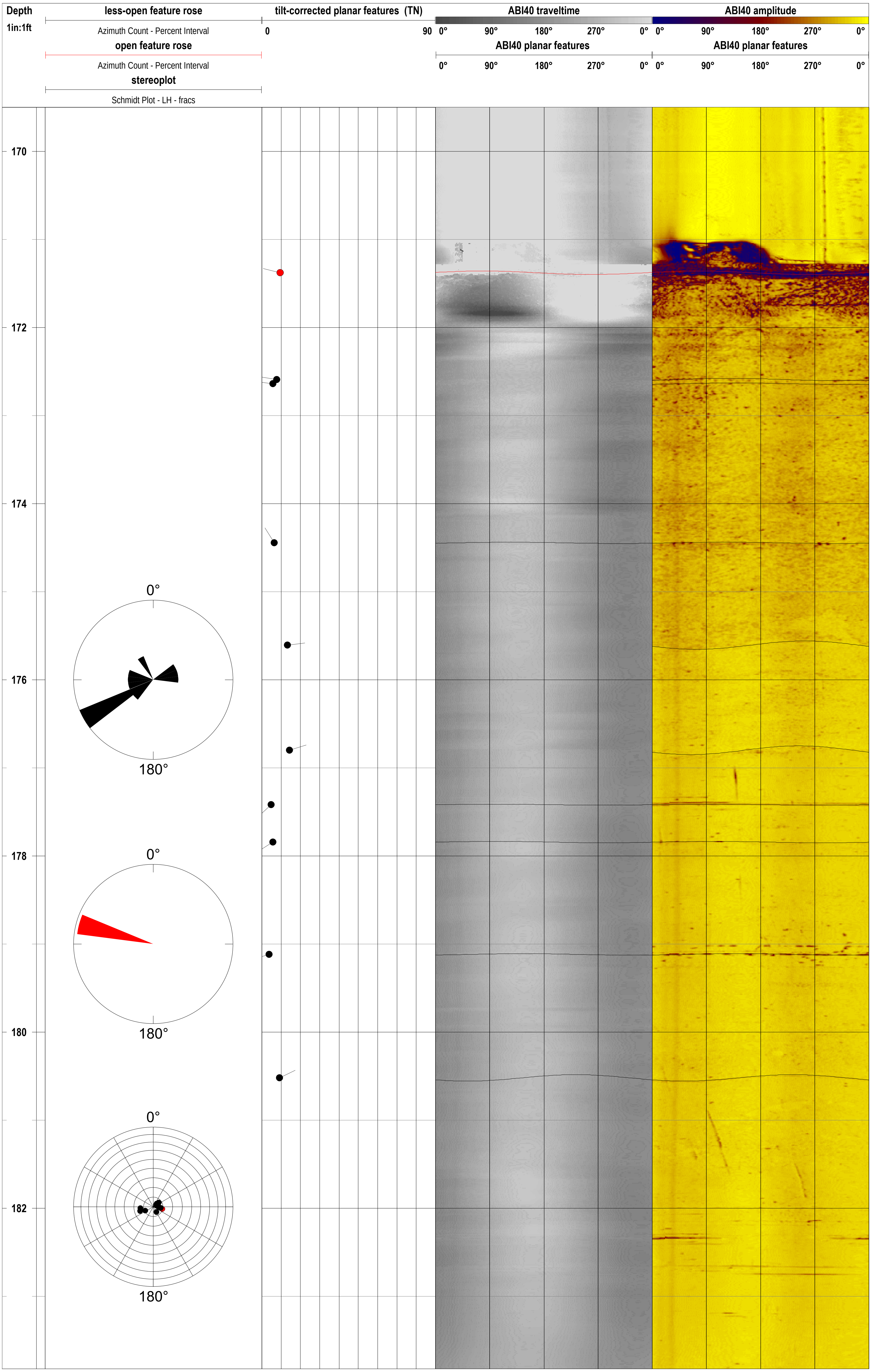
Appendix A

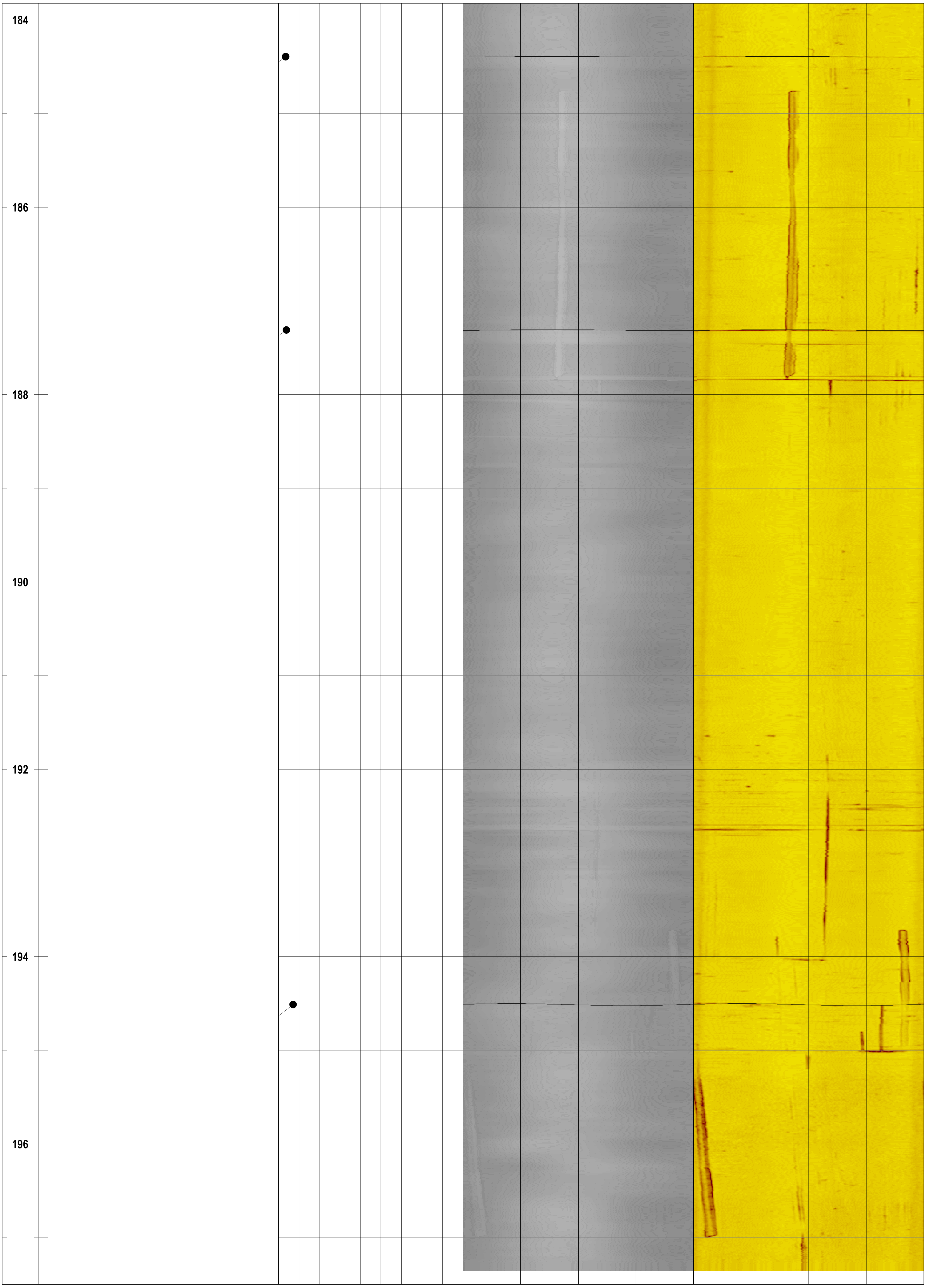
Borehole Geophysics Log Plots

ARCADIS / Southington, CT - MW-1001R conventional log plot



ARCADIS / Southington, CT - MW-1001R acoustic televiewer log plot

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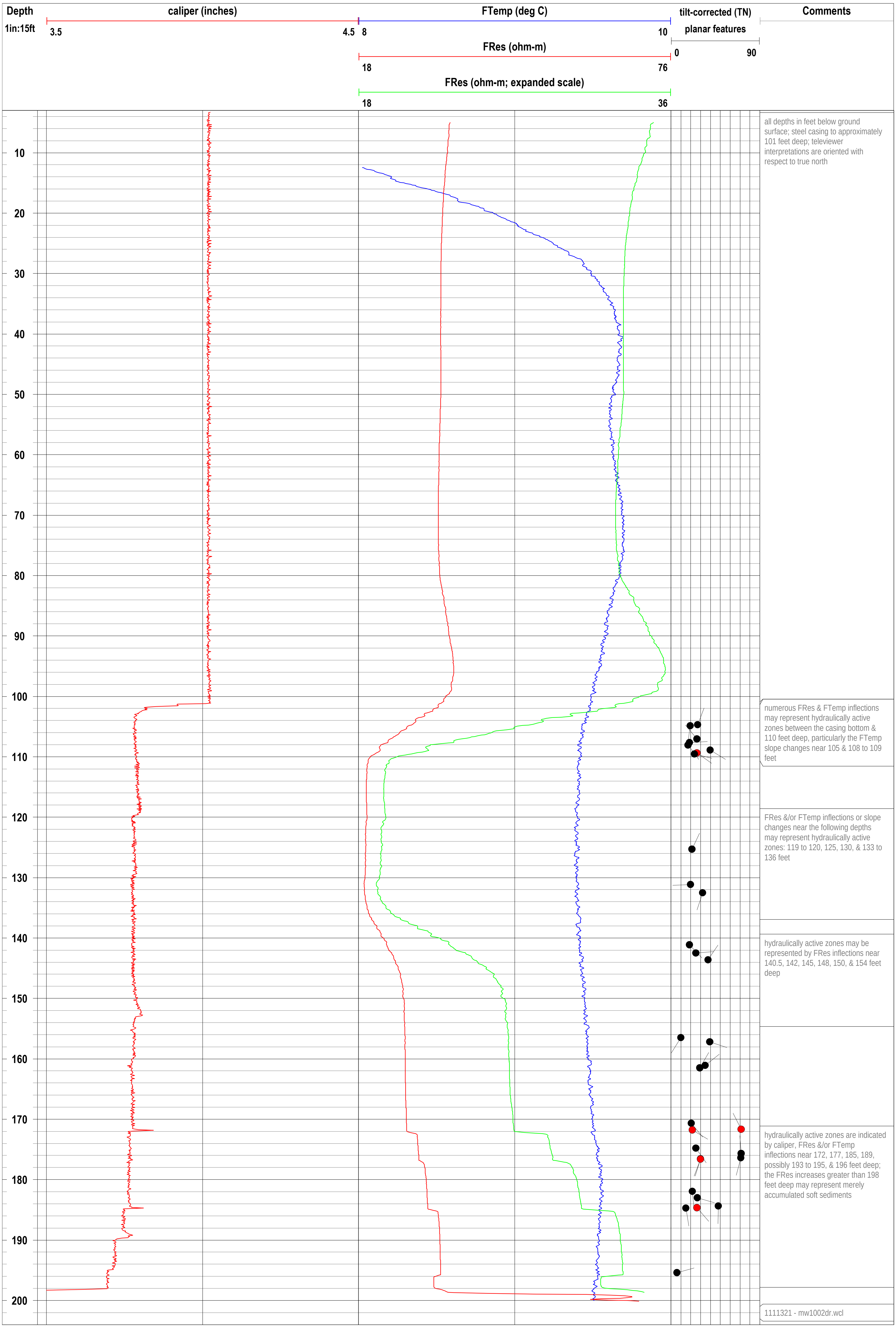
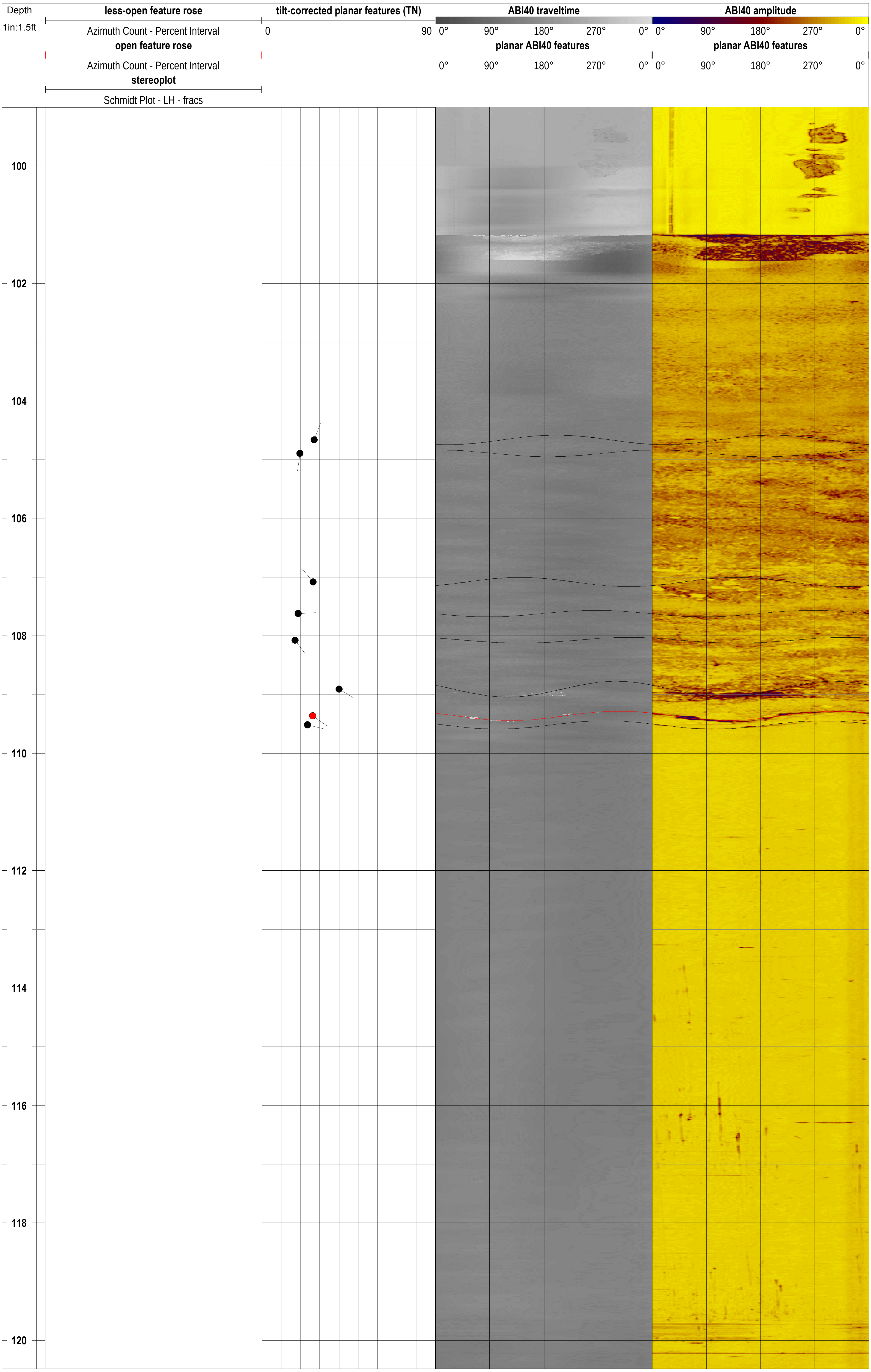
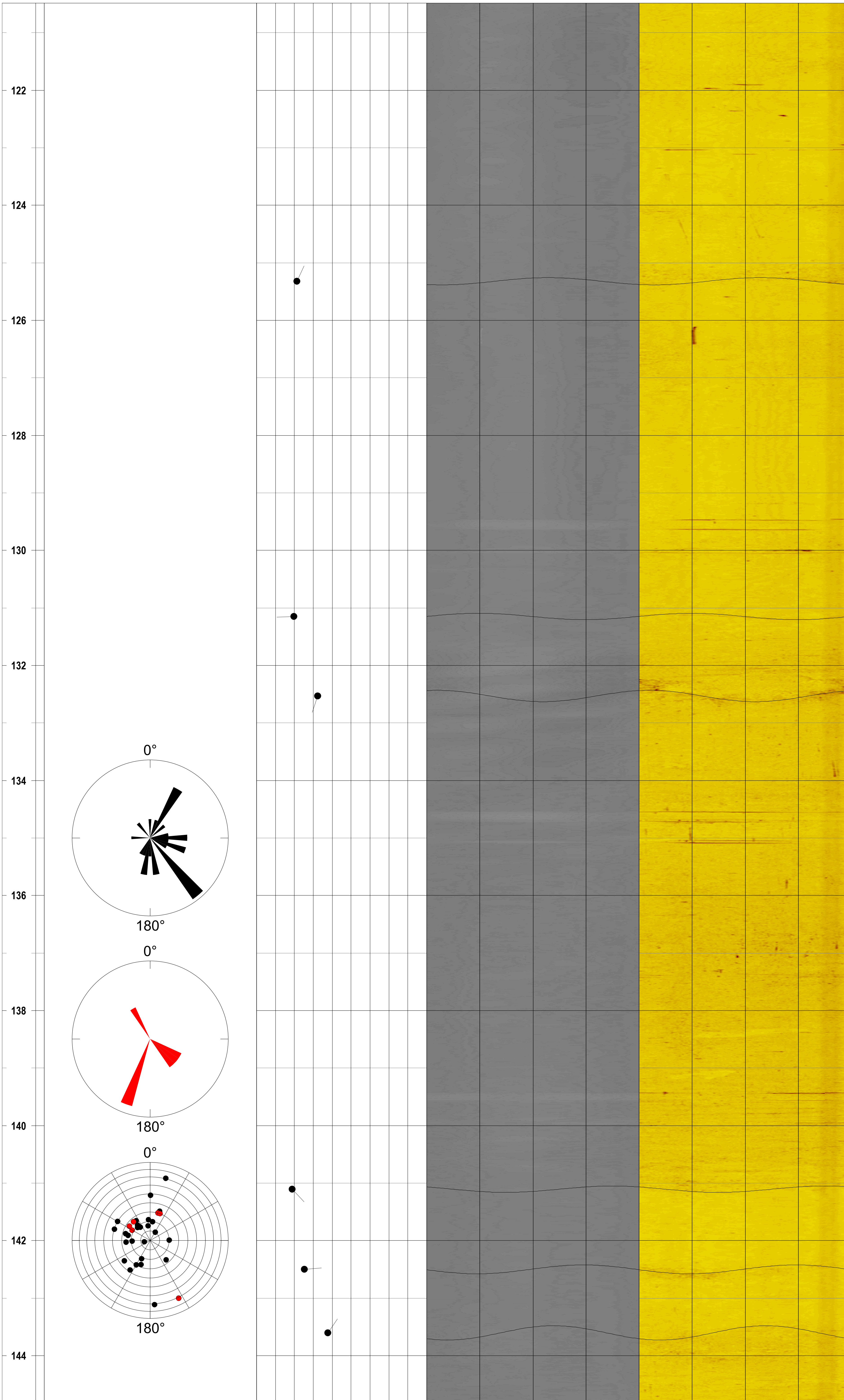
ARCADIS / Southington, CT - MW-1002DR conventional log plot



ARCADIS / Southington, CT - MW-1002DR acoustic televiewer log plot

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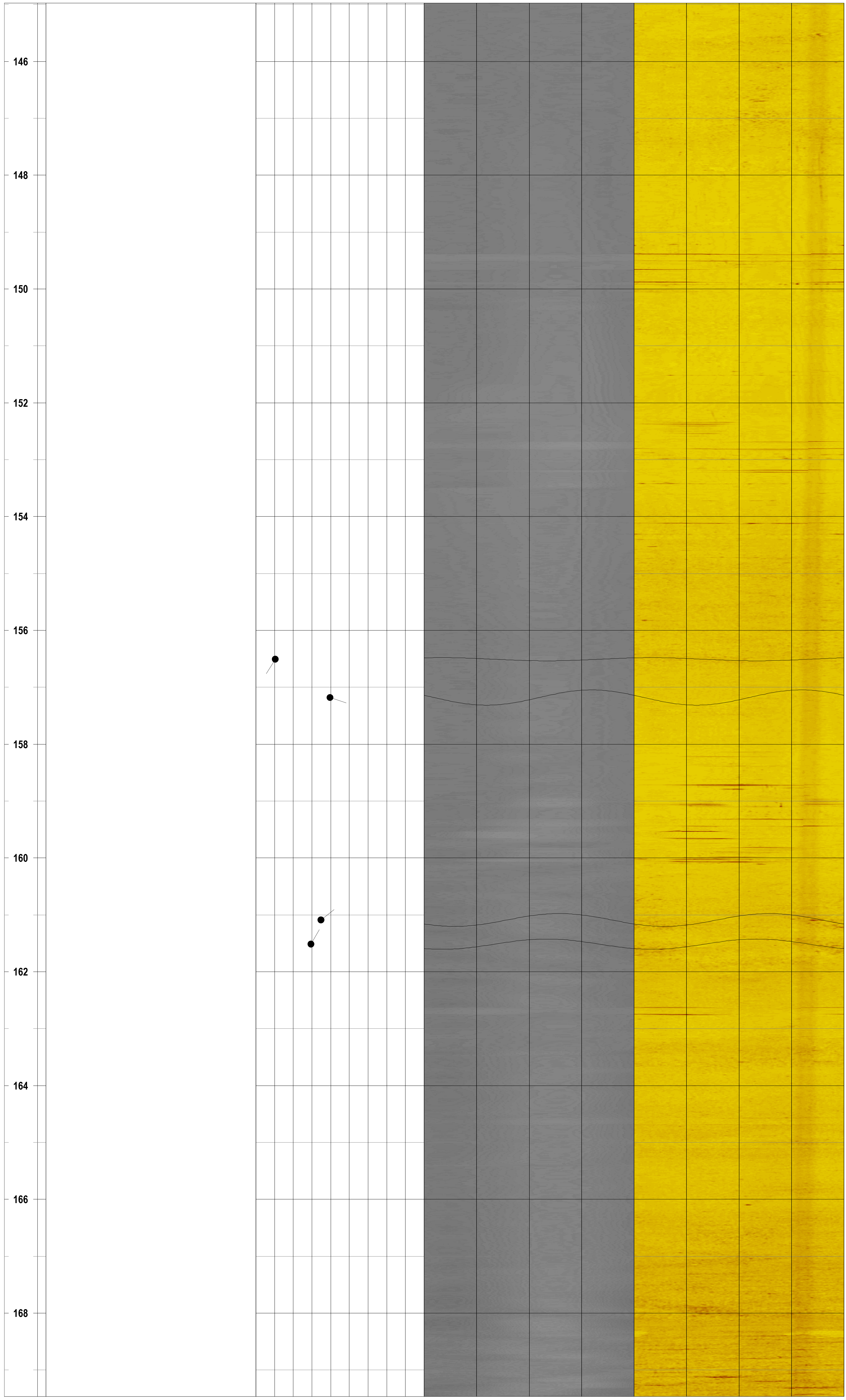
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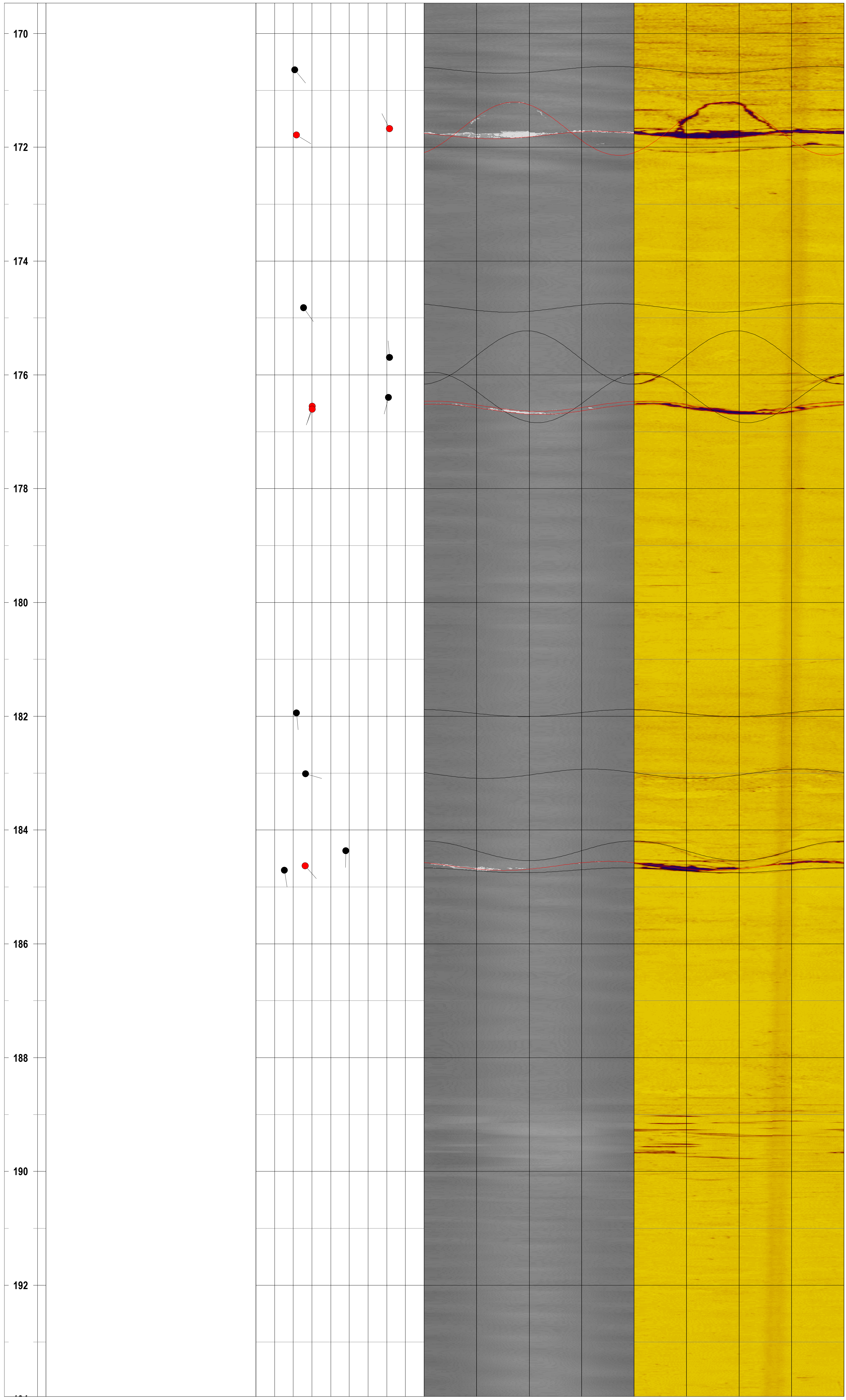
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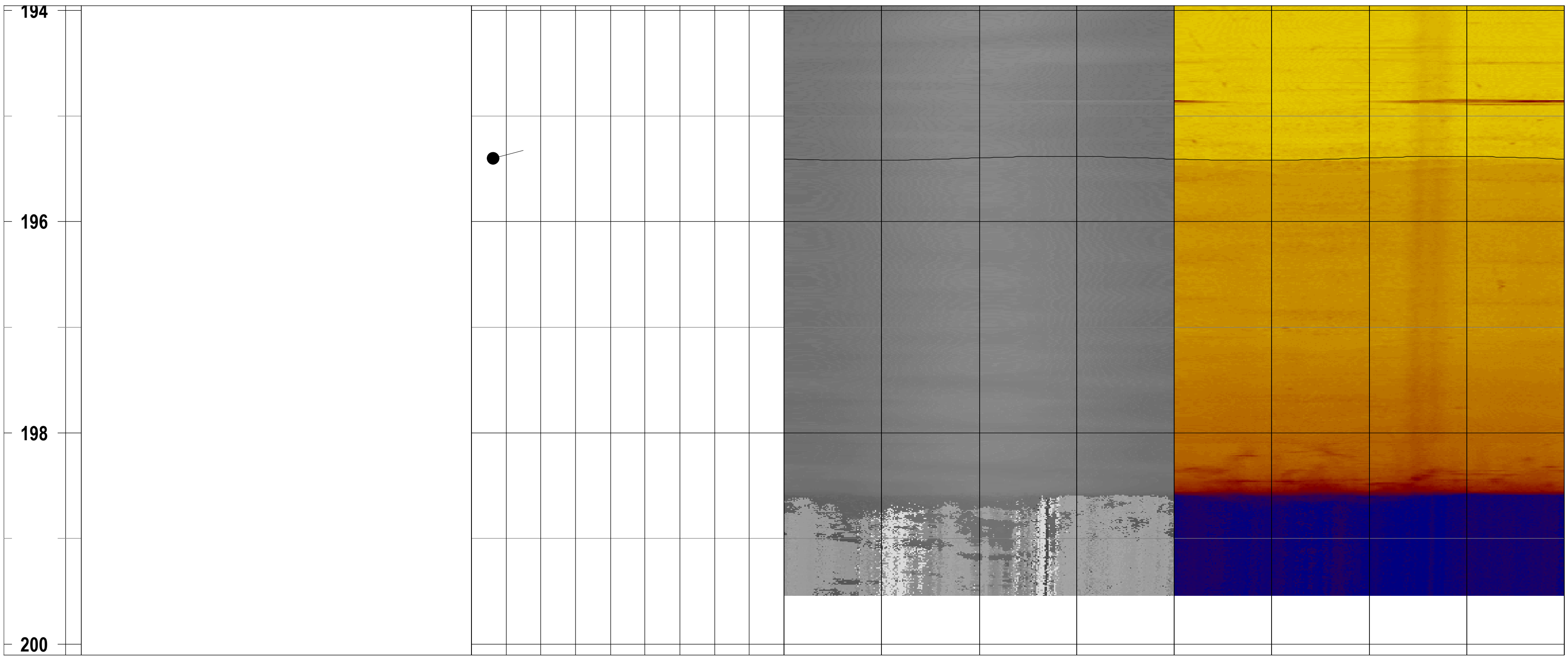
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Appendix B

Planar Feature Orientations Measured from the Acoustic Televiewer Logs

Planar-feature Orientations Interpreted from the MW-1001DR Acoustic Televiewer Log
SRSNE Site
Southington, CT
Prepared for: Arcadis U.S., Inc.
1111321 - mw1001dri.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	interpreted planar feature category
171.38	284.4	9.7	open
172.59	279.4	7.9	less-open
172.64	276.6	5.8	less-open
174.44	328.4	6.6	less-open
175.61	83.4	13.4	less-open
176.80	72.6	14.4	less-open
177.42	227.2	5.0	less-open
177.84	237.68	5.88	less-open
179.12	253.83	3.93	less-open
180.52	63.8	9.3	less-open
184.39	234.6	3.6	less-open
187.31	234.8	4.1	less-open
194.51	233.0	7.3	less-open

Note that down-dip compass azimuth is perpendicular to the strike direction.

Note that interpreted down-dip compass azimuths are with respect to true north

Down-dip azimuths & dip angles were corrected for borehole deviation from vertical.

Planar-feature Orientations Interpreted from the MW-1002DR Acoustic Televiewer Log
SRSNE Site
Southington, CT
Prepared for: Arcadis U.S., Inc.
1111321 - mw1002dri.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	interpreted planar feature category
104.67	21.13	27.19	less-open
104.89	187.9	19.8	less-open
107.08	320.4	26.6	less-open
107.62	86.9	19.0	less-open
108.07	142.9	17.4	less-open
108.91	120.4	40.1	less-open
109.36	125.1	26.5	open
109.52	103.4	23.9	less-open
125.32	25.4	21.5	less-open
131.15	268.05	19.93	less-open
132.53	198.13	32.41	less-open
141.10	136.3	19.0	less-open
142.50	85.9	25.4	less-open
143.61	34.5	37.9	less-open
156.51	212.7	10.4	less-open
157.18	107.5	39.7	less-open
161.09	51.7	35.0	less-open
161.51	29.61	29.58	less-open
170.64	140.92	20.89	less-open
171.67	333.59	71.52	open
171.79	120.05	21.83	open
174.82	144.96	25.58	less-open
175.7	355.92	71.5	less-open
176.40	194.3	71.1	less-open
176.55	196.4	30.2	open
176.61	200.2	30.3	open
181.94	174.6	21.9	less-open
183.01	105.6	26.8	less-open
184.36	180.5	48.3	less-open
184.63	138.4	26.4	open
184.71	171.2	15.4	less-open
195.40	75.2	6.4	less-open

Note that down-dip compass azimuth is perpendicular to the strike direction.

Note that interpreted down-dip compass azimuths are with respect to true north

Down-dip azimuths & dip angles were corrected for borehole deviation from vertical.

Borehole Geophysics Logging Report
Well MW-1003DR
Southington, Connecticut

Prepared for
ARCADIS U.S., INC.
September 2012

GEOPHYSICAL APPLICATIONS

GEOPHYSICAL APPLICATIONS
INCORPORATED

September 14, 2012

Mr. David Cornell, P.G., C.W.D.
ARCADIS U.S., INC.
6723 Towpath Road – P.O. Box 66
Syracuse, NY 13214

phone: 315-671-9379
email: david.cornell@arcadis-us.com

Subject: Borehole Geophysics Logging Report
Well MW-1003DR
SRSNE Site
Southington, Connecticut

Dear Mr. Cornell:

This report describes borehole geophysics logging performed by Geophysical Applications, Inc. at the above-noted site, to help identify and characterize hydraulically-active bedrock fractures encountered a bedrock borehole. MW-1003DR is located in a wooded area south of Lazy Lane.

The contracted logging suite included conventional logs (caliper, fluid temperature, and fluid resistivity) and acoustic televiewer imaging.

METHODS OF INVESTIGATION

Survey Control

All borehole log depths were referenced to depths below ground surface. The geophysical logging winch contains an optical depth encoder, to maintain depth measurements accurate within approximately $\pm$ 0.2 feet throughout a borehole.

Borehole Geophysics Logging

A Mount Sopris model 4MXB logging winch was used with a Mount Sopris caliper probe to obtain the conventional geophysical-log data. These logs were recorded at 0.1-foot depth increments, as determined by the logging winch's digital depth encoder.

Fluid temperature (FTemp) and fluid resistivity (FRes) logs were recorded during the first logging run at each well, using a downward logging speed of approximately five feet per minute, to help identify subtle variations in those fluid properties. A sub-assembly on the bottom of the caliper probe obtained these fluid measurements. Caliper logging was subsequently performed while pulling the probe upward through the borehole at approximately 12 feet per minute.

Acoustic televiewer (ABI) data were obtained using an Advanced Logic Technologies (ALT) model ABI40 acoustic televiewer probe, with the Mount Sopris winch and an ALT model Abox electronics console. ABI data were recorded at 0.01-foot depth intervals, with one pixel for each 1.25-degree arc-segment around the borehole wall, at a logging speed of approximately 3.3 feet per minute.

A pair of centralizer assemblies positioned the televiewer probe near the middle of the borehole. Each centralizer included four stainless-steel bow springs, clamped to the probe housing with brass compression fittings, at positions recommended by the probe manufacturer to minimize the risk of interference with the probe's internal three-component magnetometers.

All geophysical log data were recorded on a laptop computer's hard drive, and copied to CD-ROM as a backup precaution.

Post-survey plot scales were adjusted to display as much detail as possible. All conventional logs and flowmeter data were merged onto one plot, to aid data correlation. Televiewer logs are presented on a separate page, at an expanded vertical scale, for clarity.

Equipment Decontamination Procedures

On-site decontamination consisted of an Alconox scrub and tap-water rinse of the logging cable and probes after each logging run.

SURVEY LIMITATIONS

Measured geophysical-log depths are estimated to be accurate within ± 0.2 feet at this site, allowing for some slippage of the winch's depth-measurement wheel.

The caliper-probe's arms can measure borehole diameters up to approximately 16 inches. Caliper logs can most-confidently detect fractures that cross a borehole at moderate angles, e.g. less than approximately 70 degrees from horizontal. Caliper logs may not accurately detect near-vertical fractures.

The acoustic televiewer probe relies on three-component magnetometers to orient the recorded images with respect to magnetic north. Dip orientations of televiewer-inferred features within four to six feet of a steel casing are therefore approximate.

Hydraulically-active fracture zones were inferred by correlating numerous geophysical logs. These interpretations are a subjective judgment based upon available data.

RESULTS

Geophysical log data and generalized log interpretations are described below. Specific interpretations regarding possible hydraulically-active depths are listed in the "comments" column on the conventional log plot. Per Arcadis' request, the televiewer images were rotated to correct for magnetic declination (13.93 degrees west), resulting in televiewer logs and interpretations that are referenced to true north.

All geophysical logs described in this report are presented in Appendix A. Summary televiewer interpretations are provided in Appendix B. This televiewer-interpretation table is an Excel spreadsheet listing observed planar-feature depths, down-dip compass direction for each planar feature (note that these are perpendicular to the strike direction, and are referenced to true north), dip angles with respect to horizontal, and whether an inferred feature was judged to be relatively open or less-open.

The caliper log is presented in the left-most conventional log-plot column. Inflections to the right indicate borehole enlargements, for example where the drill bit passed through a fracture zone.

Fluid temperature (FTemp) and fluid resistivity (FRes) logs are presented in the next panel on each conventional-log plot. Localized inflections or changes in slope of FTemp or FRes logs typically represent water entering or exiting a borehole. Large inflections at the very bottom of a borehole may represent only accumulated sediments with temperature or electrical properties that contrast with the water column.

Acoustic televiewer data are presented via two columns (ABI40 "traveltime" and "amplitude"), where each column represents a cylindrical image sliced down the north edge and laid flat on the printed page. True north is at the left edge of each column, and the images progress through east, south, west, and back to north at the right-hand edge.

The acoustic televiewer log was evaluated using WellCAD's image-processing module, to measure planar-feature dip angles and down-dip azimuths. All interpreted down-dip azimuths are referenced to true north. Measured feature orientations are indicated by a tadpole plot, where each filled-circle indicates a feature's dip angle from horizontal (plotted on a graph that ranges between 0 and 90 degrees from left to right). Each tadpole tail points in the down-dip azimuth, assuming true north is straight up on the printed page. Note that the down-dip azimuth indicated by each tadpole tail is perpendicular to the feature's strike direction.

Features represented on both the ABI travel-time and amplitude plots are denoted as "open". Features represented only on the ABI amplitude plots are likely to have smaller apertures (or possibly represent bedding planes or thin, mineral-filled joints), and are therefore judged relatively "less open". Red tadpoles, and red sine-curve lines superimposed on the ABI plots, represent inferred "open" fractures. Black tadpoles, and black sine curves on the ABI plots, represent interpreted "less-open" features.

Televiewer interpretations are also summarized using rose diagrams, to indicate the predominant down-dip azimuths of planar features observed in each well. These rose diagrams are presented with true north oriented straight up on the printed page. The red rose diagram represents inferred open features, and the black rose diagram represents inferred less-open features.

A stereoplot also summarizes the open and less-open feature orientations inferred from the acoustic televiewer log. The stereoplot was prepared using an equal-angle (Schmidt) projection of the southern hemisphere.

Annotations on the conventional log plot describe interpreted hydraulically-active depths, based on correlations between all of the available log data. Selected observations that may be of particular interest are described below.

<u>MW-1003DR</u>

This well's caliper log shows steel casing to approximately 100 feet deep. The uncased section shows very little variation in diameter except for a slight enlargement between 111 to 125 feet, and an enlargement near 178 feet.

FTemp and/or FRes changes judged to possibly represent hydraulically active zones were observed near the following depths: 103, 107, 109, 113, 118, 131, 135, 141, 177, 180, and 183 feet.

Note that the acoustic televiewer image shows an uncommonly smooth borehole wall, with very few fractures.

Interpreted less-open planar features (black rose diagram) dip down toward the northeast, west to west-southwest, and east-southeast.

Interpreted open planar features (red rose diagram) dip down toward the south-southwest, south-southeast to southeast, and east-southeast.

The stereoplot shows roughly four small clusters of planar-feature poles. A cluster of four red poles, located above the stereoplot's center, represents open planes that dip 20 to 30 degrees from horizontal down toward the south-southwest, south-southeast, and southeast. A second group of several black poles and one red pole, located left of the stereoplot's center, represents less-open planes and one open plane dipping down toward the east-southeast between 20 to 40 degrees from horizontal.

A third small cluster of feature poles is plotted slightly right of the stereoplot's center. These black poles represent less-open planes that dip down toward the west between 10 to 30 degrees from horizontal. A fourth small cluster of black poles, located at the stereoplot's center, represents less-open planes that dip less than 10 degrees from horizontal in multiple directions.

* * * * *

We appreciate this opportunity to provide geophysical services, and we welcome questions concerning this report. Please call the undersigned at 508/429-2430 if we may provide additional information that would benefit Arcadis' project.

Sincerely,

GEOPHYSICAL APPLICATIONS, INC.

L Andresen M. E. Blackey

Lars Andresen
Geophysicist

Mark E. Blackey
Principal and Geophysicist

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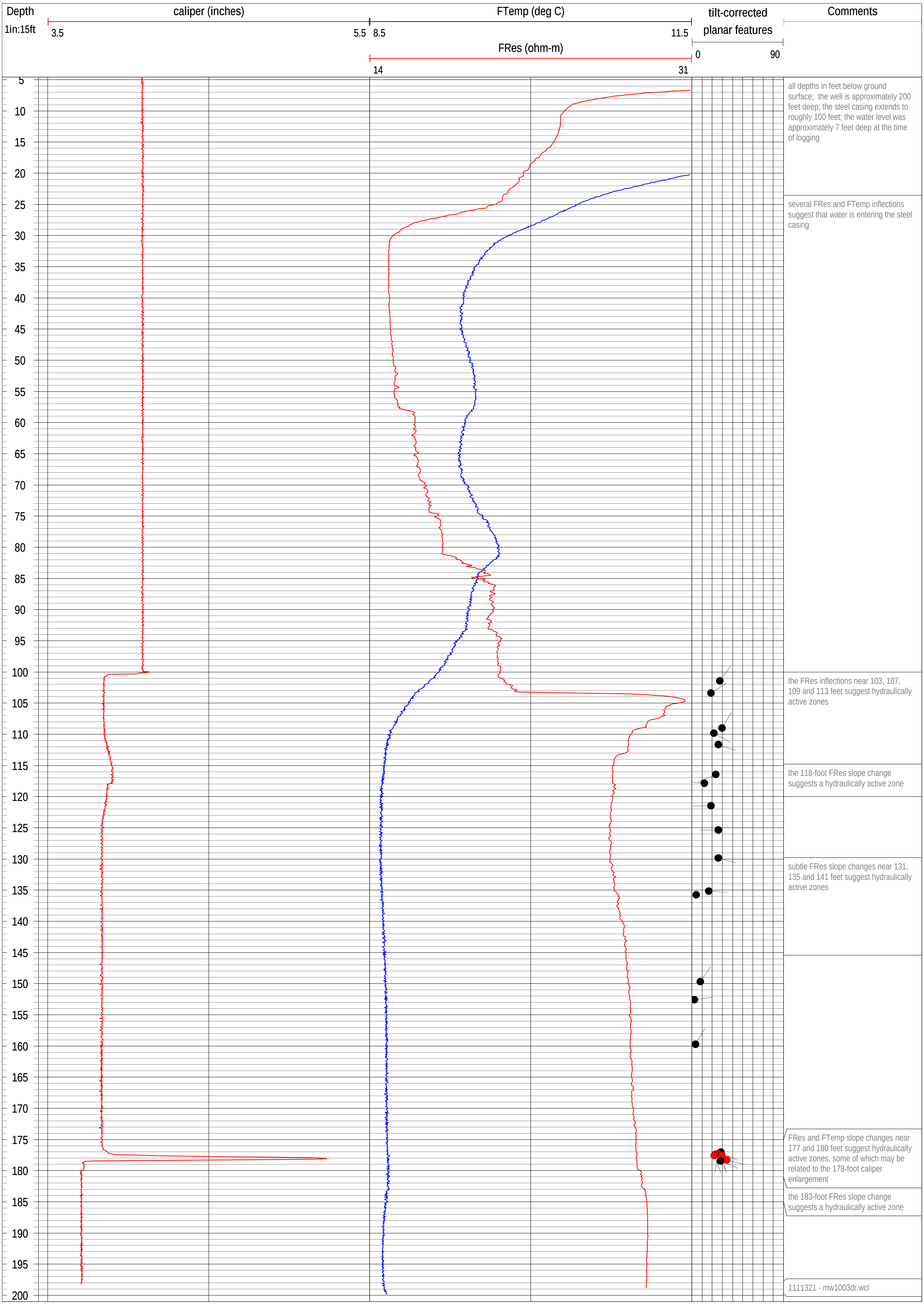
Appendix A

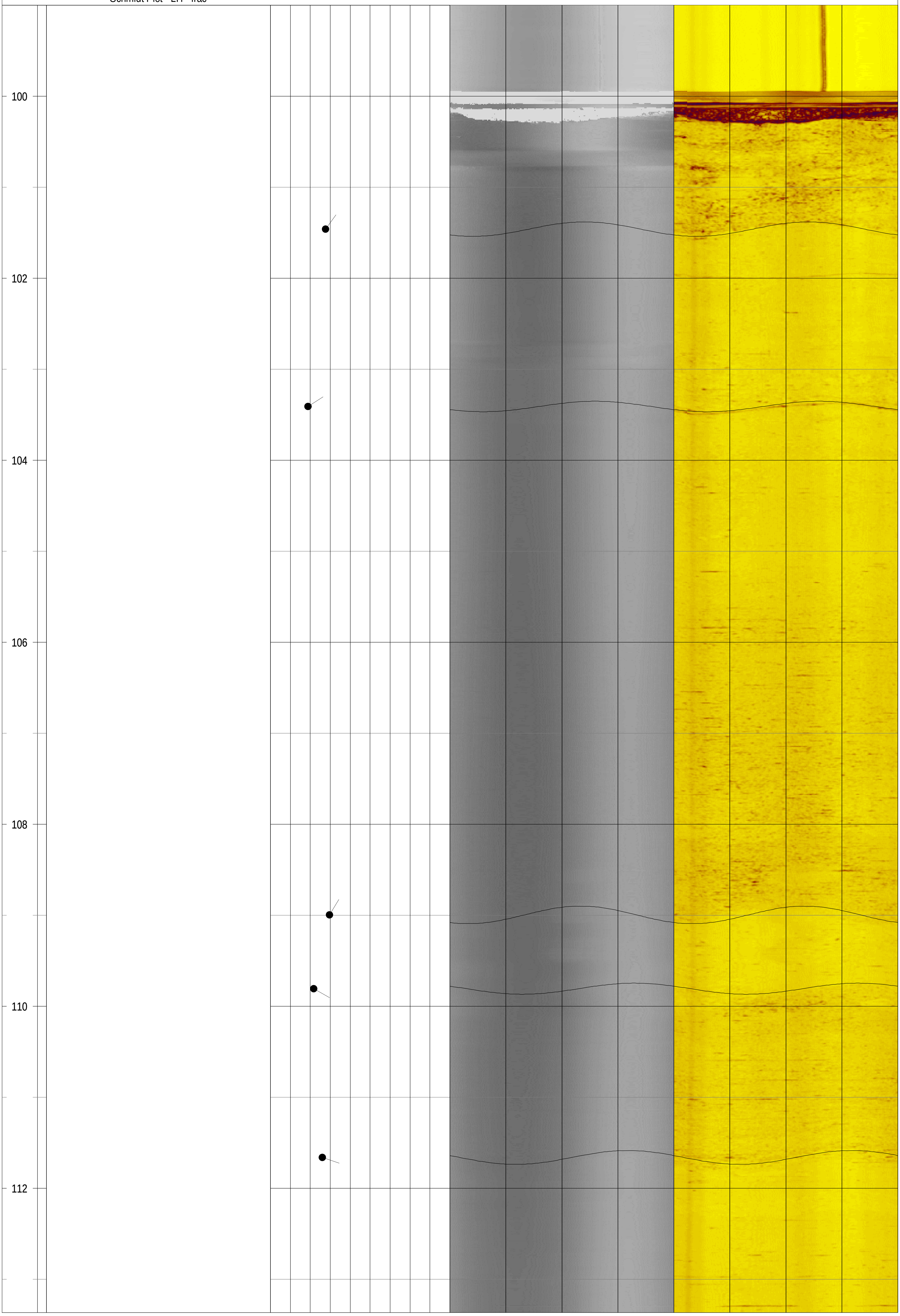
Borehole Geophysics Log Plot

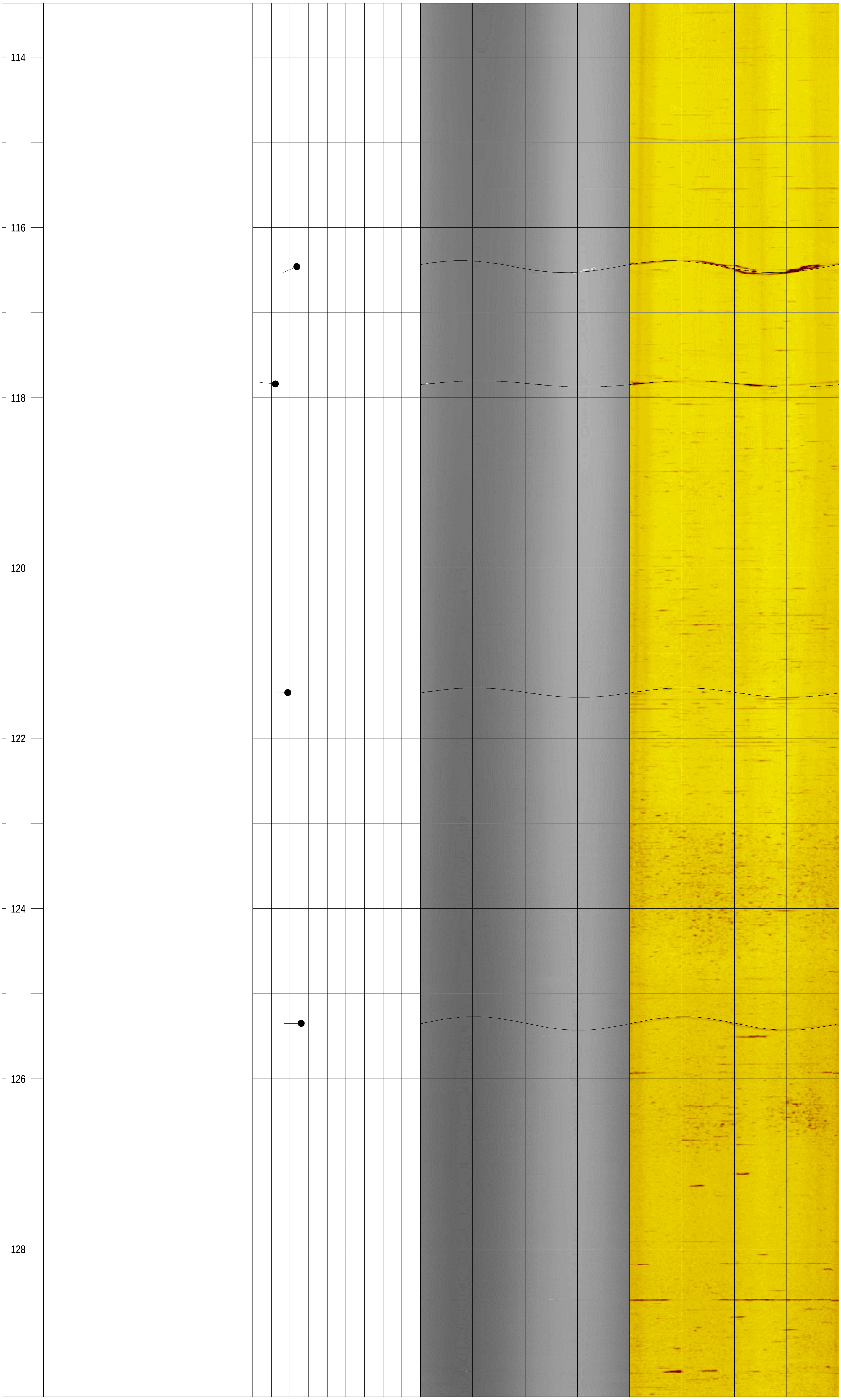
ARCADIS / Southington, CT - MW-1003DR conventional log plot



ARCADIS / Southington, CT - MW-1003DR acoustic televiewer log plot

Depth 1in:1ft	less-open feature rose Azimuth Count - Percent Interval open feature rose Azimuth Count - Percent Interval stereoplot Schmidt Plot - LH - frac	tilt-corrected planar features 0 90	ABI40 traveltime 0° 90° 180° 270° 0° planar ABI40 features 0° 90° 180° 270° 0°	ABI40 amplitude 0° 90° 180° 270° 0° planar ABI40 features 0° 90° 180° 270° 0°

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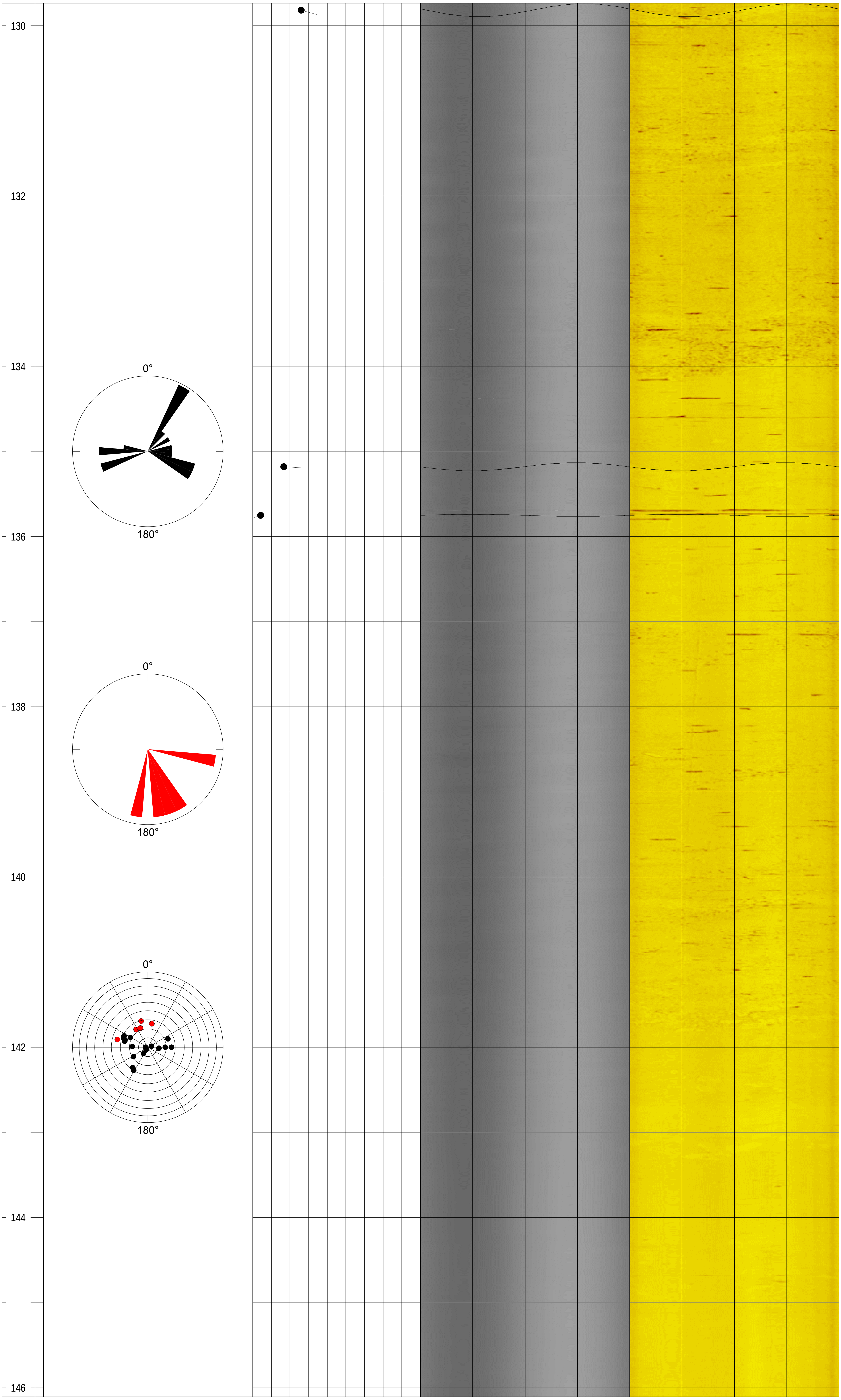
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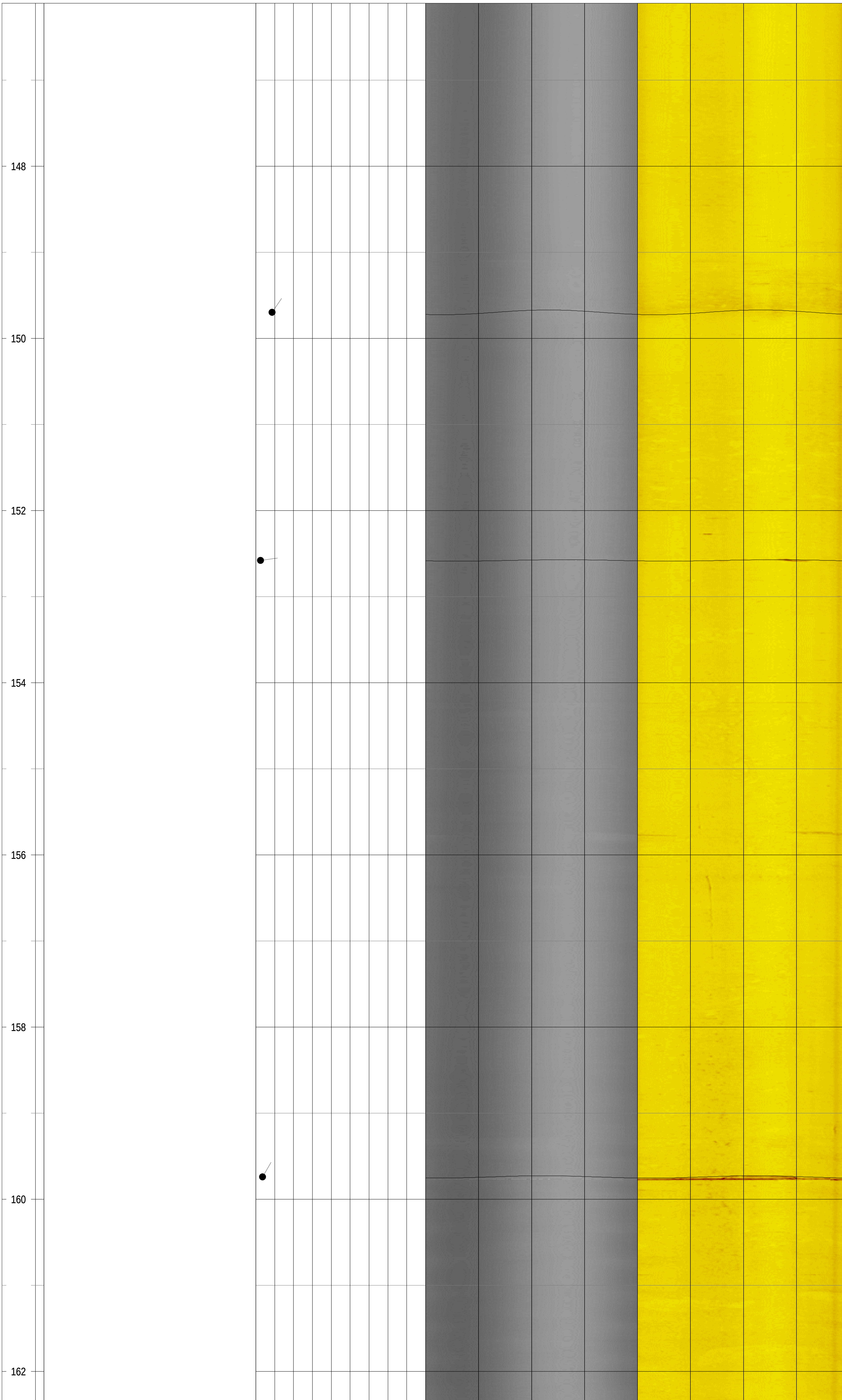
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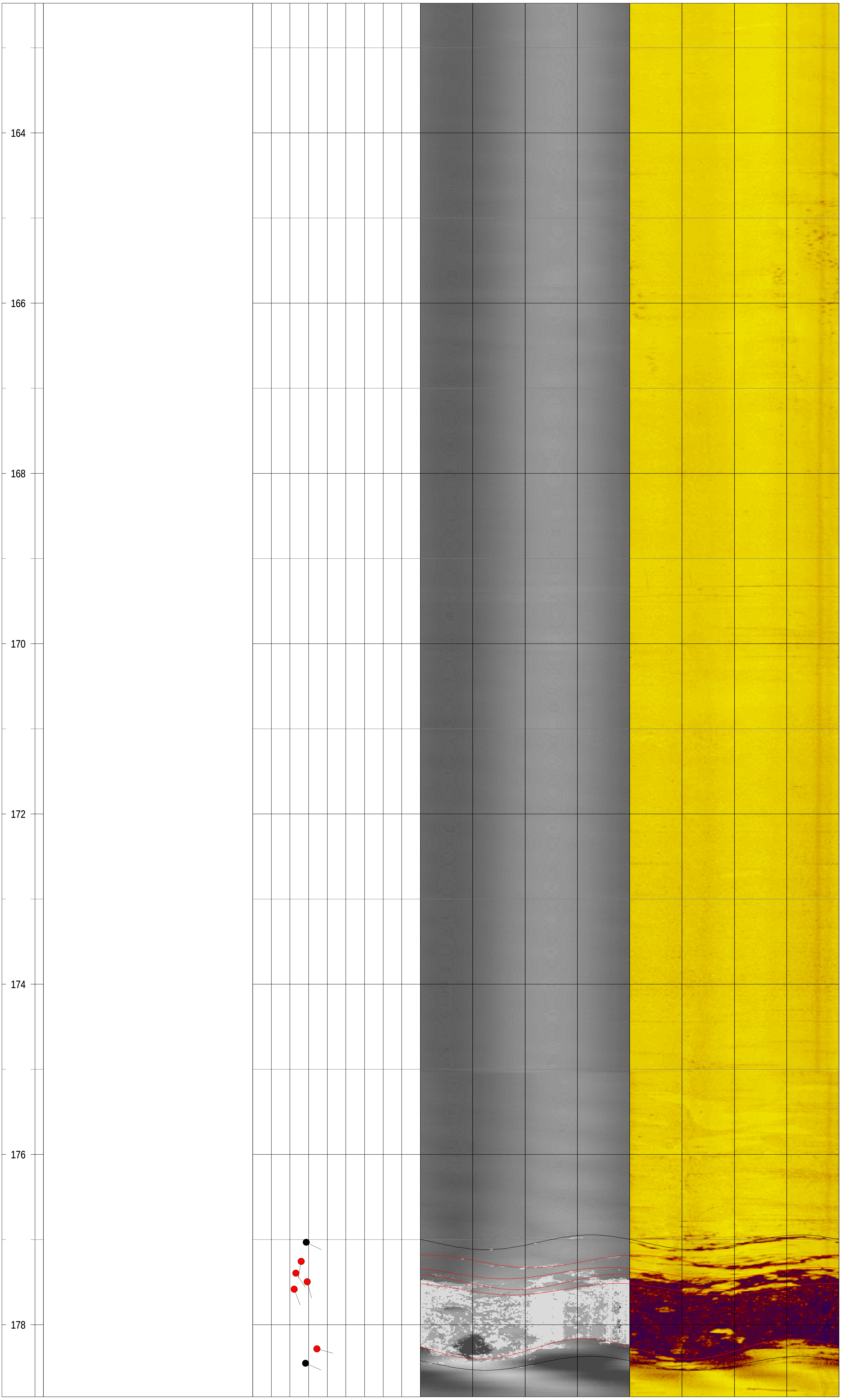
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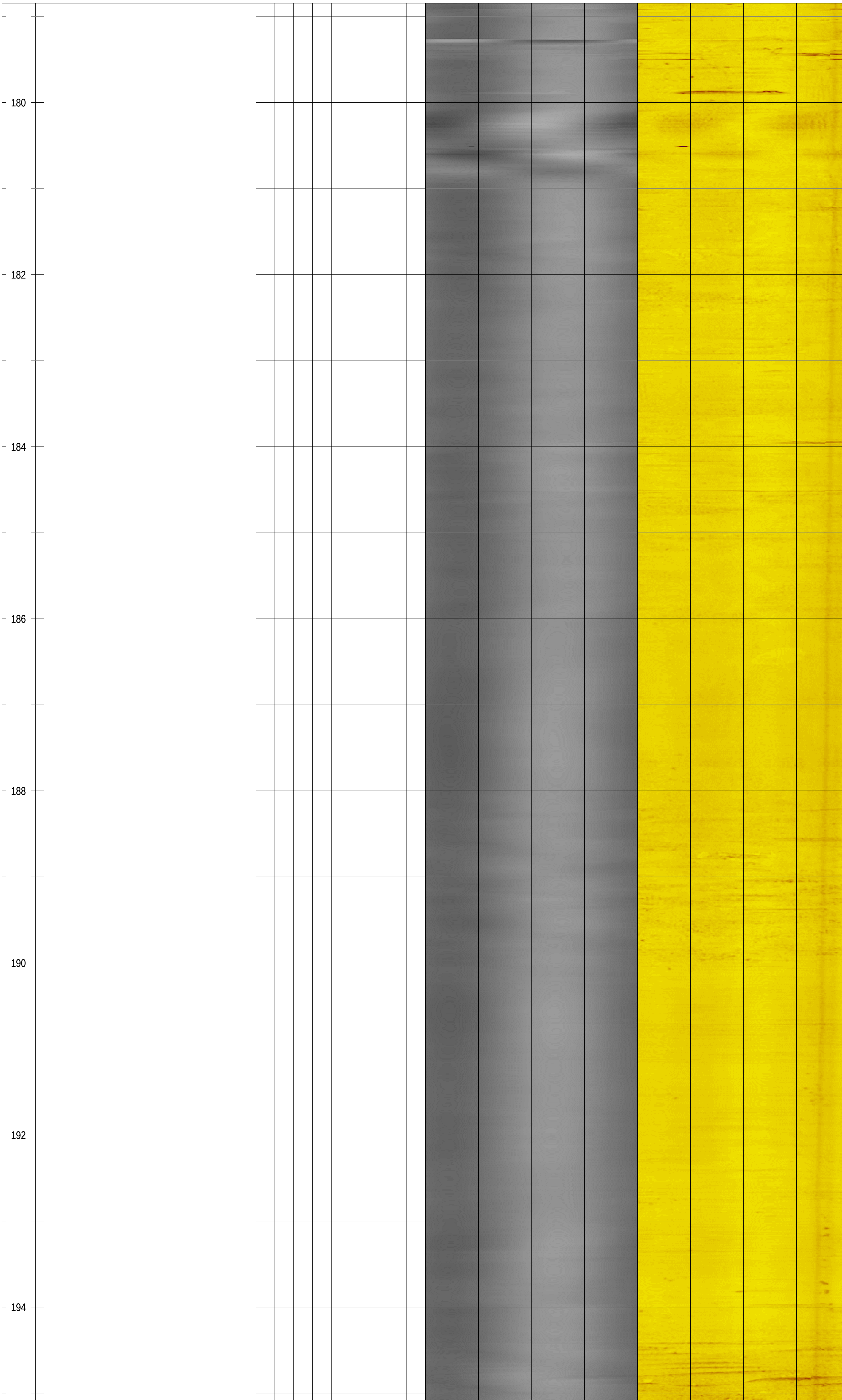
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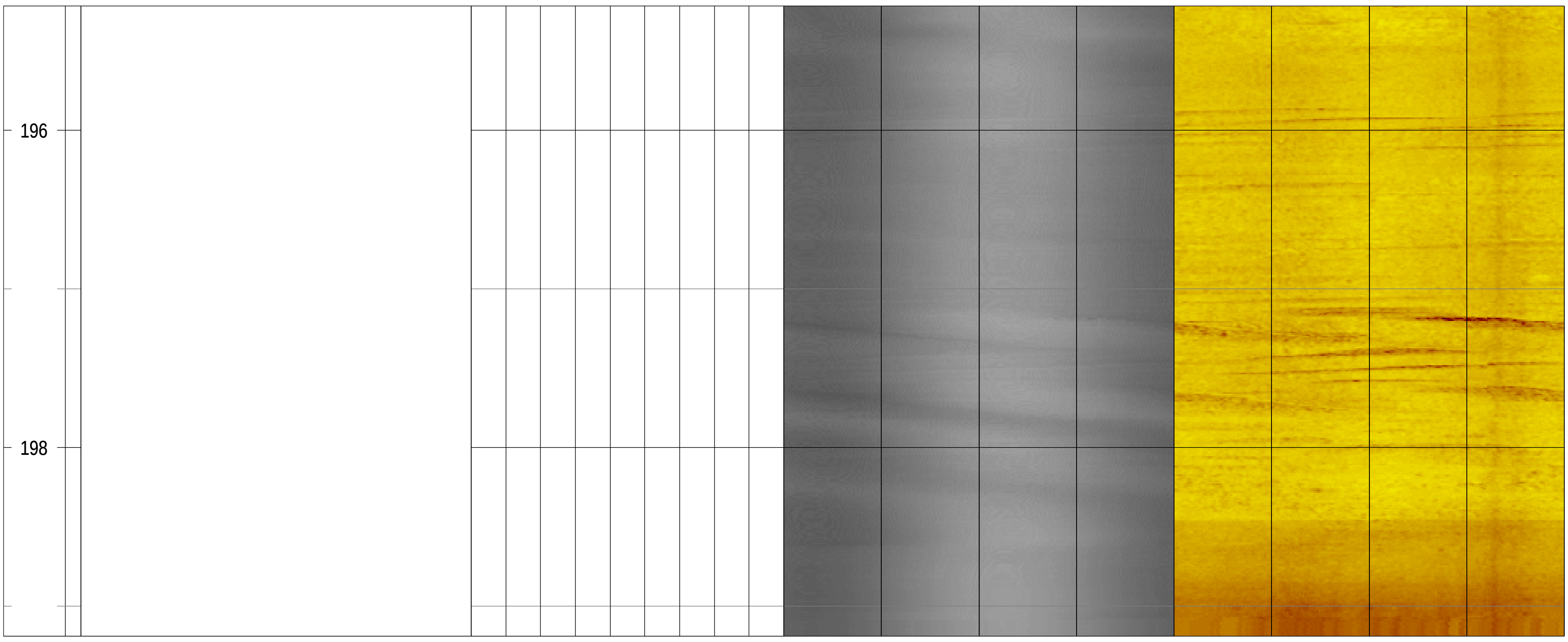
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Appendix B

Planar Feature Orientations Measured from the Acoustic Televiewer Log

Planar-feature Orientations Interpreted from the MW-1003DR Acoustic Televiewer Log
SRSNE Site
Southington, CT
Prepared for: Arcadis U.S., Inc.
1111321 - mw1003dri.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	interpreted planar feature category
101.46	36.1	27.8	less-open
103.41	56.9	18.9	less-open
109.00	31.3	29.8	less-open
109.81	119.4	21.8	less-open
111.66	108.6	26.1	less-open
116.46	247.01	23.78	less-open
117.84	275.6	12.31	less-open
121.46	269.2	18.9	less-open
125.35	270.0	26.2	less-open
129.82	104.9	26.2	less-open
135.18	93.1	16.8	less-open
135.75	252.44	4.38	less-open
149.7	34.57	8.65	less-open
152.58	82.2	2.6	less-open
159.74	29.8	3.7	less-open
177.03	115.86	28.75	less-open
177.26	190.18	26.09	open
177.4	146.11	23.24	open
177.49	165.01	29.43	open
177.58	159.09	22.37	open
178.29	104.33	34.62	open
178.45	112.8	28.5	less-open

Note that down-dip compass azimuth
is perpendicular to the strike direction.

Note that interpreted down-dip compass
azimuths are with respect to
true north

Down-dip azimuths & dip angles were
corrected for borehole deviation from
vertical.

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Appendix C

Hydraulic Conductivity Calculations

Table 1 - Specific Capacity Test Results and Estimated Hydraulic Conductivity Values for New Wells
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

Location	Development/SC Test Completion Date	K Estimates (cm/sec)			Average K Estimate (cm/sec)
		Time Drawdown (Jacob) Analysis	Specific Capacity (Walton) Analysis	Steady-State (Thiem) Analysis[1]	
Overburden Monitoring Wells					
MW-1001M	12/28/11	1.7E-05	--	4.5E-05	3.1E-05
Bedrock Monitoring Wells					
MW-1001R	12/28/11	2.9E-06	5.2E-06	--	4.1E-06
MW-1002DR	03/20/12	6.8E-06	8.9E-06	--	7.9E-06
MW-1002R	03/20/12	4.9E-07	6.4E-07	--	5.7E-07

Notes:
cm/sec - centimeters per second
-- - not analyzed
gpm - gallons per minute

1. Calculation of Jacob and Thiem analysis based on Kruseman, G.P., and N.A. de Ridder. Analysis and Evaluation of Pumping Test Data. International Institute for Land Reclamation and Improvement, Wageningen, The Netherlands, 377 p. 1990. Calculation of Walton analysis based on Walton, W.C. Selected Analytic Methods for Well and Aquifer Evaluation. Illinois State Water Survey. Bulletin 49. 1962.

Table 2 - Slug Test Hydraulic Conductivity Estimates for New Low-Yield Wells
Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site
Southington, Connecticut

Location	Development/SC Test Completion Date	K Estimates (cm/sec) Bouwer and Rice Rising Head Slug Test Approximation	Average K (cm/sec)	Comments
Bedrock Monitoring Wells				
MW-1003DR	09/26/12	1.7E-07	1.5E-07	Multiple recovery periods were analyzed for MW-1003DR test data
		1.3E-07		
MW-1003R	09/24/12	2.9E-07	2.6E-07	Multiple recovery periods were analyzed for MW-1003R test data
		2.2E-07		

Notes:
cm/sec - centimeters per second

1. Hydraulic conductivity values were estimated by analyzing water level recovery between pumping periods using the Bouwer and Rice solution for a slug test in a confined aquifer. Significant wellbore storage effects precluded the use of transient drawdown analysis of test data.

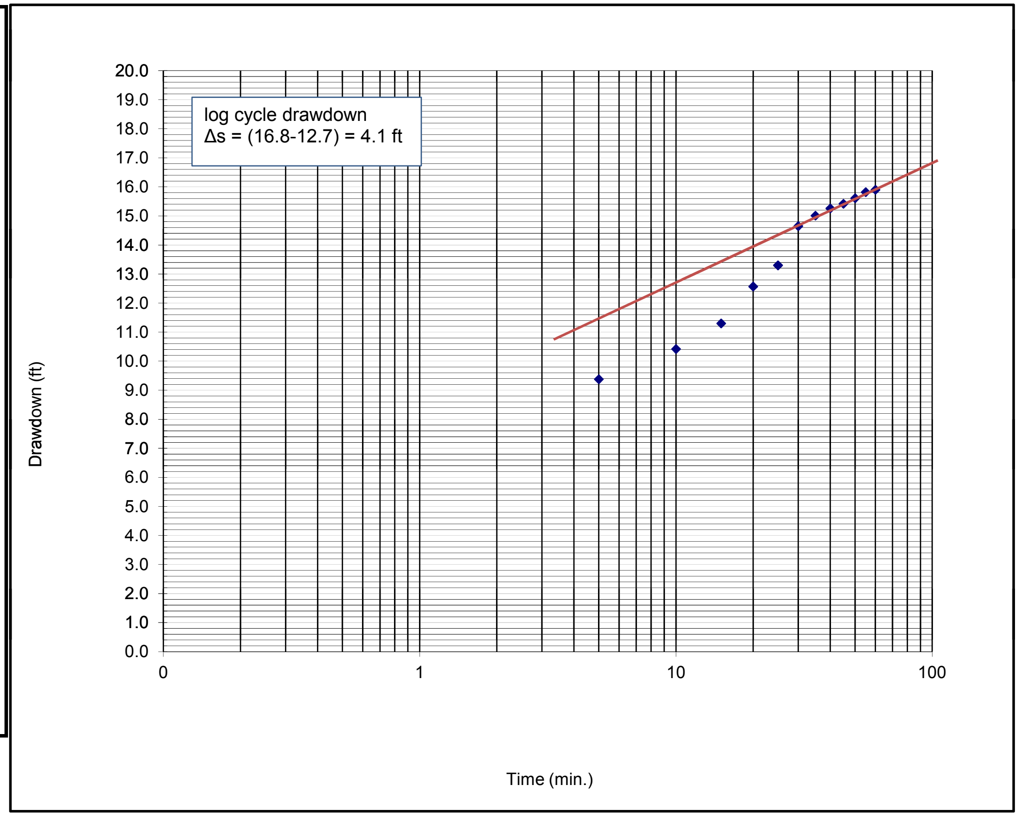
Bouwer, H. and R.C. Rice, 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, Water Resources Research, vol. 12, no. 3, pp. 423-428.

Specific Capacity Test Analysis
Time-Drawdown Method
SRSNE Site - Southington, Connecticut
Well MW-1001M - December 28, 2011

Well ID	**MW-1001M**
Date	**12/28/11**
Static Water Level (ft btoc)	**45.9**
Well diameter (inches)	**2**

Time	Minutes	Water Level (ft btoc)	Drawdown (ft)	Pumping Rate (gpm)
13:00	0	45.90	0.00	0.4
13:05	5	55.28	9.38	0.1
13:10	10	56.32	10.42	0.1
13:15	15	57.20	11.30	0.1
13:20	20	58.47	12.57	0.1
13:25	25	59.20	13.30	0.1
13:30	30	60.55	14.65	0.1
13:35	35	60.91	15.01	0.1
13:40	40	61.16	15.26	0.1
13:45	45	61.32	15.42	0.1
13:50	50	61.51	15.61	0.1
13:55	55	61.72	15.82	0.1
14:00	60	61.80	15.90	0.1
Average Pumping Rate (Q), gpm				0.12
Corrected Pumping Rate (Q), gpm				**0.08**

intake length, ft	13.9
Δs, ft	4.1
T, gpd/ft	5.1
K, gpd/sqft	0.4
K, cm/sec	**1.7E-05**

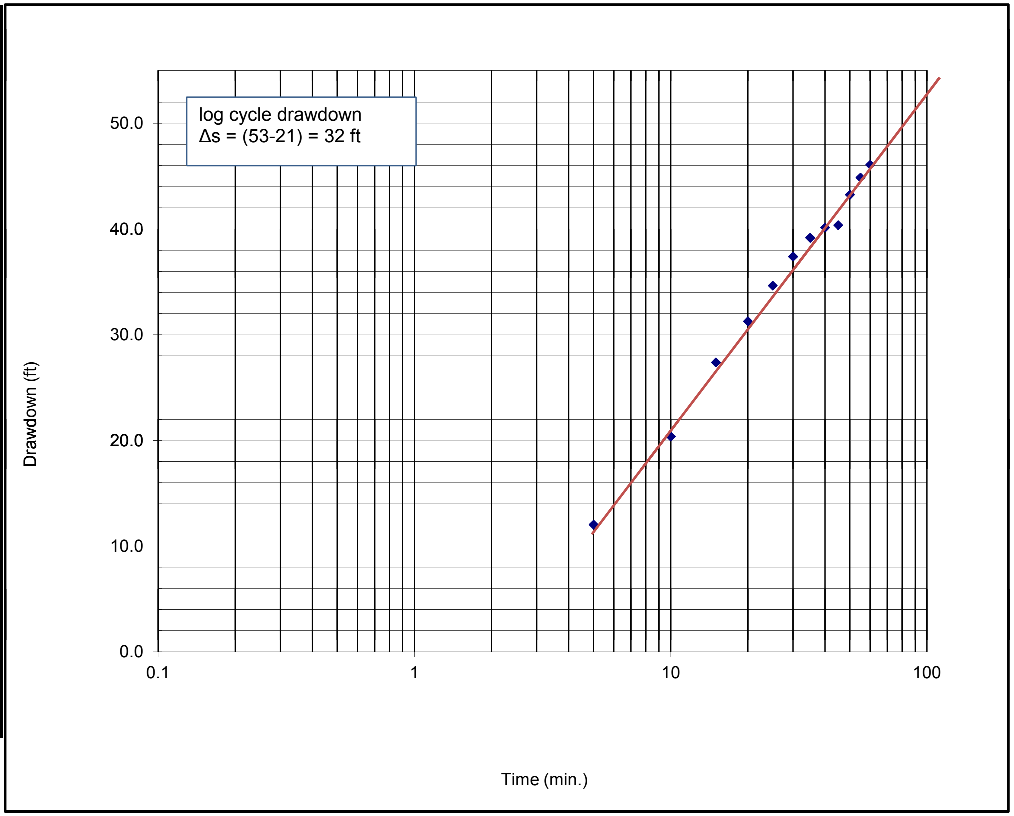


Specific Capacity Test Analysis
Time-Drawdown Method
SRSNE Site - Southington, Connecticut
Well MW-1001R - December 28, 2011

Well ID	**MW-1001R**
Date	**12/28/11**
Static Water Level (ft btoc)	**79.33**
Well diameter (inches)	**2**

Time	**Minutes**	**Water Level (ft btoc)**	**Drawdown (ft)**	**Pumping Rate (gpm)**
9:25	0	79.33	0.00	0.3
9:30	5	91.37	12.04	0.3
9:35	10	99.71	20.38	0.3
9:40	15	106.71	27.38	0.3
9:45	20	110.60	31.27	0.3
9:50	25	113.98	34.65	0.3
9:55	30	116.73	37.40	0.3
10:00	35	118.51	39.18	0.3
10:05	40	119.47	40.14	0.3
10:10	45	119.70	40.37	0.3
10:15	50	122.58	43.25	0.3
10:20	55	124.20	44.87	0.3
10:25	60	125.41	46.08	0.3
Average Pumping Rate (Q), gpm				0.30
Corrected Pumping Rate (Q), gpm				**0.17**

intake length, ft	23
Δs, ft	32
T, gpd/ft	1.4
K, gpd/sqft	0.06
K, cm/sec	**2.9E-06**

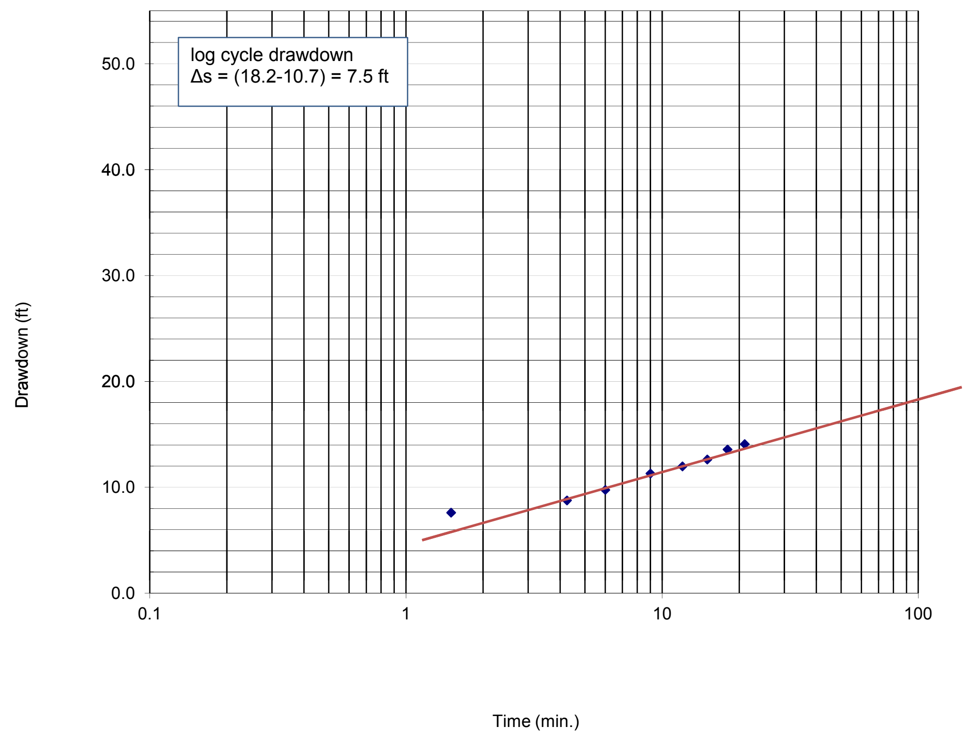


Specific Capacity Test Analysis
Time-Drawdown Method
SRSNE Site - Southington, Connecticut
Well MW-1002DR - March 20, 2012

Well ID	**MW-1002DR**
Date	**03/20/12**
Static Water Level (ft btoc)	**15.54**
Well diameter (inches)	**2**

Time	Minutes	Water Level (ft btoc)	Drawdown (ft)	Pumping Rate (gpm)
8:00	0	15.54	0.00	0.10
8:01	2	23.15	7.61	0.10
8:04	4	24.31	8.77	0.13
8:06	6	25.30	9.76	0.14
8:09	9	26.85	11.31	0.35
8:12	12	27.52	11.98	0.24
8:15	15	28.17	12.63	0.20
8:18	18	29.12	13.58	0.33
8:21	21	29.62	14.08	0.14
Average Pumping Rate (Q), gpm				0.19
Corrected Pumping Rate (Q), gpm				**0.08**

intake length, ft	20
Δs, ft	7.5
T, gpd/ft	2.9
K, gpd/sqft	0.14
K, cm/sec	**6.8E-06**

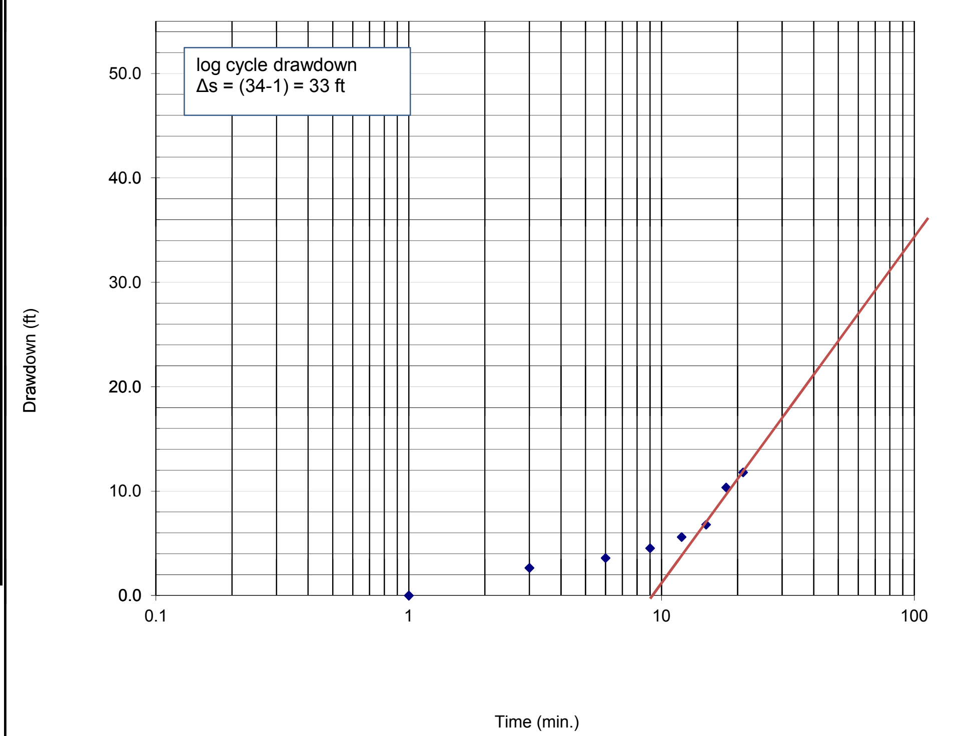


Specific Capacity Test Analysis
Time-Drawdown Method
SRSNE Site - Southington, Connecticut
Well MW-1002R - March 20, 2012

Well ID	**MW-1002R**
Date	**03/20/12**
Static Water Level (ft btoc)	**3.15**
Well diameter (inches)	**2**

Time	Minutes	Water Level (ft btoc)	Drawdown (ft)	Pumping Rate (gpm)
8:00	0	3.15	0.00	0.13
8:01	1	3.15	0.00	0.13
8:03	3	5.80	2.65	0.13
8:06	6	6.75	3.60	0.04
8:09	9	7.68	4.53	0.05
8:12	12	8.75	5.60	0.04
8:15	15	9.94	6.79	0.09
8:18	18	13.50	10.35	0.35
8:21	21	14.95	11.80	0.11
Average Pumping Rate (Q), gpm				0.12
Corrected Pumping Rate (Q), gpm				**0.03**

intake length, ft	20
Δs, ft	33
T, gpd/ft	0.2
K, gpd/sqft	0.010
K, cm/sec	**4.9E-07**



Calculation of Steady-State Pumping Rate
Thiem Analysis

	Well Name	**MW-1001M**
	Test Date	**12/28/2011**
Hydraulic conductivity	**K (cm/sec)**	**4.5E-05**
Hydraulic conductivity (conversion)	K (ft/min)	8.86E-05
Steady-state depth to water (approx.)	s(t) (ft)	61.02
Initial depth to water	s(0) (ft)	45.90
Saturated sandpack length	B (ft)	13.9
Estimated radius of influence	Ro (ft)	500
Radius of pumping well	rw (ft)	0.42
Calculated Steady-State Pumping Rate (gpm)		0.12

Note: 1) Calculation based on Thiem Equation, in Kruseman, G.P., and N.A. de Ridder. Analysis and Evaluation of Pumping Test Data. International Institute for Land Reclamation and Improvement, Wageningen, The Netherlands, 377 p. 1990.

SPECIFIC CAPACITY (WALTON) ANALYSIS
SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

Well ID	Aquifer Type: 1 for confined; 0 for unconfined.	If Aquifer Type is 0, do you want to make drawdown correction?	Storativity (see ReadMe First)	Pumping Period (minutes)	Water Removed (Click to toggle b/w Gallon and Liter) Gallon	Initial Water Level (ft) below Measurement Point	Final Water Level (ft) below Measurement Point	SandPack Top(ft, bgs)	SandPack Bottom(ft, bgs)	SandPack Porosity	Total Well Depth (ft, bgs)	Well Casing Diameter (inch)	Well Borehole Diameter (inch)	Reference Point Elevation (ft, ags)	Water Removed from Well Storage (click to toggle b/w gallon and liter) Gallon	Water Removed from Sandpack (click to toggle b/w gallon and liter) Gallon	Water Removed from Aquifer (click to toggle b/w gallon and liter) Gallon	K (click to toggle between ft/day and cm/sec) cm/sec
MW-1001M	1	n	0.01	60	3	45.9	61.8	82	95.9	0.3	95.9	2	5	-0.54	2.59E+00	0	0.405870542	NA
MW-1001R	1	n	0.01	60	20	79.33	125.41	170	193	0.3	190.6	2	3.8	-0.46	7.52E+00	0	12.48191915	5.2E-06
MW-1002DR	1	n	0.01	21	4.6	15.54	29.62	168	188	0.3	186.35	2	3.8	3.61	2.30E+00	0	2.302808631	8.9E-06
MW-1002R	1	n	0.01	21	2.3	3.15	14.95	101	121	0.3	120.35	2	3.8	2.17	1.93E+00	0	0.374797006	6.4E-07

Input yellow-highlighted column information first. Then go to "Run Model" Tab and click "Get T".
Calculated output will be in the green-highlighted columns.

SLUGCOMP.WK1 BBL, 3/88
Modified 12/21/89, 6/10/92, 5/14/93

Project:	SRSNE
Project No.:	B0054634.0000
Well No.:	MW-1003DR
Test Date:	9/26/2012
Formation Tested:	Bedrock
Rising (R) or Falling Head (F):	R

		|	(cm)
Reference Stickup (ft)	2.8	|	85.04
Static water depth from stickup (ft)	10.64	|	324.31
Depth to bottom of screen from ground level (ft)	192	|	5852.16
Boring Diameter (in)	1.9	|	4.88
Riser Diameter (in)	1.0	|	2.54
Screen Diameter (in)	1.0	|	2.54
Screen Length (ft)	20	|	609.60
Depth to Boundary	200	|	6096.00
Delta H at Time 0 (ft)	37.60	|	1146.05
Delta H at Time t (ft)	33.17	|	1011.02
Time t (seconds)	5520	|	
Assumed Kh/Kv Ratio	100	|	
Porosity of Filter Pack	0.3	|	

	gpd/ft2	cm/sec
K, (Bouwer-Rice)	0.004	1.7E-07

SLUGCOMP.WK1 BBL, 3/88
Modified 12/21/89, 6/10/92, 5/14/93

Project:	SRSNE
Project No.:	B0054634.0000
Well No.:	MW-1003DR
Test Date:	9/26/2012
Formation Tested:	Bedrock
Rising (R) or Falling Head (F):	R

			(cm)
Reference Stickup (ft)	2.8	|	85.04
Static water depth from stickup (ft)	10.64	|	324.31
Depth to bottom of screen from ground level (ft)	192	|	5852.16
Boring Diameter (in)	1.9	|	4.88
Riser Diameter (in)	1.0	|	2.54
Screen Diameter (in)	1.0	|	2.54
Screen Length (ft)	20	|	609.60
Depth to Boundary	200	|	6096.00
Delta H at Time 0 (ft)	100.11	|	3051.35
Delta H at Time t (ft)	91.47	|	2788.01
Time t (seconds)	5100	|	
Assumed Kh/Kv Ratio	100	|	
Porosity of Filter Pack	0.3	|	

	gpd/ft2	cm/sec
K, (Bouwer-Rice)	0.003	1.3E-07

SLUGCOMP.WK1 BBL, 3/88
Modified 12/21/89, 6/10/92, 5/14/93

Project:	SRSNE
Project No.:	B0054634.0000
Well No.:	MW-1003R
Test Date:	9/24/2012
Formation Tested:	Bedrock
Rising (R) or Falling Head (F):	R

		|	(cm)
Reference Stickup (ft)	2.5	|	76.20
Static water depth from stickup (ft)	8.85	|	269.75
Depth to bottom of screen from ground level (ft)	120	|	3657.60
Boring Diameter (in)	1.9	|	4.88
Riser Diameter (in)	1.0	|	2.54
Screen Diameter (in)	1.0	|	2.54
Screen Length (ft)	20	|	609.60
Depth to Boundary	200	|	6096.00
Delta H at Time 0 (ft)	110.31	|	3362.25
Delta H at Time t (ft)	104.32	|	3179.67
Time t (seconds)	1200	|	
Assumed Kh/Kv Ratio	100	|	
Porosity of Filter Pack	0.3	|	

	gpd/ft2	cm/sec
K, (Bouwer-Rice)	0.006	2.9E-07

SLUGCOMP.WK1 BBL, 3/88
Modified 12/21/89, 6/10/92, 5/14/93

Project:	SRSNE
Project No.:	B0054634.0000
Well No.:	MW-1003R
Test Date:	9/24/2012
Formation Tested:	Bedrock
Rising (R) or Falling Head (F):	R

			(cm)
Reference Stickup (ft)	2.5	|	76.20
Static water depth from stickup (ft)	8.85	|	269.75
Depth to bottom of screen from ground level (ft)	120	|	3657.60
Boring Diameter (in)	1.9	|	4.88
Riser Diameter (in)	1.0	|	2.54
Screen Diameter (in)	1.0	|	2.54
Screen Length (ft)	20	|	609.60
Depth to Boundary	200	|	6096.00
Delta H at Time 0 (ft)	117.18	|	3571.65
Delta H at Time t (ft)	96.72	|	2948.03
Time t (seconds)	5400	|	
Assumed Kh/Kv Ratio	100	|	
Porosity of Filter Pack	0.3	|	

	gpd/ft2	cm/sec
K, (Bouwer-Rice)	0.005	2.2E-07

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Appendix D

Field Sampling Forms

Low-Flow Groundwater Sampling Log

ARCADIS
Infrastructure, environment, buildings

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1001M Sample ID MW-1001M-02072012
Sample Date	02/07/2012	Sampled By	Michael Skowronek
Sample Time	Begin 9:30 End 10:29	Recorded By	Michael Skowronek
Weather	Cold, Sunny	Replicate No.	Dup-GW-02072012-#1

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/8861
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	95.36 (installed)
Depth to Water (ft bmp)	46.31
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	Solinst 101/96179			
Purge Method	BP:QED 13521			
Screen Interval (ft bmp)	Top	85.06	Bottom	95.06
Pump Intake Depth (ft bmp)		90.00		90.00
Purge Time	Begin	8:00	End	10:30

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
8:16	16.82	100.00 mL/min	0.42	9.25	7.04	2.489 mS/cm	-36.20	8.51	24.40	46.66
8:21	21.32	100.00 mL/min	0.55	10.15	7.59	1.311 mS/cm	5.90	7.87	17.10	46.36
8:26	26.53	100.00 mL/min	0.69	9.92	7.83	1.226 mS/cm	13.90	6.87	12.50	46.31
8:30	30.83	100.00 mL/min	0.79	9.16	8.03	1.147 mS/cm	16.60	6.64	35.50	46.32
8:36	36.70	100.00 mL/min	0.95	9.31	8.19	1.142 mS/cm	59.40	6.63	15.20	46.35
8:40	40.18	100.00 mL/min	1.06	9.29	8.22	1.139 mS/cm	76.70	6.49	15.10	46.36
8:46	46.38	100.00 mL/min	1.21	8.95	8.26	1.130 mS/cm	95.90	6.20	16.10	46.36
8:50	50.53	100.00 mL/min	1.32	8.90	8.25	1.126 mS/cm	107.50	6.05	14.70	46.36
8:54	54.58	100.00 mL/min	1.43	8.96	8.26	1.130 mS/cm	116.50	6.03	13.00	46.36
9:01	61.57	100.00 mL/min	1.61	9.72	8.26	1.157 mS/cm	132.00	6.03	11.70	46.36
9:06	66.97	100.00 mL/min	1.74	10.23	8.24	1.173 mS/cm	137.60	6.36	9.90	46.36
9:13	73.85	100.00 mL/min	1.93	9.83	8.23	1.173 mS/cm	131.50	6.51	8.80	46.36
9:17	77.63	100.00 mL/min	2.03	9.71	8.25	1.173 mS/cm	125.80	6.60	8.50	46.36
9:20	80.98	100.00 mL/min	2.11	9.43	8.25	1.168 mS/cm	121.50	6.68	8.50	46.36
9:26	86.58	100.00 mL/min	2.27	9.43	8.24	1.168 mS/cm	119.70	6.72	8.40	46.36
9:30	90.27	100.00 mL/min	2.38	9.48	8.22	1.171 mS/cm	121.50	6.75	8.30	46.36

Sampling Personnel: Michael Skowronek

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version
1.01

ARCADIS
Infrastructure, environment, buildings

Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1001M Sample ID MW-1001M-02072012
Sample Date	02/07/2012	Sampled By	Michael Skowronek
Sample Time	Begin 9:30 End 10:29	Recorded By	Michael Skowronek
Weather	Cold, Sunny	Replicate No.	Dup-GW-02072012-#1

Collected Sample Condition Color clear Odor None Appearance NA

Parameter	Container	Number	Preservative
1,4-Dioxane	CG 40 mL VOA	1	HCL
TAL Dissolved Metals	PE 500 mL	1	HNO3
TAL Total Metals	PE 500 mL	1	HNO3
VOCs	CG 40 mL VOA	2	HCL

Comments Note: the time tablet clock time was 2 hours slow.

Sampling Personnel: Michael Skowronek Signature: [signature]

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1001R
		Sample ID	MW-1001R-02062012
Sample Date	02/06/2012	Sampled By	Michael Skowronek
Sample Time	Begin 12:21 End 12:40	Recorded By	Michael Skowronek
Weather	Cold, Windy, Sunny	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/8861
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	190.14 (installed)
Depth to Water (ft bmp)	107.77
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	Solinst 101/96179			
Purge Method	BP:QED 13521			
Screen Interval (ft bmp)	Top	174.84	Bottom	189.84
Pump Intake Depth (ft bmp)		183.00		183.00
Purge Time	Begin	9:52	End	12:40

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
9:52	0.13	100.00 mL/min	0.00	12.17	12.61	6.205 mS/cm	-94.80	8.46	40.20	107.48
9:57	4.80	100.00 mL/min	0.13	11.86	12.59	6.184 mS/cm	-104.50	8.05	12.70	107.90
10:03	11.37	100.00 mL/min	0.30	11.87	12.58	6.180 mS/cm	-108.50	7.81	5.30	108.73
10:07	14.75	100.00 mL/min	0.39	11.90	12.58	6.170 mS/cm	-109.20	7.68	3.20	108.92
10:15	22.63	100.00 mL/min	0.60	12.07	12.69	6.162 mS/cm	-111.70	7.38	1.50	109.03
10:19	26.52	100.00 mL/min	0.70	12.14	12.59	6.159 mS/cm	-112.40	7.28	1.50	109.57
10:23	31.23	100.00 mL/min	0.82	12.27	12.59	6.169 mS/cm	-113.30	7.19	1.40	109.83
10:29	37.10	100.00 mL/min	0.98	12.77	12.58	6.232 mS/cm	-114.80	7.06	1.30	110.06
10:33	41.25	100.00 mL/min	1.09	12.92	12.58	6.259 mS/cm	-115.60	7.02	1.30	110.23
10:40	48.33	100.00 mL/min	1.28	12.90	12.57	6.383 mS/cm	-116.00	7.05	1.20	110.30
10:45	53.15	100.00 mL/min	1.40	12.68	12.61	6.229 mS/cm	-116.30	7.13	1.20	110.62
10:49	57.28	100.00 mL/min	1.51	12.17	12.61	6.083 mS/cm	-115.50	7.14	1.20	111.03
10:54	61.68	100.00 mL/min	1.63	12.10	12.60	6.056 mS/cm	-114.00	7.12	1.70	111.43
11:02	70.28	100.00 mL/min	1.86	11.73	12.60	5.979 mS/cm	-109.70	7.17	2.10	112.49
11:05	72.77	100.00 mL/min	1.92	11.68	12.60	5.970 mS/cm	-108.60	7.16	2.10	112.95
11:10	78.45	100.00 mL/min	2.07	11.63	12.61	5.934 mS/cm	-107.40	7.13	2.20	113.72
11:14	81.85	100.00 mL/min	2.16	11.65	12.61	5.922 mS/cm	-106.90	7.11	2.20	114.23

Sampling Personnel: Michael Skowronek

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

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Version 1.01

ARCADIS
Infrastructure, environment, buildings

Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1001R
		Sample ID	MW-1001R-02062012
Sample Date	02/06/2012	Sampled By	Michael Skowronek
Sample Time	Begin 12:21 End 12:40	Recorded By	Michael Skowronek
Weather	Cold, Windy, Sunny	Replicate No.	N/A

11:20	87.93	100.00 mL/min	2.32	11.63	12.60	5.893 mS/cm	-106.70	7.08	2.10	115.25
11:24	92.03	100.00 mL/min	2.43	11.69	12.60	5.883 mS/cm	-107.80	7.03	1.90	115.75
11:27	95.47	100.00 mL/min	2.52	11.67	12.61	5.876 mS/cm	-108.10	7.01	1.70	116.33
11:32	99.68	100.00 mL/min	2.63	11.69	12.61	5.862 mS/cm	-108.10	6.98	2.10	116.96
11:38	105.70	100.00 mL/min	2.79	11.70	12.61	5.845 mS/cm	-109.20	6.95	2.00	117.87
11:43	110.72	100.00 mL/min	2.92	11.67	12.61	5.825 mS/cm	-108.60	6.93	1.80	118.58
11:47	115.35	100.00 mL/min	3.05	11.74	12.61	5.807 mS/cm	-108.60	6.90	1.90	119.24
11:54	122.12	100.00 mL/min	3.22	11.74	12.61	5.786 mS/cm	-109.30	6.80	1.70	120.32
11:58	126.47	100.00 mL/min	3.34	11.72	12.61	5.773 mS/cm	-109.40	6.87	1.80	121.02
12:08	135.97	100.00 mL/min	3.59	11.72	12.62	5.741 mS/cm	-110.10	6.86	1.50	122.36
12:14	141.92	100.00 mL/min	3.75	11.76	12.62	5.731 mS/cm	-110.60	6.84	1.50	123.00
12:21	148.48	100.00 mL/min	3.92	11.82	12.62	5.726 mS/cm	-110.80	6.82	1.40	123.89

Collected Sample Condition Color clear Odor None Appearance NA

Parameter	Container	Number	Preservative
1,4-Dioxane	CG 40 mL VOA	1	HCL
TAL Dissolved Metals	PE 500 mL	1	HNO3
TAL Total Metals	PE 500 mL	1	HNO3
VOCs	CG 40 mL VOA	2	HCL

Comments Note: the time tablet clock time was 2 hours slow.

Sampling Personnel: Michael Skowronek Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

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Version 1.01

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Low-Flow Groundwater Sampling Log

Project: SRSNE
Site Location: Southington, CT
Project No.: B0054634.0000.01900
Well ID: MW-1001R
Sample ID: MW-1001R-04052012
Sample Date: 04/05/2012
Sampled By: David Birdsey
Sample Time: Begin 16:10 End 16:17
Recorded By: David Birdsey
Weather: Cool, Sunny
Replicate No.: N/A

Instrument Identification

Water Quality Meter # 1: YSI 600 XL/01k0893a1
Casing Material: PVC
Casing Diameter (in): 2.00
Sounded Depth (ft bmp): 190.14 (installed)
Depth to Water (ft bmp): 75.22
PID Reading(ppm): 0.00

Field Parameters

Water Quality Meter # 2: LaMotte 2020e/ME-13249
Purge Method: BP:QED 169d10
Screen Interval (ft bmp): Top 174.84 Bottom 189.84
Pump Intake Depth (ft bmp): 182.50 182.50
Purge Time: Begin 13:47 End 16:17

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
13:54	726.55	140.00 mL/min	N/A	14.36	12.77	6,147 uS/cm	5.50	8.79	53.90	N/A
14:00	732.75	100.00 mL/min	N/A	15.07	12.84	6,092 uS/cm	6.80	12.50	45.30	N/A
14:10	742.92	100.00 mL/min	1.00	15.39	12.80	6,038 uS/cm	9.30	10.98	42.30	80.81
14:15	747.73	100.00 mL/min	N/A	15.52	12.79	6,017 uS/cm	9.80	9.38	23.80	81.52
14:25	757.23	70.00 mL/min	N/A	15.96	12.83	6,002 uS/cm	6.40	8.49	16.50	82.71
14:35	767.93	70.00 mL/min	N/A	16.34	12.84	5,980 uS/cm	2.00	7.99	12.30	83.90
14:40	773.10	100.00 mL/min	N/A	16.39	12.85	5,990 uS/cm	1.20	7.95	19.70	84.70
14:55	787.70	100.00 mL/min	1.50	14.28	12.88	6,010 uS/cm	3.30	8.11	10.40	87.00
15:00	792.63	100.00 mL/min	N/A	14.60	12.88	5,993 uS/cm	0.30	7.02	8.96	88.00
15:10	82.18	50.00 mL/min	N/A	15.09	12.85	5,949 uS/cm	2.00	7.91	6.89	89.34
15:15	807.75	50.00 mL/min	2.00	15.35	12.87	5,931 uS/cm	1.60	7.83	7.42	89.92
15:20	812.65	50.00 mL/min	N/A	15.88	12.89	5,919 uS/cm	3.50	7.77	5.39	90.31
15:26	818.47	50.00 mL/min	N/A	16.28	12.98	5,898 uS/cm	-6.70	7.72	5.23	90.80
15:30	822.15	50.00 mL/min	N/A	16.53	12.88	5,892 uS/cm	-6.40	7.67	9.60	90.92
15:35	828.07	50.00 mL/min	2.25	17.29	12.82	5,863 uS/cm	-2.00	7.55	4.98	91.42
15:40	832.22	50.00 mL/min	N/A	17.42	12.81	5,863 uS/cm	-0.90	7.55	4.23	91.68
15:45	837.67	50.00 mL/min	N/A	17.53	12.81	5,872 uS/cm	-0.30	7.55	4.69	91.98

Sampling Personnel: David Birdsey
Signature: David Birdsey

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

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Version 1.01

Low-Flow Groundwater Sampling Log

ARCADIS
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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1001R Sample ID MW-1001R-04052012
Sample Date	04/05/2012	Sampled By	David Birdsey
Sample Time	Begin 16:10 End 16:17	Recorded By	David Birdsey
Weather	Cool, Sunny	Replicate No.	N/A

15:50	842.47	50.00 mL/min	2.50	17.58	12.81	5,879 uS/cm	-0.35	7.56	4.21	92.02
15:55	848.13	50.00 mL/min	N/A	17.62	12.80	5,883 uS/cm	-0.40	7.58	3.26	92.05
16:00	853.12	50.00 mL/min	N/A	17.58	12.80	5,889 uS/cm	-0.30	7.60	2.96	92.06
16:05	857.63	50.00 mL/min	N/A	17.62	12.80	5,892 uS/cm	-0.30	7.62	2.36	92.10
16:10	143.07	50.00 mL/min	2.75	17.63	12.81	5,896 uS/cm	-0.30	7.64	2.10	92.11

Collected Sample Condition Color clear Odor None Appearance NA

Parameter	Container	Number	Preservative
Metals	PE 500 mL	1	HNO3
VOCs	CG 40 mL VOA	2	HCL

Comments

Sampling Personnel: David Birdsey Signature: David Birdsey

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

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Version 1.01

Low-Flow Groundwater Sampling Log

ARCADIS
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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1002DR Sample ID MW-1002DR-04052012
Sample Date	04/05/2012	Sampled By	David Birdsey
Sample Time	Begin 12:44 End 12:46	Recorded By	David Birdsey
Weather	Cool, Sunny	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/01k0893a1
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	199.50 (installed)
Depth to Water (ft bmp)	29.61
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/ME-13249			
Purge Method	BP:QED 169d10			
Screen Interval (ft bmp)	Top	170.20	Bottom	185.20
Pump Intake Depth (ft bmp)		178.50		178.50
Purge Time	Begin	8:25	End	12:44

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
8:29	3.47	110.00 mL/min	N/A	8.93	11.73	2,860 uS/cm	122.10	5.55	7.23	29.23
8:34	8.40	110.00 mL/min	N/A	9.45	11.76	2,818 uS/cm	129.90	4.04	6.23	29.92
8:39	14.00	110.00 mL/min	N/A	9.58	11.59	2,608 uS/cm	136.40	2.70	33.20	30.72
8:43	17.87	60.00 mL/min	N/A	9.64	11.43	2,492 uS/cm	140.70	2.25	271.00	30.93
8:53	27.55	60.00 mL/min	0.50	9.24	11.31	2,442 uS/cm	142.40	1.91	225.00	31.16
9:13	47.42	65.00 mL/min	0.75	9.48	11.17	2,391 uS/cm	166.40	2.45	191.00	31.55
9:23	57.25	65.00 mL/min	N/A	9.45	11.73	2,443 uS/cm	149.60	1.50	191.00	31.67
9:43	78.10	65.00 mL/min	1.25	9.62	11.74	2,424 uS/cm	144.90	1.39	158.00	31.82
9:53	87.30	65.00 mL/min	N/A	10.09	11.65	2,370 uS/cm	141.00	1.15	103.00	31.93
10:03	98.18	65.00 mL/min	N/A	9.93	11.47	2,313 uS/cm	141.70	1.19	94.40	31.97
10:13	107.70	65.00 mL/min	1.75	9.99	11.17	2,247 uS/cm	143.50	1.14	226.00	31.99
10:23	117.25	65.00 mL/min	N/A	10.45	10.84	2,211 uS/cm	144.20	1.06	579.00	31.98
10:33	127.62	50.00 mL/min	2.00	10.77	10.36	2,184 uS/cm	134.80	0.99	743.00	31.92
10:43	137.53	65.00 mL/min	N/A	10.95	9.96	2,158 uS/cm	128.10	1.03	1,429.00	31.98
10:53	147.78	65.00 mL/min	2.25	11.07	9.47	2,149 uS/cm	120.40	0.98	1,852.00	32.04
11:03	158.10	65.00 mL/min	2.50	11.32	9.15	2,147 uS/cm	105.10	0.84	1,987.00	32.09
11:13	167.60	65.00 mL/min	N/A	11.44	8.99	2,135 uS/cm	95.10	0.84	2,252.00	32.12

Sampling Personnel: David Birdsey   Signature: David Birdsey

Well Casing Volumes

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°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

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Purging Code

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Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1002DR
		Sample ID	MW-1002DR-04052012
Sample Date	04/05/2012	Sampled By	David Birdsey
Sample Time	Begin 12:44 End 12:46	Recorded By	David Birdsey
Weather	Cool, Sunny	Replicate No.	N/A

11:18	172.70	65.00 mL/min	N/A	11.80	8.98	2,138 uS/cm	90.50	0.79	3,632.00	32.12
11:23	177.53	65.00 mL/min	N/A	11.55	9.01	2,126 uS/cm	84.20	0.72	3,058.00	32.12
11:28	182.73	65.00 mL/min	N/A	11.23	9.03	2,100 uS/cm	72.50	0.82	3,251.00	32.12
11:33	187.60	65.00 mL/min	N/A	11.78	9.08	2,119 uS/cm	77.30	0.73	3,212.00	32.12
11:38	192.27	65.00 mL/min	N/A	11.72	9.02	2,112 uS/cm	72.50	0.83	3,120.00	32.12
11:43	197.38	65.00 mL/min	3.00	12.15	9.02	2,098 uS/cm	61.10	0.71	3,254.00	32.12
11:45	200.20	65.00 mL/min	N/A	12.16	9.01	2,102 uS/cm	59.60	0.67	3,216.00	32.12
11:50	204.53	65.00 mL/min	N/A	11.79	8.98	2,097 uS/cm	57.40	0.73	3,058.00	32.12
11:55	209.53	65.00 mL/min	N/A	12.01	8.85	2,156 uS/cm	53.40	0.76	2,714.00	32.12
12:00	214.27	65.00 mL/min	N/A	12.01	8.82	2,153 uS/cm	52.40	0.71	2,100.00	32.14
12:05	219.55	65.00 mL/min	N/A	12.06	8.80	2,152 uS/cm	51.50	0.65	2,135.00	32.14
12:10	225.15	65.00 mL/min	N/A	12.16	8.75	2,143 uS/cm	51.40	0.72	2,030.00	32.15
12:15	230.15	65.00 mL/min	N/A	12.53	8.71	2,141 uS/cm	47.50	0.69	1,962.00	32.15
12:20	234.27	65.00 mL/min	N/A	12.35	8.65	2,140 uS/cm	44.70	0.71	1,825.00	32.15
12:25	239.93	65.00 mL/min	N/A	12.08	8.58	2,253 uS/cm	41.40	0.68	1,210.00	32.15
12:30	244.30	65.00 mL/min	N/A	12.27	8.58	2,253 uS/cm	40.80	1.06	1,059.00	32.12
12:35	249.60	65.00 mL/min	3.50	12.24	8.57	2,250 uS/cm	40.00	1.00	1,030.00	32.15
12:40	254.93	65.00 mL/min	N/A	12.27	8.57	2,246 uS/cm	38.60	0.98	1,023.00	32.15

Collected Sample Condition — Color: light reddish-brown — Odor: None — Appearance: NA

Parameter	Container	Number	Preservative
VOCs	CG 40 mL	2	HCL

Comments

Re-calibrates to confirm high pH values

Sampling Personnel: David Birdsey

Signature: David Birdsey

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

ARCADIS
Infrastructure, environment, buildings

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1002R Sample ID MW-1002R-04042012
Sample Date	04/04/2012	Sampled By	David Birdsey
Sample Time	Begin 13:58 End 14:00	Recorded By	David Birdsey
Weather	Cool, Partly Cloudy	Replicate No.	N/A

Instrument Identification		**Field Parameters**	
Water Quality Meter # 1	YSI 600 XL/01k089341	Water Quality Meter # 2	LaMotte 2020e/Me-13249
Casing Material	PVC	Purge Method	BP:QED 169d10
Casing Diameter (in)	2.00	Screen Interval (ft bmp)	Top 107.17 Bottom 122.17
Sounded Depth (ft bmp)	127.17 (installed)	Pump Intake Depth (ft bmp)	112.50 112.50
Depth to Water (ft bmp)	4.10	Purge Time	Begin 11:04 End 14:01
PID Reading(ppm)	0.00		

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
11:09	5.53	100.00 mL/min	0.10	12.46	8.76	3,953 uS/cm	182.00	3.53	6.79	4.00
11:14	10.10	100.00 mL/min	0.15	12.51	8.77	3,844 uS/cm	179.40	2.93	14.30	5.67
11:19	14.92	125.00 mL/min	0.25	12.53	8.82	3,732 uS/cm	179.70	3.06	12.90	7.02
11:24	20.67	125.00 mL/min	0.30	12.50	8.84	3,709 uS/cm	185.50	2.84	12.20	7.35
11:29	25.03	125.00 mL/min	0.50	12.68	8.84	3,653 uS/cm	188.40	2.89	17.60	8.15
11:34	30.37	75.00 mL/min	0.60	12.68	8.80	3,549 uS/cm	195.40	2.90	12.20	9.03
11:39	35.15	50.00 mL/min	0.60	12.97	8.81	3,499 uS/cm	192.70	2.89	10.90	9.35
11:51	47.27	50.00 mL/min	1.00	13.46	8.84	3,400 uS/cm	167.80	2.57	9.59	10.02
11:55	50.97	50.00 mL/min	1.10	13.76	8.79	3,329 uS/cm	169.40	3.17	7.09	10.37
12:00	56.65	50.00 mL/min	1.10	13.84	8.80	3,373 uS/cm	168.10	2.93	6.02	10.66
12:08	64.22	50.00 mL/min	1.25	13.83	8.81	3,389 uS/cm	167.20	2.82	6.23	11.06
12:13	69.43	50.00 mL/min	1.30	14.00	8.81	3,356 uS/cm	166.20	2.92	5.36	11.30
12:18	74.05	50.00 mL/min	1.40	14.18	8.81	3,412 uS/cm	165.30	3.01	12.20	11.52
12:23	79.32	50.00 mL/min	N/A	14.35	8.81	3,389 uS/cm	164.60	2.93	2.39	11.62
12:27	83.28	50.00 mL/min	N/A	14.40	8.82	3,338 uS/cm	163.40	2.77	6.36	11.81
12:33	89.37	50.00 mL/min	N/A	14.19	8.82	3,322 uS/cm	162.70	2.96	3.72	12.02
12:38	94.60	50.00 mL/min	N/A	13.91	8.82	3,297 uS/cm	162.30	2.84	3.23	12.12

Sampling Personnel: David Birdsey   Signature: David Birdsey

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

ARCADIS
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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1002R Sample ID MW-1002R-04042012
Sample Date	04/04/2012	Sampled By	David Birdsey
Sample Time	Begin 13:58 End 14:00	Recorded By	David Birdsey
Weather	Cool, Partly Cloudy	Replicate No.	N/A

12:43	99.25	50.00 mL/min	N/A	13.95	8.82	3,441 uS/cm	161.50	2.61	3.62	12.27
12:48	104.83	50.00 mL/min	1.88	14.43	8.82	3,396 uS/cm	159.70	2.67	3.03	12.46
12:53	109.87	50.00 mL/min	N/A	14.70	8.81	3,349 uS/cm	158.00	2.67	4.23	12.52
12:58	114.65	50.00 mL/min	N/A	14.53	8.81	3,379 uS/cm	158.60	2.72	4.81	12.69
13:03	119.45	50.00 mL/min	N/A	14.78	8.79	3,340 uS/cm	158.10	2.62	3.23	12.81
13:08	124.23	50.00 mL/min	2.10	14.92	8.80	3,306 uS/cm	157.40	2.90	3.96	12.90
13:13	129.53	50.00 mL/min	N/A	15.08	8.79	3,293 uS/cm	156.90	2.76	4.81	13.02
13:18	133.98	50.00 mL/min	N/A	15.12	8.78	3,258 uS/cm	156.30	2.85	9.26	13.13
13:23	139.13	50.00 mL/min	2.25	15.18	8.81	3,210 uS/cm	154.70	2.79	4.23	13.23
13:33	149.30	50.00 mL/min	N/A	15.40	8.81	3,173 uS/cm	154.30	2.66	4.23	13.33
13:38	154.43	50.00 mL/min	N/A	15.49	8.79	3,167 uS/cm	153.90	2.68	7.87	13.41
13:43	159.75	50.00 mL/min	2.50	15.57	8.78	3,139 uS/cm	153.70	2.87	3.48	13.48
13:48	164.57	50.00 mL/min	N/A	15.68	8.74	3,139 uS/cm	153.90	2.63	3.23	13.52
13:52	168.18	50.00 mL/min	2.63	15.66	8.73	3,116 uS/cm	154.20	2.59	3.21	13.55
13:57	173.77	50.00 mL/min	2.70	15.62	8.72	3,132 uS/cm	154.30	2.57	3.19	13.59

Collected Sample Condition Color: clear Odor: None Appearance: NA

Parameter	Container	Number	Preservative
VOCs	CG 40 mL VOA	2	HCL

Comments

Sampling Personnel: David Birdsey Signature: David Birdsey

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-127C Sample ID MW-127C-06122012
Sample Date	06/12/2012	Sampled By	Michael Skowronek
Sample Time	Begin 12:07 End 12:54	Recorded By	Gary Williams
Weather	Cloudy, Cold, Humid	Replicate No.	DUP-GW-06262012-#1

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/19091
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	102.12 (6/12/2012)
Depth to Water (ft bmp)	3.31
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/10426			
Purge Method	BP:QED			
Screen Interval (ft bmp)	Top	93.93	Bottom	103.93
Pump Intake Depth (ft bmp)		99.00		N/A
Purge Time	Begin	10:55	End	12:56

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
11:04	8.98	100.00 mL/min	0.24	13.57	6.88	0.012 mS/cm	351.60	4.69	6.12	3.47
11:09	14.63	100.00 mL/min	0.37	14.32	7.07	0.012 mS/cm	342.50	4.10	23.10	3.52
11:16	21.45	100.00 mL/min	0.55	14.75	7.23	0.013 mS/cm	336.70	2.97	30.00	3.55
11:21	26.15	100.00 mL/min	0.69	14.92	7.29	0.013 mS/cm	334.80	2.57	31.20	3.57
11:25	29.72	100.00 mL/min	0.79	14.89	7.33	0.013 mS/cm	327.00	2.40	26.30	3.58
11:29	34.15	100.00 mL/min	0.90	3.60	7.35	0.013 mS/cm	327.40	2.14	21.40	3.60
11:33	38.25	100.00 mL/min	1.00	14.58	7.35	0.013 mS/cm	327.70	1.91	16.50	3.61
11:38	42.88	100.00 mL/min	1.14	14.61	7.40	0.013 mS/cm	322.40	1.95	16.50	3.63
11:43	48.50	100.00 mL/min	1.27	14.61	7.35	0.013 mS/cm	325.60	1.73	16.70	3.64
11:49	53.75	100.00 mL/min	1.43	14.50	7.35	0.013 mS/cm	327.50	1.67	11.20	3.64
11:54	59.27	100.00 mL/min	1.56	14.46	7.35	0.013 mS/cm	329.10	1.65	8.37	3.64
11:59	64.40	100.00 mL/min	1.69	14.53	7.35	0.013 mS/cm	332.10	1.57	8.27	3.64
12:07	72.03	100.00 mL/min	1.90	14.56	7.35	0.013 mS/cm	333.50	1.56	8.01	3.64

Collected Sample Condition Color clear Odor None Appearance NA

Sampling Personnel: Michael Skowronek Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-127C Sample ID MW-127C-06122012
Sample Date	06/12/2012	Sampled By	Michael Skowronek
Sample Time	Begin 12:07 End 12:54	Recorded By	Gary Williams
Weather	Cloudy, Cold, Humid	Replicate No.	DUP-GW-06262012-#1

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	Trisodium phosphate
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments

Sampling Personnel: Michael Skowronek

Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-707DR Sample ID MW-707DR-06122012
Sample Date	06/12/2012	Sampled By	Matt Pingitor
Sample Time	Begin 10:39 End 10:39	Recorded By	Matt Pingitor
Weather	Cloudy, Hot, Humid	Replicate No.	N/A

Instrument Identification		**Field Parameters**	
Water Quality Meter # 1	YSI 600 XL/01G0130	Water Quality Meter # 2	LaMotte 2020e/ME14058
Casing Material	PVC	Purge Method	BP:QED 11169
Casing Diameter (in)	2.00	Screen Interval (ft bmp)	Top 162.92 Bottom 192.92
Sounded Depth (ft bmp)	194.60 (6/12/2012)	Pump Intake Depth (ft bmp)	177.00 177.00
Depth to Water (ft bmp)	10.10	Purge Time	Begin 8:56 End 10:39
PID Reading(ppm)	0.00		

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
9:00	4.28	50.00 mL/min	0.06	14.05	6.52	0.032 mS/cm	-139.90	5.33	2.80	9.45
9:13	16.50	50.00 mL/min	0.22	13.92	6.90	0.032 mS/cm	-185.90	7.33	2.23	10.58
9:21	25.28	50.00 mL/min	0.33	12.08	7.22	0.060 mS/cm	-185.60	4.05	322.00	11.30
9:29	33.30	50.00 mL/min	0.44	12.00	7.51	0.054 mS/cm	-179.70	0.96	268.00	12.50
9:34	38.25	50.00 mL/min	0.50	11.94	7.61	0.053 mS/cm	-179.50	0.39	195.00	12.86
9:40	44.03	50.00 mL/min	0.58	11.86	7.65	0.051 mS/cm	-179.30	0.23	170.00	13.30
9:45	48.52	50.00 mL/min	0.64	12.32	7.66	0.052 mS/cm	-182.40	0.30	142.00	13.46
9:51	55.20	50.00 mL/min	0.73	12.41	7.64	0.050 mS/cm	-186.40	0.15	112.00	13.56
9:57	60.67	50.00 mL/min	0.80	12.39	7.64	0.050 mS/cm	-190.70	0.22	86.00	13.60
10:05	68.47	50.00 mL/min	0.90	12.53	7.64	0.049 mS/cm	-197.50	0.13	90.00	13.65
10:10	74.43	50.00 mL/min	0.98	11.85	7.63	0.048 mS/cm	-205.80	0.14	75.90	13.75
10:17	81.07	50.00 mL/min	1.07	11.06	7.56	0.045 mS/cm	-217.40	0.06	49.20	14.42
10:23	86.78	50.00 mL/min	1.15	11.19	7.55	0.045 mS/cm	-218.90	0.06	37.50	14.75
10:28	91.85	50.00 mL/min	1.21	11.13	7.54	0.045 mS/cm	-219.50	0.03	30.10	14.90
10:33	96.73	50.00 mL/min	1.34	11.08	7.54	0.044 mS/cm	-221.40	0.05	28.10	15.12
10:38	101.53	50.00 mL/min	1.47	11.26	7.54	0.043 mS/cm	-221.60	0.07	16.50	15.24
15:30	394.08	100.00 mL/min	1.60	11.55	7.05	0.023 mS/cm	-33.00	1.31	23.00	8.72

Sampling Personnel: Matt Pingitor   Signature:

Well Casing Volumes

Gal./Ft.   1-1/4" = 0.06   1-1/2" = 0.09   2" = 0.16   2-1/2" = 0.26   3" = 0.37   3-1/2":= 0.50   4" = 0.65   6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-707DR Sample ID MW-707DR-06122012
Sample Date	06/12/2012	Sampled By	Matt Pingitor
Sample Time	Begin 10:39 End 10:39	Recorded By	Matt Pingitor
Weather	Cloudy, Hot, Humid	Replicate No.	N/A

15:35	399.02	100.00 mL/min	1.74	10.83	7.07	0.022 mS/cm	-57.00	1.21	17.20	11.57
15:40	404.33	100.00 mL/min	1.86	10.73	7.09	0.022 mS/cm	-72.10	1.21	16.80	12.70
15:45	408.78	100.00 mL/min	1.99	10.58	7.11	0.022 mS/cm	-85.00	1.18	15.00	13.87
15:50	413.87	100.00 mL/min	2.16	10.48	7.12	0.022 mS/cm	-94.60	1.19	15.70	14.83

Collected Sample Condition Color clear Odor None Appearance NA

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	TSP
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments Tablet clock time is off 2 hours. Temporary pause during purge. Samples collected at 1555.

Sampling Personnel: Matt Pingitor Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-901R Sample ID MW-901R-06142012
Sample Date	06/14/2012	Sampled By	Matt Pingitor
Sample Time	Begin 15:23 End 15:23	Recorded By	Matt Pingitor
Weather	Hot, Humid, Partly Cloudy	Replicate No.	DUP-GW-06142012-#3

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/01G0130
Casing Material	Sch80 PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	42.29 (6/14/2012)
Depth to Water (ft bmp)	18.78
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/ME10367			
Purge Method	BP:QED 11169			
Screen Interval (ft bmp)	Top	27.44	Bottom	42.44
Pump Intake Depth (ft bmp)		32.50		32.50
Purge Time	Begin	14:31	End	15:23

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
14:31	0.12	100.00 mL/min	0.10	10.42	5.66	0.014 mS/cm	53.30	8.44	28.00	18.80
14:37	5.98	100.00 mL/min	0.16	9.84	5.41	0.012 mS/cm	69.10	7.57	116.00	18.81
14:44	13.28	100.00 mL/min	0.34	9.71	5.35	0.011 mS/cm	84.10	7.18	100.00	18.83
14:52	21.73	100.00 mL/min	0.55	10.18	5.23	0.011 mS/cm	103.00	6.93	80.20	18.83
14:58	27.77	100.00 mL/min	0.71	10.59	5.21	0.011 mS/cm	109.10	6.77	74.00	18.84
15:03	32.60	100.00 mL/min	0.84	10.66	5.17	0.012 mS/cm	115.10	6.56	69.80	18.84
15:08	36.93	100.00 mL/min	0.98	10.67	5.15	0.012 mS/cm	119.90	6.46	56.10	18.84
15:13	42.63	100.00 mL/min	1.11	10.62	5.15	0.012 mS/cm	122.10	6.39	44.50	18.86
15:18	47.25	100.00 mL/min	1.24	10.54	5.11	0.012 mS/cm	125.10	6.35	40.80	18.86
15:23	52.82	100.00 mL/min	1.37	10.46	5.16	0.012 mS/cm	123.40	6.39	32.10	18.87

Collected Sample Condition   Color: clear   Odor: None   Appearance: NA

Sampling Personnel: Matt Pingitor   Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-901R Sample ID MW-901R-06142012
Sample Date	06/14/2012	Sampled By	Matt Pingitor
Sample Time	Begin 15:23 End 15:23	Recorded By	Matt Pingitor
Weather	Hot, Humid, Partly Cloudy	Replicate No.	DUP-GW-06142012-#3

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	TSP
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments Tablet clock time is incorrect. Sample time on COC is 16:30.

Sampling Personnel: Matt Pingitor

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-126C Sample ID MW-126C-06132012
Sample Date	06/13/2012	Sampled By	Matt Pingitor
Sample Time	Begin 9:10 End 9:10	Recorded By	Matt Pingitor
Weather	Cloudy, Humid, Rain	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/01G0130
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	33.64 (6/13/2012)
Depth to Water (ft bmp)	1.94
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/ME14058			
Purge Method	BP:QED			
Screen Interval (ft bmp)	Top	23.41	Bottom	33.41
Pump Intake Depth (ft bmp)		28.00		28.00
Purge Time	Begin	8:35	End	9:11

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
8:40	5.42	100.00 mL/min	0.13	12.82	5.80	0.011 mS/cm	83.60	6.24	1.14	1.90
8:45	9.65	100.00 mL/min	0.26	12.42	5.96	0.011 mS/cm	77.20	5.47	0.76	1.90
8:50	14.62	100.00 mL/min	0.40	12.26	5.97	0.011 mS/cm	80.10	5.18	1.01	1.92
8:55	19.57	100.00 mL/min	0.53	12.24	5.99	0.011 mS/cm	81.40	4.98	0.96	1.92
9:00	24.58	100.00 mL/min	0.66	12.30	6.01	0.010 mS/cm	83.20	4.84	1.11	1.92
9:05	30.33	100.00 mL/min	0.79	12.15	5.99	0.010 mS/cm	82.60	4.80	1.25	1.92
9:10	34.53	100.00 mL/min	0.92	12.19	6.00	0.011 mS/cm	83.12	4.83	1.52	1.93

Collected Sample Condition Color clear Odor None Appearance NA

Parameter	Container	Number	Preservative
Dissolved TAL Metals	PE 250 mL	1	HNO3
Total TAL Metals	PE 250 mL	1	HNO3

Comments Tablet clock time is off 2 hours. Sample time on COC is 11:10 am.

Sampling Personnel: Matt Pingitor Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-03 Sample ID MW-03-06152012
Sample Date	06/15/2012	Sampled By	Chris Trowbridge
Sample Time	Begin 7:05 End 7:05	Recorded By	N/A
Weather	Muggy, Partly Cloudy	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/00J0695 AA
Casing Material	PVC
Casing Diameter (in)	1.50
Sounded Depth (ft bmp)	82.70 (6/12/2012)
Depth to Water (ft bmp)	6.95
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/11693			
Purge Method	BP:QED 10693			
Screen Interval (ft bmp)	Top	55.51	Bottom	85.51
Pump Intake Depth (ft bmp)		67.50		67.50
Purge Time	Begin	6:15	End	7:02

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
6:20	5.27	50.00 mL/min	0.07	14.01	6.37	0.011 mS/cm	6.30	6.27	8.41	6.95
6:25	9.98	50.00 mL/min	0.13	13.41	6.31	0.012 mS/cm	-14.80	4.47	6.72	6.95
6:30	14.73	50.00 mL/min	0.19	13.17	6.34	0.012 mS/cm	-30.40	3.38	3.76	6.95
6:35	19.78	50.00 mL/min	0.26	12.86	6.57	0.007 mS/cm	-59.10	2.05	2.13	6.95
6:40	25.27	50.00 mL/min	0.33	12.56	6.81	0.007 mS/cm	-83.60	1.20	2.54	6.95
6:45	29.87	50.00 mL/min	0.39	12.54	7.05	0.006 mS/cm	-107.20	0.83	1.86	6.95
6:50	34.90	50.00 mL/min	0.46	12.52	7.13	0.006 mS/cm	-114.80	0.76	1.52	6.95
6:55	40.07	50.00 mL/min	0.53	12.56	7.24	0.007 mS/cm	-126.40	0.61	0.86	6.95
7:00	45.42	50.00 mL/min	0.60	12.54	7.32	0.006 mS/cm	-139.20	0.58	0.95	6.95

Collected Sample Condition Color clear Odor None Appearance NA

Sampling Personnel: Chris Trowbridge Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-03 Sample ID MW-03-06152012
Sample Date	06/15/2012	Sampled By	Chris Trowbridge
Sample Time	Begin 7:05 End 7:05	Recorded By	N/A
Weather	Muggy, Partly Cloudy	Replicate No.	N/A

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	TSP
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments Tablet clock is 2 hours off. Sample time on COC is 9:05 am.

Sampling Personnel: Chris Trowbridge

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-126B Sample ID MW-126B-06132012
Sample Date	06/13/2012	Sampled By	Matt Pingitor
Sample Time	Begin 7:51 End 7:51	Recorded By	Matt Pingitor
Weather	Humid, Partly Cloudy	Replicate No.	DUP-GW-06132016-#1

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/01G0130
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	12.09 (6/13/2012)
Depth to Water (ft bmp)	2.83
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/ME14058			
Purge Method	BP:QED 11169			
Screen Interval (ft bmp)	Top	6.90	Bottom	11.90
Pump Intake Depth (ft bmp)		10.00		10.00
Purge Time	Begin	7:07	End	7:51

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
7:13	6.20	100.00 mL/min	0.16	13.82	5.96	0.015 mS/cm	3.90	1.84	19.60	2.85
7:20	12.83	100.00 mL/min	0.34	12.36	5.51	0.013 mS/cm	14.60	1.01	12.70	2.86
7:25	17.87	100.00 mL/min	0.48	11.89	5.46	0.012 mS/cm	17.40	0.80	6.39	2.88
7:30	23.70	100.00 mL/min	0.61	11.81	5.44	0.012 mS/cm	20.40	0.79	8.10	2.90
7:35	28.67	100.00 mL/min	0.74	11.89	5.42	0.012 mS/cm	23.60	0.81	5.45	2.91
7:40	33.08	100.00 mL/min	0.87	11.76	5.42	0.012 mS/cm	24.90	0.78	5.16	2.91
7:45	38.50	100.00 mL/min	1.00	11.69	5.42	0.011 mS/cm	24.60	0.76	6.33	2.92
7:50	42.98	100.00 mL/min	1.14	11.70	5.40	0.012 mS/cm	23.40	0.81	5.58	2.92

Collected Sample Condition Color clear Odor None Appearance NA

Sampling Personnel: Matt Pingitor Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-126B Sample ID MW-126B-06132012
Sample Date	06/13/2012	Sampled By	Matt Pingitor
Sample Time	Begin 7:51 End 7:51	Recorded By	Matt Pingitor
Weather	Humid, Partly Cloudy	Replicate No.	DUP-GW-06132016-#1

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved TAL Metals	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	TSP
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
Total TAL Metals	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments Tablet clock time is off 2 hours. Sample time on COC is 9:50 am.

Sampling Personnel: Matt Pingitor Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-209A Sample ID MW-209A-06142012
Sample Date	06/14/2012	Sampled By	Chris Trowbridge
Sample Time	Begin 17:00 End 17:00	Recorded By	Chris Trowbridge
Weather	Humid, Partly Cloudy	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/00J0695 AA
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	40.10 (installed)
Depth to Water (ft bmp)	21.81
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	YSI 650 MDS/11J100750			
Purge Method	BP:QED			
Screen Interval (ft bmp)	Top	20.12	Bottom	40.12
Pump Intake Depth (ft bmp)		28.00		N/A
Purge Time	Begin	16:25	End	17:04

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
16:25	0.10	100.00 mL/min	0.01	11.74	5.86	0.006 mS/cm	-144.60	7.03	15.40	21.81
16:30	4.47	100.00 mL/min	0.12	12.11	6.11	0.011 mS/cm	-129.10	6.87	19.30	21.81
16:35	10.27	100.00 mL/min	0.27	12.01	5.95	0.008 mS/cm	-116.40	6.83	14.20	21.81
16:40	14.93	100.00 mL/min	0.39	11.99	5.89	0.011 mS/cm	-114.20	6.78	12.30	21.81
16:45	19.48	100.00 mL/min	0.51	11.90	5.87	0.010 mS/cm	-111.00	6.77	11.20	21.81
16:50	24.48	100.00 mL/min	0.65	11.86	6.65	0.005 mS/cm	-109.10	7.11	10.30	21.81
16:55	30.10	100.00 mL/min	0.79	11.83	5.85	0.004 mS/cm	-108.20	7.15	9.82	21.81
17:00	34.43	100.00 mL/min	0.91	11.82	5.84	0.004 mS/cm	-106.20	7.18	8.57	21.81

Collected Sample Condition   Color clear   Odor None   Appearance NA

Parameter	Container	Number	Preservative
TAL Dissolved Metals	PE 250 mL	1	HNO3
TAL Total Metals	PE 250 mL	1	HNO3

Comments

Sampling Personnel: Chris Trowbridge   Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

ARCADIS
Infrastructure, environment, buildings

Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-701DR Sample ID MW-701DR-06152012
Sample Date	06/15/2012	Sampled By	Matt Pingitor
Sample Time	Begin 8:45 End 8:45	Recorded By	Matt Pingitor
Weather	Hot, Humid, Sunny	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/01G0130
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	106.32 (6/15/2012)
Depth to Water (ft bmp)	17.28
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/ME10367			
Purge Method	BP:QED			
Screen Interval (ft bmp)	Top	95.76	Bottom	110.26
Pump Intake Depth (ft bmp)		101.00		101.00
Purge Time	Begin	7:58	End	8:44

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
8:04	6.02	100.00 mL/min	0.16	10.79	7.42	0.015 mS/cm	24.20	9.35	4.55	18.30
8:09	10.78	100.00 mL/min	0.29	10.75	7.47	0.016 mS/cm	27.10	9.26	3.17	18.30
8:14	15.73	100.00 mL/min	0.42	10.67	7.54	0.015 mS/cm	33.10	8.70	7.75	18.32
8:19	20.88	100.00 mL/min	0.55	10.71	7.57	0.015 mS/cm	39.10	8.43	5.98	18.33
8:24	25.65	100.00 mL/min	0.69	10.82	7.64	0.015 mS/cm	46.00	8.32	5.23	18.33
8:29	31.07	100.00 mL/min	0.82	10.72	7.63	0.015 mS/cm	50.30	8.41	6.13	18.34
8:34	36.20	100.00 mL/min	0.95	10.69	7.60	0.015 mS/cm	54.50	8.41	4.56	18.34
8:39	40.62	100.00 mL/min	1.08	10.65	7.61	0.015 mS/cm	52.90	8.44	3.46	18.34
8:44	45.95	100.00 mL/min	1.21	10.68	7.61	0.016 mS/cm	53.50	8.39	3.11	18.35

Collected Sample Condition Color clear Odor None Appearance NA

Sampling Personnel: Matt Pingitor Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version
1.01

Low-Flow Groundwater Sampling Log

ARCADIS
Infrastructure, environment, buildings

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-701DR Sample ID MW-701DR-06152012
Sample Date	06/15/2012	Sampled By	Matt Pingitor
Sample Time	Begin 8:45 End 8:45	Recorded By	Matt Pingitor
Weather	Hot, Humid, Sunny	Replicate No.	N/A

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	TSP
TAL Dissolved Metals	PE 250 mL	1	HNO3
TAL Total Metals	PE 250 mL	1	HNO3
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments

Sampling Personnel: Matt Pingitor

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version
1.01

Low-Flow Groundwater Sampling Log

ARCADIS
Infrastructure, environment, buildings

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	P-12 Sample ID P-12-06122012
Sample Date	06/12/2012	Sampled By	Matt Pingitor
Sample Time	Begin 13:28 End 13:28	Recorded By	Matt Pingitor
Weather	Cloudy, Hot, Humid, Windy	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/01G0130
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	17.26 (6/12/2012)
Depth to Water (ft bmp)	6.92
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/ME14058			
Purge Method	BP:QED			
Screen Interval (ft bmp)	Top	11.55	Bottom	16.55
Pump Intake Depth (ft bmp)		14.00		12.00
Purge Time	Begin	12:33	End	13:27

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
12:41	8.27	50.00 mL/min	0.11	13.16	6.66	0.012 mS/cm	10.10	0.26	100.20	7.06
12:48	15.68	50.00 mL/min	0.20	12.70	6.63	0.012 mS/cm	6.20	0.35	51.30	7.10
12:55	22.75	50.00 mL/min	0.29	12.37	6.53	0.011 mS/cm	6.30	0.23	34.40	7.14
13:00	27.57	50.00 mL/min	0.36	12.36	6.48	0.011 mS/cm	7.50	0.08	15.40	7.16
13:05	32.43	50.00 mL/min	0.42	11.71	6.50	0.011 mS/cm	5.90	0.24	10.50	7.21
13:11	38.28	50.00 mL/min	0.50	11.47	6.45	0.011 mS/cm	9.00	0.16	9.64	7.26
13:16	43.63	50.00 mL/min	0.57	11.42	6.41	0.011 mS/cm	10.70	0.21	9.01	7.31
13:21	48.05	50.00 mL/min	0.63	11.39	6.40	0.011 mS/cm	12.70	0.18	8.86	7.34
13:26	53.12	50.00 mL/min	0.70	11.38	6.39	0.011 mS/cm	11.30	0.20	8.12	7.37

Collected Sample Condition   Color: clear   Odor: None   Appearance: NA

Sampling Personnel: Matt Pingitor   Signature:

Well Casing Volumes

Gal./Ft.   1-1/4" = 0.06   1-1/2" = 0.09   2" = 0.16   2-1/2" = 0.26   3" = 0.37   3-1/2":= 0.50   4" = 0.65   6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

ARCADIS
Infrastructure, environment, buildings

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	P-12 Sample ID P-12-06122012
Sample Date	06/12/2012	Sampled By	Matt Pingitor
Sample Time	Begin 13:28 End 13:28	Recorded By	Matt Pingitor
Weather	Cloudy, Hot, Humid, Windy	Replicate No.	N/A

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	TSP
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

Comments Tablet clock time is off 2 hours. Sample time on COC is 15:30.

Sampling Personnel: Matt Pingitor

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version
1.01

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: TW-08D

Sample: TW-08D-HS-06152012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 161.48

Total Depth As Constructed (ft bmp): 26.58

Screened Interval (ft bmp): 19.58 - 24.58

Well Casing: Diameter: 2.00 Material: Stainless Steel

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 11:15 am

Weather Conditions: Sunny

Depth to groundwater at time of deployment: 5.81

Total well depth at time of deployment: 25.87

Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90

Deployment Method/Position of Weight: Top Weight

Deployment Depth (Top of HydraSleeveTM) (ftbgs): 25.87

PID 2.3

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 9:20 am

Total # of days deployed: 4

Weather Conditions: Sunny, Humid

Depth to groundwater at time of retrieval: 5.69

Total well depth at time of retrieval: 25.87

PID: 2.3

Downhole Field Parameters Upon Retrieval:

Temp: 12 (C) ORP: -203.50 (mV) SCond: 0.03 (mS/cm) Water quality meter: YSI 600 XL

pH: 6.43 DO: 0.41(mg/L) Turb: 14.20 Serial #: 00J0695 AA

Collected Sample Condition Color clear Odor None Appearance CLEAR

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Dissolved Gases	CG 20 mL	2	Trisodium phosphate
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	2	None
VOCs	AG 40 mL	2	HCL

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	TW-08D
Sample:	TW-08D-HS-06152012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 161.48

Total Depth As Constructed (ft bmp): 26.58 Screened Interval (ft bmp): 19.58 - 24.58

Well Casing: Diameter: 2.00 Material: Stainless Steel

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge Signature:

HydraSleeve™ Field Form

ARCADIS Infrastructure, environment, buildings

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	TW-08B
Sample:	TW-08B-HS-06152012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 162.01

Total Depth As Constructed (ft bmp): 35.09 Screened Interval (ft bmp): 24.09 - 34.09

Well Casing: Diameter: 2.00 Material: Stainless Steel

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment:	Date:	06/11/2012	Time:	11:26 am
Weather Conditions:		Sunny		
Depth to groundwater at time of deployment:		6.34		
Total well depth at time of deployment:		28.82		
Dimensions of HydraSleeve TM:	Length (in.)	36.00	Diameter(in.)	1.90
Deployment Method/Position of Weight:		Bottom Anchor		
Deployment Depth (Top of HydraSleeveTM) (ftbgs):		25.82		
PID		56.8		

Retrieval

Date and Time of Retrieval:	Date:	06/15/2012	Time:	10:41 am
Total # of days deployed:		4		
Weather Conditions:		Sunny, Humid		
Depth to groundwater at time of retrieval:		6.63		
Total well depth at time of retrieval:		28.82		
PID:		56.8		

Downhole Field Parameters Upon Retrieval:

Temp:	12 (C)	ORP:	-207.90 (mV)	SCond:	0.02 (mS/cm)	Water quality meter:	YSI 600 XL
pH:	10.55	DO:	0.08(mg/L)	Turb:	26.30	Serial #:	00J0695 AA

Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Dissolved Gases	CG 20 mL	2	TSP

ARCADIS
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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	TW-08B
Sample:	TW-08B-HS-06152012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC   Top of Casing Elevation: 162.01

Total Depth As Constructed (ft bmp): 35.09   Screened Interval (ft bmp): 24.09 - 34.09

Well Casing: Diameter: 2.00   Material: Stainless Steel

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge   Signature:

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE Site Location: Southington, CT

Project No. B0054634.0000.01900 Well ID: TW-08A

Sample: TW-08A-HS-06142012 Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 161.97

Total Depth As Constructed (ft bmp): 17.53 Screened Interval (ft bmp): 6.53 - 16.53

Well Casing: Diameter: 2.00 Material: Stainless Steel

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 11:06 am

Weather Conditions: Sunny

Depth to groundwater at time of deployment: 5.34

Total well depth at time of deployment: 14.50

Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90

Deployment Method/Position of Weight: Bottom Anchor

Deployment Depth (Top of HydraSleeveTM) (ftbgs): 11.25

PID 2.7

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 2:53 pm

Total # of days deployed: 3

Weather Conditions: Cloudy

Depth to groundwater at time of retrieval: 6.12

Total well depth at time of retrieval: 14.50

PID: 2.7

Downhole Field Parameters Upon Retrieval:

Temp: 12 (C) ORP: -170.40 (mV) SCond: 0.01 (mS/cm) Water quality meter: YSI 600 XL

pH: 6.44 DO: 0.28(mg/L) Turb: 29.60 Serial #: 00J0695 AA

Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Dissolved Gases	CG 20 mL	2	TSP
Alkalinity	PE 60 ml	1	None

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: TW-08A
Sample: TW-08A-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 161.97
Total Depth As Constructed (ft bmp): 17.53
Screened Interval (ft bmp): 6.53 - 16.53
Well Casing: Diameter: 2.00 Material: Stainless Steel
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge
Signature:

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: PZR-2R
Sample: PZR-2R-HS-06132012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 153.78
Total Depth As Constructed (ft bmp): 139.50
Screened Interval (ft bmp): 122.23 - 142.23
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/12/2012 Time: 12:47 pm
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 6.93
Total well depth at time of deployment: 142.07
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 132.75
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 2:57 pm
Total # of days deployed: 1
Weather Conditions: Cloudy
Depth to groundwater at time of retrieval: 9.22
Total well depth at time of retrieval: 142.07
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -182.90 (mV) SCond: 0.07 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.90 DO: 0.71(mg/L) Turb: 26.40 Serial #: 00J0695 AA
Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Dissolved Gases	CG 20 mL	2	TSP
TOC	CG 40 mL	2	H2SO4
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
VOCs	AG 40 mL VOA	2	HCL

ARCADIS
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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: PZR-2R

Sample: PZR-2R-HS-06132012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 153.78

Total Depth As Constructed (ft bmp): 139.50

Screened Interval (ft bmp): 122.23 - 142.23

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Chris Trowbridge

Signature:

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: PZO-2M
Sample: PZO-2M-HS-06132012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 154.77
Total Depth As Constructed (ft bmp): 58.10
Screened Interval (ft bmp): 48.07 - 58.07
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/12/2012 Time: 12:20 pm
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 5.86
Total well depth at time of deployment: 58.18
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 55.18
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 1:42 pm
Total # of days deployed: 1
Weather Conditions: Cloudy
Depth to groundwater at time of retrieval: 7.72
Total well depth at time of retrieval: 58.18
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -142.10 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 8.35 DO: 9.85(mg/L) Turb: 25.30 Serial #: 00J0695 AA
Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
TOC	CG 40 mL	2	H2SO4
Dissolved Gases	CG 20 mL	2	TSP
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	PZO-2M
Sample:	PZO-2M-HS-06132012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 154.77

Total Depth As Constructed (ft bmp): 58.10 Screened Interval (ft bmp): 48.07 - 58.07

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Chris Trowbridge Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: PZO-2D
Sample: PZO-2D-HS-06132012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 154.14
Total Depth As Constructed (ft bmp): 86.80
Screened Interval (ft bmp): 76.76 - 86.76
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/12/2012 Time: 1:03 pm
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 7.34
Total well depth at time of deployment: 85.22
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 82.22
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 2:22 pm
Total # of days deployed: 1
Weather Conditions: Cloudy
Depth to groundwater at time of retrieval: 7.18
Total well depth at time of retrieval: 85.22
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -157.10 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 8.09 DO: 8.56(mg/L) Turb: 27.40 Serial #: 00J0695 AA
Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Dissolved Gases	CG 20 mL	2	TSP
VOCs	AG 40 mL VOA	2	HCL
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
TOC	CG 40 mL	2	H2SO4
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: PZO-2D

Sample: PZO-2D-HS-06132012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 154.14

Total Depth As Constructed (ft bmp): 86.80

Screened Interval (ft bmp): 76.76 - 86.76

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Chris Trowbridge

Signature:

HydraSleeve™ Field Form

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Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: P-101C
Sample: P-101C-HS-06142012
Replicate No. DUP-GW-06142012-#2
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 150.61
Total Depth As Constructed (ft bmp): 15.40
Screened Interval (ft bmp): 4.89 - 14.89
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 1:21 pm
Weather Conditions: Beautiful Day, Hot, Humid
Depth to groundwater at time of deployment: 3.62
Total well depth at time of deployment: 15.14
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 13.50
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 10:19 am
Total # of days deployed: 3
Weather Conditions: Cloudy, Hot, Humid
Depth to groundwater at time of retrieval: 4.86
Total well depth at time of retrieval: 15.26
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -79.40 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.30 DO: 0.82(mg/L) Turb: 29.10 Serial #: 01G0130

Collected Sample Condition Color clear Odor None Appearance CLEAR

Parameter	Container	Number	Preservative
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 20 mL	2	TSP
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
TOC	CG 40 mL	2	H2SO4

HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	P-101C
Sample:	P-101C-HS-06142012	Replicate No.	DUP-GW-06142012-#2
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC   Top of Casing Elevation: 150.61

Total Depth As Constructed (ft bmp): 15.40   Screened Interval (ft bmp): 4.89 - 14.89

Well Casing: Diameter: 2.00   Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek   Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: P-101B
Sample: P-101B-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 150.48
Total Depth As Constructed (ft bmp): 46.60
Screened Interval (ft bmp): 35.95 - 45.95
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 1:08 pm
Weather Conditions: Hot, Humid
Depth to groundwater at time of deployment: 2.36
Total well depth at time of deployment: 46.52
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 44.50
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 9:15 am
Total # of days deployed: 3
Weather Conditions: Cloudy, Hot, Humid
Depth to groundwater at time of retrieval: 2.30
Total well depth at time of retrieval: 46.65
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -100.70 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.22 DO: 0.66(mg/L) Turb: 15.10 Serial #: 01G0130

Collected Sample Condition Color orange Odor None Appearance Cloudy

Parameter	**Container**	**Number**	**Preservative**
Dissolved Gases	CG 20 mL	2	TSP
VOCs	AG 40 mL VOA	2	HCL
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	P-101B
Sample:	P-101B-HS-06142012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 150.48

Total Depth As Constructed (ft bmp): 46.60 Screened Interval (ft bmp): 35.95 - 45.95

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek Signature:

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: P-13
Sample: P-13-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 157.88
Total Depth As Constructed (ft bmp): 17.50
Screened Interval (ft bmp): 6.74 - 16.74
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 9:27 am
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 10.32
Total well depth at time of deployment: 16.99
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Top Weight
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 16.99
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 8:50 am
Total # of days deployed: 4
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of retrieval: 10.78
Total well depth at time of retrieval: 16.99
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: 381.50 (mV) SCond: 0.01 (mS/cm) Water quality meter: YSI 600 XL
pH: 8.02 DO: 7.38(mg/L) Turb: 53.20 Serial #: 01j0034aa

Collected Sample Condition Color brown Odor None Appearance N/A

Parameter	Container	Number	Preservative
Alkalinity	PE 60 ml	1	None
VOCs	PE 250 mL	2	HNO3
Dissolved Gases	CG 20 mL	2	TSP
TOC	CG 40 mL	2	H2SO4
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: P-13
Sample: P-13-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 157.88
Total Depth As Constructed (ft bmp): 17.50
Screened Interval (ft bmp): 6.74 - 16.74
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek
Signature:

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	P-11A
Sample:	P-11A-HS-06142012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 152.73

Total Depth As Constructed (ft bmp): 70.00 Screened Interval (ft bmp): 59.59 - 69.59

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment:	Date:	06/11/2012	Time:	2:56 pm
Weather Conditions:		Cloudy, Hot, Humid		
Depth to groundwater at time of deployment:		5.54		
Total well depth at time of deployment:		68.30		
Dimensions of HydraSleeve TM:	Length (in.)	36.00	Diameter(in.)	1.90
Deployment Method/Position of Weight:		Bottom Anchor		
Deployment Depth (Top of HydraSleeveTM) (ftbgs):		65.25		
PID		0		

Retrieval

Date and Time of Retrieval:	Date:	06/14/2012	Time:	12:50 pm
Total # of days deployed:		3		
Weather Conditions:		Cloudy, Hot, Humid		
Depth to groundwater at time of retrieval:		5.64		
Total well depth at time of retrieval:		68.38		
PID:		0		

Downhole Field Parameters Upon Retrieval:

Temp:	10 (C)	ORP:	-140.70 (mV)	SCond:	0.03 (mS/cm)	Water quality meter:	YSI 600 XL
pH:	7.44	DO:	0.28(mg/L)	Turb:	60.00	Serial #:	01G0130

Collected Sample Condition Color brown Odor Yes Appearance N/A

Parameter	Container	Number	Preservative
TOC	CG 40 mL	2	H2SO4
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 20 mL	2	TSP
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
VOCs	AG 40 mL VOA	2	HCL

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: P-11A

Sample: P-11A-HS-06142012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 152.73

Total Depth As Constructed (ft bmp): 70.00

Screened Interval (ft bmp): 59.59 - 69.59

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Matt Pingitor

Signature:

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MWL-309
Sample: MWL-309-HS-06132012
Replicate No. DUP-GW-06132012-#3
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 155.20
Total Depth As Constructed (ft bmp): 13.00
Screened Interval (ft bmp): 3.51 - 13.51
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 4:11 pm
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of deployment: 4.87
Total well depth at time of deployment: 13.15
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Top Weight
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 13.15
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 12:40 pm
Total # of days deployed: 2
Weather Conditions: Cloudy, Hot, Humid
Depth to groundwater at time of retrieval: 5.10
Total well depth at time of retrieval: 13.11
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -22.10 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.44 DO: 1.29(mg/L) Turb: 58.20 Serial #: 01G0130

Collected Sample Condition Color brown Odor None Appearance turbid, Cloudy

Parameter	Container	Number	Preservative
Alkalinity	PE 60 ml	1	None
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MWL-309
Sample:	MWL-309-HS-06132012	Replicate No.	DUP-GW-06132012-#3
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC   Top of Casing Elevation: 155.20

Total Depth As Constructed (ft bmp): 13.00   Screened Interval (ft bmp): 3.51 - 13.51

Well Casing: Diameter: 2.00   Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek   Signature:

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HydraSleeve™ Field Form

Site: SRSNE | Site Location: Southington, CT

Project No. B0054634.0000.01900 | Well ID: MWL-307

Sample: MWL-307-HS-06152012 | Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC | Top of Casing Elevation: 159.14

Total Depth As Constructed (ft bmp): 12.60 | Screened Interval (ft bmp): 2.51 - 12.51

Well Casing: Diameter: 2.00 | Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 1:28 pm

Weather Conditions: Cloudy, Hot, Humid

Depth to groundwater at time of deployment: 4.50

Total well depth at time of deployment: 12.71

Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90

Deployment Method/Position of Weight: Bottom Anchor

Deployment Depth (Top of HydraSleeveTM) (ftbgs): 9.71

PID 30.4

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 12:34 pm

Total # of days deployed: 4

Weather Conditions: Hot, Humid, Sunny

Depth to groundwater at time of retrieval: 4.50

Total well depth at time of retrieval: 12.71

PID: 30.4

Downhole Field Parameters Upon Retrieval:

Temp: 11 (C) | ORP: -5.50 (mV) | SCond: 0.01 (mS/cm) | Water quality meter: YSI 600 XL

pH: 6.15 | DO: 0.06(mg/L) | Turb: 9.61 | Serial #: 01G0130

Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Dissolved Gases	CG 20 mL	2	TSP
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MWL-307

Sample: MWL-307-HS-06152012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 159.14

Total Depth As Constructed (ft bmp): 12.60

Screened Interval (ft bmp): 2.51 - 12.51

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge

Signature:

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MWL-304
Sample:	MWL-304-HS-06142012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 163.12

Total Depth As Constructed (ft bmp): 13.30 Screened Interval (ft bmp): 3.02 - 13.02

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment:	Date:	06/11/2012	Time:	3:00 pm
Weather Conditions:		Cloudy, Hot, Humid		
Depth to groundwater at time of deployment:		5.57		
Total well depth at time of deployment:		15.93		
Dimensions of HydraSleeve TM:	Length (in.)	36.00	Diameter(in.)	1.90
Deployment Method/Position of Weight:		Bottom Anchor		
Deployment Depth (Top of HydraSleeveTM) (ftbgs):		12.00		
PID		0		

Retrieval

Date and Time of Retrieval:	Date:	06/14/2012	Time:	2:07 pm
Total # of days deployed:		3		
Weather Conditions:		Cloudy		
Depth to groundwater at time of retrieval:		7.40		
Total well depth at time of retrieval:		15.93		
PID:		0		

Downhole Field Parameters Upon Retrieval:

Temp:	13 (C)	ORP:	-165.20 (mV)	SCond:	0.03 (mS/cm)	Water quality meter:	YSI 600 XL
pH:	6.40	DO:	0.20(mg/L)	Turb:	16.20	Serial #:	00J0695 AA

Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL	2	HCL
VOCs	AG 40 mL VOA	2	HCL
Alkalinity	PE 60 ml	2	None
TOC	CG 40 mL	2	H2SO4

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MWL-304

Sample: MWL-304-HS-06142012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 163.12

Total Depth As Constructed (ft bmp): 13.30

Screened Interval (ft bmp): 3.02 - 13.02

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Matt Pingitor

Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-1002R
Sample: MW-1002R-HS-06132012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.37
Total Depth As Constructed (ft bmp): 127.17
Screened Interval (ft bmp): 107.17 - 122.17
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 3:13 pm
Weather Conditions: Beautiful Day, Hot, Humid
Depth to groundwater at time of deployment: 4.46
Total well depth at time of deployment: 122.21
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 117.00
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 10:30 am
Total # of days deployed: 2
Weather Conditions: Rain
Depth to groundwater at time of retrieval: 6.93
Total well depth at time of retrieval: 122.21
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -59.20 (mV) SCond: 0.37 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.61 DO: 0.55(mg/L) Turb: 16.20 Serial #: 00J0695 AA
Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Alkalinity	PE 60 ml	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL VOA	2	H2SO4
Dissolved Gases	CG 20 mL	2	Trisodium phosphate
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-1002R

Sample: MW-1002R-HS-06132012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 152.37

Total Depth As Constructed (ft bmp): 127.17

Screened Interval (ft bmp): 107.17 - 122.17

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek

Signature:

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MW-1002DR
Sample:	MW-1002DR-HS-06132012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 153.91

Total Depth As Constructed (ft bmp): 199.50 Screened Interval (ft bmp): 170.20 - 185.20

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment:	Date:	06/11/2012	Time:	2:43 pm
Weather Conditions:		Cloudy, Hot, Humid		
Depth to groundwater at time of deployment:		29.50		
Total well depth at time of deployment:		188.01		
Dimensions of HydraSleeve TM:	Length (in.)	36.00	Diameter(in.)	1.90
Deployment Method/Position of Weight:		Bottom Anchor		
Deployment Depth (Top of HydraSleeveTM) (ftbgs):		182.75		
PID		0		

Retrieval

Date and Time of Retrieval:	Date:	06/13/2012	Time:	10:54 am
Total # of days deployed:		2		
Weather Conditions:		Rain		
Depth to groundwater at time of retrieval:		30.93		
Total well depth at time of retrieval:		188.01		
PID:		0		

Downhole Field Parameters Upon Retrieval:

Temp:	11 (C)	ORP:	-69.90 (mV)	SCond:	0.22 (mS/cm)	Water quality meter:	YSI 600 XL
pH:	10.79	DO:	1.49(mg/L)	Turb:	26.80	Serial #:	00J0695 AA

Collected Sample Condition Color clear Odor None Appearance Slight orange hue

Parameter	Container	Number	Preservative
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Dissolved Gases	CG 20 mL	2	Trisodium phosphate
Total Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL VOA	2	H2SO4

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-1002DR
Sample: MW-1002DR-HS-06132012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 153.91
Total Depth As Constructed (ft bmp): 199.50
Screened Interval (ft bmp): 170.20 - 185.20
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek
Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-907M
Sample: MW-907M-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 154.47
Total Depth As Constructed (ft bmp): 40.69
Screened Interval (ft bmp): 30.69 - 40.69
Well Casing: Diameter: 2.00 Material: PVC sch 40
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 2:31 pm
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of deployment: 6.98
Total well depth at time of deployment: 38.89
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 35.35
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 10:30 am
Total # of days deployed: 3
Weather Conditions: Sunny
Depth to groundwater at time of retrieval: 8.34
Total well depth at time of retrieval: 26.03
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -115.70 (mV) SCond: 0.05 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.77 DO: 0.25(mg/L) Turb: 17.20 Serial #: 00J0695 AA

Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 20 mL	2	TSP
TOC	CG 40 mL	2	H2SO4
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Alkalinity	PE 60 ml	1	None
VOCs	AG 40 mL VOA	2	HCL

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-907M
Sample: MW-907M-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 154.47
Total Depth As Constructed (ft bmp): 40.69
Screened Interval (ft bmp): 30.69 - 40.69
Well Casing: Diameter: 2.00 Material: PVC sch 40
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Matt Pingitor
Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-907DR
Sample: MW-907DR-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 154.04
Total Depth As Constructed (ft bmp): 177.98
Screened Interval (ft bmp): 162.78 - 177.78
Well Casing: Diameter: 2.00 Material: PVC Sch 80
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 4:08 pm
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 3.28
Total well depth at time of deployment: 172.59
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 157.02
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 10:08 am
Total # of days deployed: 4
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of retrieval: 3.28
Total well depth at time of retrieval: 172.59
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: 401.60 (mV) SCond: 0.05 (mS/cm) Water quality meter: YSI 600 XL
pH: 9.03 DO: 0.56(mg/L) Turb: 10.80 Serial #: 01j0034aa

Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Alkalinity	PE 60 ml	1	None

HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MW-907DR
Sample:	MW-907DR-HS-06152012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 154.04

Total Depth As Constructed (ft bmp): 177.98

Screened Interval (ft bmp): 162.78 - 177.78

Well Casing: Diameter: 2.00 Material: PVC Sch 80

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Chris Trowbridge

Signature:

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-907D
Sample: MW-907D-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 154.75
Total Depth As Constructed (ft bmp): 51.94
Screened Interval (ft bmp): 41.94 - 51.94
Well Casing: Diameter: 2.00 Material: PVC sch 40
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 8:25 am
Weather Conditions: Muggy, Partly Cloudy
Depth to groundwater at time of deployment: 7.51
Total well depth at time of deployment: 52.46
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 49.00
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 10:59 am
Total # of days deployed: 3
Weather Conditions: Sunny
Depth to groundwater at time of retrieval: 7.48
Total well depth at time of retrieval: 52.46
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 9 (C) ORP: -143.90 (mV) SCond: 0.03 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.33 DO: 0.23(mg/L) Turb: 12.30 Serial #: 00J0695 AA

Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Alkalinity	PE 60 ml	1	None
Dissolved Gases	CG 20 mL	2	TSP

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-907D

Sample: MW-907D-HS-06142012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 154.75

Total Depth As Constructed (ft bmp): 51.94

Screened Interval (ft bmp): 41.94 - 51.94

Well Casing: Diameter: 2.00 Material: PVC sch 40

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Chris Trowbridge

Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-902M
Sample: MW-902M-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 160.39
Total Depth As Constructed (ft bmp): 22.00
Screened Interval (ft bmp): 15.00 - 20.00
Well Casing: Diameter: 2.00 Material: Stainless Steel
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 12:47 pm
Weather Conditions: Cloudy, Hot
Depth to groundwater at time of deployment: 8.30
Total well depth at time of deployment: 26.03
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Top Weight
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 26.03
PID 0.2

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 11:20 am
Total # of days deployed: 4
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of retrieval: 8.21
Total well depth at time of retrieval: 26.03
PID: 0.2

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -44.70 (mV) SCond: 0.01 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.16 DO: 0.06(mg/L) Turb: 18.30 Serial #: 01G0130

Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Alkalinity	PE 60 ml	1	None
Dissolved Gases	CG 20 mL	2	TSP

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-902M
Sample: MW-902M-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 160.39
Total Depth As Constructed (ft bmp): 22.00
Screened Interval (ft bmp): 15.00 - 20.00
Well Casing: Diameter: 2.00 Material: Stainless Steel
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge
Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-902D
Sample: MW-902D-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 159.96
Total Depth As Constructed (ft bmp): 27.37
Screened Interval (ft bmp): 21.37 - 26.37
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 1:04 pm
Weather Conditions: Cloudy, Hot, Humid
Depth to groundwater at time of deployment: 8.42
Total well depth at time of deployment: 21.42
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Top Weight
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 21.42
PID 10.8

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 12:11 pm
Total # of days deployed: 4
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of retrieval: 8.49
Total well depth at time of retrieval: 21.42
PID: 10.8
Downhole Field Parameters Upon Retrieval:
Temp: 11 (C) ORP: -72.10 (mV) SCond: 0.01 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.96 DO: 0.09(mg/L) Turb: 11.30 Serial #: 01G0130
Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Alkalinity	PE 60 ml	1	None
VOCs	AG 40 mL VOA	2	HCL
TOC	CG 40 mL	2	H2SO4
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-902D
Sample: MW-902D-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 159.96
Total Depth As Constructed (ft bmp): 27.37
Screened Interval (ft bmp): 21.37 - 26.37
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge
Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-706DR
Sample: MW-706DR-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 149.91
Total Depth As Constructed (ft bmp): 128.60
Screened Interval (ft bmp): 118.23 - 128.23
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/13/2012 Time: 7:35 am
Weather Conditions: Cloudy, Cool, Light rain
Depth to groundwater at time of deployment: 1.38
Total well depth at time of deployment: 128.76
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 125.50
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 9:45 am
Total # of days deployed: 1
Weather Conditions: Cloudy, Hot, Humid
Depth to groundwater at time of retrieval: 2.90
Total well depth at time of retrieval: 128.76
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -99.00 (mV) SCond: 0.06 (mS/cm) Water quality meter: YSI 600 XL
pH: 8.18 DO: 0.80(mg/L) Turb: 45.50 Serial #: 01G0130

Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	**Container**	**Number**	**Preservative**
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Dissolved Gases	CG 20 mL	2	TSP

HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MW-706DR
Sample:	MW-706DR-HS-06142012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC Top of Casing Elevation: 149.91

Total Depth As Constructed (ft bmp): 128.60 Screened Interval (ft bmp): 118.23 - 128.23

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Gary Williams Signature:

HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-705DR

Sample: MW-705DR-HS-06132012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 160.99

Total Depth As Constructed (ft bmp): 102.10

Screened Interval (ft bmp): 91.93 - 101.93

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 5:12 pm

Weather Conditions: Hot, Humid, Windy, Sunny

Depth to groundwater at time of deployment: 4.68

Total well depth at time of deployment: 103.12

Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90

Deployment Method/Position of Weight: Bottom Anchor

Deployment Depth (Top of HydraSleeveTM) (ftbgs): 100.00

PID 0

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 11:31 am

Total # of days deployed: 2

Weather Conditions: Cloudy, Humid, Light rain

Depth to groundwater at time of retrieval: 4.65

Total well depth at time of retrieval: 103.12

PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -54.20 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL

pH: 6.89 DO: 0.37(mg/L) Turb: 29.50 Serial #: 00J0695 AA

Collected Sample Condition Color brown Odor Yes Appearance N/A

Parameter	Container	Number	Preservative
Dissolved Gases	CG 20 mL	2	TSP
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None

HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-705DR

Sample: MW-705DR-HS-06132012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 160.99

Total Depth As Constructed (ft bmp): 102.10

Screened Interval (ft bmp): 91.93 - 101.93

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek

Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-704M
Sample: MW-704M-HS-06142012
Replicate No. DUP-GW-06142012-#1
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.34
Total Depth As Constructed (ft bmp): 49.10
Screened Interval (ft bmp): 38.66 - 48.66
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 10:50 am
Weather Conditions: Sunny
Depth to groundwater at time of deployment: 6.04
Total well depth at time of deployment: 47.83
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 44.83
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 7:44 am
Total # of days deployed: 3
Weather Conditions: Hot, Humid, Windy, Sunny
Depth to groundwater at time of retrieval: 6.40
Total well depth at time of retrieval: 47.81
PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) ORP: -105.00 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.01 DO: 0.70(mg/L) Turb: 7.57 Serial #: 01G0130

Collected Sample Condition Color clear Odor Yes Appearance N/A

Parameter	Container	Number	Preservative
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 20 mL	2	TSP
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Alkalinity	PE 60 ml	1	None

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-704M
Sample: MW-704M-HS-06142012
Replicate No. DUP-GW-06142012-#1
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.34
Total Depth As Constructed (ft bmp): 49.10
Screened Interval (ft bmp): 38.66 - 48.66
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge
Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-704DR
Sample: MW-704DR-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.84
Total Depth As Constructed (ft bmp): 134.50
Screened Interval (ft bmp): 104.27 - 134.27
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 11:23 am
Weather Conditions: Sunny
Depth to groundwater at time of deployment: 33.29
Total well depth at time of deployment: 134.54
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 119.54
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 7:14 am
Total # of days deployed: 3
Weather Conditions: Humid, Windy, Sunny
Depth to groundwater at time of retrieval: 36.72
Total well depth at time of retrieval: 136.51
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -116.00 (mV) SCond: 0.03 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.22 DO: 0.77(mg/L) Turb: 10.90 Serial #: 01G0130
Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	**Container**	**Number**	**Preservative**
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
TOC	CG 40 mL	2	H2SO4
Alkalinity	PE 60 ml	1	None
VOCs	AG 40 mL VOA	2	HCL

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-704DR

Sample: MW-704DR-HS-06142012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 152.84

Total Depth As Constructed (ft bmp): 134.50

Screened Interval (ft bmp): 104.27 - 134.27

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge

Signature:

ARCADIS
Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-704D
Sample: MW-704D-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 153.43
Total Depth As Constructed (ft bmp): 65.60
Screened Interval (ft bmp): 55.41 - 65.41
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 11:36 am
Weather Conditions: Sunny
Depth to groundwater at time of deployment: 6.76
Total well depth at time of deployment: 63.98
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 60.98
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 6:50 am
Total # of days deployed: 3
Weather Conditions: Humid, Windy, Sunny
Depth to groundwater at time of retrieval: 7.09
Total well depth at time of retrieval: 64.00
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 9 (C) ORP: -109.40 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 7.05 DO: 0.57(mg/L) Turb: 14.70 Serial #: 01G0130
Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	**Container**	**Number**	**Preservative**
Dissolved Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
TOC	CG 40 mL	2	H2SO4
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-704D

Sample: MW-704D-HS-06142012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 153.43

Total Depth As Constructed (ft bmp): 65.60

Screened Interval (ft bmp): 55.41 - 65.41

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Matt Pingitor

Signature:

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Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-502
Sample: MW-502-HS-06132012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 155.84
Total Depth As Constructed (ft bmp): 37.60
Screened Interval (ft bmp): 17.54 - 37.54
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 3:03 pm
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of deployment: 7.27
Total well depth at time of deployment: 35.80
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 27.25
PID 0.3

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 12:03 pm
Total # of days deployed: 2
Weather Conditions: Cloudy, Humid
Depth to groundwater at time of retrieval: 7.30
Total well depth at time of retrieval: 35.55
PID: 0.3
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -145.10 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.30 DO: 0.73(mg/L) Turb: 70.90 Serial #: 01G0130
Collected Sample Condition Color brown Odor Yes Appearance turbid, Cloudy

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Dissolved Gases	CG 20 mL	2	TSP
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
VOCs	AG 40 mL VOA	2	HCL

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-502

Sample: MW-502-HS-06132012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 155.84

Total Depth As Constructed (ft bmp): 37.60

Screened Interval (ft bmp): 17.54 - 37.54

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Matt Pingitor

Signature:

ARCADIS
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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-416
Sample: MW-416-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 159.98
Total Depth As Constructed (ft bmp): 52.00
Screened Interval (ft bmp): 32.00 - 52.00
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 12:23 pm
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 7.39
Total well depth at time of deployment: 51.67
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 42.75
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 10:51 am
Total # of days deployed: 4
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of retrieval: 7.37
Total well depth at time of retrieval: 51.67
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 11 (C) ORP: 391.20 (mV) SCond: 0.01 (mS/cm) Water quality meter: YSI 600 XL
pH: 8.04 DO: 0.28(mg/L) Turb: 7.72 Serial #: 01G0130
Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
TOC	CG 40 mL	2	H2SO4
Alkalinity	PE 60 ml	1	None
VOCs	AG 40 mL VOA	2	HCL
Dissolved Gases	CG 20 mL	2	TSP
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-416

Sample: MW-416-HS-06152012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 159.98

Total Depth As Constructed (ft bmp): 52.00

Screened Interval (ft bmp): 32.00 - 52.00

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge

Signature:

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT

Project No. B0054634.0000.01900
Well ID: MW-415

Sample: MW-415-HS-06152012
Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC
Top of Casing Elevation: 160.75

Total Depth As Constructed (ft bmp): 14.50
Screened Interval (ft bmp): 9.34 - 14.34

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 4:42 pm

Weather Conditions: Hot, Humid, Sunny

Depth to groundwater at time of deployment: 5.75

Total well depth at time of deployment: 14.08

Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90

Deployment Method/Position of Weight: Top Weight

Deployment Depth (Top of HydraSleeveTM) (ftbgs): 14.08

PID 0

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 11:52 am

Total # of days deployed: 4

Weather Conditions: Sunny, Humid

Depth to groundwater at time of retrieval: 5.69

Total well depth at time of retrieval: 14.08

PID: 0

Downhole Field Parameters Upon Retrieval:

Temp: 11 (C) ORP: -192.80 (mV) SCond: 0.01 (mS/cm) Water quality meter: YSI 600 XL

pH: 6.39 DO: 0.25(mg/L) Turb: 15.50 Serial #: 00J0695 AA

Collected Sample Condition Color clear Odor None Appearance CLEAR

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL	2	H2SO4
Alkalinity	PE 60 ml	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL
Dissolved Gases	CG 20 mL	2	TSP

HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: MW-415

Sample: MW-415-HS-06152012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 160.75

Total Depth As Constructed (ft bmp): 14.50

Screened Interval (ft bmp): 9.34 - 14.34

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek

Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-413
Sample: MW-413-HS-06152012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 160.49
Total Depth As Constructed (ft bmp): 22.50
Screened Interval (ft bmp): 17.25 - 22.25
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 4:40 pm
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of deployment: 5.53
Total well depth at time of deployment: 22.15
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Top Weight
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 22.15
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/15/2012 Time: 12:14 pm
Total # of days deployed: 4
Weather Conditions: Sunny
Depth to groundwater at time of retrieval: 5.56
Total well depth at time of retrieval: 22.15
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 13 (C) ORP: -190.10 (mV) SCond: 0.03 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.02 DO: 0.36(mg/L) Turb: 25.30 Serial #: 00J0695 AA
Collected Sample Condition Color green Odor None Appearance CLEAR

Parameter	Container	Number	Preservative
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 20 mL	2	TSP
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
VOCs	AG 40 mL VOA	2	HCL
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
TOC	CG 40 mL	2	H2SO4

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MW-413
Sample:	MW-413-HS-06152012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC   Top of Casing Elevation: 160.49

Total Depth As Constructed (ft bmp): 22.50   Screened Interval (ft bmp): 17.25 - 22.25

Well Casing: Diameter: 2.00   Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek   Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-124C
Sample: MW-124C-HS-06122012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 158.00
Total Depth As Constructed (ft bmp): 48.40
Screened Interval (ft bmp): 37.73 - 47.73
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 10:16 am
Weather Conditions: Cloudy
Depth to groundwater at time of deployment: 7.03
Total well depth at time of deployment: 47.51
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 44.51
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/12/2012 Time: 3:15 pm
Total # of days deployed: 1
Weather Conditions: Cloudy, Cool, Light rain
Depth to groundwater at time of retrieval: 6.99
Total well depth at time of retrieval: 47.51
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 9 (C) ORP: 338.80 (mV) SCond: 0.01 (mS/cm) Water quality meter: LaMotte 2020e
pH: 6.62 DO: 7.90(mg/L) Turb: 18.30 Serial #: 19091
Collected Sample Condition Color clear Odor None Appearance N/A

Parameter	Container	Number	Preservative
Alkalinity	PE 60 ml	1	None
TOC	CG 40 mL	2	H2SO4
Dissolved Gases	CG 20 mL	2	TSP
Dissolved Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	2	HCL
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-124C
Sample: MW-124C-HS-06122012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 158.00
Total Depth As Constructed (ft bmp): 48.40
Screened Interval (ft bmp): 37.73 - 47.73
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Christopher Trowbridge
Signature:

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HydraSleeve™ Field Form

Site: SRSNE | Site Location: Southington, CT

Project No. B0054634.0000.01900 | Well ID: MW-121M

Sample: MW-121M-HS-06132012 | Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC | Top of Casing Elevation: 153.83

Total Depth As Constructed (ft bmp): 33.82 | Screened Interval (ft bmp): 23.82 - 33.82

Well Casing: Diameter: 2.00 | Material: PVC sch 40

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 2:07 pm

Weather Conditions: Hot, Humid

Depth to groundwater at time of deployment: 6.40

Total well depth at time of deployment: 33.41

Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90

Deployment Method/Position of Weight: Bottom Anchor

Deployment Depth (Top of HydraSleeveTM) (ftbgs): 30.70

PID 0.6

Retrieval

Date and Time of Retrieval: Date: 06/13/2012 Time: 8:50 am

Total # of days deployed: 2

Weather Conditions: Rain

Depth to groundwater at time of retrieval: 6.71

Total well depth at time of retrieval: 30.70

PID: 0.6

Downhole Field Parameters Upon Retrieval:

Temp: 10 (C) | ORP: 278.40 (mV) | SCond: 0.03 (mS/cm) | Water quality meter: YSI 600 XL

pH: 6.29 | DO: 0.15(mg/L) | Turb: 13.70 | Serial #: 00J0695 AA

Collected Sample Condition Color orange Odor None Appearance Clear top to orange bottom

Parameter	Container	Number	Preservative
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
TOC	CG 40 mL VOA	2	H2SO4
Dissolved Gases	CG 20 mL	2	Trisodium phosphate
VOCs	CG 40 mL VOA	2	HCL

HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	MW-121M
Sample:	MW-121M-HS-06132012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 153.83

Total Depth As Constructed (ft bmp): 33.82

Screened Interval (ft bmp): 23.82 - 33.82

Well Casing: Diameter: 2.00 Material: PVC sch 40

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek

Signature:

HydraSleeve™ Field Form

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Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-121C
Sample: MW-121C-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.93
Total Depth As Constructed (ft bmp): 70.70
Screened Interval (ft bmp): 60.65 - 70.65
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 2:18 pm
Weather Conditions: Hot, Humid
Depth to groundwater at time of deployment: 5.75
Total well depth at time of deployment: 70.04
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 67.00
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 8:56 am
Total # of days deployed: 3
Weather Conditions: Sunny
Depth to groundwater at time of retrieval: 5.68
Total well depth at time of retrieval: 70.04
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 10 (C) ORP: -31.40 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.89 DO: 0.55(mg/L) Turb: 7.68 Serial #: 00J0695 AA
Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
VOCs	AG 40 mL VOA	2	HCL
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	2	None
Dissolved Gases	CG 20 mL	2	TSP
TOC	CG 40 mL	2	H2SO4
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL	2	HCL

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-121C
Sample: MW-121C-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.93
Total Depth As Constructed (ft bmp): 70.70
Screened Interval (ft bmp): 60.65 - 70.65
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek
Signature:

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HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-121B
Sample: MW-121B-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.91
Total Depth As Constructed (ft bmp): 54.10
Screened Interval (ft bmp): 44.04 - 54.04
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment: Date: 06/11/2012 Time: 3:41 pm
Weather Conditions: Hot, Humid, Sunny
Depth to groundwater at time of deployment: 5.75
Total well depth at time of deployment: 53.80
Dimensions of HydraSleeve TM: Length (in.) 36.00 Diameter(in.) 1.90
Deployment Method/Position of Weight: Bottom Anchor
Deployment Depth (Top of HydraSleeveTM) (ftbgs): 51.10
PID 0

Retrieval

Date and Time of Retrieval: Date: 06/14/2012 Time: 9:39 am
Total # of days deployed: 3
Weather Conditions: Sunny
Depth to groundwater at time of retrieval: 5.69
Total well depth at time of retrieval: 53.80
PID: 0
Downhole Field Parameters Upon Retrieval:
Temp: 9 (C) ORP: -97.80 (mV) SCond: 0.02 (mS/cm) Water quality meter: YSI 600 XL
pH: 6.91 DO: 0.59(mg/L) Turb: 6.79 Serial #: 00J0695 AA
Collected Sample Condition Color clear Odor None Appearance Clear

Parameter	Container	Number	Preservative
Dissolved Gases	CG 20 mL	2	Trisodium phosphate
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	250 mL	1	HNO3
TOC	CG 40 mL VOA	2	H2SO4
VOCs	AG 40 mL VOA	2	HCL
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None

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Infrastructure, environment, buildings

HydraSleeve™ Field Form

Site: SRSNE
Site Location: Southington, CT
Project No. B0054634.0000.01900
Well ID: MW-121B
Sample: MW-121B-HS-06142012
Replicate No. N/A
Well Type: Monitoring Well
Well Finish: ☑ Stick Up ☐ Flush Mount
Measuring Pt: TOC
Top of Casing Elevation: 152.91
Total Depth As Constructed (ft bmp): 54.10
Screened Interval (ft bmp): 44.04 - 54.04
Well Casing: Diameter: 2.00 Material: PVC
Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek
Signature:

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HydraSleeve™ Field Form

Site:	SRSNE	Site Location:	Southington, CT
Project No.	B0054634.0000.01900	Well ID:	CPZ-4A
Sample:	CPZ-4A-HS-06142012	Replicate No.	N/A
Well Type:	Monitoring Well		

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC — Top of Casing Elevation: 159.44

Total Depth As Constructed (ft bmp): 26.70 — Screened Interval (ft bmp): 11.51 - 25.51

Well Casing: Diameter: 2.00 — Material: PVC

Well Screen: Diameter: 2.00

Deployment

Date and Time of Deployment:	Date:	06/11/2012	Time:	4:01 pm
Weather Conditions:		Hot, Humid, Sunny		
Depth to groundwater at time of deployment:		9.81		
Total well depth at time of deployment:		27.03		
Dimensions of HydraSleeve TM:	Length (in.)	36.00	Diameter(in.)	1.90
Deployment Method/Position of Weight:		Bottom Anchor		
Deployment Depth (Top of HydraSleeveTM) (ftbgs):		22.00		
PID		0		

Retrieval

Date and Time of Retrieval:	Date:	06/14/2012	Time:	12:05 pm
Total # of days deployed:		3		
Weather Conditions:		Cloudy, Hot, Humid		
Depth to groundwater at time of retrieval:		10.15		
Total well depth at time of retrieval:		26.05		
PID:		0		

Downhole Field Parameters Upon Retrieval:

Temp:	10 (C)	ORP:	-138.10 (mV)	SCond:	0.02 (mS/cm)	Water quality meter:	YSI 600 XL
pH:	6.91	DO:	0.39(mg/L)	Turb:	20.80	Serial #:	00J0695 AA

Collected Sample Condition — Color: clear — Odor: None — Appearance: N/A

Parameter	Container	Number	Preservative
TOC	CG 40 mL	2	H2SO4
Alkalinity	PE 60 ml	1	None
Total Fe/Mn	PE 250 mL	1	HNO3
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Chloride, Nitrate/Nitrite, Sulfate	PE 250 mL	1	None
VOCs	AG 40 mL VOA	2	HCL
Dissolved Gases	CG 20 mL	2	TSP

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HydraSleeve™ Field Form

Site: SRSNE

Site Location: Southington, CT

Project No. B0054634.0000.01900

Well ID: CPZ-4A

Sample: CPZ-4A-HS-06142012

Replicate No. N/A

Well Type: Monitoring Well

Well Finish: ☑ Stick Up ☐ Flush Mount

Measuring Pt: TOC

Top of Casing Elevation: 159.44

Total Depth As Constructed (ft bmp): 26.70

Screened Interval (ft bmp): 11.51 - 25.51

Well Casing: Diameter: 2.00 Material: PVC

Well Screen: Diameter: 2.00

Notes/Observations:

Sampling Personnel: Michael Skowronek

Signature:

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	PZO-2M Sample ID PZO-2M-08272012
Sample Date	08/27/2012	Sampled By	Michael Skowronek
Sample Time	Begin 11:08 End 11:10	Recorded By	Michael Skowronek
Weather	Hot, Humid, Sunny	Replicate No.	DUP-GW-08272012-#1

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/6488
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	58.18 (6/12/2012)
Depth to Water (ft bmp)	9.01
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/13906			
Purge Method	BP:QED 9131			
Screen Interval (ft bmp)	Top	48.07	Bottom	58.07
Pump Intake Depth (ft bmp)		53.00		53.00
Purge Time	Begin	10:09	End	11:21

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
10:25	16.20	100.00 mL/min	0.42	23.58	7.44	231 uS/cm	-16.20	5.80	7.15	8.99
10:29	20.53	100.00 mL/min	0.54	22.59	7.50	201 uS/cm	3.80	6.74	6.69	8.53
10:35	26.22	100.00 mL/min	0.69	20.96	7.61	184 uS/cm	11.60	8.05	5.53	9.03
10:39	30.28	100.00 mL/min	0.79	21.05	7.67	184 uS/cm	11.70	8.23	5.29	9.03
10:45	36.02	100.00 mL/min	0.95	21.81	7.71	186 uS/cm	11.80	8.00	8.30	9.03
10:50	40.88	100.00 mL/min	1.08	21.09	7.78	184 uS/cm	13.00	8.66	6.21	9.03
10:56	47.48	100.00 mL/min	1.24	20.81	7.79	182 uS/cm	16.20	8.64	6.22	9.03
11:02	53.47	100.00 mL/min	1.40	20.23	7.79	183 uS/cm	17.20	8.56	6.03	9.03
11:08	59.48	100.00 mL/min	1.56	20.70	7.78	185 uS/cm	17.40	8.57	5.97	9.03

Collected Sample Condition   Color clear   Odor None   Appearance NA

Parameter	**Container**	**Number**	**Preservative**
VOCs	AG 40 mL VOA	4	HCL

Comments

Sampling Personnel: Michael Skowronek   Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version
1.01

Low-Flow Groundwater Sampling Log

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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-707DR Sample ID MW-707DR-08272012
Sample Date	08/27/2012	Sampled By	Michael Skowronek
Sample Time	Begin 9:31 End 9:33	Recorded By	Michael Skowronek
Weather	Hot, Humid, Sunny	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/6488
Casing Material	PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	194.60 (6/12/2012)
Depth to Water (ft bmp)	11.32
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/13906			
Purge Method	BP:QED 9131			
Screen Interval (ft bmp)	Top	162.92	Bottom	192.92
Pump Intake Depth (ft bmp)		177.00		177.00
Purge Time	Begin	8:37	End	9:33

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
8:40	2.38	75.00 mL/min	0.06	16.70	6.12	29 uS/cm	-158.30	2.28	25.30	10.46
8:46	8.95	75.00 mL/min	0.18	15.91	6.78	270 uS/cm	-172.80	1.56	15.30	11.04
8:52	15.08	75.00 mL/min	0.30	16.55	7.06	482 uS/cm	-170.60	1.70	10.30	11.58
8:58	20.98	75.00 mL/min	0.42	16.36	7.13	480 uS/cm	-177.00	1.65	5.88	11.82
9:02	24.55	75.00 mL/min	0.50	15.95	7.20	505 uS/cm	-176.70	1.27	5.38	11.93
9:07	29.17	75.00 mL/min	0.59	15.87	7.27	526 uS/cm	-175.00	1.11	6.03	11.97
9:11	33.55	75.00 mL/min	0.67	16.07	7.30	539 uS/cm	-156.60	1.06	5.99	12.03
9:16	38.57	75.00 mL/min	0.77	16.20	7.32	548 uS/cm	-167.70	1.10	5.38	12.07
9:22	44.88	75.00 mL/min	0.89	16.44	7.30	544 uS/cm	-170.20	0.91	6.33	12.11
9:26	48.55	75.00 mL/min	0.97	16.56	7.29	541 uS/cm	-183.40	0.89	6.12	12.13
9:31	53.77	75.00 mL/min	1.07	16.41	7.26	540 uS/cm	-180.80	0.88	6.00	12.14

Collected Sample Condition Color clear Odor None Appearance NA

Parameter	Container	Number	Preservative
VOCs	AG 40 mL VOA	6	HCL

Comments

Sampling Personnel: Michael Skowronek Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06 1-1/2" = 0.09 2" = 0.16 2-1/2" = 0.26 3" = 0.37 3-1/2":= 0.50 4" = 0.65 6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1003R Sample ID MW-1003R-10152012
Sample Date	10/15/2012	Sampled By	Michael Skowronek
Sample Time	Begin 12:56 End 12:56	Recorded By	Michael Skowronek
Weather	Humid, Partly Cloudy	Replicate No.	DUP-GW-10152012-#1

Instrument Identification

Water Quality Meter # 1: YSI 600 XL/7302
Casing Material: Sch. 80 PVC
Casing Diameter (in): 2.00
Sounded Depth (ft bmp): 120.87 (installed)
Depth to Water (ft bmp): 9.07
PID Reading(ppm): 0.00

Field Parameters

Water Quality Meter # 2: LaMotte 2020e/18253
Purge Method: BP:QED 9513
Screen Interval (ft bmp): Top 105.47 Bottom 120.47
Pump Intake Depth (ft bmp): 116.00 116.00
Purge Time: Begin 11:59 End 12:58

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
12:05	5.15	50.00 mL/min	N/A	13.84	11.03	1.111 mS/cm	11.90	5.45	45.60	7.81
12:10	10.07	50.00 mL/min	N/A	14.94	10.97	1.114 mS/cm	12.00	4.57	25.60	9.11
12:15	15.67	50.00 mL/min	N/A	14.06	10.98	1.100 mS/cm	11.95	4.36	15.60	10.90
12:19	19.57	50.00 mL/min	N/A	13.88	10.98	1.086 mS/cm	11.90	4.25	13.70	12.30
12:24	24.28	50.00 mL/min	N/A	13.76	11.01	1.080 mS/cm	11.90	4.16	10.54	12.52
12:29	29.52	50.00 mL/min	N/A	14.17	11.00	1.086 mS/cm	12.00	4.06	9.34	12.80
12:34	34.57	50.00 mL/min	N/A	14.39	11.00	1.092 mS/cm	11.90	4.02	12.90	13.56
12:39	39.05	50.00 mL/min	N/A	14.35	11.01	1.091 mS/cm	11.90	4.00	10.56	14.11
12:44	44.88	50.00 mL/min	N/A	14.25	11.01	1.087 mS/cm	12.00	3.97	9.23	14.35
12:50	50.58	50.00 mL/min	N/A	14.32	10.98	1.088 mS/cm	12.00	3.94	8.51	14.55
12:56	56.33	50.00 mL/min	N/A	14.29	10.97	1.087 mS/cm	11.90	3.92	8.75	14.63

Collected Sample Condition   Color: clear   Odor: None   Appearance: NA

Sampling Personnel: Michael Skowronek   Signature:

Well Casing Volumes

Gal./Ft. 1-1/4" = 0.06   1-1/2" = 0.09   2" = 0.16   2-1/2" = 0.26   3" = 0.37   3-1/2":= 0.50   4" = 0.65   6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

Low-Flow Groundwater Sampling Log

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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1003R Sample ID MW-1003R-10152012
Sample Date	10/15/2012	Sampled By	Michael Skowronek
Sample Time	Begin 12:56 End 12:56	Recorded By	Michael Skowronek
Weather	Humid, Partly Cloudy	Replicate No.	DUP-GW-10152012-#1

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	Trisodium phosphate
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	3	HCL

Comments

Sampling Personnel: Michael Skowronek

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version 1.01

ARCADIS
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Low-Flow Groundwater Sampling Log

Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1003DR Sample ID MW-1003DR-10152012
Sample Date	10/15/2012	Sampled By	Michael Skowronek
Sample Time	Begin 10:43 End 10:43	Recorded By	Michael Skowronek
Weather	Humid, Partly Cloudy	Replicate No.	N/A

Instrument Identification

Water Quality Meter # 1	YSI 600 XL/7302
Casing Material	Sch. 80 PVC
Casing Diameter (in)	2.00
Sounded Depth (ft bmp)	195.02 (installed)
Depth to Water (ft bmp)	16.21
PID Reading(ppm)	0.00

Field Parameters

Water Quality Meter # 2	LaMotte 2020e/18253			
Purge Method	BP:QED 9513			
Screen Interval (ft bmp)	Top	179.62	Bottom	194.62
Pump Intake Depth (ft bmp)		190.00		190.00
Purge Time	Begin	9:15	End	10:44

Field Parameter Measurements During Purging

Time	Cuml. Prg. Time (min)	Flow Rate	Cuml. Vol. Purged (gal)	TEMP. (°C)	pH (s.u.)	Specific Conductivity	ORP (mV)	DO (mg/L)	TURB (NTUs)	DTW (ft)
9:21	6.52	50.00 mL/min	N/A	13.33	12.35	3.214 mS/cm	-40.80	4.02	23.70	11.59
9:26	11.08	50.00 mL/min	N/A	13.36	12.36	3.265 mS/cm	-44.30	3.55	40.50	13.11
9:30	15.80	50.00 mL/min	N/A	13.91	12.37	3.373 mS/cm	-45.50	3.10	31.90	14.02
9:36	21.45	50.00 mL/min	N/A	14.01	12.40	3.446 mS/cm	-44.30	2.42	25.60	14.98
9:43	28.00	50.00 mL/min	N/A	14.28	12.39	3.486 mS/cm	-42.50	2.62	21.90	15.94
9:48	33.55	50.00 mL/min	N/A	14.00	12.40	3.466 mS/cm	-39.60	2.62	12.80	16.89
9:52	37.92	50.00 mL/min	N/A	13.95	12.41	3.443 mS/cm	-36.30	4.05	11.20	17.92
9:58	43.53	50.00 mL/min	N/A	13.91	12.41	3.390 mS/cm	-32.90	4.12	9.04	19.40
10:04	49.25	50.00 mL/min	N/A	14.13	12.34	3.422 mS/cm	-25.10	3.86	10.87	20.63
10:10	55.17	50.00 mL/min	N/A	14.16	12.34	3.396 mS/cm	-17.40	3.72	8.43	21.56
10:16	61.03	50.00 mL/min	N/A	15.05	12.31	3.433 mS/cm	-8.60	3.59	7.21	21.76
10:21	66.60	50.00 mL/min	N/A	14.64	12.32	3.401 mS/cm	-5.10	3.41	7.97	21.86
10:27	72.08	50.00 mL/min	N/A	14.05	12.31	3.338 mS/cm	11.90	3.39	6.98	22.02
10:32	77.53	50.00 mL/min	N/A	13.98	12.35	3.355 mS/cm	9.30	3.27	7.12	22.15
10:37	82.68	50.00 mL/min	N/A	13.93	12.35	3.348 mS/cm	9.80	3.26	6.90	22.29
10:43	88.83	50.00 mL/min	N/A	13.80	12.34	3.337 mS/cm	10.90	3.18	7.34	22.37

Sampling Personnel: Michael Skowronek   Signature:

Well Casing Volumes

Gal./Ft.   1-1/4" = 0.06   1-1/2" = 0.09   2" = 0.16   2-1/2" = 0.26   3" = 0.37   3-1/2":= 0.50   4" = 0.65   6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass   CG - Clear Glass   PE - Polyethylene   PP - Polypropylene   T - Teflon   S - Silicone   O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

Version
1.01

Low-Flow Groundwater Sampling Log

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Project	SRSNE	Site Location	Southington, CT
Project No.	B0054634.0000.01900	Well ID	MW-1003DR
		Sample ID	MW-1003DR-10152012
Sample Date	10/15/2012	Sampled By	Michael Skowronek
Sample Time	Begin 10:43 End 10:43	Recorded By	Michael Skowronek
Weather	Humid, Partly Cloudy	Replicate No.	N/A

Collected Sample Condition — Color: clear — Odor: None — Appearance: NA

Parameter	Container	Number	Preservative
Alkalinity	PE 250 mL	1	None
Chloride, Nitrate/Nitrite, Sulfate	PE 500 mL	1	None
Dissolved Fe/Mn	PE 250 mL	1	HNO3
Dissolved Gases	CG 40 mL VOA	2	Trisodium phosphate
TOC	CG 40 mL VOA	2	H2SO4
Total Fe/Mn	PE 250 mL	1	HNO3
VOCs	AG 40 mL VOA	3	HCL

Comments: MS/MSD sample collected.

Sampling Personnel: Michael Skowronek

Signature:

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	1-1/2" = 0.09	2" = 0.16	2-1/2" = 0.26	3" = 0.37	3-1/2":= 0.50	4" = 0.65	6"=1.47

°C	Degrees Celsius	in	Inches	N/A	Not Applicable
bmp	Below measuring point	mg/L	Milligrams per liter	NTUs	Nephelometric Turbidity Units
DO	Dissolved oxygen	min	Minutes	ORP	Oxidation reduction potential
DTW	Depth to water	mL	Milliliter	ppm	Parts per million
ft	Feet	mL/min	Milliliters per minute	s.u.	Standard Units
gal	Gallons	mS/cm	Millisiemens per centimeter	uS/cm	Microsiemens per centimeter
gpm	Gallons per minute	mV	Millivolts		

Material Code

AG - Amber Glass CG - Clear Glass PE - Polyethylene PP - Polypropylene T - Teflon S - Silicone O - Other

Purging Code

B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; SP=Sample Port; CV=Collection Valve; O=Other

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Appendix E

Equipment Calibration Logs

ARCADIS

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YSI & Turbidity Meter Calibration Log

DATE: 2/6/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS / 600XL	Serial Number: 8861 / 06F1764 AD
Brand: HACH	Model: 2100D	Serial Number: 2448 / 01K0643 AF 07242 / 060706017806

CALIBRATION RECORD

Morning Calibration Standard		Calibration Successful	Afternoon Check Standard	Reading	Evening Check Standard	Reading
pH (S.I. units)						
4.00	3.96	4.00	4.00	3.99	4.00	
7.00	7.02	7.00	7.00	6.22	7.00	
10.00	9.95	9.99	10.00	9.33	10.00	
Turbidity (NTUs)						
0	0.2	0.1	0	0.7	0	
1		1.05/1.01	1	0.95	1	
10		9.98/9.99	10	9.92	10	
Conductivity						
10 µS/cm		9.8/9.9	10 µS/cm	4.53	10 µS/cm	
10 mS/cm		9.8/9.9	10 mS/cm	9.53	10 mS/cm	
Dissolved Oxygen (mg/L)						
Zero DO Solution		2.09	Zero DO Solution	3.10	Zero DO Solution	
REDOX (mV)			Chart [1]		Chart [1]	
(Zobell Solution)		251.1/249.8		303.3		
(Light's Solution)		446.7		462.1		
Temperature (°C)		10		10		

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

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YSI & Turbidity Meter Calibration Log

DATE: 2/7/2012

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS/600XL	Serial Number: 8861/06F1764 AD 2448/01K0643 AF
Brand: HACH	Model: 2100Q	Serial Number: 07292/060706017806

CALIBRATION RECORD

Morning Calibration		Afternoon Check		Evening Check	
Standard	Calibration Successful	Standard	Reading	Standard	Reading
pH (S.I. units)					
4.00	4.00/ 4.00	4.00	3.96	4.00	
7.00	7.14/ 7.00	7.00	6.97	7.00	
10.00	9.79/ 9.96	10.00	9.94	10.00	
Turbidity (NTUs)					
0	0.5 0.0	0	0.2	0	
1	1.2 1.0	1	1.1	1	
10	9.95 9.99	10	9.8	10	
Conductivity					
10 µS/cm	13.7/9.99	10 µS/cm	9.34	10 µS/cm	
10 mS/cm	13.7/9.99	10 mS/cm	9.34	10 mS/cm	
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.52	Zero DO Solution	2.20	Zero DO Solution	
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	238.6/244.0		234.6		
(Light's Solution)	455.6		480.7		
Temperature (°C)	15		20		

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 2448
Description YSI 600 XL
Calibrated 2/2/2012

Manufacturer YSI
Model Number 600 XL
Serial Number/ Lot Number 01K0643AF
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 21
Humidity % 23

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Zero
Test Performed: N/A **As Found Result:** **As Left Result:**

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 2448
Description YSI 600 XL
Calibrated 2/2/2012

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1.413 CON. STANDARD 9187	MA 1.413 CONDUCTIVITY SOLUTION	Aurical	1.413	9187		9/20/2012
MA ORP 3354	MA ORP SOLUTION 240 mV	Hanna	240 mV	3354		6/20/2016
MA PH10 2108566	MA PH10 SOLUTION	VWR	PH10	2108566		2/28/2013
MA PH4 2106053	MA PH4 SOLUTION	VWR	MA PH4	2106053		5/31/2013
MA PH7 2109104	MA PH7 SOLUTION	VWR	MA PH7	2109104		8/31/2013
MA ZERO D.O.	MA ZERO DO SODIUM SULFITE			44328		

Notes about this calibration

Zero DO check - 0.16

Calibration Result Calibration Successful
Who Calibrated Darrell Gallivan

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 18476
Description MiniRae 3000
Calibrated 1/31/2012

Manufacturer	Rae Systems	**State Certified**	
Model Number	PGM-7320	**Status**	Pass
Serial Number/ Lot Number	592-906041	**Temp °C**	20
Location	Massachusetts	**Humidity %**	19
Department			

Calibration Specifications

Group #	1	**Range Acc %**	0.0000
Group Name	Isobutylene	**Reading Acc %**	3.0000
Stated Accy	Pct of Reading	**Plus/Minus**	0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	100.10	0.10%	Pass

Test Instruments Used During the Calibration (As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0420FD11	MA 100 PPM ISO	American Gas Group	GP1102	0420FD11		6/1/2015

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 7292
Description HACH 2100P Turbidimeter
Calibrated 2/3/2012

Manufacturer	HACH	**State Certified**	
Model Number	2100P	**Status**	Pass
Serial Number/ Lot Number	06070C017806	**Temp °C**	21.0
Location	Massachusetts	**Humidity %**	19
Department			

Calibration Specifications

Group #	1	**Range Acc %**	0.0000
Group Name	Turbidity	**Reading Acc %**	3.0000
Stated Accy	Pct of Reading	**Plus/Minus**	0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.10 / 0.10	NTU	0.10	NTU	0.10	0.10	0.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.00	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	100.00	100.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 800NTU HACH 2100Q A1143	MA 800 NTU HACH 2100Q A1143	HACH				5/31/2012
MA 0.1NTU	MA Turbidity Cal Standard 0.10 NTU	HACH		a1061		3/31/2012
MA 100NTU HACH 2100Q A1138	MA 20 NTU HACH 2100Q A1140	HACH				5/31/2012
MA 20 NTU HACH 2100Q A1140	MA 20 NTU HACH 2100Q A1140	HACH		A1140		5/31/2012

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Amy Adams

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 7292
Description HACH 2100P Turbidimeter
Calibrated 2/3/2012

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

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Infrastructure, environment, facilities

YSI & Turbidity Meter Calibration Log

DATE: 4-4-12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 600 XL-B-M	Serial Number: 01K089341
Brand: LaMotte	Model:	Serial Number: ME-13249

CALIBRATION RECORD

Morning Calibration		Afternoon Check		Evening Check	
Standard	Calibration Successful	Standard	Reading	Standard	Reading
pH (S.I. units)					
4.00	3.99	4.00		4.00	4.02
7.00	7.00	7.00		7.00	7.02
10.00	10.00	10.00		10.00	9.97
Turbidity (NTUs)					
0	0.00	0		0	0.00
10	10.00	10		10	9.87
100					
Conductivity (µmhos/cm)					
~~1.413~~	~~10 [illegible]~~	1.413		1000 ~~1.413~~	
1000	986				1007
Dissolved Oxygen (mg/L) zero DO 0.22 / 8.24	~~[illegible]~~ mg/L	Not Applicable		Not Applicable	
~~Barametric Pressure~~					
in.H_2O*25.4=_______mmHg					
REDOX (mV)		Chart [1]		Chart [1]	
(Zobel Solution)	262.4				
Temperature (°C)	5.72				
Lights 432.5		/ 470.7			

✓ ORP 240mV

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

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YSI & Turbidity Meter Calibration Log

DATE: 4-5-12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 600XL-B-M	Serial Number: 01K089341
Brand: Lamotte	Model:	Serial Number: ME-13249

CALIBRATION RECORD

Morning Calibration		Afternoon Check		Evening Check	
Standard	Calibration Successful	Standard	Reading	Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	
7.00	7.00	7.00		7.00	
10.00	10.00	10.00		10.00	
Turbidity (NTUs)					
0	0.00	0		0	0.00
10	10.00	10		10	10.08
100					
Conductivity (µmhos/cm)					
~~1.413~~	~~1.413~~	1.413		~~1.413~~	
1000	997			1000	1002
Dissolved Oxygen (mg/L) Zero DO 0.09 // 0.15 Barametric Pressure in.H_2O*25.4=______mmHg		Not Applicable		Not Applicable	
REDOX (mV) ORP=240mV ✓		Chart [1]		Chart [1]	
(Zobel Solution)	252.4				
Temperature (°C)	6.23				
night	4 [illegible]	/ 440.4			

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

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YSI & Turbidity Meter Calibration Log

GARY H WILLIAMS

DATE: 6-12-12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 600XL ROVEDO 19091	Serial Number: 11K100362
Brand: YSI	Model:	Serial Number: 01J0034

CALIBRATION RECORD

Morning Calibration: Standard	Calibration Successful	Afternoon Check: Standard	Reading	Evening Check: Standard	Reading
pH (S.I. units)					
4.00	3.99	4.00		4.00	4.04
7.00	7.00	7.00		7.00	7.02
10.00	10.00	10.00		10.00	9.98
Turbidity (NTUs)					
0	OK	0		0	-.38
1	ADJ TO 1	1		1	1.15
10	ADJ TO 10	10		10	9.72
Conductivity					
10 µS/cm	0.010	10 µS/cm		10 µS/cm	.010
10 mS/cm		10 mS/cm		10 mS/cm	—
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.04	Zero DO Solution		Zero DO Solution	0.05
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	236.5				234.0
(Light's Solution)	464.9				481.6
Temperature (°C)	19.17				22.01

The REDOX of the Zobell solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

Chris Trowbridge

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YSI & Turbidity Meter Calibration Log

DATE: 6/12/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS PINE: 18892	Serial Number: 12J100750
Brand: YSI	Model: 600 XL PINE ID: 7302	Serial Number: 00J0695 AA
LaMotte	2020 e PINE ID: 006798	SN-ME 1136 7

CALIBRATION RECORD

Morning Calibration: Standard	Morning Calibration: Calibration Successful	Afternoon Check: Standard	Afternoon Check: Reading	Evening Check: Standard	Evening Check: Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	4.23
7.00	7.00	7.00		7.00	7.05
10.00	10.00	10.00		10.00	9.96
Turbidity (NTUs)					
0	0	0		0	0
1	1.00	1		1	0.90
10	10.00	10		10	10.88
Conductivity					
10 µS/cm	0.010	10 µS/cm		10 µS/cm	—
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.008
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.08	Zero DO Solution		Zero DO Solution	0.17
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.5				231.9
(Light's Solution)	442.8				457.5
Temperature (°C)	19.82				22.60

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

MP

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YSI & Turbidity Meter Calibration Log

DATE: 6/12/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS 600XL-B-O	Serial Number: 09787 (Pine #) 0160130 (Pine #2243)
Brand: LaMotte	Model: 2020e	Serial Number: ME14058 (Pine # 13871)

CALIBRATION RECORD

Morning Calibration: Standard	Morning Calibration: Calibration Successful	Afternoon Check: Standard	Afternoon Check: Reading	Evening Check: Standard	Evening Check: Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	4.07
7.00	7.00	7.00		7.00	6.87
10.00	10.00	10.00		10.00	9.96
Turbidity (NTUs)					
0	0.00	0		0	-0.06
1	0.98	1		1	0.52
10	9.97	10		10	7.83
Conductivity					
10 µS/cm		10 µS/cm		10 µS/cm	
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.017
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.06	Zero DO Solution		Zero DO Solution	0.02
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.4				223.2
(Light's Solution)	429.1				447.1
Temperature (°C)	19.49				22.72

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

MP

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YSI & Turbidity Meter Calibration Log

DATE: 6/13/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS 600 XL-B-O	Serial Number: 01G0130 / Pine# 22433 / Pine# 09787
Brand: LaMotte	Model: 2020e	Serial Number: ME 14058 / Pine# 13871

CALIBRATION RECORD

Morning Calibration: Standard	Calibration Successful	Afternoon Check: Standard	Reading	Evening Check: Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	3.90
7.00	7.00	7.00		7.00	6.60
10.00	10.01	10.00		10.00	9.46
Turbidity (NTUs)					
0	0.00	0	~~0.56~~ MLP	0	0.56
1	0.98	1	~~0.40~~ MLP	1	0.40
10	10.01	10	~~9.96~~ MLP	10	9.96
Conductivity					
10 µS/cm	—	10 µS/cm		10 µS/cm	—
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.007
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.08	Zero DO Solution		Zero DO Solution	0.33
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.6				240.9
(Light's Solution)	464.2				459.6
Temperature (°C)	20.11				22.70

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

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YSI & Turbidity Meter Calibration Log

DATE: 6/13/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS PINE: 18892	Serial Number: 11J100750
Brand: YSI	Model: Sonde 600XL PINE: 7302	Serial Number: 00J0695 AA
LaMotte	2020e PINE: 010426	SN-ME-11693

CALIBRATION RECORD

Morning Calibration Standard	Calibration Successful	~~Afternoon Check~~ Evening Check Standard	Reading	~~Evening Check~~ Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00	4.21	4.00	
7.00	7.00	7.00	7.15	7.00	
10.00	10.00	10.00	10.12	10.00	
Turbidity (NTUs)					
0	0.00	0	-0.36	0	
1	1.00	1	0.13	1	
10	10.00	10	17.0	10	
Conductivity					
10 µS/cm	—	10 µS/cm	—	10 µS/cm	
10 mS/cm	0.010	10 mS/cm	0.023	10 mS/cm	
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.06	Zero DO Solution	0.08	Zero DO Solution	
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.5		243.0		
(Light's Solution)	451.4		454.4		
Temperature (°C)	20.38		23.02		

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

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YSI & Turbidity Meter Calibration Log

DATE: 6/14/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 600XL 650MDS	Serial Number: 01G0130 / Pine # 2243
Brand: La Motte	Model: 2020e	Serial Number: ME [redacted] 10367 / Pine # 06798 Pine # 09737

CALIBRATION RECORD

Morning Calibration		Afternoon Check		Evening Check	
Standard	Calibration Successful	Standard	Reading	Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	4.20
7.00	7.00	7.00		7.00	7.08
10.00	10.00	10.00		10.00	10.10
Turbidity (NTUs)					
0	0.00	0		0	0.04
1	1.01	1		1	1.26
10	9.94	10		10	10.60
Conductivity					
10 µS/cm	—	10 µS/cm		10 µS/cm	—
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.011
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.17	Zero DO Solution		Zero DO Solution	0.30
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.4				234.9
(Light's Solution)	437.5				433.9
Temperature (°C)	19.20				18.24

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

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YSI & Turbidity Meter Calibration Log

DATE: 6/14/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS PINE: 18892	Serial Number: 11J100750
Brand: YSI	Model: Sonde 600XL PINE: 7302	Serial Number: 000695 AA
LaMotte	2020e PINE: 010426	SN-ME-11695

CALIBRATION RECORD

Morning Calibration: Standard	Calibration Successful	Afternoon Check: Standard	Reading	Evening Check: Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	4.06
7.00	7.00	7.00		7.00	7.08
10.00	10.00	10.00		10.00	10.11
Turbidity (NTUs)					
0	0.00	0		0	0.14
1	1.00	1		1	1.30
10	10.00	10		10	9.86
Conductivity					
10 µS/cm	—	10 µS/cm		10 µS/cm	—
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.008
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.06	Zero DO Solution		Zero DO Solution	0.07
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.5				238.7
(Light's Solution)	460.6				461.4
Temperature (°C)	19.23				17.95

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

MP

ARCADIS

Infrastructure, environment, facilities

YSI & Turbidity Meter Calibration Log

DATE: 6/15/12

INSTRUMENT IDENTIFICATION

Brand	Model	Serial Number
Brand: YSI	Model: 600XL 650 MDS	Serial Number: 01G0130 / Pine #22143 / Pine #09787
Brand: LaMotte	Model: 2020e	Serial Number: ME10367 / Pine #06798

CALIBRATION RECORD

Morning Calibration: Standard	Calibration Successful	Afternoon Check: Standard	Reading	Evening Check: Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	4.10
7.00	7.00	7.00		7.00	7.09
10.00	10.00	10.00		10.00	9.96
Turbidity (NTUs)					
0	0.00	0		0	0.14
1	0.98	1		1	1.06
10	10.10	10		10	10.18
Conductivity					
10 µS/cm	—	10 µS/cm		10 µS/cm	—
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.008
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.21	Zero DO Solution		Zero DO Solution	0.18
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.4				240.9
(Light's Solution)	436.8				440.6
Temperature (°C)	19.69				19.80

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

ARCADIS
Infrastructure, environment, facilities

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YSI & Turbidity Meter Calibration Log

DATE: 6/15/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 650 MDS PINE: 18892	Serial Number: 11J100750
Brand: YSI	Model: Sonde 600XL PINE: 7302	Serial Number: 00J0695AA
LaMotte	2020e PINE: 010426	SN-ME-11695

CALIBRATION RECORD

Morning Calibration Standard	Calibration Successful	Afternoon Check Standard	Reading	Evening Check Standard	Reading
pH (S.I. units)					
4.00	4.00	4.00		4.00	4.12
7.00	7.00	7.00		7.00	7.06
10.00	10.00	10.00		10.00	10.05
Turbidity (NTUs)					
0	0.00	0		0	0.80
1	1.00	1		1	1.5
10	10.00	10		10	14.2
Conductivity					
10 µS/cm	—	10 µS/cm		10 µS/cm	—
10 mS/cm	0.010	10 mS/cm		10 mS/cm	0.006
Dissolved Oxygen (mg/L)					
Zero DO Solution	0.07	Zero DO Solution		Zero DO Solution	0.09
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	237.7				246.5
(Light's Solution)					
Temperature (°C)	19.36				19.88

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

MS

ARCADIS

Infrastructure, environment, facilities

YSI & Turbidity Meter Calibration Log

DATE: 6/15/12

INSTRUMENT IDENTIFICATION

Brand: YSI 600XL	Model: 600XL	Serial Number: 01J0034 Pine: 2229
Brand: LaMotte	Model: 2020e	Serial Number: ME 14058 Pine: 13871

CALIBRATION RECORD

Morning Calibration Standard		Calibration Successful	Afternoon Check Standard	Reading	Evening Check Standard	Reading
pH (S.I. units)						
4.00	3.16	4.00	4.00		4.00	4.10
7.00	7.50	7.00	7.00		7.00	7.06
10.00	9.64	9.93	10.00		10.00	10.04
Turbidity (NTUs)						
0	0.00	0.0	0		0	0.04
1	0.73	1.0	1		1	1.02
10			10		10	10.00
Conductivity						
10 µS/cm	16	10	10 µS/cm		10 µS/cm	—
10 mS/cm	16	10	10 mS/cm		10 mS/cm	0.011
Dissolved Oxygen (mg/L)						
Zero DO Solution		0.08	Zero DO Solution		Zero DO Solution	0.09
REDOX (mV)			Chart [1]		Chart [1]	
(Zobell Solution)		242.0/243.9				239.4
(Light's Solution)						
Temperature (°C)		16.50				19.61

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 7302
Description YSI 600 XL
Calibrated 6/7/2012

Manufacturer YSI
Model Number 600 XL
Serial Number/ Lot Number 00J0695AA
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 22
Humidity % 40

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Zero
Test Performed: N/A **As Found Result:** **As Left Result:**

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 7302
Description YSI 600 XL
Calibrated 6/7/2012

Test Instruments Used During the Calibration — **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1.413 CON. STANDARD 9187	MA 1.413 CONDUCTIVITY SOLUTION	Aurical	1.413	9187		9/20/2012
MA ORP 3834	MA ORP SOLUTION 240 mV	Hanna	240 mV	3834		12/31/2016
MA PH10 2110150	MA PH10 SOLUTION	VWR	PH10	2110150		2/28/2013
MA PH4 2106498	MA PH4 SOLUTION	VWR	MA PH4	2106498		6/1/2013
MA PH7 2109104	MA PH7 SOLUTION	VWR	MA PH7	2109104		8/31/2013
MA ZERO D.O 201023821	MA ZERO DO SODIUM SULFITE			201023821		

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663

GA 800-842-1088	VA 866-801-PINE
OH 877-326-PINE	FL 877-259-PINE
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MA 800-519-PINE	TN 877-355-7907
NY 877-903-PINE	CA 888-620-PINE
NC 866-646-PINE	Canada
TX 866-981-PINE	ON 866-688-0388
CO 866-960-PINE	BC 877-678-8383

Description	YSI 600 XL and 650 MDS display
Instrument ID	7302
Date Calibrated	6-6-12

Standard Items	Prepared	QC check	Received by customer	Returned to Pine
YSI 600 XL sonde w/ 8' cable and case	✓	✓		
YSI 650 MDS Display	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Stand (base, clamp, and rod)	✓	✓		
Probe Guard	✓	✓		
Calibration cup w/sponge	✓	✓		
Flow cell	✓	✓		
• Cell adapter for older style cell (if applicable)	✓	✓		
2 of each barb size (1/4, 3/8, 1/2)	✓	✓		
DO_2 probe reconditioning kit	✓	✓		
4 C batteries	✓	✓		
6-series Communications cable	✓	✓		
YSI Ecowatch Software	✓	✓		
Calibration kit, pH (4,7,10), conductivity, and ORP.	✓	✓		
NIST traceable calibration sheet	✓	✓		

Prepared by: BS

QC checked by: MR

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 2229
Description YSI 600 XL
Calibrated 6/4/2012

Manufacturer YSI
Model Number 600 XL
Serial Number/ Lot Number 01J0034AA
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 22.00
Humidity % 48

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Group # 5
Group Name Dissolved Oxygen Zero
Test Performed: N/A **As Found Result:** **As Left Result:**

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 2229
Description YSI 600 XL
Calibrated 6/4/2012

Test Instruments Used During the Calibration

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	(As Of Cal Entry Date) Last Cal Date/ Opened Date	(As Of Cal Entry Date) Next Cal Date / Expiration Date
MA 1.413 CON. STANDARD 9187	MA 1.413 CONDUCTIVITY SOLUTION	Aurical	1.413	9187		9/20/2012
MA ORP 3834	MA ORP SOLUTION 240 mV	Hanna	240 mV	3834		12/31/2016
MA PH10 2108566	MA PH10 SOLUTION	VWR	PH10	2108566		2/28/2013
MA PH4 2106498	MA PH4 SOLUTION	VWR	MA PH4	2106498		6/1/2013
MA PH7 2109104	MA PH7 SOLUTION	VWR	MA PH7	2109104		8/31/2013
MA ZERO D.O 201023821	MA ZERO DO SODIUM SULFITE			201023821		

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

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MA 800-519-PINE **TN** 877-355-7907
NY 877-903-PINE **CA** 888-620-PINE
NC 866-646-PINE **Canada**
TX 866-981-PINE **ON** 866-688-0388
CO 866-960-PINE **BC** 877-678-8383

Description	YSI 600 XL and 650 MDS display
Instrument ID	2229
Date Calibrated	6/4/12

Standard Items	Prepared	QC check	Received by customer	Returned to Pine
YSI 600 XL sonde w/ 25 ' cable and case	✓	✓		
YSI 650 MDS Display	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Stand (base, clamp, and rod)	✓	✓		
Probe Guard	✓	✓		
Calibration cup w/sponge	✓	✓		
Flow cell	✓	✓		
• Cell adapter for older style cell (if applicable)	✓	✓		
2 of each barb size (1/4, 3/8, 1/2)	✓	✓		
DO_2 probe reconditioning kit	✓	✓		
4 C batteries	✓	✓		
6-series Communications cable	✓	✓		
YSI Ecowatch Software	✓	✓		
Calibration kit, pH (4,7,10), conductivity, and ORP.	✓	✓		
NIST traceable calibration sheet	✓	✓		

Prepared by: [illegible]

QC checked by: [illegible]

Date: ____

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 2243
Description YSI 600 XL
Calibrated 6/5/2012

Manufacturer YSI
Model Number 600 XL
Serial Number/ Lot Number 01G0130AC
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 22
Humidity % 46

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Zero
Test Performed: N/A **As Found Result:** **As Left Result:**

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 2243
Description YSI 600 XL
Calibrated 6/5/2012

Test Instruments Used During the Calibration — **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1.413 CON. STANDARD 9187	MA 1.413 CONDUCTIVITY SOLUTION	Aurical	1.413	9187		9/20/2012
MA ORP 3834	MA ORP SOLUTION 240 mV	Hanna	240 mV	3834		12/31/2016
MA PH10 2110150	MA PH10 SOLUTION	VWR	PH10	2110150		2/28/2013
MA PH4 2106498	MA PH4 SOLUTION	VWR	MA PH4	2106498		6/1/2013
MA PH7 2109104	MA PH7 SOLUTION	VWR	MA PH7	2109104		8/31/2013
MA ZERO D.O 201023821	MA ZERO DO SODIUM SULFITE			201023821		

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663

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MA 800-519-PINE | TN 877-355-7907
NY 877-903-PINE | CA 888-620-PINE
NC 866-646-PINE | Canada
TX 866-981-PINE | ON 866-688-0388
CO 866-960-PINE | BC 877-678-8383

Description	YSI 600 XL and 650 MDS display
Instrument ID	2243
Date Calibrated	6-5-12

Standard Items	**Prepared**	**QC check**	**Received by customer**	**Returned to Pine**
YSI 600 XL sonde w/ 12' cable and case	✓	✓		
YSI 650 MDS Display	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Stand (base, clamp, and rod)	✓	✓		
Probe Guard	✓	✓		
Calibration cup w/sponge	✓	✓		
Flow cell	✓	✓		
• Cell adapter for older style cell (if applicable)	✓	✓		
2 of each barb size (1/4, 3/8, 1/2)	✓	✓		
DO_2 probe reconditioning kit	✓	✓		
4 C batteries	✓	✓		
6-series Communications cable	✓	✓		
YSI Ecowatch Software	✓	✓		
Calibration kit, pH (4,7,10), conductivity, and ORP.	✓	✓		
NIST traceable calibration sheet	✓	✓		

Prepared by: [signature]

QC checked by: [signature]

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 6798
Description LaMotte 2020E
Calibrated 6/8/2012

Manufacturer LaMotte
Model Number 2020E
Serial Number/ Lot Number ME 10367
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 23
Humidity % 47

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.00 / 1.00	NTU	1.00	NTU	1.00	1.00	0.00%	Pass
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1 NTU TURBIDITY	MA 1 NTU Turbidity	GFS	8577	C252523		4/30/2013
MA 10 NTU TURBIDITY	MA 10 NTU Turbidity Solution	GFS	8578	C149164		1/31/2013
MA AUTOCAL 0.0 NTU C2512354	MA AUTOCAL 0.0 NTU C251235	GFS		C251234		3/30/2013

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

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Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUCTIONS PACKING LIST

Pine Environmental Services, Inc.

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MA 800-519-PINE **TN** 877-355-7907
NY 877-903-PINE **CA** 888-620-PINE
NC 866-646-PINE **Canada**
TX 866-981-PINE **ON** 866-688-0388
CO 866-960-PINE **BC** 877-678-8383

Description	LaMotte 2020e
Instrument ID	6798
Date Calibrated	6-8-12

Standard Items	**Prepared**	**QC check**	**Received by customer**	**Returned to Pine**
LaMotte 2020e w/ hard case	✓	✓		
Manual	✓	✓		
Lint-free lens papers (KimWipes)	✓	✓		
0 NTU vial w/ tube positioning ring	✓	✓		
1 NTU vial w/ tube positioning ring	✓	✓		
10 NTU vial w/ tube positioning ring	✓	✓		
(2) sample vials w/ tube positioning rings	✓	✓		
Plastic water sample bottle with spout	✓	✓		
(1) Extra 9V battery	✓	✓		
NIST traceable calibration sheet	✓	✓		

Optional Items				
Extra sample vials 0	✓			

Prepared by: 8

QC checked by: MP

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 13871
Description LaMotte 2020E
Calibrated 6/8/2012

Manufacturer LaMotte
Model Number 2020E
Serial Number/ Lot Number ME 14058
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 23
Humidity % 40

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.00 / 1.00	NTU	1.00	NTU	1.00	1.00	0.00%	Pass
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1 NTU TURBIDITY	MA 1 NTU Turbidity	GFS	8577	C252523		4/30/2013
MA 10 NTU TURBIDITY	MA 10 NTU Turbidity Solution	GFS	8578	C149164		1/31/2013
MA AUTOCAL 0.0 NTU C2512354	MA AUTOCAL 0.0 NTU C251235	GFS		C251234		3/30/2013

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663

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ME 888-779-PINE	**PA** 866-750-PINE
MA 800-519-PINE	**TN** 877-355-7907
NY 877-903-PINE	**CA** 888-620-PINE
NC 866-646-PINE	**Canada**
TX 866-981-PINE	**ON** 866-688-0388
CO 866-960-PINE	**BC** 877-678-8383

Description	LaMotte 2020e
Instrument ID	13871
Date Calibrated	6-6-12

Standard Items	**Prepared**	**QC check**	**Received by customer**	**Returned to Pine**
LaMotte 2020e w/ hard case	✓	✓		
Manual	✓	✓		
Lint-free lens papers (KimWipes)	✓	✓		
0 NTU vial w/ tube positioning ring	✓	✓		
1 NTU vial w/ tube positioning ring	✓	✓		
10 NTU vial w/ tube positioning ring	✓	✓		
(2) sample vials w/ tube positioning rings	✓	✓		
Plastic water sample bottle with spout	✓	✓		
(1) Extra 9V battery	✓	✓		
NIST traceable calibration sheet	✓	✓		
Optional Items				
Extra sample vials 0	✓			

Prepared by: SB

QC checked by: MD

Date: ______

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INSTRUCTION CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 10426
Description LaMotte 2020E
Calibrated 6/8/2012

Manufacturer LaMotte
Model Number 2020E
Serial Number/ Lot Number me11693
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 233
Humidity % 40

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.00 / 1.00	NTU	1.00	NTU	1.00	1.00	0.00%	Pass
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1 NTU TURBIDITY	MA 1 NTU Turbidity	GFS	8577	C252523		4/30/2013
MA 10 NTU TURBIDITY	MA 10 NTU Turbidity Solution	GFS	8578	C149164		1/31/2013
MA AUTOCAL 0.0 NTU C2512354	MA AUTOCAL 0.0 NTU C251235	GFS		C251234		3/30/2013

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.
NJ Headquarters 800-301-9663
GA 800-842-1088 **VA** 866-801-PINE
OH 877-326-PINE **FL** 877-259-PINE
ME 888-779-PINE **PA** 866-750-PINE
MA 800-519-PINE **TN** 877-355-7907
NY 877-903-PINE **CA** 888-620-PINE
NC 866-646-PINE **Canada**
TX 866-981-PINE **ON** 866-688-0388
CO 866-960-PINE **BC** 877-678-8383

Description	LaMotte 2020e
Instrument ID	10426
Date Calibrated	6-8-12

Standard Items	Prepared	QC check	Received by customer	Returned to Pine
LaMotte 2020e w/ hard case	✓	✓		
Manual	✓	✓		
Lint-free lens papers (KimWipes)	✓	✓		
0 NTU vial w/ tube positioning ring	✓	✓		
1 NTU vial w/ tube positioning ring	✓	✓		
10 NTU vial w/ tube positioning ring	✓	✓		
(2) sample vials w/ tube positioning rings	✓	✓		
Plastic water sample bottle with spout	✓	✓		
(1) Extra 9V battery	✓	✓		
NIST traceable calibration sheet	✓	✓		
Optional Items				
Extra sample vials 0	✓			

Prepared by: [signature]

QC checked by: MD

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 12734
Description MIniRae 3000
Calibrated 6/7/2012

Manufacturer Rae Systems
Model Number MiniRAE 3000
Serial Number/ Lot Number 592-001230
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 22
Humidity % 40

Calibration Specifications

Group # 1
Group Name Isobutylene
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.10	99.80	-0.20%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0125FE12	MA 100 PPM ISO	American Gas Group	GP11012	0125FE12		2/1/2016

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663

GA 800-842-1088 **VA** 866-801-PINE
OH 877-326-PINE **FL** 877-259-PINE
ME 888-779-PINE **PA** 866-750-PINE
MA 800-519-PINE **TN** 877-355-7907
NY 877-903-PINE **CA** 888-620-PINE
NC 866-646-PINE **Canada**
TX 866-981-PINE **ON** 866-688-0388
CO 866-960-PINE **BC** 877-678-8383

Description	RAE Systems MiniRAE 3000
Instrument ID	
Date Calibrated	

Standard Items	**Prepared**	**QC check**	**Received by customer**	**Returned to Pine**
MiniRAE 3000 w/ ______eV lamp and carry case	Ø	✓		
Protective rubber boot	Ø	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Probe tip	Ø	✓		
Charger/ adapter, or charger and cradle	Ø	✓		
(2) Hydrophobic filters	✓	✓		
Alkaline battery adapter	✓	✓		
(4) AA Alkaline batteries	✓	✓		
NIST traceable calibration sheet	Ø	✓		
Optional Items				
100 ppm isobutylene calibration gas	✓	✓		
Gas regulator	✓	✓		
Tedlar bag	✓	✓		
Datalogging software	O			
Communications cable	O			

Prepared by: ______

QC checked by: ______

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 16446
Description MiniRae 3000
Calibrated 6/7/2012

Manufacturer Rae Systems
Model Number PGM-7320
Serial Number/ Lot Number 592-903790
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 22
Humidity % 40

Calibration Specifications

Group # 1
Group Name Isobutylene
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	99.70	-0.30%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0125FE12	MA 100 PPM ISO	American Gas Group	GP11012	0125FE12		2/1/2016

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663

GA 800-842-1088
OH 877-326-PINE
ME 888-779-PINE
MA 800-519-PINE
NY 877-903-PINE
NC 866-646-PINE
TX 866-981-PINE
CO 866-960-PINE
VA 866-801-PINE
FL 877-259-PINE
PA 866-750-PINE
TN 877-355-7907
CA 888-620-PINE
Canada
ON 866-688-0388
BC 877-678-8383

Description	RAE Systems MiniRAE 3000
Instrument ID	
Date Calibrated	

Standard Items	**Prepared**	**QC check**	**Received by customer**	**Returned to Pine**
MiniRAE 3000 w/ ______eV lamp and carry case	✓	✓		
Protective rubber boot	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Probe tip	✓	✓		
Charger/ adapter, or charger and cradle	✓	✓		
(2) Hydrophobic filters	✓	✓		
Alkaline battery adapter	✓	✓		
(4) AA Alkaline batteries	✓	✓		
NIST traceable calibration sheet	✓	✓		
Optional Items				
100 ppm isobutylene calibration gas	✓	✓		
Gas regulator	✓	✓		
Tedlar bag	✓	✓		
Datalogging software	O			
Communications cable	O			

Prepared by: ______

QC checked by: ______

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 15961
Description MiniRae 3000
Calibrated 6/7/2012

Manufacturer Rae Systems
Model Number PGM-7320
Serial Number/ Lot Number 592-903385
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 22
Humidity % 40

Calibration Specifications

Group # 1
Group Name Isobutylene
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.10	100.20	0.20%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0125FE12	MA 100 PPM ISO	American Gas Group	GP11012	0125FE12		2/1/2016

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

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Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT PACKING LIST

Description	RAE Systems MiniRAE 3000
Instrument ID	
Date Calibrated	

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663

GA 800-842-1088
OH 877-326-PINE
ME 888-779-PINE
MA 800-519-PINE
NY 877-903-PINE
NC 866-646-PINE
TX 866-981-PINE
CO 866-960-PINE
VA 866-801-PINE
FL 877-259-PINE
PA 866-750-PINE
TN 877-355-7907
CA 888-620-PINE
IL 855-888-PINE
ON 866-688-0388
BC 877-678-8383

Standard Items	Prepared	QC check	Received by customer	Returned to Pine
MiniRAE 3000 w/ ______ eV lamp and carry case	✓	✓		
Protective rubber boot	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Probe tip	✓	✓		
Charger/ adapter, or charger and cradle	✓	✓		
(2) Hydrophobic filters	✓	✓		
Alkaline battery adapter	✓	✓		
(4) AA Alkaline batteries	✓	✓		
NIST traceable calibration sheet	✓	✓		
Optional Items				
100 ppm isobutylene calibration gas	✓	✓		
Gas regulator	✓	✓		
Tedlar bag	✓	✓		
Datalogging software				
Communications cable				

Prepared by: ______

QC checked by: ______

Date: ______

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID	18405
Description	MiniRae 3000
Calibrated	6/7/2012

Manufacturer	Rae Systems	**State Certified**	
Model Number	PGM-7320	**Status**	Pass
Serial Number/ Lot Number	592-906021	**Temp °C**	22
Location	Massachusetts	**Humidity %**	40
Department			

Calibration Specifications

Group #	1	**Range Acc %**	0.0000
Group Name	Isobutylene	**Reading Acc %**	3.0000
Stated Accy	Pct of Reading	**Plus/Minus**	0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	97.70	-2.30%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0125FE12	MA 100 PPM ISO	American Gas Group	GP11012	0125FE12		2/1/2016

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

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INSTRUMENT PACKING LIST

Pine Environmental Services, Inc.

NJ Headquarters 800-301-9663
GA 800-842-1088 **VA** 866-801-PINE
OH 877-326-PINE **FL** 877-259-PINE
ME 888-779-PINE **PA** 866-750-PINE
MA 800-519-PINE **TN** 877-355-7907
NY 877-903-PINE **CA** 888-620-PINE
NC 866-646-PINE **Canada**
TX 866-981-PINE **ON** 866-688-0388
CO 866-960-PINE **BC** 877-678-8383

Description	RAE Systems MiniRAE 3000
Instrument ID	
Date Calibrated	

Standard Items	Prepared	QC check	Received by customer	Returned to Pine
MiniRAE 3000 w/ ______ eV lamp and carry case	✓	✓		
Protective rubber boot	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
Probe tip	✓	✓		
Charger/ adapter, or charger and cradle	✓	✓		
(2) Hydrophobic filters	✓	✓		
Alkaline battery adapter	✓	✓		
(4) AA Alkaline batteries	✓	✓		
NIST traceable calibration sheet	✓	✓		
Optional Items				
100 ppm isobutylene calibration gas	✓	✓		
Gas regulator	✓	✓		
Tedlar bag	✓	✓		
Datalogging software	O			
Communications cable	O			

Prepared by: ______

QC checked by: ______

Date: ______

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ARCADIS
Infrastructure, environment, facilities

YSI & Turbidity Meter Calibration Log

DATE: 8/27/12

INSTRUMENT IDENTIFICATION

Brand:	YSI ~~[illegible]~~	Model:	650 MDS	Serial Number:	6488
Brand:	LaMotte	Model:	600 XL 2020e	Serial Number:	02H0893 13906

CALIBRATION RECORD

Morning Calibration		Afternoon Check		Evening Check	
Standard	Calibration Successful	Standard	Reading	Standard	Reading
pH (S.I. units)					
4.00	4.04/4.00	4.00	3.95	4.00	
7.00	7.01/7.00	7.00	7.02	7.00	
10.00	9.96 10.00	10.00	10.05	10.00	
Turbidity (NTUs)					
0	0.05/0.03	0	0.08	0	
1	1.22/0.99	1	1.12	1	
10	10.86/9.93	10	10.08	10	
Conductivity					
10 µS/cm	15/ 10	10 µS/cm	12	10 µS/cm	
10 mS/cm	15/ 10	10 mS/cm	12	10 mS/cm	
Dissolved Oxygen (mg/L)					
Zero DO Solution	1.96	Zero DO Solution	2.00	Zero DO Solution	
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	233.6/235.1		229.9		
(Light's Solution)	458.4		468.8		
Temperature (°C)	21.79		26.06		

The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID	3678
Description	YSI 600 XL
Calibrated	8/23/2012

Manufacturer	YSI	**State Certified**	
Model Number	600 XL	**Status**	Pass
Serial Number/ Lot Number	02H0893AG	**Temp °C**	23
Location	Massachusetts	**Humidity %**	49
Department			

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Zero
Test Performed: N/A **As Found Result:** **As Left Result:**

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 3678
Description YSI 600 XL
Calibrated 8/23/2012

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 1.413 CON. STANDARD 9187	MA 1.413 CONDUCTIVITY SOLUTION	Aurical	1.413	9187		9/20/2012
MA COND 1413 2AG540	MA COND 1413	Pine Environmental Services, Inc.	1413	2AG540		7/1/2013
MA ORP 3717	MA ORP SOLUTION 240 mV	Hanna	240 mV	3717		12/31/2016
MA PH10 2110150	MA PH10 SOLUTION	VWR	PH10	2110150		2/28/2013
MA PH7 2109104	MA PH7 SOLUTION	VWR	MA PH7	2109104		8/31/2013
MA ZERO D.O 201023821	MA ZERO DO SODIUM SULFITE			201023821		

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

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Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

92 North Main St, Building 20
Windsor, NJ 08561
Toll-free: (800) 301-9663

Pine Environmental Services, Inc.

Instrument ID 13906
Description LaMotte 2020E
Calibrated 8/23/2012 11:55:17AM

Manufacturer LaMotte
Model Number 2020E
Serial Number/ Lot Number ME-14060
Location New Jersey
Department

State Certified
Status Pass
Temp °C 26.8
Humidity % 51

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.00 / 1.00	NTU	1.00	NTU	1.00	1.00	0.00%	Pass
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
NJ TURB 1 NTU C252523	1 NTU TURBIDITY STANDARD	GFS	8577 1NTU	C252523	5/23/2012	4/30/2013
NJ TURB 10 NTU C252524	10 NTUTURBIDITY STANDARD	GFS	8578 10 NTU	C252524	5/23/2012	4/30/2013

Sensor Information

Sensor Type	Manufacturer	Serial Number	Date Installed

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated William Bass

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

92 North Main St, Building 20
Windsor, NJ 08561
Toll-free: (800) 301-9663

Pine Environmental Services, Inc.

Instrument ID 13906
Description LaMotte 2020E
Calibrated 8/23/2012 11:55:17AM

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUCTIONS CALIBRATION REPORT

Pine Environmental Services, Inc.
24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 6782
Description MiniRae 2000
Calibrated 8/23/2012

Manufacturer Rae Systems
Model Number PGM7600
Serial Number/ Lot Number 110013491
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 24
Humidity % 43

Calibration Specifications

Group # 1
Group Name Isobutylene
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	99.60	-0.40%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0420FD11	MA 100 PPM ISO	American Gas Group	GP1102	0420FD11		6/1/2015

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

ARCADIS

YSI & Turbidity Meter Calibration Log

DATE 10/15/12

INSTRUMENT IDENTIFICATION

Brand: YSI	Model: 600 XL	Serial Number: 7302
Brand: LaMotte 2020e	Model: 2020e	Serial Number: 18253

CALIBRATION RECORD

Morning Calibration		Afternoon Check		Evening Check	
Standard	Calibration Successful	Standard	Reading	Standard	Reading
pH (S.I. units)					
4.00	3.99 4.00	4.00	3.97 - 4.00	4.00	
7.00	7.02 7.00	7.00	7.08 - 7.00	7.00	
10.00	9.98 10.00	10.00	9.95 - 10.00	10.00	
Turbidity (NTUs)					
0	0.98 0.99	0	0.03 - 0.01	0	
1	0.01 0.00	1	1.02 - 1.00	1	
10	9.98 10.01	10	9.95 - 10.01	10	
Conductivity					
10 µS/cm	9.98	10 µS/cm	9.97	10 µS/cm	
10 mS/cm	9.98	10 mS/cm	9.97	10 mS/cm	
Dissolved Oxygen (mg/L)					
Zero DO Solution	1.03	Zero DO Solution	1.15	Zero DO Solution	
REDOX (mV)		Chart [1]		Chart [1]	
(Zobell Solution)	244.1 - 246.0		243.8 - 246.0		
(Light's Solution)	451.5		449.3		
Temperature (°C)	12.05		12.35		

[1] The REDOX of the Zobel solution is temperature dependent, a chart is provided with the meter to check the reading for the appropriate temperature. REDOX must be calibrated by the manufacturer.

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 7302
Description YSI 600 XL
Calibrated 10/11/2012

Manufacturer YSI
Model Number 600 XL
Serial Number/ Lot Number 00J0695AA
Location Massachusetts
Department

State Certified
Status Pass
Temp °C 20
Humidity % 44

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.00	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.413	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	100.00	100.00	0.00%	Pass

Group # 5
Group Name Disolved Oxygen Zero
Test Performed: N/A **As Found Result:** **As Left Result:**

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 7302
Description YSI 600 XL
Calibrated 10/11/2012

Test Instruments Used During the Calibration — **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 0 D.O. SOLUTION	MA 0 D.O. Solution	EMD		201023821	9/23/2012	9/23/2020
MA COND 1413 2AG540	MA COND 1413	Pine Environmental Services, Inc.	1413	2AG540		7/1/2013
MA ORP 4031	MA ORP Lot 4031	Hanna		4031	9/10/2012	2/1/2017
MA PH 10 2AH029	MA pH 10 2AH029	Pine Environmental Services, Inc.		2AH029	9/24/2012	
MA PH 4	MA pH 4 2AE088	Pine Environmental Services, Inc.		2AE088	8/21/2012	5/1/2014
MA PH7 LOT 2AF604	MA pH7 Lot 2AF604	Pine Environmental Services, Inc.		2AF604	8/24/2012	6/1/2014

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Sheila Blouin

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, Inc.

24 Tower Office Park
Woburn, MA 01801
Toll-free: (800) 519-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 1319
Description MiniRae 2000
Calibrated 9/21/2012

Manufacturer	Rae Systems	**State Certified**	
Model Number	PGM7600	**Status**	Pass
Serial Number/ Lot Number	110-002658	**Temp °C**	22
Location	Massachusetts	**Humidity %**	36
Department			

Calibration Specifications

Group # 1
Group Name Isobutylene
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	99.70	-0.30%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
MA 100 PPM ISO 0425FF11	MA 100 PPM ISO	American Gas Group	GP11012	0425FF11		10/1/2013

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kalyan Iek

All instruments are calibrated by Pine Environmental Services, Inc. according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services, Inc. of any defect within 24 hours of receipt of equipment
Please call 866-960-7463 for Technical Assistance

HYDRAULIC CONTAINMENT AND TREATMENT SYSTEM ANNUAL DEMONSTRATION OF COMPLIANCE REPORT - NO. 3 31 OCTOBER 2011 THROUGH 30 OCTOBER 2012

SOLVENTS RECOVERY SERVICE OF NEW ENGLAND, INC. SUPERFUND SITE SOUTHINGTON, CONNECTICUT

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1.0 INTRODUCTION

This Demonstration of Compliance Report (DCR) was prepared by Weston Solutions, Inc. (WESTON) on behalf of the Solvents Recovery Service of New England, Inc. (SRSNE) Superfund Site PRP Group. The DCR documents the effectiveness of the Non-Time-Critical Removal Action No. 1 and 2 (NTCRA-1 and NTCRA-2) hydraulic containment and treatment system at the SRSNE Site in Southington, Connecticut, based on data collected during the period of 31 October 2011 through 30 October 2012. The data presented in this DCR were obtained in accordance with the United States Environmental Protection Agency (USEPA) approved Demonstration of Compliance Plans (DCP) for NTCRA-1 and NTCRA-2 (BBL, June 1995 and November 1999), respectively. The data acquisition schedule, reporting and evaluation requirements for this and future DCRs were described in these DCPs.

This is the fourth annual DCR to be issued after lodging of the consent decree and submitted in accordance with the Remedial Design/Remedial Action (RD/RA) Statement of Work (SOW). This DCR follows 60 previously submitted DCRs prepared initially on a quarterly basis and changed to annual submissions in 2003.

1.1 NTCRA-1 BACKGROUND

The NTCRA-1 hydraulic containment system is installed in the containment area (Figure 1A), which was defined in the NTCRA-1 SOW. The containment system originally included an array of 12 overburden groundwater extraction wells (RW-1 through RW-12) and a downgradient barrier (steel sheet piling) that hydraulically and physically contains overburden groundwater entering the containment area from the SRSNE operations area.

The pre-design investigation results and the designs of the hydraulic barrier wall, extraction wells and treatment system are described in detail in the NTCRA-1 100% Groundwater Containment and Treatment System Design Report (100% Design Report, BBL, January 1994). The NTCRA-1 system was constructed between February and July 1995 and brought online in accordance with the USEPA-approved schedule on 19 July 1995.

The NTCRA-1 hydraulic containment and monitoring network remained as originally constructed until November 2009 when select recovery wells, monitoring wells and piezometers were abandoned in accordance with the Monitoring Well Network Evaluation, included as Attachment N to the Remedial Design Work Plan (Arcadis, April 2009). EPA was notified that the abandoned wells and piezometers would be removed from the NTCRA-1 monitoring program and DCP on 1 November 2009 (WESTON, December 2009). The second annual DCR (31 October 2009 to 30 October 2010) summarizes the recovery wells, monitoring wells and piezometers abandoned under this program and the rationale for abandonment of each well. As indicated in the second annual DCR, all monitoring wells and piezometers were abandoned in November and December 2009, with exception to former recovery wells RW-5 and RW-6. These wells were permanently taken out of service in November 2009, but not abandoned until December 2010.

As a result of the recovery well abandonment activities discussed above, the NTCRA-1 containment system now consists of ten overburden groundwater extraction wells (RW-1 through RW-4, and RW-7 through RW-12).

1.2 NTRCA-2 BACKGROUND

The NTCRA-2 hydraulic containment system is installed south of the NTCRA-1 containment area (Figure 1A), as defined in the NTCRA-2 SOW. The NTCRA-2 containment area encompasses the majority of the northern portion of the Town of Southington well field property and includes the shallow and deep bedrock, extending to a depth of 100 feet below the top of bedrock in the northern portion of this property (Figure 1A). Further upgradient (north), the NTCRA-2 containment area extends over 170 feet below the top of bedrock and over 200 feet below ground surface (BBL, November 1999).

The NTCRA-2 hydraulic containment system initially included two groundwater extraction wells (RW-13 and RW-1R) that, in combination with the NTCRA-1 containment system, contain bedrock groundwater migrating from the SRSNE operations area (Figure 1A). The design of the overburden and bedrock extraction wells RW-13 and RW-1R, respectively, are described in the NTCRA-2 100% Design Report (BBL, November 1999). Overburden recovery well RW-13 has been on-line since 14 July 1999 and bedrock recovery well RW-1R has been operating since 5 September 2001.

A third groundwater extraction well (RW-14) was added to the NTCRA-2 well field (Figure 1A) to further enhance long-term hydraulic containment of the overburden and bedrock groundwater in the NTCRA-2 well field. The design of the additional overburden extraction well is described in the RW-14 Completion Report (WESTON, November 2007). This overburden recovery well has been operating since 24 September 2007.

1.3 GROUNDWATER TREATMENT SYSTEM

The groundwater extracted by the NTCRA-1 and 2 containment systems is pumped directly to the groundwater treatment facility (Figure 1A). The treatment system consists of the following unit processes: influent equalization, metals pretreatment, filtration, ultraviolet oxidation (UV), and granular activated carbon adsorption. Vapor phase carbon adsorption is also used to capture contaminants that volatize during treatment. The system precipitates and extracts metals, reduces suspended solids, and destroys and captures volatile organic contaminants. Treated water is discharged to the Quinnipiac River in accordance with the Revised Connecticut Department of Environmental Protection (CTDEP) Substantive Requirements for Discharge of Pre-Treated Groundwater issued 6 November 1995.

1.4 REPORT ORGANIZATION

Section 2 of this report summarizes the acquisition and evaluation of field data used to verify the effectiveness of the hydraulic containment and treatment system and Section 3 provides an overview of operations and maintenance activities conducted at the site during this O&M period.

2.0 DATA ACQUISITION AND RESULTS

The data required to demonstrate the effectiveness of the hydraulic containment and treatment system were obtained in the form of hydraulic head measurements from wells and piezometers installed in the area of the containment system, flow measurements from the extraction well array, treatment system flow rates and analytical results.

2.1 NTCRA-1 CONTAINMENT SYSTEM MONITORING

The satisfactory performance of the NTCRA-1 containment system is verified through two reversal of gradient tests that determine whether groundwater flow is controlled by the system. These tests are demonstrated by comparing hydraulic head measurements at several monitoring locations. The specific wells and piezometers used for these comparisons are discussed in Sections 2.1.1 and 2.1.2. The gradient tests are:

Reversal of Gradient Test No. 1 (RGT-1): Confirms that overburden groundwater east and downgradient of the operations area is flowing in the direction of the groundwater extraction wells.

Reversal of Gradient Test No. 2 (RGT-2): Confirms that overburden groundwater flow is reversed and maintained in the direction of the groundwater extraction wells within the area enclosed by the hydraulic divide installed adjacent to the hydraulic containment system. RGT-2 is more crucial to a demonstration of compliance as it requires that overburden groundwater elevations within the barrier are at least 0.3 feet lower than those outside the wall in NTCRA-1.

2.1.1 RGT-1 RESULTS

To confirm that overburden groundwater east and downgradient of the operations area and within the containment area is flowing in the direction of the groundwater extraction wells, hydraulic head measurements were collected at the following overburden wells/piezometers located in the vicinity of the groundwater containment system:

- Extraction Wells RW-1 through RW-4 and RW-7 through RW-12;
- Monitoring Wells MW-415, MWL-304, MWL-305, MWL-307, and MWL-308

Overburden groundwater elevations were also measured at the following wells to assess the hydraulic response in the area between the hydraulic barrier wall and the Quinnipiac River:

- MWL-302, MWL-306, MWL-309, MWL-311, and TW-7A.

Monthly overburden hydraulic head data measured at the specified wells and compliance monitoring points from 31 October 2011 through 30 October 2012 are presented in Table 1. The resulting groundwater contour maps are presented as Figures 1A through 12A. The contours indicate the horizontal hydraulic gradient between the SRSNE operations area and the extraction wells was eastward toward the extraction wells, fulfilling RGT-1.

The vertical hydraulic gradient between the overburden and bedrock in the vicinity of the hydraulic containment system is also evaluated to confirm satisfactory recovery well operation. Groundwater elevations were compared between bedrock well (MW-416) and the adjacent overburden well (MWL-307) on the same dates. This comparison indicates that the vertical component of the hydraulic gradient between the bedrock and the overburden was generally downward from the overburden to the bedrock within the containment area.

Hydraulic head data is also compared at overburden compliance piezometers CPZ-1, CPZ-3, CPZ-5, CPZ-7 and CPZ-9 and adjacent bedrock piezometers CPZ-1R, CPZ-3R, CPZ-5R, CPZ-7R and CPZ-9R. Monitoring indicates that the gradient was generally upward from the bedrock to the overburden in the vicinity of the pumping wells and the hydraulic barrier wall throughout the period covered by this DCR.

2.1.2 RGT-2 RESULTS

To confirm that groundwater flow is reversed and maintained in the direction of the groundwater extraction wells, hydraulic head measurements were collected weekly at eight fully penetrating overburden compliance piezometers (CPZ-1 2A, 3, 4A, 5, 6, 7 and 8). Compliance piezometers (CPZ-9 and 10) were removed from RGT-2 because CPZ-9 was abandoned in December 2009. As stated in the DCP, the hydraulic gradient is considered reversed and inward across the hydraulic barrier wall when the hydraulic head data measured at each compliance piezometer located inside the hydraulic barrier wall (CPZ-1, CPZ-3, CPZ-5 and CPZ-7) is at least 0.3 foot lower than the head measured at the corresponding compliance piezometer located outside the hydraulic barrier wall (CPZ-2A, CPZ-4A, CPZ-6 and CPZ-8, respectively).

Based on weekly hydraulic head measurements, the required 0.3 feet head differential was achieved in all four pairs (CPZ-1/CPZ-2A, CPZ-3/CPZ-4A, CPZ-5/CPZ-6 and CPZ-7/CPZ-8) for thirty two (32) of the fifty three (53) weeks during the monitoring period. Compliance piezometer pairs CPZ-5/CPZ-6 and CPZ-7/CPZ-8 met the 0.3 feet head differential during the entire monitoring period. Compliance piezometer pair, CPZ-1/CPZ-2A did not achieve the required 0.3 foot differential on 21 weekly gauging rounds and compliance piezometer pair CPZ-3/CPZ-4A did not achieve the required 0.3-foot differential on 13 weekly gauging rounds. Table 5 provides a summary of which weeks the required head differential was not maintained in one or both of these pairs. The cause of the loss of hydraulic gradient reversal at these two compliance pairs is believed to be a result of excessively dry site conditions due to low precipitation and a substantial localized elevation decrease in the overburden water table outside of the sheet pile wall.

In response to the decreasing and eventual loss of hydraulic gradient reversal during the summer of 2012, extraction well pumps RW-7 and RW-12 (located in close proximity to CPZ-1 and CPZ-3 respectively) were lowered to the lowest practical operating level within the recovery wells, but this adjustment was not effective in maintaining hydraulic gradient reversal. When this similar condition was previously encountered during the summer and fall of 2010, all NTCRA-1 recovery wells were redeveloped and both RW-7&12 were redeveloped a second time but no improvement in hydraulic gradient reversal was observed. This year redevelopment was undertaken in October 2012 at recovery wells RW-2 and RW-12. Again no improvement was realized in hydraulic gradient reversal.

To verify the continuity of gradient reversal, daily hydraulic head measurements are also recorded via a data logger at compliance piezometers CPZ-5 and CPZ-6.

Measurements collected in eight hour intervals (three times/day) as recorded by a data logger installed at compliance piezometers CPZ-5 and CPZ-6 also demonstrated compliance for the entire period covered in this report, with exception to three events of non-compliance encompassing a total of six days. A hydrograph of the data logger measurements from compliance pair CPZ-5 and CPZ-6 is presented as Figure 13 for the monitoring period. Figure 13 is missing data between 11 and 30 September. This data is not available because, the interconnecting signal cable between the data logger and trolls required temporary removal in order to allow construction of the new drainage pipe being constructed under the Pre-Insitu Thermal Remediation (Pre-ISTR) construction. During this period the NTCRA-1 extraction system operated normally.

A summary of NTCRA-1 non-compliance occurrences experienced between 31 October 2011 and 30 October 2012 is presented below, along with an explanation of the cause and corrective measures taken to correct the problem.

NTCRA-1 – Non-Compliance Summary – 31 October 2011 to 30 October 2012		
Date	**Cause**	**Corrective Actions**
8 December 2011	Loss of compliance occurred as a result of shutting down both the NTCRA-1&2 extraction systems in response to severe flooding at the NTCRA-2 area.	Compliance was restored following the rain/flood event and restarting of the recovery wells. No corrective action was required.
16-17 October 2012	Recovery Well RW-2 was out of service for redevelopment as part of planned recovery well maintenance.	No corrective action was warranted. This period of non-compliance was expected during recovery well redevelopment (maintenance) activities
28 to 30 October 2012	In response to severe weather forecasts as the result of Hurricane Sandy, the NTCRA-1 & 2 extraction systems as well as the Treatment system were intentionally shut down for both employee and site safety concerns.	No corrective action was warranted. This was a scheduled shutdown due to severe weather.

2.2 NTCRA-2 CONTAINMENT SYSTEM MONITORING

The satisfactory performance of the NTCRA-2 hydraulic containment system is verified through two containment tests that compare hydraulic head measurements in NTCRA-2. The specific locations used for hydraulic head comparisons are presented in Sections 2.2.1 and 2.2.2. The containment tests are:

Containment Test Part 1 (CT-1): Confirms that within the NTCRA-2 containment area, bedrock groundwater east and downgradient of the operations area, is flowing in the direction of the hydraulic containment system.

Containment Test Part 2 (CT-2): Confirms that bedrock groundwater flow downgradient of the NTCRA-2 extraction system within the containment area is reversed and maintained in the direction of the hydraulic containment system.

2.2.1 CT-1 RESULTS

To confirm that VOC-impacted bedrock groundwater east and downgradient of the operations area and within the containment area is flowing in the direction of the extraction wells, hydraulic head measurements were obtained at the following pairs of wells/piezometers located upgradient of the hydraulic containment system:

- Shallow bedrock – MW-704R and MW-121A; and
- Deep Bedrock – MW-704DR and MW-705DR.

The hydraulic gradient is considered to be towards the extraction wells when the hydraulic head measured at the shallow (MW-704R) and deep (MW-704DR) bedrock monitoring wells located adjacent to extraction wells RW-13, RW-1R and RW-14 is lower than hydraulic head measurements at wells MW-121A and MW-705DR, respectively.

Monthly rounds of hydraulic head data measurements collected from 31 October 2011 to 30 October 2012 are presented in Table 1. The resulting contour maps for shallow bedrock and deep bedrock monitoring wells and piezometers are presented as contours on Figures 1B through 12B and Figures 1C through 12C, respectively. The contours indicate that groundwater flow in the shallow and deep bedrock is inward toward the NTCRA-2 extraction wells, fulfilling Containment Test Requirement No.1 with exception to the deep bedrock in October 2012 (Figure 12C), when extraction well RW-1R is off line so this well could be drilled deeper in order to try to increase its capacity and capture effectiveness.

2.2.2 CT-2 RESULTS

To confirm that bedrock groundwater flow downgradient of the extraction system within the containment area is reversed and maintained in the direction of the extraction wells, hydraulic head measurements were obtained at the following locations:

- Shallow bedrock – MW-704R, MW-204A, PZR-2R, and PZR-4R; and
- Deep Bedrock – MW-704DR, PZR-2DR, and PZR-4DR.

The hydraulic gradient is considered reversed and inward toward the containment area when the hydraulic head measured at the shallow and deep bedrock monitoring wells MW-704R and MW-704DR, which are located adjacent to extraction wells RW-13, RW-1R and RW-14, is lower than the hydraulic head measurements at the remaining shallow and deep bedrock monitoring wells and piezometers listed above. Measurements taken at these locations are presented in Table 1 and as groundwater contours in Figures 1B through 12B and 1C through 12C.

To verify the continuity of gradient reversal, daily hydraulic head measurements are recorded via a data logger at the following locations:

- Shallow bedrock – MW-704R and PZR-2R; and
- Deep Bedrock – MW-704DR and PZR-2DR.

Daily hydraulic head measurements recorded via data loggers installed in NTCRA-2 compliance pairs MW-704R and PZR-2R (shallow bedrock) and MW-704DR and PZR-2DR (deep bedrock) indicated that the NTCRA-2 containment system met CT-2 for the monitoring period, with the exception to three periods of non-compliance outlined herein encompassing a total of nine (9) days.

Hydrographs of the data logger measurements obtained for shallow and deep bedrock compliance points between 31 October 2011 and 30 October 2012 are included as Figures 14A and 14B, respectively.

A summary of NTCRA-2 non-compliance occurrences experienced during the monitoring period is presented below, along with an explanation of the cause and corrective measures taken to correct the problem.

NTCRA-2 – Non-Compliance Summary – 31 October 2011 to 30 October 2012		
Date	**Cause**	**Corrective Actions**
8 December 2011	Loss of compliance occurred as a result of excessive heavy rains, which caused NTCRA-2 recovery well flooding. Because of the severe flooding, the NTCRA-2 recovery wells were shut down until flood conditions subsided.	Compliance was restored following the rain/flood event and restarting of the NTCRA-2 recovery wells. No corrective action was required.
7-8 June 2012	Recovery Wells RW-13 and 14 were out of service for redevelopment as part of planned recovery well maintenance.	No corrective action was warranted. This period of non-compliance was expected during recovery well redevelopment (maintenance) activities
11-20 September 2012	The NTCRA-2 extraction system had to be shut down in order to construct the new drainage culvert, which crossed the NTCRA-2 forcemain.	No corrective action was warranted. This period of non-compliance was required in order to construct the new culvert.
8-15 October 2012	Recovery Wells RW-13 and 14 were out of service for redevelopment as part of planned recovery well maintenance.	No corrective action was warranted. This period of non-compliance was expected during recovery well redevelopment (maintenance) activities
23-24 October 2012	Recovery Wells RW-13 and 14 were out of service in order for WESTON to replace the Vault at RW-13.	No corrective action was warranted. This period of non-compliance was required in order to upgrade the vault for RW-13.
28-30 October 2012	In response to severe weather forecasts as the result of Hurricane Sandy, the NTCRA-1 & 2 extraction systems as well as the Treatment system were intentionally shut down for both employee and site safety concerns..	No corrective action was warranted. This was a scheduled shutdown due to severe weather.

2.3 TREATMENT SYSTEM MONITORING

HCTS influent and effluent flow measurements and laboratory analytical data are obtained during the monitoring period. These flow and analytical data are presented and discussed in Sections 2.3.1 and 2.3.2, respectively.

2.3.1 HCTS INFLUENT AND EFFLUENT FLOW DATA

The influent and effluent flow rates of the groundwater treatment system were each recorded continuously using an in-line totalizing flow meter and strip chart recorder. The NTCRA-1 and NTCRA-2 recovery wells ran continuously throughout the monitoring period, with the exception of minor shutdowns during maintenance, individual recovery well failures or HCTS alarm shutdowns. During the monitoring period, NTCRA-2 recovery wells RW-13&14 were redeveloped on three occasions (December 2011, June and October 2012) to maintain drawdown and groundwater hydraulic control during the monitoring period. In addition NTCRA-1 recovery wells (RW-2 and RW-12) were redeveloped in October 2012.

Approximately 16,059,000 gallons of groundwater were extracted, treated and discharged during the monitoring period. Refer to Table 2 for a summary of influent and effluent flow rates and totals. Throughout the period covered in this report, the system treated and discharged an average of 30.6 gallons per minute.

2.3.2 HCTS INFLUENT AND EFFLUENT ANALYTICAL DATA

Samples of groundwater treatment system influent and effluent were collected twice per month and analyzed for metals, VOCs, alcohols and total suspended solids. For the process effluent, the first round each month was also analyzed for total PCBs. Once every quarter, additional effluent samples were collected and tested for dioxins/furans. Analytical results from the influent and effluent sampling are summarized in Tables 3 and 4, respectively. In Table 4, the effluent sampling results are compared with the discharge limits established by the CTDEP in the Substantive Requirements for Discharge, dated 6 November 1995. As shown in Table 4, the treatment system effluent water quality was below discharge limits for the monitoring period.

In addition to the analyses discussed previously, effluent samples were collected and submitted for acute and chronic toxicity analysis in January, April, July and October 2011. The submitted effluent samples passed the acute and chronic toxicity test for both Daphnia Pulex and fathead minnows.

Process influent and effluent sampling for 1,4 dioxane was monitored quarterly during the monitoring period to collect additional data concerning this compound. Currently no discharge limit exists for 1,4-dioxane. Quarterly sample results for the year are presented below.

SRSNE - 1,4-Dioxane Sampling Summary		
Date	**Influent (ppb)**	**Effluent (ppb)**
3-Jan-12	<5	<5
2-Apr-12	45	<5
2-Jul-12	46.0	15.0
1-Oct-12	29.0	<5

3.0 Hydraulic Containment and Treatment System (HCTS) Operations and Maintenance Summary

The HCTS operations and maintenance (O&M) summary is divided into two sections. Section 3.1 highlights the major O&M related activities performed between 31 October 2011 and 30 October 2012. Section 3.2 discusses O&M issues that are on-going or anticipated during the future activities at the site.

3.1 OPERATIONS AND MAINTENANCE SUMMARY

The following briefly describes highlighted HCTS operations and maintenance activities or capital improvements conducted during the reporting period.

1. **December 2011- NTCRA-2 Recovery Well RW-13 and RW-14 Redevelopment:** Recovery Wells, RW-13 and RW-14 were redeveloped to improve hydraulic performance of the recovery well and maintain NTCRA-2 hydraulic gradient reversal objectives.

2. **December 2011 – Filter Press Room Lighting:** All filter press room lights and ballasts were replaced to restore lighting in this area to normal.

3. **December 2011 – Clarifier Feed Tank pH Meter:** The pH meter could not pass calibration. Replacement of the Salt Bridge did not correct the problem. The entire probe was replaced with a shelf spare probe and the pH Meter operation was restored to normal. A new probe was procured to maintain a spare probe in inventory.

4. **January 2012 – UV System Process Adjustment:** On 9 January the number of operating lamps was reduced from 2 lamps to 1 lamp. The hydrogen peroxide residual in the UV effluent was adjusted to 15 mg/L. This process adjustment maintained acceptable treatment system performance during the remainder of the monitoring period.

5. **April 2012 – SCADA System Improvements:** The SCADA system had been remotely accessed by PC Anywhere since it was initially installed. However remote access was been becoming less reliable using this outdated technology and is more vulnerable to unauthorized attack. To allow for improved remote access and protection, WESTON installed DSL to the computer and security and now this

computer is a node within the WESTON network. Now remote access has been reestablished to this computer by WESTON operations personnel.

6. **June 2012 - NTCRA-2 Recovery Well Redevelopment:** NTCRA-2 recovery wells RW-13 and RW-14 were redeveloped on 7-8 June and 11-12 June 2012 respectively. Redevelopment was warranted to maintain hydraulic gradient reversal objectives. While the recovery well for RW-13 was out of the well, the electrical motor lead was inspected and found to be damaged. The lead was replaced using a shelf spare lead.

7. **June 2012 – Recovery Well RW-2 Pump Control Panel Improvements:** To improve the reliability of the controls and eliminate excessive equipment failure and alarms for NTCRA-1 Recovery Well RW-2, the existing level control probes were replaced with a new level control transducer. No operational problems have occurred since this upgrade for the remainder of the operating period.

8. **July 2012 – Flocculation Tank Mixer Repair:** The flocculation tank mixer stopped operating. In order to restore operation the motor brushes were replaced in the mixer motor.

9. **September 2012 – Monitoring Well Damage and Subsequent Repair Update:** A brush clearing Subcontractor inadvertently damaged two existing monitoring wells (MW-704R and CPZ-10) at the site in September 2012. WESTON's attempt to repair MW-704R only caused further damage to this recovery well and it was determined that this monitoring point required to be replaced. On 23 and 24 October WESTON replaced this recovery well to restore this monitoring point. CPZ-10 will likely not require replacement and is scheduled to be repaired in November 2012.

10. **October 2012 – NTCRA-2 Recovery Well Redevelopment:** Recovery Wells, RW-13 and RW-14 were redeveloped for a third event during the monitoring period to improve hydraulic performance of the recovery wells and maintain NTCRA-2 hydraulic gradient reversal objectives. For this redevelopment event Carbon Dioxide (CO_2) redevelopment techniques were employed rather than normal chemical redevelopment to see if improved longer term operation could be realized. The CO_2 redevelopment work was completed for both wells, however the CO_2 redevelopment caused settlement in the area around the wells. Settlement at RW-13 was more severe and caused both the vault and discharge forcemain to settle, which subsequently required repair. Based on the observed settlement during CO_2 redevelopment, this technology will no longer be utilized for these wells even though the effectiveness appears to be improved.

11. **October 2012– RW-13 Vault Replacement:** As previously discussed, the CO_2 injection at RW-13 caused the vault and discharge forcemain to settle. WESTON removed the existing vault, relocated the forcemain and replaced the vault. As part of the Vault upgrade a larger vault was installed to allow for improvements to the existing piping configuration. WESTON added independent flow control (manual throttling valves) for both RW-1R, and RW-13, independent flow monitoring from each recovery well and the addition of individual sample ports so the water quality for each well could be individually verified.

12. **October 2012– NTCRA-1 Recovery Well (RW-2 and RW-12) Redevelopment:** Both RW-2 and RW-12 were redeveloped to improve hydraulic performance of the recovery well and improve NTCRA-1 hydraulic gradient reversal objectives.

13. **October 2012– NTCRA-2 Recovery Well (RW-1R):** Deep bedrock well, RW-1R was temporarily taken out of on 17 October 2012 in order to perform well surveys and drill the well deeper and increase its yield and plume capture effectiveness. This work is on-going and will likely be completed in November 2012.

14. **Ultraviolet Oxidation System:** The following summarizes the major maintenance performed on the UV Equipment during the monitoring period:

    - Five (5) UV lamps were replaced during the reporting period. All lamps were removed or replaced due to failure, excessive amperage draw or excessive hours.

    - Three (3) quartz tubes were replaced because of failure during the monitoring period.

    During the monitoring period no additional UV reactor circuits failed. At the end of this monitoring period, UV-1 has 8 of 12 functional reactor circuits. UV- 2 has 7 of 12 functional circuits out of 12.

3.2 FUTURE HCTS OPERATIONS AND MAINTENANCE ACTION ITEMS

WESTON will continue to evaluate the overall HCTS and make recommendations for process improvements or modifications in the coming year. These recommendations will be summarized in the Monthly Operations and Maintenance HCTS report submissions. At this time, there are no major action items or modifications planned.

TABLE 1
Hydraulic Head Measurements End of Month Gauging

Measuring Location	Location Elevation	28-Nov-11		27-Dec-11		31-Jan-12		28-Feb-12	
		Depth to Water	*Water Elevation*	*Depth to Water*	*Water Elevation*	*Depth to Water*	*Water Elevation*	*Depth to Water*	*Water Elevation*
CPZ-1	159.64	6.28	153.36	6.31	153.33	6.29	153.35	6.61	153.03
CPZ-1R	161.12	0.00	161.12	0.00	161.12	0.00	161.12	2.03	159.09
CPZ-2	158.64	4.60	154.04	4.40	154.24	5.07	153.57	5.96	152.68
CPZ-2A	158.82	4.44	154.38	4.18	154.64	4.93	153.89	5.32	153.50
CPZ-2R	160.97	0.00	160.97	0.10	160.87	0.41	160.56	1.31	159.66
CPZ-3	159.21	9.89	149.32	9.67	149.54	10.18	149.03	9.69	149.52
CPZ-3R	160.70	5.40	155.30	4.87	155.83	5.62	155.08	6.61	154.09
CPZ-4	158.80	7.30	151.50	7.21	151.59	7.45	151.35	8.49	150.31
CPZ-4A	159.44	8.00	151.44	7.96	151.48	8.27	151.17	9.01	150.43
CPZ-4R	158.76	5.01	153.75	4.88	153.88	5.47	153.29	6.32	152.44
CPZ-5	158.68	15.27	143.41	14.91	143.77	13.13	145.55	11.99	146.69
CPZ-5R	158.30	9.48	148.82	9.38	148.92	8.63	149.67	8.58	149.72
CPZ-6	154.48	3.62	150.86	3.65	150.83	3.60	150.88	4.18	150.30
CPZ-6A	158.05	6.90	151.15	6.99	151.06	6.82	151.23	7.44	150.61
CPZ-6R	154.39	4.65	149.74	4.70	149.69	4.66	149.73	5.43	148.96
CPZ-7	159.40	6.68	152.72	6.20	153.20	6.11	153.29	6.22	153.18
CPZ-7R	158.58	0.51	158.07	0.40	158.18	1.02	157.56	2.01	156.57
CPZ-8	160.11	5.57	154.54	5.66	154.45	5.63	154.48	5.93	154.18
CPZ-8R	160.62	6.23	154.39	6.28	154.34	6.30	154.32	6.84	153.78
CPZ-10	161.03	3.60	157.43	3.62	157.41	3.65	157.38	3.90	157.13
CPZ-10R	162.94	1.82	161.12	1.80	161.14	2.08	160.86	3.11	159.83
MW-121A	152.96	4.16	148.80	4.58	148.38	4.66	148.30	5.18	147.78
MW-125A	157.87	1.15	156.72	2.61	155.26	2.38	155.49	2.99	154.88
MW-125C	156.30	6.02	150.28	6.00	150.30	5.80	150.50	6.38	149.92
MW-204A	150.78	2.66	148.12	3.07	147.71	3.09	147.69	3.40	147.38
MW-415	160.75	4.81	155.94	4.53	156.22	4.81	155.94	5.16	155.59
MW-416	159.98	6.99	152.99	6.71	153.27	6.62	153.36	7.11	152.87
MW-704D	153.43	5.65	147.78	6.21	147.22	6.13	147.30	6.35	147.08
MW-704M	152.34	4.85	147.49	5.41	146.93	5.31	147.03	5.52	146.82
MW-704R	151.52	4.63	146.89	5.70	145.82	5.71	145.81	5.87	145.65
MW-704DR	152.84	33.60	119.24	33.31	119.53	33.79	119.05	32.31	120.53
MW-705DR	160.99	3.01	157.98	2.81	158.18	3.36	157.63	4.18	156.81
MWL-302	161.60	5.19	156.41	6.30	155.30	6.35	155.25	6.38	155.22
MWL-304	159.90	6.74	153.16	6.59	153.31	6.76	153.14	7.22	152.68
MWL-305	159.01	4.44	154.57	4.27	154.74	3.78	155.23	4.29	154.72
MWL-306	155.39	3.73	151.66	3.97	151.42	3.12	152.27	4.12	151.27
MWL-307	159.14	3.49	155.65	3.28	155.86	3.51	155.63	3.79	155.35
MWL-308	158.63	3.09	155.54	2.91	155.72	2.99	155.64	3.30	155.33
MWL-309	155.20	3.21	151.99	3.50	151.70	3.11	152.09	3.51	151.69
MWL-311	157.33	5.61	151.72	5.69	151.64	5.77	151.56	6.38	150.95
P-5A	157.61	7.97	149.64	8.01	149.60	7.70	149.91	8.08	149.53
P-5B	158.39	4.59	153.80	4.98	153.41	4.57	153.82	5.17	153.22
P-6	153.78	3.80	149.98	3.91	149.87	3.86	149.92	4.60	149.18
PZR-2R	153.78	5.78	148.00	4.96	148.82	6.03	147.75	6.40	147.38
PZR-2DR	154.67	6.78	147.89	6.98	147.69	6.99	147.68	7.41	147.26
PZR-4R	153.72	5.25	148.47	5.37	148.35	5.51	148.21	5.92	147.80
PZR-4DR	152.73	0.00	152.73	0.00	152.73	0.00	152.73	1.10	151.63
RW-1	157.61	15.07	142.54	14.86	142.75	15.36	142.25	15.62	141.99
RW-2	156.49	16.52	139.97	15.81	140.68	15.52	140.97	15.94	140.55
RW-3	157.35	16.06	141.29	16.70	140.65	17.07	140.28	17.13	140.22
RW-4	158.21	15.12	143.09	15.96	142.25	15.11	143.10	14.40	143.81
RW-7	157.09	18.34	138.75	16.04	141.05	17.30	139.79	17.09	140.00
RW-8	156.95	18.32	138.63	17.90	139.05	18.30	138.65	18.03	138.92
RW-9	156.72	18.96	137.76	17.84	138.88	17.94	138.78	17.94	138.78
RW-10	156.13	18.30	137.83	18.03	138.10	17.27	138.86	18.52	137.61
RW-11	157.82	17.31	140.51	17.26	140.56	17.03	140.79	14.96	142.86
RW-12	158.36	19.66	138.70	16.55	141.81	17.17	141.19	16.90	141.46
RW-13	149.36	44.75	104.61	43.40	105.96	51.14	98.22	47.83	101.53
RW-14	151.71	30.93	120.78	27.42	124.29	32.26	119.45	32.81	118.90
RW-1R	149.77	32.02	117.75	32.06	117.71	32.90	116.87	31.96	117.81
TW-7A	158.72	5.61	153.11	5.71	153.01	5.61	153.11	6.17	152.55
MW-702DR	181.38	12.58	168.80	13.82	167.56	14.26	167.12	17.72	163.66
P-8A	181.26	12.40	168.86	13.95	167.31	14.40	166.86	17.81	163.45
MW-707D	156.09	8.30	147.79	8.42	147.67	8.45	147.64	8.60	147.49
MW-707R	156.01	7.99	148.02	8.19	147.82	8.20	147.81	8.79	147.22
MW-707DR	156.80	8.89	147.91	9.05	147.75	9.12	147.68	9.59	147.21
PZ-02D	154.14	6.19	147.95	6.33	147.81	6.35	147.79	6.73	147.41
PZ-O2M	154.77	6.71	148.06	6.85	147.92	6.89	147.88	7.31	147.46
MW-3	153.79	6.09	147.70	6.18	147.61	6.24	147.55	6.68	147.11
MW-708R	224.95	74.01	150.94	73.25	151.70	74.20	150.75	74.10	150.85
MW-708DR	224.19	74.49	149.70	74.20	149.99	74.18	150.01	74.88	149.31
PZ-906DR	155.85	1.87	153.98	5.22	150.63	3.80	152.05	3.28	152.57

TABLE 1
Hydraulic Head Measurements End of Month Gauging

Measuring Location	Location Elevation	29-Mar-12		25-Apr-12		29-May-12		27-Jun-12	
		Depth to Water	*Water Elevation*	*Depth to Water*	*Water Elevation*	*Depth to Water*	*Water Elevation*	*Depth to Water*	*Water Elevation*
CPZ-1	159.64	7.11	152.53	7.24	152.40	7.38	152.26	7.79	151.85
CPZ-1R	161.12	2.61	158.51	2.86	158.26	2.58	158.54	3.16	157.96
CPZ-2	158.64	6.44	152.20	6.22	152.42	6.61	152.03	6.77	151.87
CPZ-2A	158.82	5.83	152.99	6.08	152.74	6.26	152.56	6.61	152.21
CPZ-2R	160.97	2.48	158.49	2.80	158.17	2.45	158.52	3.07	157.90
CPZ-3	159.21	10.66	148.55	10.02	149.19	9.99	149.22	10.80	148.41
CPZ-3R	160.70	6.72	153.98	6.80	153.90	6.88	153.82	7.31	153.39
CPZ-4	158.80	9.15	149.65	7.83	150.97	9.30	149.50	9.43	149.37
CPZ-4A	159.44	9.38	150.06	9.00	150.44	9.64	149.80	9.76	149.68
CPZ-4R	158.76	6.53	152.23	6.80	151.96	6.75	152.01	7.07	151.69
CPZ-5	158.68	11.56	147.12	12.10	146.58	13.90	144.78	13.80	144.88
CPZ-5R	158.30	8.48	149.82	9.04	149.26	9.71	148.59	9.91	148.39
CPZ-6	154.48	4.30	150.18	3.91	150.57	4.60	149.88	4.14	150.34
CPZ-6A	158.05	7.51	150.54	7.23	150.82	7.81	150.24	7.60	150.45
CPZ-6R	154.39	5.63	148.76	5.04	149.35	5.98	148.41	5.93	148.46
CPZ-7	159.40	6.80	152.60	6.49	152.91	7.06	152.34	6.61	152.79
CPZ-7R	158.58	2.15	156.43	2.22	156.36	2.33	156.25	2.40	156.18
CPZ-8	160.11	6.13	153.98	5.67	154.44	6.04	154.07	5.58	154.53
CPZ-8R	160.62	7.04	153.58	6.80	153.82	7.23	153.39	6.97	153.65
CPZ-10	161.03	4.04	156.99	3.68	157.35	4.00	157.03	3.72	157.31
CPZ-10R	162.94	3.33	159.61	3.32	159.62	3.50	159.44	3.48	159.46
MW-121A	152.96	5.40	147.56	4.95	148.01	5.62	147.34	5.55	147.41
MW-125A	157.87	3.31	154.56	2.91	154.96	2.99	154.88	2.95	154.92
MW-125C	156.30	6.30	150.00	6.16	150.14	6.70	149.60	6.50	149.80
MW-204A	150.78	3.69	147.09	3.15	147.63	4.07	146.71	3.79	146.99
MW-415	160.75	5.52	155.23	5.18	155.57	5.63	155.12	5.41	155.34
MW-416	159.98	7.09	152.89	7.05	152.93	7.33	152.65	7.67	152.31
MW-704D	153.43	6.58	146.85	5.96	147.47	6.85	146.58	6.80	146.63
MW-704M	152.34	5.81	146.53	5.21	147.13	6.24	146.10	6.11	146.23
MW-704R	151.52	5.82	145.70	5.20	146.32	6.44	145.08	5.93	145.59
MW-704DR	152.84	32.56	120.28	32.48	120.36	32.81	120.03	32.08	120.76
MW-705DR	160.99	4.25	156.74	4.61	156.38	4.48	156.51	4.63	156.36
MWL-302	161.60	6.60	155.00	6.25	155.35	6.41	155.19	6.06	155.54
MWL-304	159.90	7.52	152.38	7.08	152.82	7.59	152.31	7.28	152.62
MWL-305	159.01	4.49	154.52	4.22	154.79	4.81	154.20	4.39	154.62
MWL-306	155.39	5.40	149.99	4.66	150.73	4.41	150.98	4.60	150.79
MWL-307	159.14	4.21	154.93	3.89	155.25	5.38	153.76	4.04	155.10
MWL-308	158.63	3.47	155.16	3.03	155.60	3.67	154.96	3.49	155.14
MWL-309	155.20	4.32	150.88	3.08	152.12	4.08	151.12	3.42	151.78
MWL-311	157.33	7.31	150.02	5.51	151.82	7.20	150.13	6.84	150.49
P-5A	157.61	7.95	149.66	7.91	149.70	8.49	149.12	8.59	149.02
P-5B	158.39	5.98	152.41	4.70	153.69	5.73	152.66	4.68	153.71
P-6	153.78	4.82	148.96	4.33	149.45	5.09	148.69	4.95	148.83
PZR-2R	153.78	6.71	147.07	6.13	147.65	6.29	147.49	6.70	147.08
PZR-2DR	154.67	7.78	146.89	7.16	147.51	7.99	146.68	7.78	146.89
PZR-4R	153.72	6.30	147.42	5.87	147.85	6.60	147.12	6.37	147.35
PZR-4DR	152.73	1.26	151.47	1.51	151.22	1.40	151.33	1.70	151.03
RW-1	157.61	14.82	142.79	17.02	140.59	15.22	142.39	16.32	141.29
RW-2	156.49	15.40	141.09	15.61	140.88	16.70	139.79	16.95	139.54
RW-3	157.35	16.05	141.30	16.40	140.95	16.10	141.25	17.09	140.26
RW-4	158.21	14.30	143.91	15.12	143.09	15.46	142.75	14.71	143.50
RW-7	157.09	17.26	139.83	15.80	141.29	16.90	140.19	17.48	139.61
RW-8	156.95	16.93	140.02	16.96	139.99	18.02	138.93	16.55	140.40
RW-9	156.72	17.20	139.52	18.18	138.54	17.42	139.30	15.98	140.74
RW-10	156.13	18.13	138.00	17.90	138.23	18.60	137.53	17.24	138.89
RW-11	157.82	15.88	141.94	16.30	141.52	17.12	140.70	17.29	140.53
RW-12	158.36	16.46	141.90	17.26	141.10	16.70	141.66	15.92	142.44
RW-13	149.36	45.75	103.61	43.51	105.85	54.15	95.21	44.49	104.87
RW-14	151.71	32.85	118.86	31.73	119.98	30.33	121.38	29.20	122.51
RW-1R	149.77	31.98	117.79	32.04	117.73	31.45	118.32	31.60	118.17
TW-7A	158.72	6.18	152.54	5.70	153.02	6.22	152.50	5.90	152.82
MW-702DR	181.38	17.93	163.45	18.11	163.27	18.03	163.35	18.60	162.78
P-8A	181.26	18.04	163.22	17.90	163.36	18.06	163.20	18.61	162.65
MW-707D	156.09	9.11	146.98	8.58	147.51	9.31	146.78	8.99	147.10
MW-707R	156.01	8.92	147.09	8.31	147.70	9.12	146.89	8.92	147.09
MW-707DR	156.80	9.91	146.89	9.39	147.41	10.11	146.69	9.87	146.93
PZ-02D	154.14	7.13	147.01	6.41	147.73	7.28	146.86	7.00	147.14
PZ-O2M	154.77	7.60	147.17	6.93	147.84	7.82	146.95	7.52	147.25
MW-3	153.79	6.90	146.89	6.31	147.48	7.09	146.70	6.79	147.00
MW-708R	224.95	74.21	150.74	74.13	150.82	75.20	149.75	74.12	150.83
MW-708DR	224.19	75.02	149.17	74.90	149.29	75.65	148.54	74.70	149.49
PZ-906DR	155.85	4.55	151.30	3.79	152.06	3.18	152.67	2.91	152.94

TABLE 1

Hydraulic Head Measurements End of Month Gauging

Measuring Location	Location Elevation	31-Jul-12		29-Aug-12		25-Sep-12		28-Oct-12	
		Depth to Water	*Water Elevation*	*Depth to Water*	*Water Elevation*	*Depth to Water*	*Water Elevation*	*Depth to Water*	*Water Elevation*
CPZ-1	159.64	8.89	150.75	9.23	150.41	9.61	150.03	8.69	150.95
CPZ-1R	161.12	5.13	155.99	6.52	154.60	7.18	153.94	5.58	155.54
CPZ-2	158.64	8.29	150.35	9.20	149.44	9.41	149.23	7.90	150.74
CPZ-2A	158.82	8.21	150.61	9.13	149.69	9.40	149.42	7.63	151.19
CPZ-2R	160.97	5.07	155.90	6.48	154.49	7.08	153.89	5.43	155.54
CPZ-3	159.21	11.44	147.77	11.03	148.18	10.41	148.80	9.04	150.17
CPZ-3R	160.70	8.45	152.25	9.08	151.62	9.22	151.48	8.04	152.66
CPZ-4	158.80	11.02	147.78	12.13	146.67	12.39	146.41	10.68	148.12
CPZ-4A	159.44	11.08	148.36	11.92	147.52	12.03	147.41	10.70	148.74
CPZ-4R	158.76	8.38	150.38	9.08	149.68	9.21	149.55	8.04	150.72
CPZ-5	158.68	13.37	145.31	13.38	145.30	13.80	144.88	12.60	146.08
CPZ-5R	158.30	10.01	148.29	11.02	147.28	10.89	147.41	9.89	148.41
CPZ-6	154.48	5.60	148.88	6.28	148.20	5.88	148.60	4.80	149.68
CPZ-6A	158.05	8.56	149.49	9.12	148.93	9.09	148.96	8.22	149.83
CPZ-6R	154.39	6.92	147.47	7.54	146.85	7.51	146.88	6.80	147.59
CPZ-7	159.40	7.38	152.02	7.95	151.45	7.58	151.82	7.58	151.82
CPZ-7R	158.58	3.51	155.07	4.36	154.22	4.61	153.97	4.00	154.58
CPZ-8	160.11	6.20	153.91	6.68	153.43	7.33	152.78	6.42	153.69
CPZ-8R	160.62	7.67	152.95	8.28	152.34	8.68	151.94	7.76	152.86
CPZ-10	161.03	4.21	156.82	4.90	156.13	Damaged	NA	Damaged	NA
CPZ-10R	162.94	4.88	158.06	5.96	156.98	6.52	156.42	5.28	157.66
MW-121A	152.96	6.53	146.43	7.08	145.88	6.96	146.00	6.66	146.30
MW-125A	157.87	3.64	154.23	4.20	153.67	4.33	153.54	3.40	154.47
MW-125C	156.30	7.40	148.90	8.01	148.29	8.02	148.28	7.31	148.99
MW-204A	150.78	4.63	146.15	5.20	145.58	5.12	145.66	4.99	145.79
MW-415	160.75	6.28	154.47	6.71	154.04	6.80	153.95	6.55	154.20
MW-416	159.98	8.31	151.67	8.71	151.27	8.35	151.63	8.11	151.87
MW-704D	153.43	5.03	145.95	5.55	145.43	5.48	145.50	5.65	145.33
MW-704M	152.34	6.81	145.53	7.39	144.95	7.31	145.03	7.61	144.73
MW-704R	151.52	6.92	144.60	7.42	144.10	Damaged	NA	8.70	144.53
MW-704DR	152.84	33.41	119.43	33.61	119.23	33.62	119.22	6.80	146.04
MW-705DR	160.99	5.60	155.39	6.25	154.74	6.68	154.31	5.82	155.17
MWL-302	161.60	6.60	155.00	6.92	154.68	8.68	152.92	7.69	153.91
MWL-304	159.90	5.92	153.98	8.55	151.35	5.73	154.17	8.80	151.10
MWL-305	159.01	5.04	153.97	5.62	153.39	5.85	153.16	5.52	153.49
MWL-306	155.39	7.60	147.79	8.07	147.32	7.23	148.16	5.11	150.28
MWL-307	159.14	5.01	154.13	5.54	153.60	5.62	153.52	5.21	153.93
MWL-308	158.63	4.10	154.53	4.61	154.02	4.61	154.02	4.29	154.34
MWL-309	155.20	8.81	146.39	13.02	142.18	6.60	148.60	3.82	151.38
MWL-311	157.33	9.32	148.01	10.60	146.73	10.67	146.66	7.75	149.58
P-5A	157.61	9.42	148.19	9.96	147.65	9.91	147.70	9.23	148.38
P-5B	158.39	6.31	152.08	6.63	151.76	6.30	152.09	5.40	152.99
P-6	153.78	6.02	147.76	6.62	147.16	6.69	147.09	6.01	147.77
PZR-2R	153.78	7.58	146.20	8.18	145.60	8.11	145.67	7.48	146.30
PZR-2DR	154.67	8.59	146.08	9.24	145.43	9.12	145.55	8.75	145.92
PZR-4R	153.72	7.42	146.30	8.05	145.67	6.01	147.71	7.38	146.34
PZR-4DR	152.73	2.97	149.76	3.59	149.14	3.70	149.03	2.71	150.02
RW-1	157.61	15.12	142.49	17.94	139.67	16.51	141.10	15.94	141.67
RW-2	156.49	16.96	139.53	18.01	138.48	17.26	139.23	17.26	139.23
RW-3	157.35	17.21	140.14	17.77	139.58	17.03	140.32	16.12	141.23
RW-4	158.21	15.30	142.91	17.14	141.07	16.88	141.33	15.80	142.41
RW-7	157.09	17.26	139.83	17.27	139.82	18.27	138.82	17.27	139.82
RW-8	156.95	18.20	138.75	18.60	138.35	18.11	138.84	17.90	139.05
RW-9	156.72	17.54	139.18	18.18	138.54	17.86	138.86	17.86	138.86
RW-10	156.13	18.11	138.02	17.94	138.19	17.93	138.20	18.09	138.04
RW-11	157.82	17.23	140.59	17.09	140.73	18.01	139.81	17.31	140.51
RW-12	158.36	17.84	140.52	19.21	139.15	19.79	138.57	18.80	139.56
RW-13	149.36	51.44	97.92	49.65	99.71	46.39	102.97	52.03	99.61
RW-14	151.71	31.95	119.76	31.43	120.28	27.40	124.31	27.28	124.43
RW-1R	149.77	30.99	118.78	32.16	117.61	33.02	116.75	5.10	144.67
TW-7A	158.72	6.71	152.01	7.21	151.51	7.39	151.33	6.61	152.11
MW-702DR	181.38	21.31	160.07	22.64	158.74	23.32	158.06	23.26	158.12
P-8A	181.26	21.35	159.91	22.79	158.47	23.35	157.91	23.30	157.96
MW-707D	156.09	9.65	146.44	10.26	145.83	10.20	145.89	9.72	146.37
MW-707R	156.01	9.73	146.28	10.32	145.69	10.25	145.76	9.88	146.13
MW-707DR	156.80	10.50	146.30	11.36	145.44	11.21	145.59	10.57	146.23
PZ-02D	154.14	7.86	146.28	8.48	145.66	8.40	145.74	7.92	146.22
PZ-O2M	154.77	8.36	146.41	9.01	145.76	8.92	145.85	8.43	146.34
MW-3	153.79	7.47	146.32	8.09	145.70	8.00	145.79	7.40	146.39
MW-708R	224.95	75.83	149.12	75.90	149.05	75.92	149.03	76.00	148.95
MW-708DR	224.19	76.11	148.08	76.20	147.99	76.13	148.06	76.16	148.03
PZ-906DR	155.85	2.64	153.21	2.45	153.40	2.41	153.44	2.21	153.64

TABLE 2

31 October 2011 through 30 October 2012

Influent and Effluent GWCT System Flow Data Summary

Date	Influent Flow Summary (NCTRA 1 and 2 Combined)			NCTRA-1 Flow Summary (2)	NCTRA-2 Flow Summary			Effluent Flow Summary (NTCRA 1 and 2 Combined)		
	Total Cumulative Flow (gallons)	*Total Flow Since Previous (gallons)*	*Avg. Rate Since Prev. (GPM)*	*Avg. Rate Since Prev. (GPM)*	*Total Cumulative Flow (gallons)*	*Total Flow Since Previous (gallons)*	*Avg. Rate Since Prev. (GPM)*	*Total Cumulative Flow (gallons)*	*Total Flow Since Previous (gallons)*	*Avg. Rate Since Prev. (GPM)*
10/31/2011	216,393,000	1,544,000	34.6	6.6	99,839,460	1,248,300	28.0	228,389,000	1,791,000	40.1
11/30/2011	217,755,000	1,362,000	31.5	6.0	100,940,860	1,101,400	25.5	229,994,000	1,605,000	37.2
12/30/2011	219,185,000	1,430,000	33.1	4.4	102,178,860	1,238,000	28.7	231,728,000	1,734,000	40.1
1/31/2012	220,677,000	1,492,000	32.4	-0.2	103,681,360	1,502,500	32.6	233,543,000	1,815,000	39.4
2/28/2012	221,785,000	1,108,000	27.5	-1.0	104,828,460	1,147,100	28.4	234,912,000	1,369,000	34.0
3/30/2012	222,871,000	1,086,000	24.3	-0.1	105,919,460	1,091,000	24.4	236,264,000	1,352,000	30.3
4/29/2012	223,792,000	921,000	21.3	-1.8	106,919,860	1,000,400	23.2	237,416,000	1,152,000	26.7
5/31/2012	224,755,000	963,000	20.9	-2.8	108,010,660	1,090,800	23.7	238,645,000	1,229,000	26.7
6/29/2012	225,734,000	979,000	23.4	-3.8	109,147,360	1,136,700	27.2	239,910,000	1,265,000	30.3
7/31/2012	226,764,000	1,030,000	22.4	-4.1	110,364,260	1,216,900	26.4	241,258,000	1,348,000	29.3
8/31/2012	227,911,000	1,147,000	25.7	2.3	111,408,260	1,044,000	23.4	242,441,000	1,183,000	26.5
9/29/2012	228,618,000	707,000	16.9	3.8	111,958,460	550,200	13.2	243,273,000	832,000	19.9
10/30/2012	229,765,000	1,147,000	25.7	3.1	112,965,160	1,006,700	22.6	244,448,000	1,175,000	26.3
Yearly Averages (1)			**25.4**	**0.5**			**25.0**			**30.6**
Cumulative Totals:	**229,765,000**	**13,372,000**			**112,965,160**	**13,125,700**		**244,448,000**	**16,059,000**	

Notes:

1: The average yearly flows are calculated by dividing the total cumulative annual flow by the duration in minutes.

2: The NTCRA-2 Flow Meter is reading higher than actual causing the calculated NTCRA-1 flow to be lower than actual.

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Table 3

November 2011

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	11/3/2011	11/17/2011
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	2.48	1.82
Ethylbenzene (mg/L)	0.67	0.35
Xylenes, Total (mg/L)	0.46	0.36
Vinyl chloride (mg/L)	0.51	0.38
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	1.32	1.33
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	<0.01	0.01
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.04	<0.01
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**5.48**	**4.25**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	6.31	8.63
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

December 2011

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	12/2/2011	12/16/2011
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	1.41	2.33
Ethylbenzene (mg/L)	0.37	0.67
Xylenes, Total (mg/L)	0.24	0.49
Vinyl chloride (mg/L)	0.28	0.64
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	0.65	1.14
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.02	0.07
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.04	<0.01
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**3.01**	**5.34**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	0.01
Iron, Total (mg/L)	6.58	11.7
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:

mg/L = Milligrams per liter unless otherwise noted.

[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

January 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	1/3/2012	1/18/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	0.71	1.48
Ethylbenzene (mg/L)	0.19	0.45
Xylenes, Total (mg/L)	0.14	0.27
Vinyl chloride (mg/L)	0.17	0.24
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	0.35	0.55
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	<0.01	0.02
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.02	<0.01
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**1.58**	**3.01**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	2.08	7.6
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

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Table 3

February 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	2/3/2012	**2/16/2012**
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	0.29	2.18
Ethylbenzene (mg/L)	0.05	0.65
Xylenes, Total (mg/L)	0.03	0.40
Vinyl chloride (mg/L)	0.07	0.32
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	0.16	0.97
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	<0.01	0.04
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	<0.01	0.03
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**0.60**	**4.59**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	6.24	4.93
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

March 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	3/2/2012	**3/16/2012**
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	3.66	1.9
Ethylbenzene (mg/L)	0.66	0.54
Xylenes, Total (mg/L)	0.54	0.23
Vinyl chloride (mg/L)	0.65	0.36
1,1-Dichloroethene (mg/L)	0.01	0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	1.84	1.17
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.04	0.03
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.04	0.05
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**7.44**	**4.29**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	12.6	7.31
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:

mg/L = Milligrams per liter unless otherwise noted.

[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

[2] = Total VOCs is the total sum of detected compounds (mg/l)

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Table 3

April 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	4/2/2012	4/13/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	3.54	0.74
Ethylbenzene (mg/L)	0.79	0.16
Xylenes, Total (mg/L)	0.70	0.12
Vinyl chloride (mg/L)	0.79	0.20
1,1-Dichloroethene (mg/L)	0.02	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	2.58	0.51
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.04	0.02
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.05	<0.01
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**8.51**	**1.75**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	9.54	3.78
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

May 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	5/4/2012	5/18/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	0.48	0.89
Ethylbenzene (mg/L)	0.09	0.27
Xylenes, Total (mg/L)	0.06	0.19
Vinyl chloride (mg/L)	0.13	0.52
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	0.25	0.53
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	<0.01	0.02
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	<0.01	0.05
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**1.01**	**2.47**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	0.01	<0.01
Iron, Total (mg/L)	3	2.4
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

June 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	6/1/2012	6/15/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	1.91	0.31
Ethylbenzene (mg/L)	0.64	0.10
Xylenes, Total (mg/L)	0.42	0.08
Vinyl chloride (mg/L)	0.74	0.09
1,1-Dichloroethene (mg/L)	0.02	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	1.22	0.19
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.05	<0.01
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.17	<0.01
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**5.17**	**0.77**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	0.96	6.21
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

July 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	7/2/2012	7/17/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	0.56	1.33
Ethylbenzene (mg/L)	0.16	0.37
Xylenes, Total (mg/L)	0.13	0.29
Vinyl chloride (mg/L)	0.09	0.19
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	0.30	0.83
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.01	0.03
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	<0.01	0.03
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**1.25**	**3.07**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	7.61	9.66
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:

mg/L = Milligrams per liter unless otherwise noted.

[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

August 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	8/2/2012	**8/14/2012**
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	3.27	1.30
Ethylbenzene (mg/L)	0.49	0.35
Xylenes, Total (mg/L)	0.44	0.30
Vinyl chloride (mg/L)	0.27	0.26
1,1-Dichloroethene (mg/L)	<0.01	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	1.01	0.81
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.03	0.02
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	<0.01	<0.01
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**5.51**	**3.04**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	13.2	4.14
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

September 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	9/7/2012	9/21/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	0.001
Tetrachloroethene (mg/L)	<0.01	<0.001
Toluene (mg/L)	2.72	0.043
Ethylbenzene (mg/L)	0.85	0.011
Xylenes, Total (mg/L)	0.72	0.011
Vinyl chloride (mg/L)	0.58	0.011
1,1-Dichloroethene (mg/L)	0.01	<0.001
Tetrahydrofuran (mg/L)	<0.50	<0.050
1,2-Dichloroethene[1] (mg/L)	1.32	0.015
1,2-Dichloroethane (mg/L)	<0.01	<0.001
1,1,1-Trichloroethane (mg/L)	0.04	<0.001
1,1,2-Trichloroethane (mg/L)	<0.01	<0.001
Methylene chloride (mg/L)	0.07	<0.001
Styrene (mg/L)	<0.01	<0.001
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.050
Total VOCs[2]	**6.31**	**0.09**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	14.1	5.87
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:

mg/L = Milligrams per liter unless otherwise noted.

[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

[2] = Total VOCs is the total sum of detected compounds (mg/l)

Table 3

October 2012

SRSNE HCTS - Influent Results

Parameter/ Concentration (mg/L)	Sample Dates	
	10/1/2012	10/17/2012
A. ORGANIC PARAMETERS		
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	<0.01	<0.01
Tetrachloroethene (mg/L)	<0.01	<0.01
Toluene (mg/L)	3.40	0.57
Ethylbenzene (mg/L)	0.98	0.18
Xylenes, Total (mg/L)	0.81	0.11
Vinyl chloride (mg/L)	1.04	0.04
1,1-Dichloroethene (mg/L)	0.02	<0.01
Tetrahydrofuran (mg/L)	<0.50	<0.50
1,2-Dichloroethene[1] (mg/L)	1.25	0.33
1,2-Dichloroethane (mg/L)	<0.01	<0.01
1,1,1-Trichloroethane (mg/L)	0.02	<0.01
1,1,2-Trichloroethane (mg/L)	<0.01	<0.01
Methylene chloride (mg/L)	0.09	0.06
Styrene (mg/L)	<0.01	<0.01
Alcohols		
Ethanol (mg/L)	<5.0	<5.0
Methanol (mg/L)	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	<5.0	<5.0
Ketones		
Acetone (mg/L)	<0.50	<0.50
2-Butanone (Methyl Ethyl Ketone) (mg/L)	<0.50	<0.50
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	<0.50	<0.50
Total VOCs[2]	**7.61**	**1.29**
B. INORGANIC PARAMETERS		
Metals		
Copper, Total (mg/L)	<0.01	<0.01
Iron, Total (mg/L)	6.88	4.54
Lead, Total (mg/L)	<0.005	<0.005
Nickel, Total (mg/L)	<0.05	<0.05
Zinc, Total (mg/L)	<0.05	<0.05

NOTES:
mg/L = Milligrams per liter unless otherwise noted.
[1] = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.
[2] = Total VOCs is the total sum of detected compounds (mg/l)

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Table 4

November 2011

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		11/3/2011	11/17/2011
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.002
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.183	0.161
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	<0.001	0.009
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.002	0.001
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.185**	**0.173**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <2.02 g/day	<0.01 mg/l or <2.02 g/day
Iron, Total (mg/l)	**5.0**	<0.05	0.1
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <1.01 g/day	<0.005 mg/l or <1.01 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <10.12 g/day	<0.05 mg/l or <10.12 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	7.13	6.57
Total Suspended Solids (mg/L)	**30**	<1	<1
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

December 2011

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates 12/2/2011	12/16/2011
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	0.002	0.005
Ethylbenzene (mg/L)	**1.000**	<0.001	0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.139	0.160
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.011	0.020
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.003	0.004
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.155**	**0.19**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <2.19 g/day	<0.01 mg/l or< 2.19 g/day
Iron, Total (mg/l)	**5.0**	0.1	0.3
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <1.09 g/day	<0.005 mg/l or <1.09 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <10.94 g/day	<0.05 mg/l or <10.94 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.6	6.66
Total Suspended Solids (mg/L)	**30**	<1	2
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

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Table 4

January 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		1/3/2012	1/18/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	<0.001
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.213	0.240
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.012	0.009
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.002	<0.001
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.227**	**0.249**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <2.15 g/day	<0.01 mg/l or <2.15 g/day
Iron, Total (mg/l)	**5.0**	0.10	0.10
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <1.07 g/day	<0.005 mg/l or <1.07 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <10.73 g/day	<0.05 mg/l or <10.73 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.69	6.68
Total Suspended Solids (mg/L)	**30**	4	2
Dioxins (pg/L)	**NL**	125	NS
Furans (pg/L)	**NL**	<51	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

WESTON SOLUTIONS

Table 4

February 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		2/3/2012	2/16/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	<0.001
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.261	0.381
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.013	0.018
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.008	0.006
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.282**	**0.405**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or 1.85 g/day	<0.01 mg/l or <1.85 g/day
Iron, Total (mg/l)	**5.0**	0.11	0.08
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.93 g/day	<0.005 mg/l or <0.93 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <9.25 g/day	<0.05 mg/l or <9.25 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.90	6.89
Total Suspended Solids (mg/L)	**30**	1	3
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

March 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates 3/2/2012	3/16/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.004
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.341	0.433
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.016	0.022
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.008	0.005
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.365**	**0.464**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.65 g/day	<0.01 mg/l or 1.65 g/day
Iron, Total (mg/l)	**5.0**	0.16	1.6
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.83 g/day	<0.005 mg/l or <0.83 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <8.25 g/day	<0.05 mg/l or <8.25 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.78	6.59
Total Suspended Solids (mg/L)	**30**	<1	1
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

April 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates 4/2/2012	4/13/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.006
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.480	0.324
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.011	0.017
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	<0.001	0.002
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.491**	**0.35**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.45 g/day	<0.01 mg/l or <1.45 g/day
Iron, Total (mg/l)	**5.0**	0.11	0.24
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.73 g/day	<0.005 mg/l or <0.73 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <7.27 g/day	<0.05 mg/l or <7.27 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.50	6.59
Total Suspended Solids (mg/L)	**30**	4	1
Dioxins (pg/L)	**NL**	<36	NS
Furans (pg/L)	**NL**	<51	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

WESTON SOLUTIONS

Table 4

May 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		5/4/2012	5/18/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.008
Ethylbenzene (mg/L)	**1.000**	<0.001	0.002
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.283	0.190
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.015	0.015
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.002	0.020
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.300**	**0.235**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.45 g/day	<0.01 mg/l or <1.45 g/day
Iron, Total (mg/l)	**5.0**	0.60	0.13
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.73 g/day	<0.005 mg/l or <0.73 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <7.27 g/day	<0.05 mg/l or <7.27 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	7.17	7.21
Total Suspended Solids (mg/L)	**30**	8	<1
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

June 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		6/1/2012	6/15/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.010
Ethylbenzene (mg/L)	**1.000**	<0.001	0.002
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.186	0.192
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.017	0.017
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.124	0.004
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.327**	**0.225**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.65 g/day	<0.01 mg/l or 1.65 g/day
Iron, Total (mg/l)	**5.0**	0.14	0.09
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.83 g/day	<0.005 mg/l or <0.83 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <8.26 g/day	<0.05 mg/l or <8.26 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	7.01	7.14
Total Suspended Solids (mg/L)	**30**	<1	<1
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

July 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates 7/2/2012	7/17/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.006
Ethylbenzene (mg/L)	**1.000**	<0.001	0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.165	0.239
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.018	0.022
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	<0.001	0.003
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.183**	**0.271**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.59 g/day	<0.01 mg/l or <1.59 g/day
Iron, Total (mg/l)	**5.0**	0.11	0.10
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.8 g/day	<0.005 mg/l or <0.8 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <7.97 g/day	<0.05 mg/l or <7.97 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.94	6.93
Total Suspended Solids (mg/L)	**30**	<1	2
Dioxins (pg/L)	**NL**	<36	NS
Furans (pg/L)	**NL**	<51	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

August 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		8/2/2012	8/14/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	0.003
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.251	0.292
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.016	0.018
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	<0.001	0.003
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.267**	**0.316**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.44 g/day	<0.01 mg/l or <1.44 g/day
Iron, Total (mg/l)	**5.0**	0.12	0.14
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.72 g/day	<0.005 mg/l or <0.72 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <7.22 g/day	<0.05 mg/l or <7.22 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.92	7.07
Total Suspended Solids (mg/L)	**30**	<1	3
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

Table 4

September 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		9/7/2012	9/21/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	<0.001
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.209	0.145
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.014	0.012
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	<0.001	0.002
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.223**	**0.159**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.09 g/day	<0.01 mg/l or <1.09 g/day
Iron, Total (mg/l)	**5.0**	0.15	<0.05
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.54 g/day	<0.005 mg/l or <0.54 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <5.43 g/day	<0.05 mg/l or <5.43 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.85	6.87
Total Suspended Solids (mg/L)	**30**	3	<1
Dioxins (pg/L)	**NL**	NS	NS
Furans (pg/L)	**NL**	NS	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

WESTON SOLUTIONS

Table 4

October 2012

SRSNE HCTS - Effluent Results

Parameter/ Concentration (mg/L)	Substantive Requirement Discharge Limits	Sample Dates	
		10/1/2012	10/17/2012
A. ORGANIC PARAMETERS			
Volatile Organic Compounds	*(mg/L)*	*(mg/L)*	*(mg/L)*
Trichloroethene (mg/L)	**0.973**	<0.001	<0.001
Tetrachloroethene (mg/L)	**0.106**	<0.001	<0.001
Toluene (mg/L)	**4.000**	<0.001	<0.001
Ethylbenzene (mg/L)	**1.000**	<0.001	<0.001
Xylenes, Total (mg/L)	**0.500**	<0.001	<0.001
Vinyl chloride (mg/L)	**4.500**	<0.001	<0.001
1,1-Dichloroethene (mg/L)	**0.058**	<0.001	<0.001
Tetrahydrofuran (mg/L)	**0.500**	<0.050	<0.050
1,2-Dichloroethene[1] (mg/L)	**5.000**	0.123	0.105
1,2-Dichloroethane (mg/L)	**0.250**	<0.001	<0.001
1,1,1-Trichloroethane (mg/L)	**4.000**	0.008	0.005
1,1,2-Trichloroethane (mg/L)	**0.250**	<0.001	<0.001
Methylene chloride (mg/L)	**15.000**	0.001	0.002
Styrene (mg/L)	**0.500**	<0.001	<0.001
Alcohols			
Ethanol (mg/L)	**20.0**	<5.0	<5.0
Methanol (mg/L)	**10.0**	<5.0	<5.0
2-Butanol (sec-Butanol) (mg/L)	**30.0**	<5.0	<5.0
2-Propanol (Isopropanol) (mg/L)	**10.0**	<5.0	<5.0
Ketones			
Acetone (mg/L)	**35.0**	<0.050	<0.050
2-Butanone (Methyl Ethyl Ketone) (mg/L)	**10.0**	<0.050	<0.050
4-Methyl-2-pentanone (Methyl Isobutyl Ketone) (mg/L)	**2.0**	<0.050	<0.050
Total VOCs[2]		**0.132**	**0.112**
B. INORGANIC PARAMETERS			
Metals	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*	*(mg/L) or (g/day)*
Copper, Total (g/day)[3]	**15.8 g/day**	<0.01 mg/l or <1.43 g/day	<0.01 mg/l or <1.43 g/day
Iron, Total (mg/l)	**5.0**	0.12	0.09
Lead, Total (g/day)[3]	**3.2 g/day**	<0.005 mg/l or <0.72 g/day	<0.005 mg/l or <0.72 g/day
Nickel, Total (mg/l)	**0.5**	<0.05	<0.05
Zinc, Total (g/day)[3]	**40.3 g/day**	<0.05 mg/l or <7.17 g/day	<0.05 mg/l or <7.17 g/day
OTHER			
Hydrogen Peroxide (mg/L)	**1.0**	<0.2	<0.2
Total PCBs (µg/L)	**NL**	<1	NS
pH (s.u.)	**6.0 - 9.0 s.u.**	6.87	7.11
Total Suspended Solids (mg/L)	**30**	<1	<1
Dioxins (pg/L)	**NL**	923	NS
Furans (pg/L)	**NL**	<51	NS

NOTES:

1 = 1,2-Dichloroethene represents total cis and trans 1,2-Dichloroethene.

2 = Total VOCs is the total sum of detected compounds (mg/l)

3 = Inorganic results reported in grams per day are based on average monthly effluent flow

NL = no limit specified.

NS = not sampled (total PCBs analysis required monthly; dioxin/furan analysis required quarterly).

mg/L = Milligrams per liter

µg/L = micrograms per liter

pg/L = picograms per liter

g/day = grams per day

s.u. = Standard pH units

TABLE 5

31 October 2011through 30 October 2012

Weekly NTCRA-1 Compliance Piezometer Pair Summary

Date	CPZ-1/CPZ-2A	CPZ-3/CPZ-4A	CPZ-5/CPZ-6	CPZ-7/CPZ-8
02-Nov-11	1.99	1.98	7.31	2.50
07-Nov-11	1.09	1.87	6.54	1.55
15-Nov-11	1.14	1.80	6.87	1.60
21-Nov-11	1.13	1.83	6.45	1.63
28-Nov-11	1.02	2.12	7.45	1.82
09-Dec-11	2.01	2.69	7.85	2.00
12-Dec-11	1.79	2.34	7.60	1.48
22-Dec-11	1.65	2.33	7.73	1.62
27-Dec-11	1.31	1.94	7.06	1.25
02-Jan-12	1.03	1.86	6.61	1.25
09-Jan-12	0.86	1.52	6.40	1.42
18-Jan-12	0.60	1.48	6.35	1.73
24-Jan-12	0.38	1.50	6.92	1.35
31-Jan-12	0.54	2.14	5.33	1.19
08-Feb-12	0.36	1.71	5.17	1.92
14-Feb-12	0.37	1.46	4.57	1.86
21-Feb-12	0.34	0.80	4.71	1.85
28-Feb-12	0.47	0.91	3.61	1.00
08-Mar-12	0.40	1.55	4.22	1.77
13-Mar-12	0.31	1.51	4.37	1.57
19-Mar-12	0.41	1.04	4.04	1.63
29-Mar-12	0.46	1.51	3.06	1.38
03-Apr-12	0.34	1.29	11.57	2.26
11-Apr-12	0.35	0.80	2.65	1.69
19-Apr-12	0.37	0.75	2.53	1.60
25-Apr-12	0.34	1.25	3.99	1.53
01-May-12	0.32	1.13	8.12	1.69
07-May-12	0.38	0.79	7.04	2.01
16-May-12	0.35	0.97	8.30	1.90
22-May-12	0.33	0.90	8.35	2.07
29-May-12	0.30	0.58	5.10	1.73
04-Jun-12	0.08	1.36	8.70	2.16
15-Jun-12	-0.21	0.74	3.28	1.67
19-Jun-12	-0.12	1.07	3.86	1.50
27-Jun-12	0.36	1.27	5.46	1.74
04-Jul-12	0.26	1.20	4.83	1.94
11-Jul-12	0.11	0.91	3.41	1.87
17-Jul-12	0.08	0.68	3.84	1.87
24-Jul-12	0.05	0.63	4.72	1.95
31-Jul-12	-0.14	0.59	3.57	1.89
07-Aug-12	-0.21	0.16	3.89	1.93
14-Aug-12	-0.43	-0.09	3.30	2.38
21-Aug-12	-0.59	-0.46	3.29	2.12
29-Aug-12	-0.72	-0.66	2.90	1.98
04-Sep-12	-0.71	-0.88	3.28	2.02
10-Sep-12	-0.52	-1.31	3.59	2.04
21-Sep-12	-0.76	-1.28	3.70	1.15
25-Sep-12	-0.61	-1.39	3.72	0.96
01-Oct-12	-0.02	-1.29	3.51	1.39
08-Oct-12	-0.09	-1.17	3.93	1.37
15-Oct-12	0.05	-0.48	3.98	1.43
25-Oct-12	-0.72	-0.76	4.13	1.42
28-Oct-12	0.24	-1.43	3.60	1.87

Highlighted Cells - are weeks that the 0.30-foot hydraulic gradient reversal standard for a specific Compliance Piezometer Pair was not maintained during weekly gauging.

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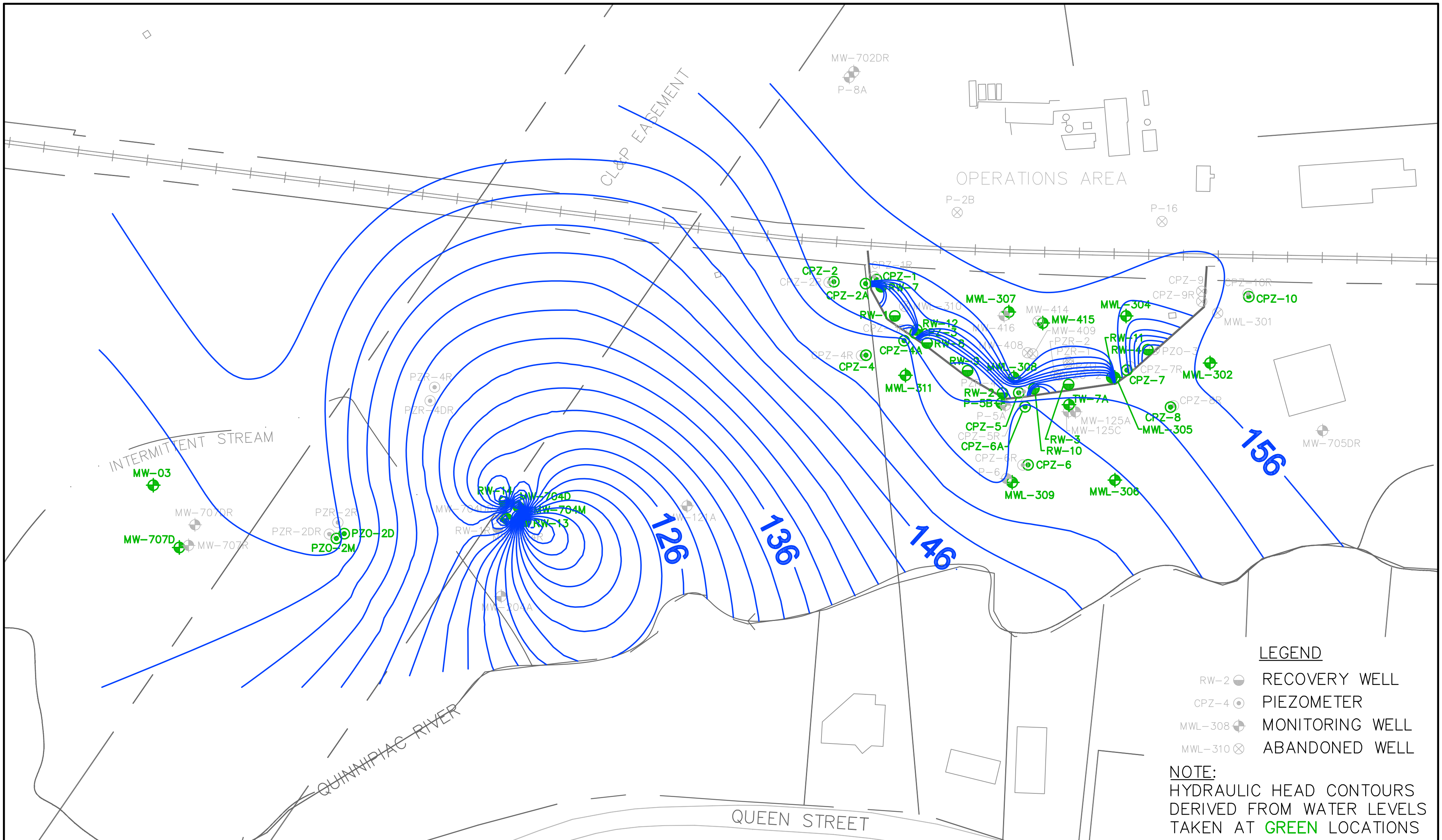

LEGEND

RW-2 RECOVERY WELL

CPZ-4 PIEZOMETER

MWL-308 MONITORING WELL

MWL-310 ABANDONED WELL

NOTE:
HYDRAULIC HEAD CONTOURS DERIVED FROM WATER LEVELS TAKEN AT GREEN LOCATIONS

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
NOVEMBER 28, 2011

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.015
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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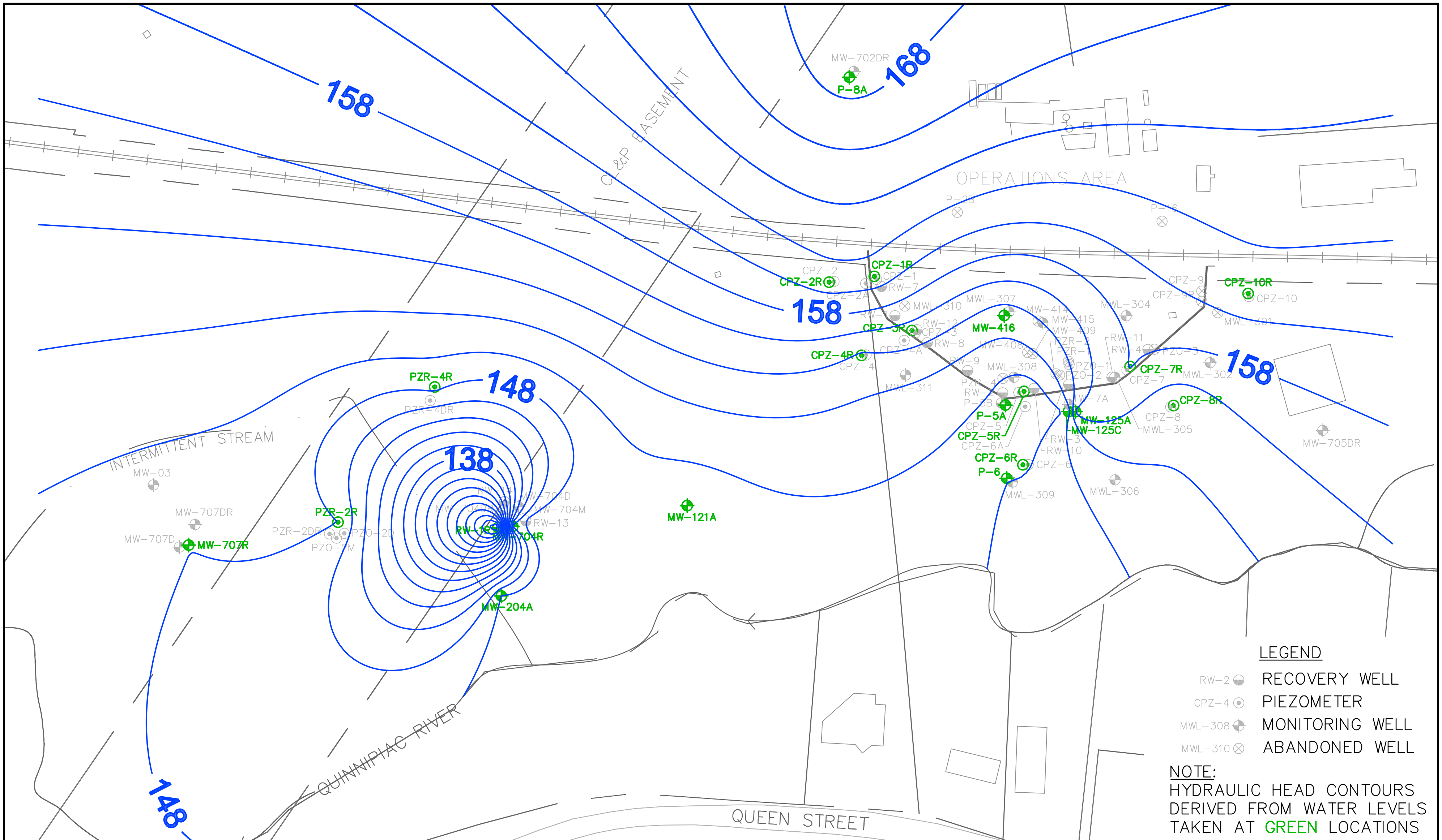

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK
HYDRAULIC HEAD CONTOURS
NOVEMBER 28, 2011

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.015
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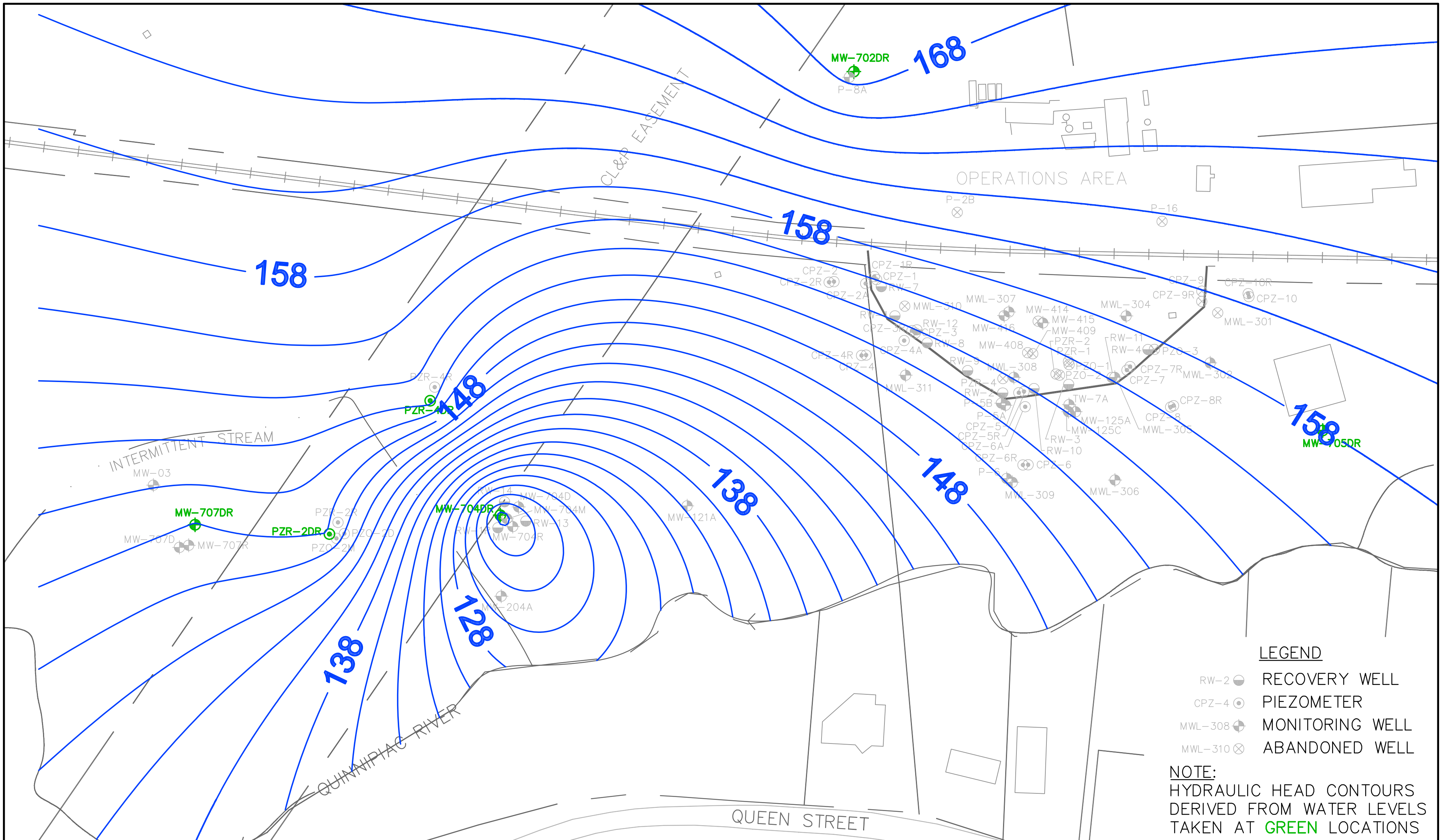

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
NOVEMBER 28, 2011

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
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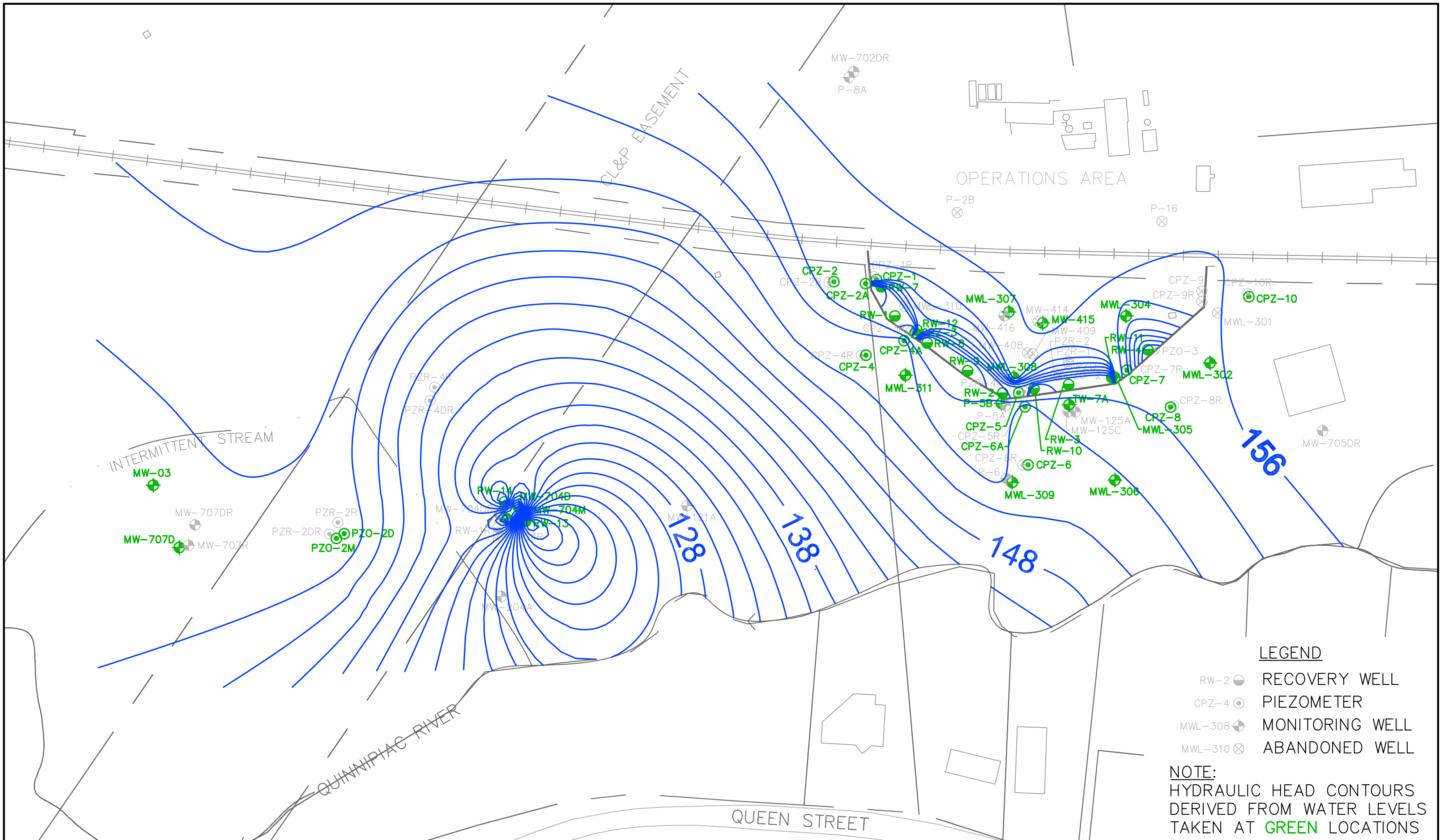

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN HYDRAULIC HEAD CONTOURS DECEMBER 27, 2011

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

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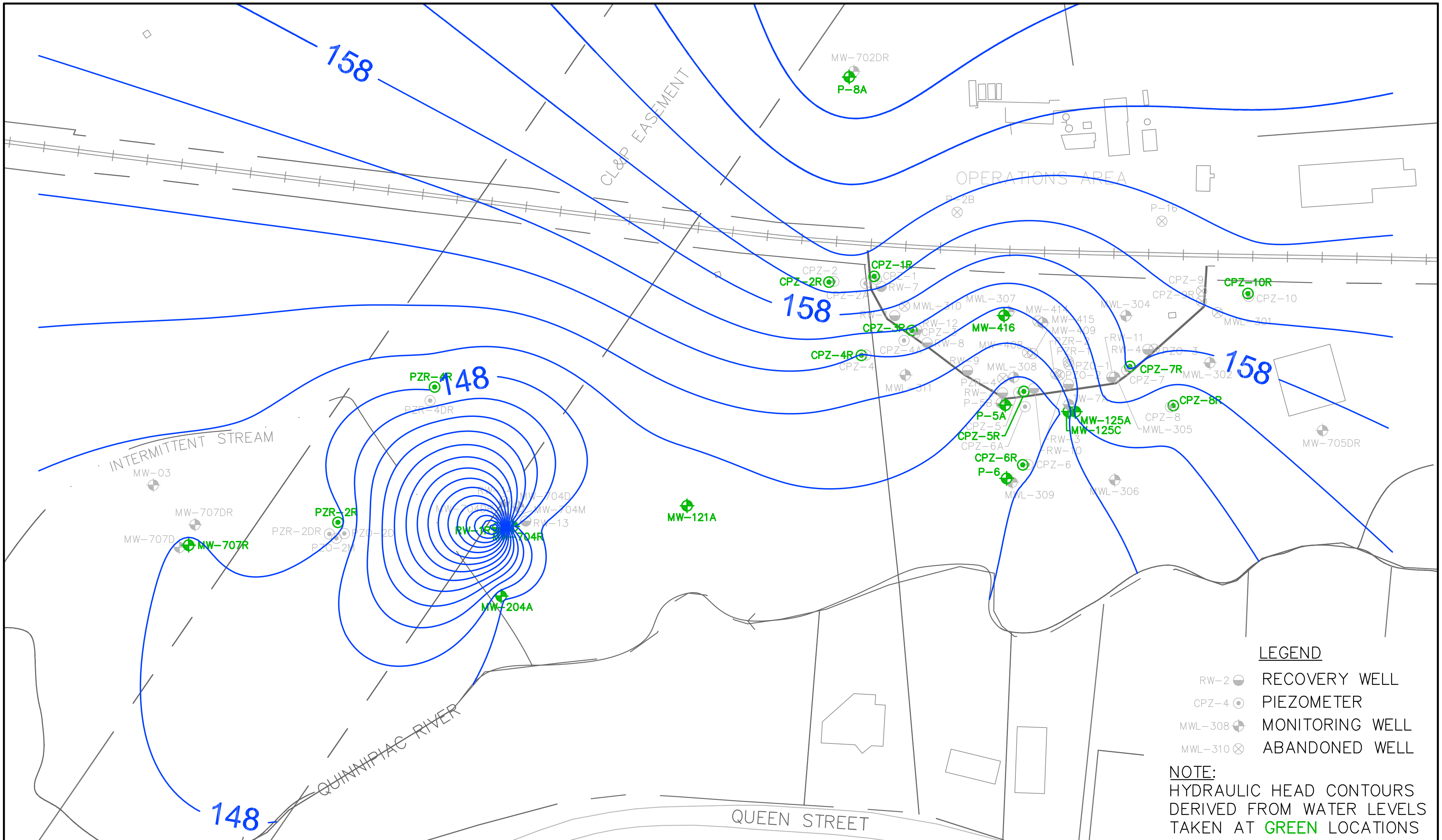

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK
HYDRAULIC HEAD CONTOURS
DECEMBER 27, 2011

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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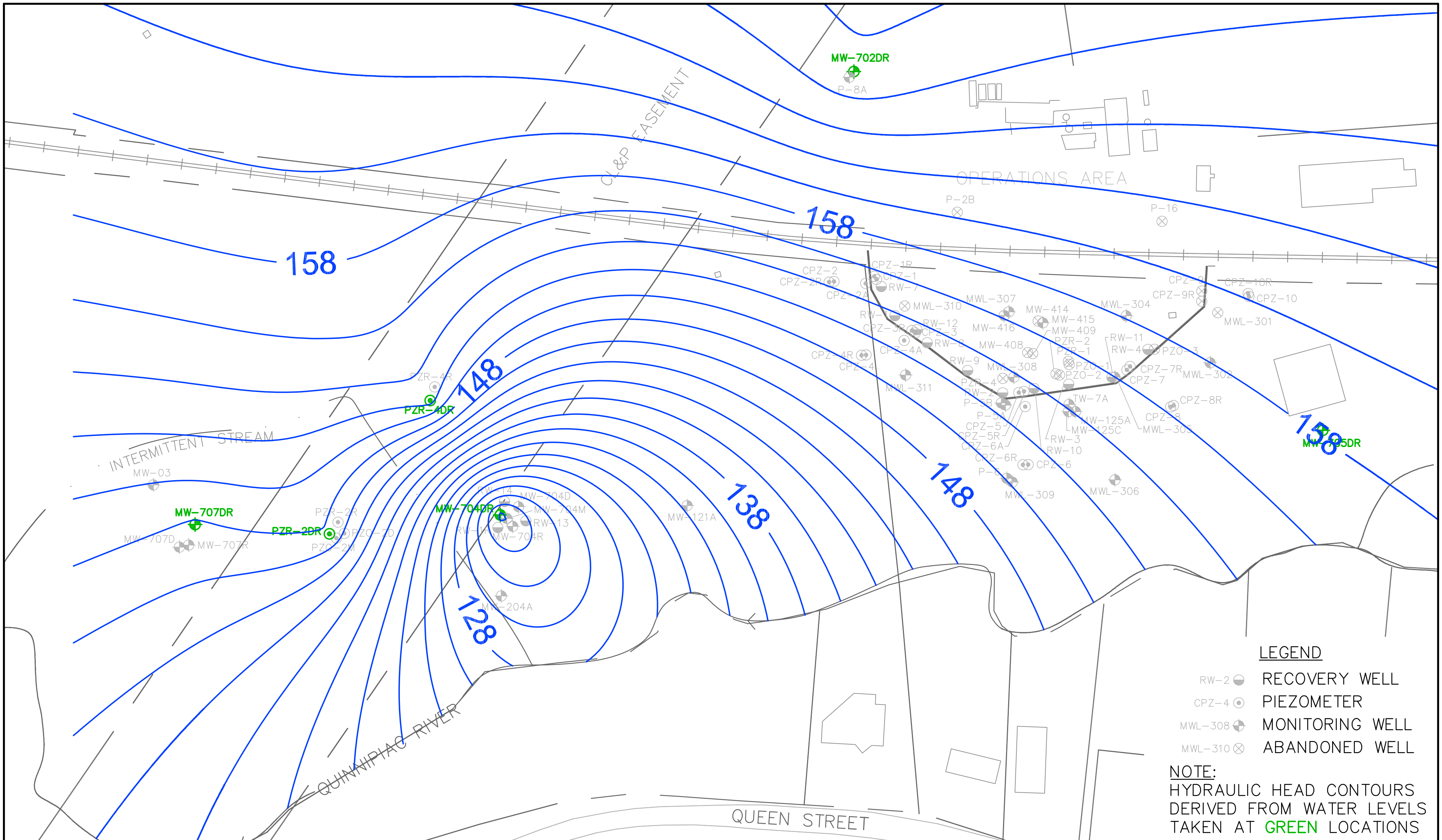

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
DECEMBER 27, 2011

SRSNE
SOUTHINGTON, CONNECTICUT

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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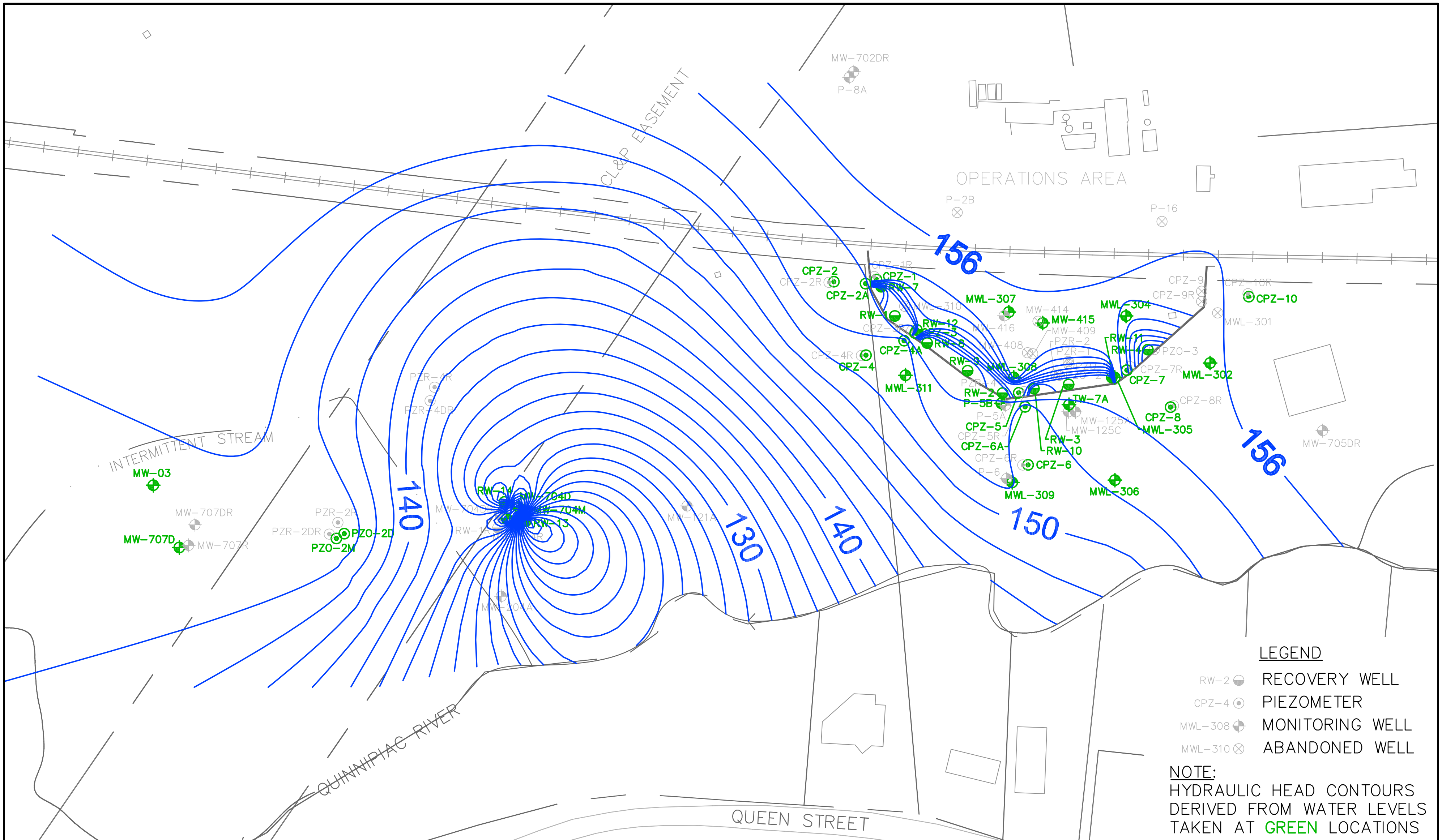

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
JANUARY 31, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
		AS SHOWN		3A

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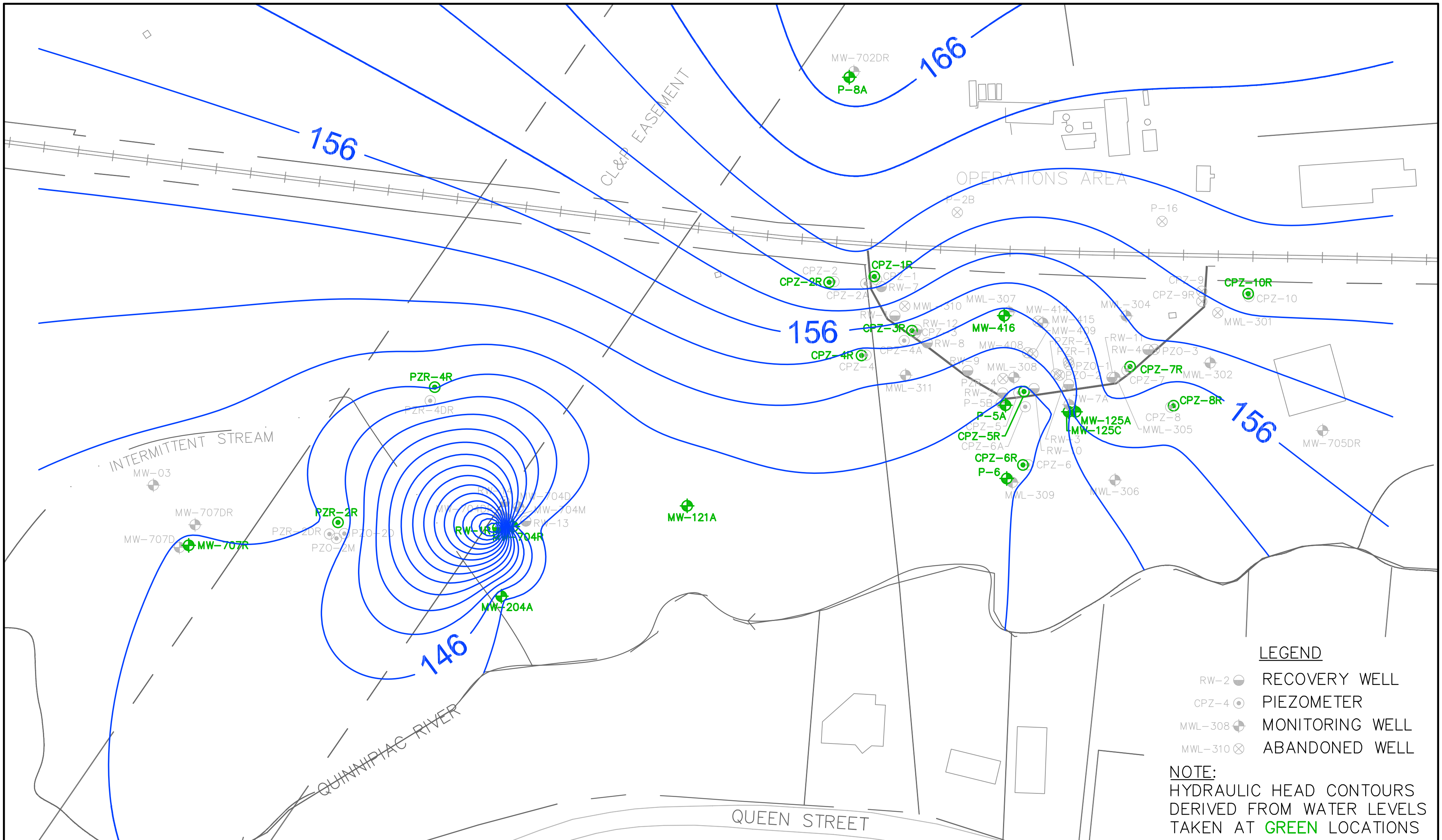

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK HYDRAULIC HEAD CONTOURS JANUARY 31, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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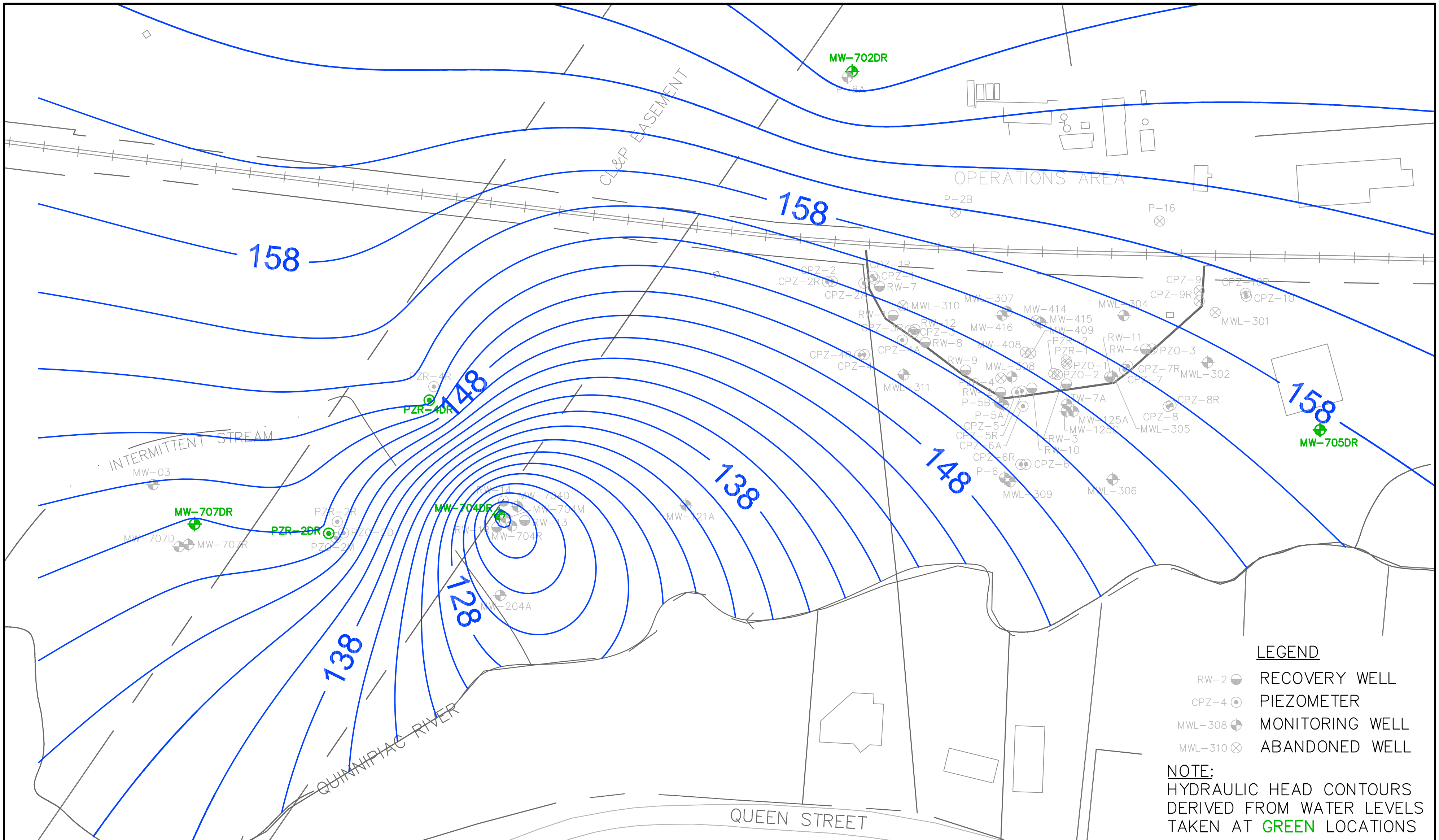

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
JANUARY 31, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN BEG	DATE NOV 2012	DES. ENG.	DATE	W.O. NO. 13056.001.017
CHECKED	DATE	SCALE AS SHOWN	REVISION	FIGURE NO. 3C

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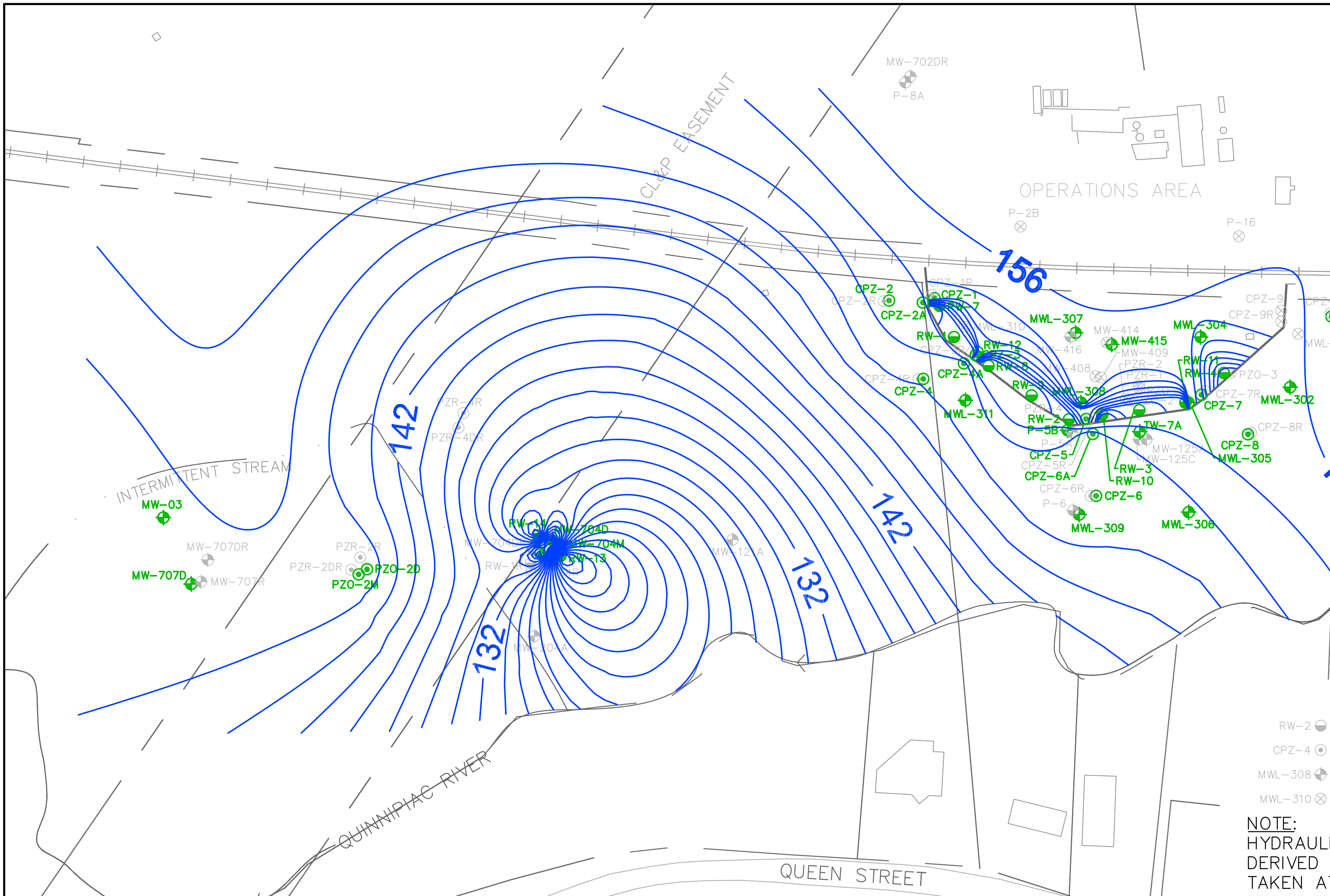

LEGEND

RW-2 RECOVERY WELL
CPZ-4 PIEZOMETER
MWL-308 MONITORING WELL
MWL-310 ABANDONED WELL

NOTE:
HYDRAULIC HEAD CONTOURS DERIVED FROM WATER LEVELS TAKEN AT GREEN LOCATIONS

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN HYDRAULIC HEAD CONTOURS FEBRUARY 28, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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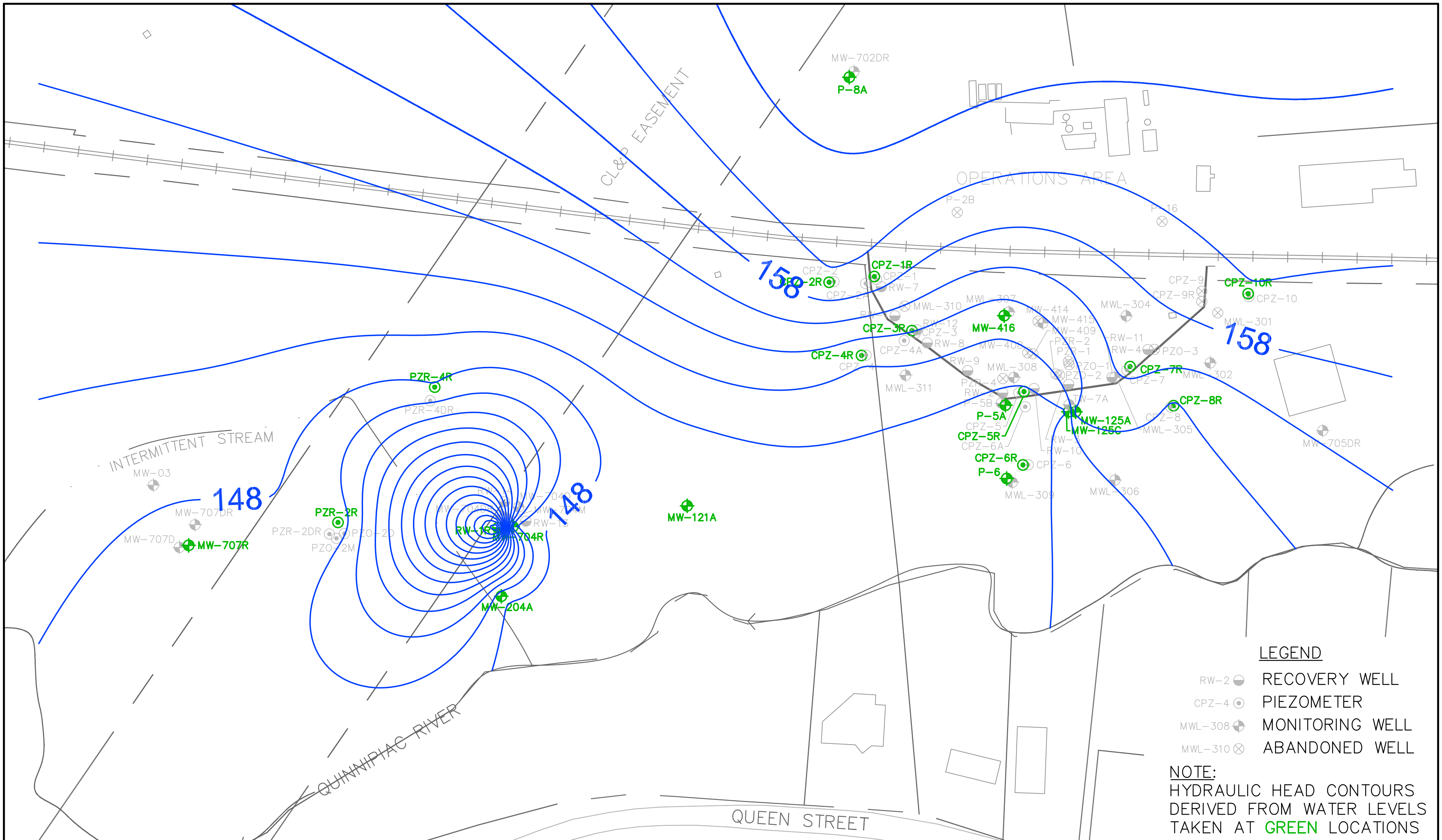

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK
HYDRAULIC HEAD CONTOURS
FEBRUARY 28, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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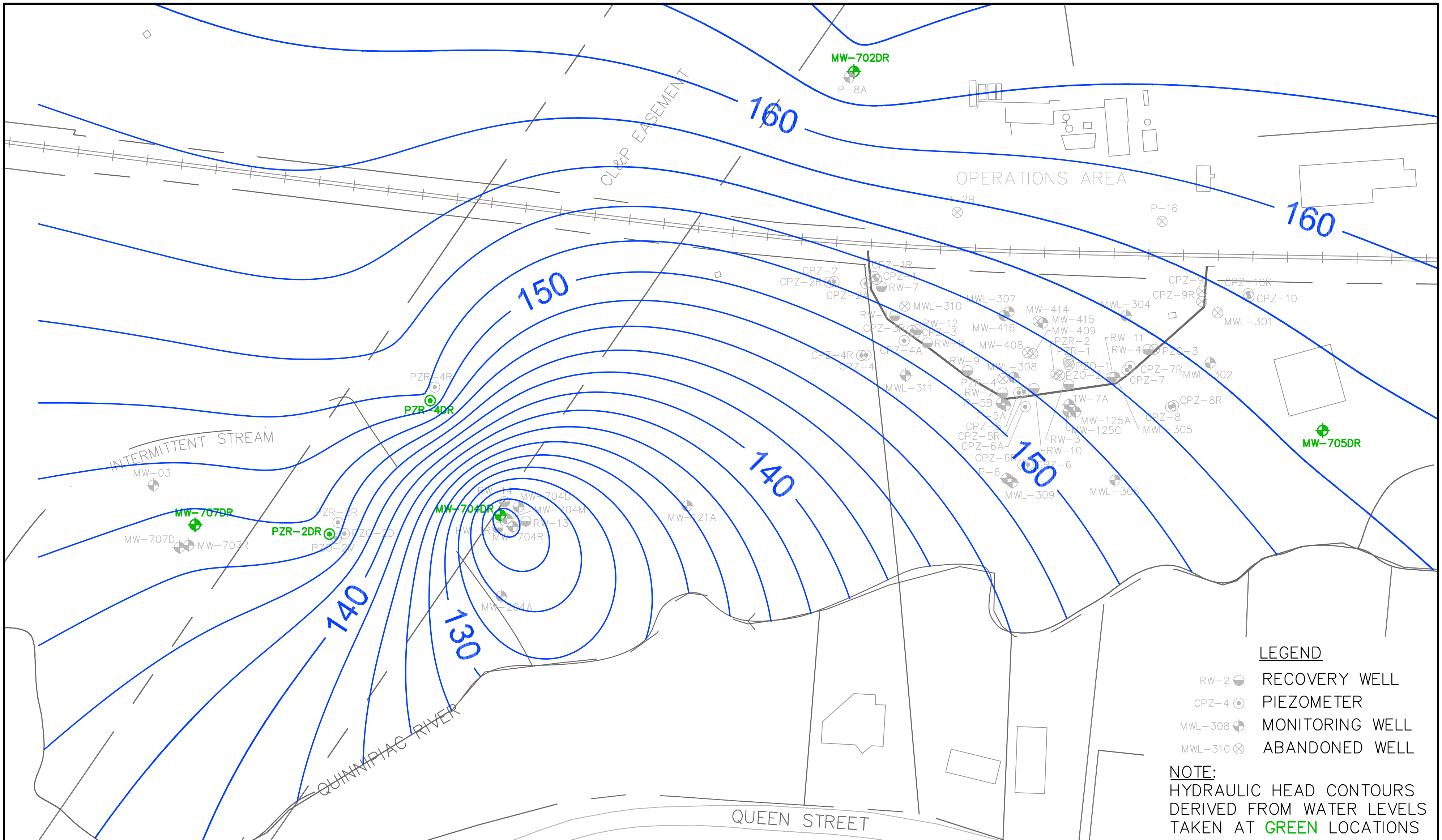

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK HYDRAULIC HEAD CONTOURS FEBRUARY 28, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN BEG	DATE NOV 2012	DES. ENG.	DATE	W.O. NO. 13056.001.017
CHECKED	DATE	SCALE AS SHOWN	REVISION	FIGURE NO. 4C

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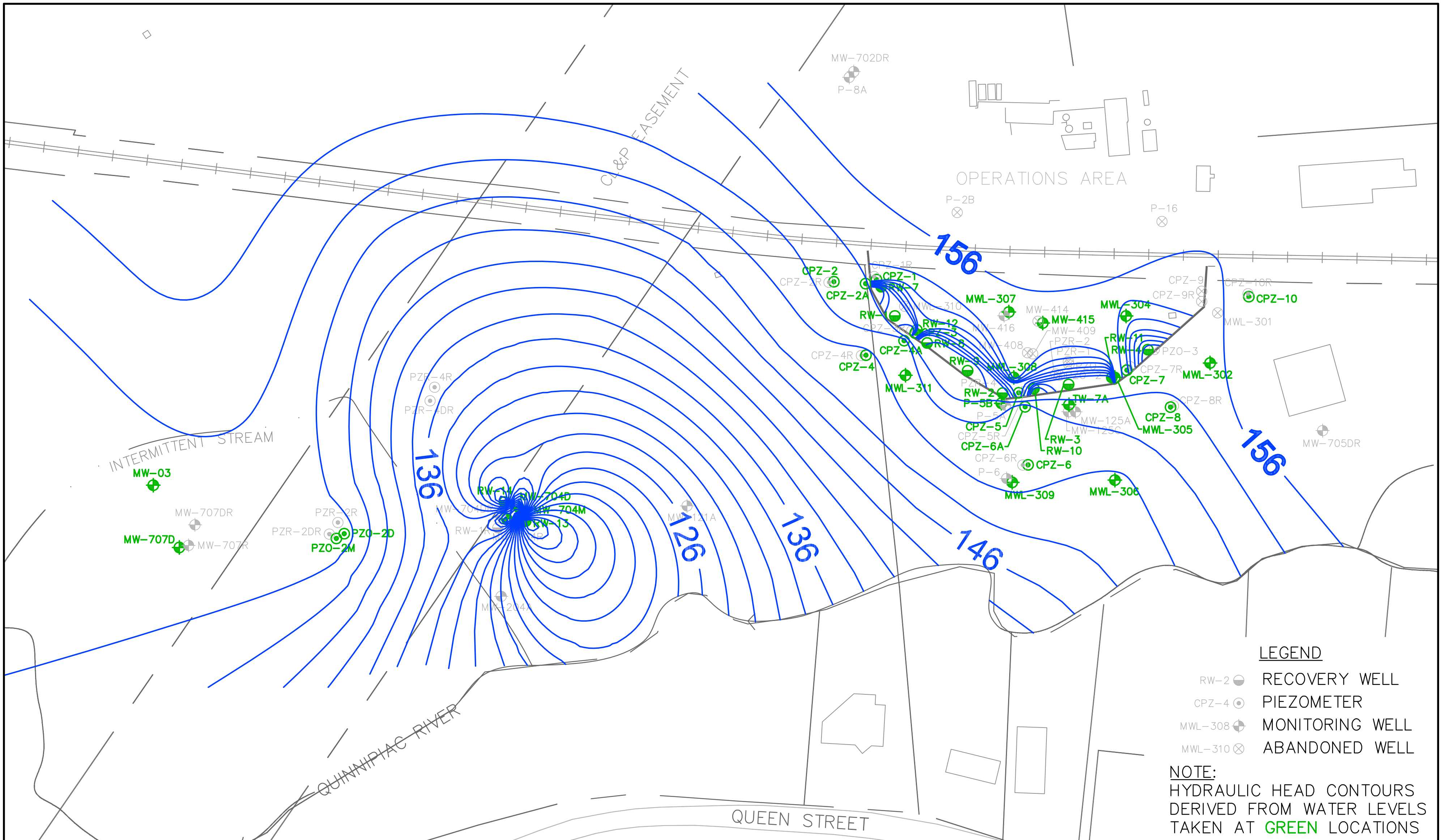

LEGEND

RW-2 RECOVERY WELL

CPZ-4 PIEZOMETER

MWL-308 MONITORING WELL

MWL-310 ABANDONED WELL

NOTE:
HYDRAULIC HEAD CONTOURS DERIVED FROM WATER LEVELS TAKEN AT GREEN LOCATIONS

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
MARCH 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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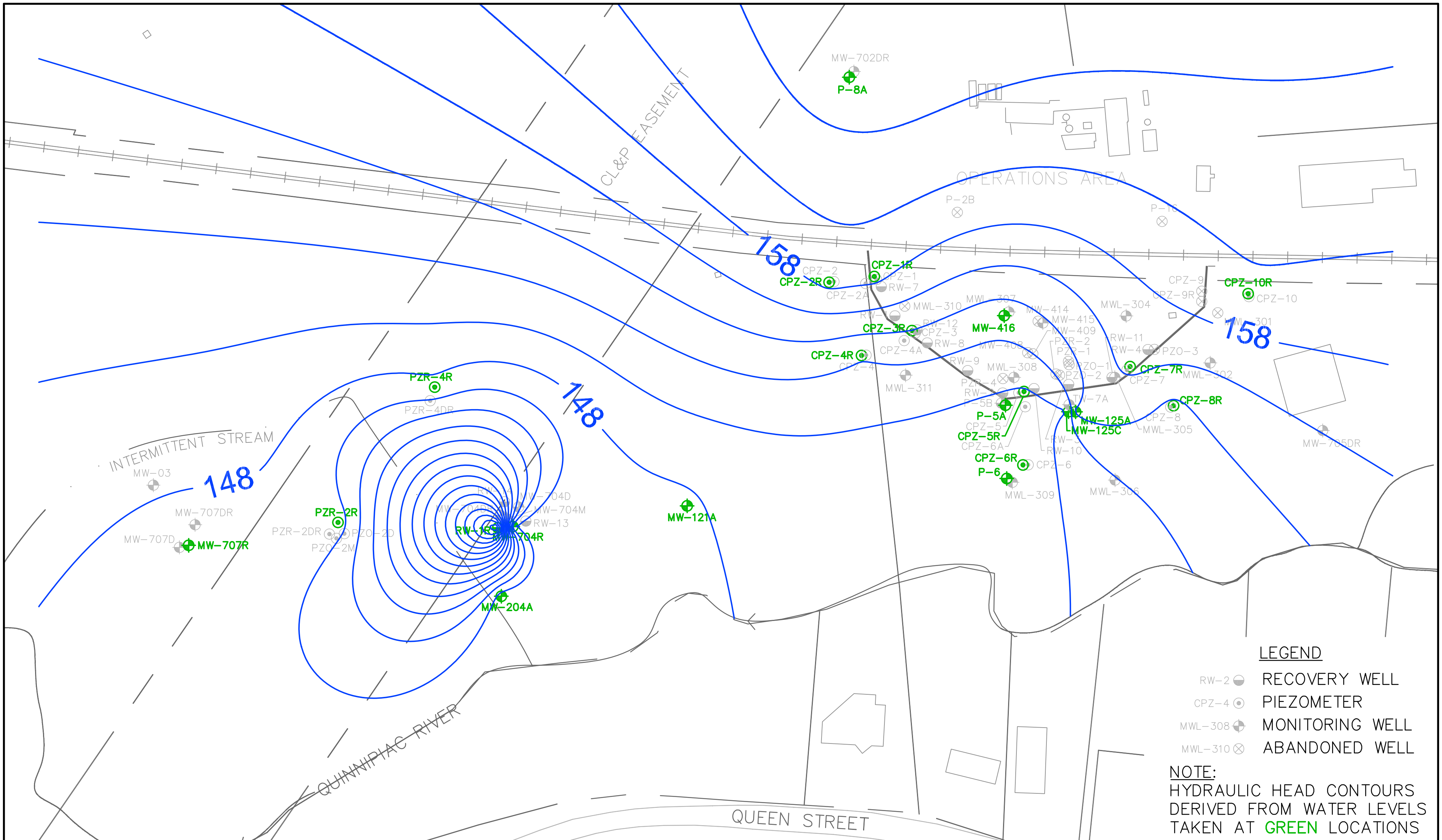

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK HYDRAULIC HEAD CONTOURS MARCH 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN BEG	DATE NOV 2012	DES. ENG.	DATE	W.O. NO. 13056.001.017
CHECKED	DATE	SCALE AS SHOWN	REVISION	FIGURE NO. 5B

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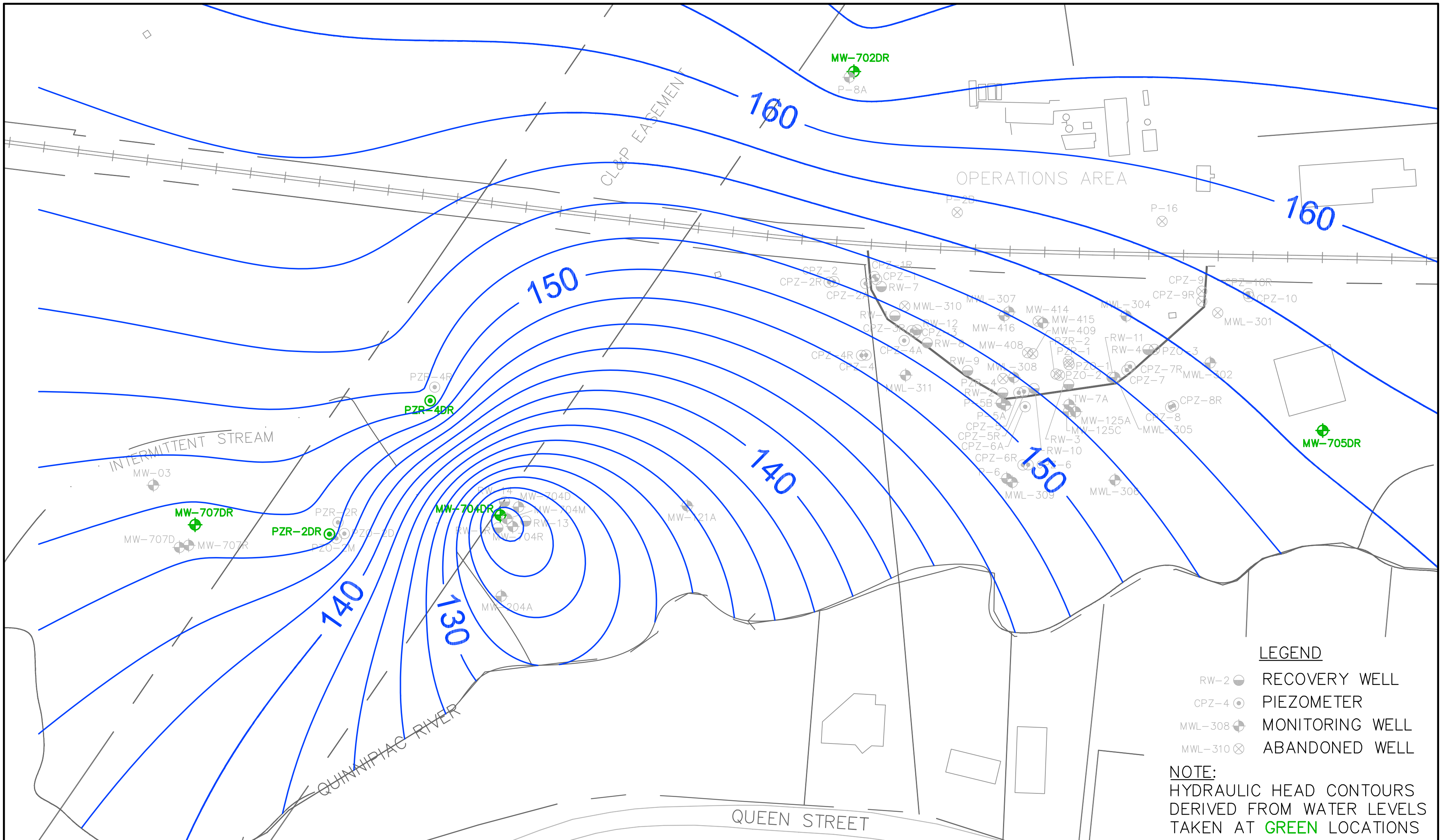

LEGEND

RW-2 RECOVERY WELL

CPZ-4 PIEZOMETER

MWL-308 MONITORING WELL

MWL-310 ABANDONED WELL

NOTE:
HYDRAULIC HEAD CONTOURS DERIVED FROM WATER LEVELS TAKEN AT GREEN LOCATIONS

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
MARCH 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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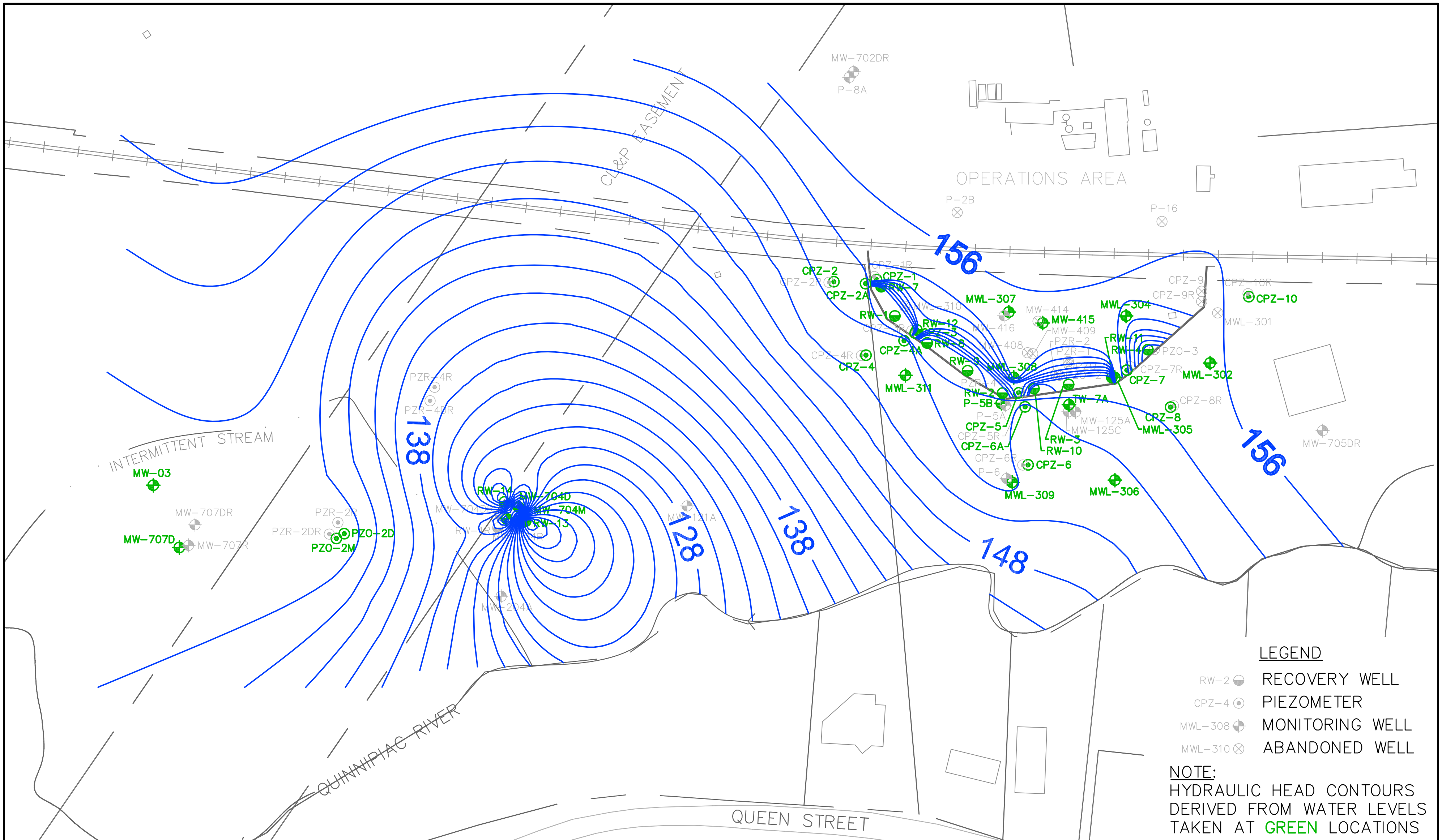

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
APRIL 25, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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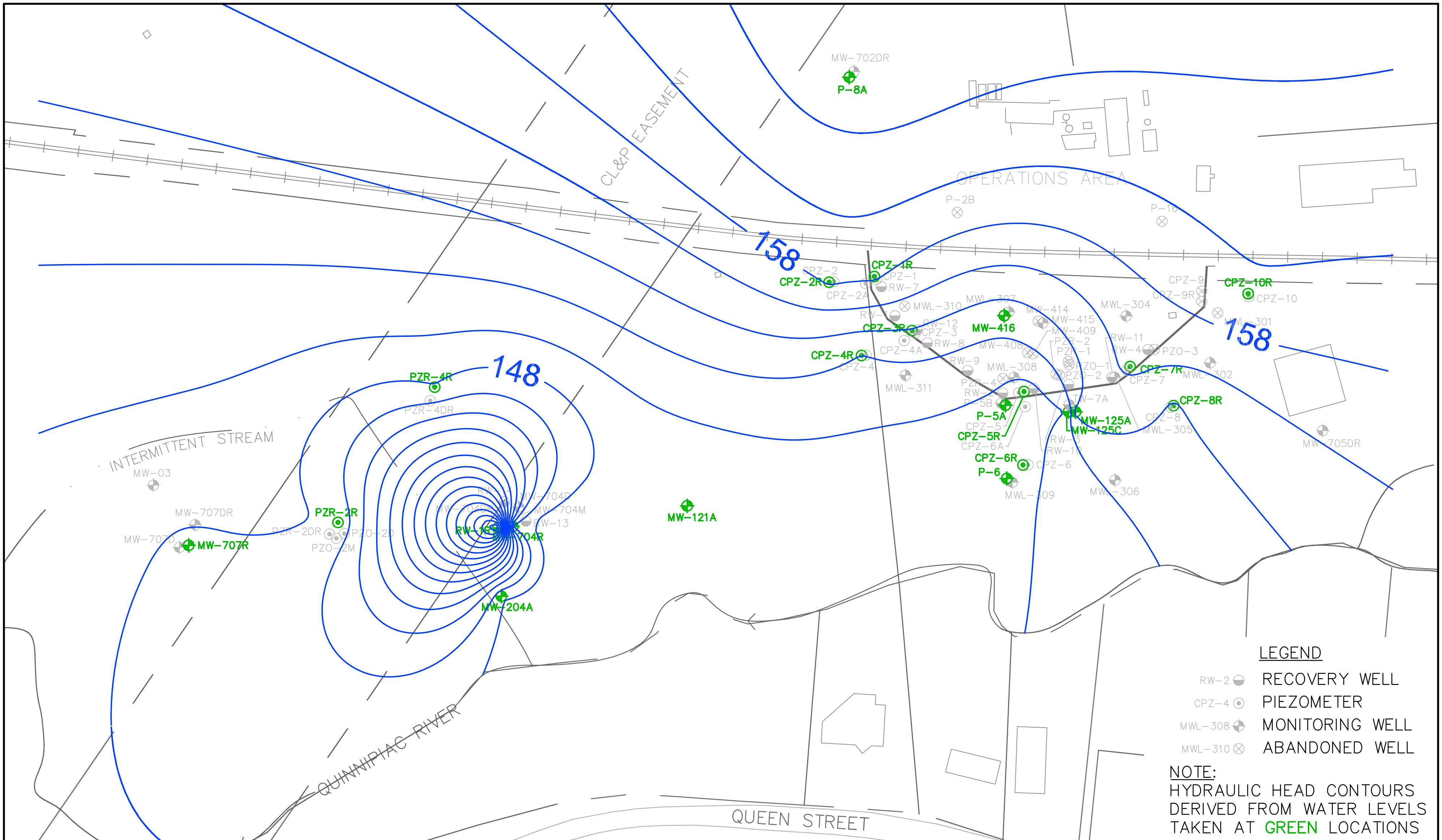

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK
HYDRAULIC HEAD CONTOURS
APRIL 25, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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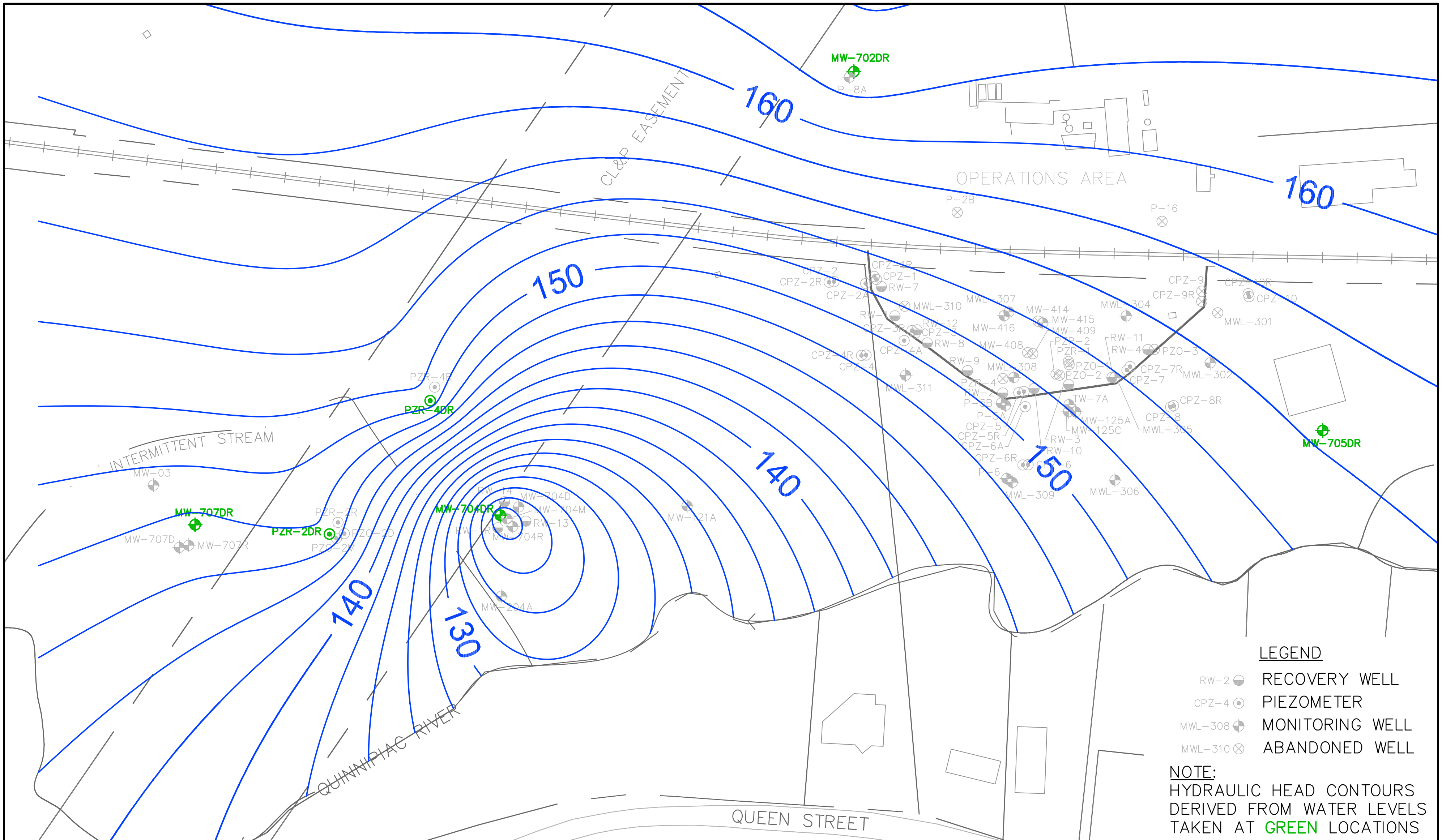

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
APRIL 25, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
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CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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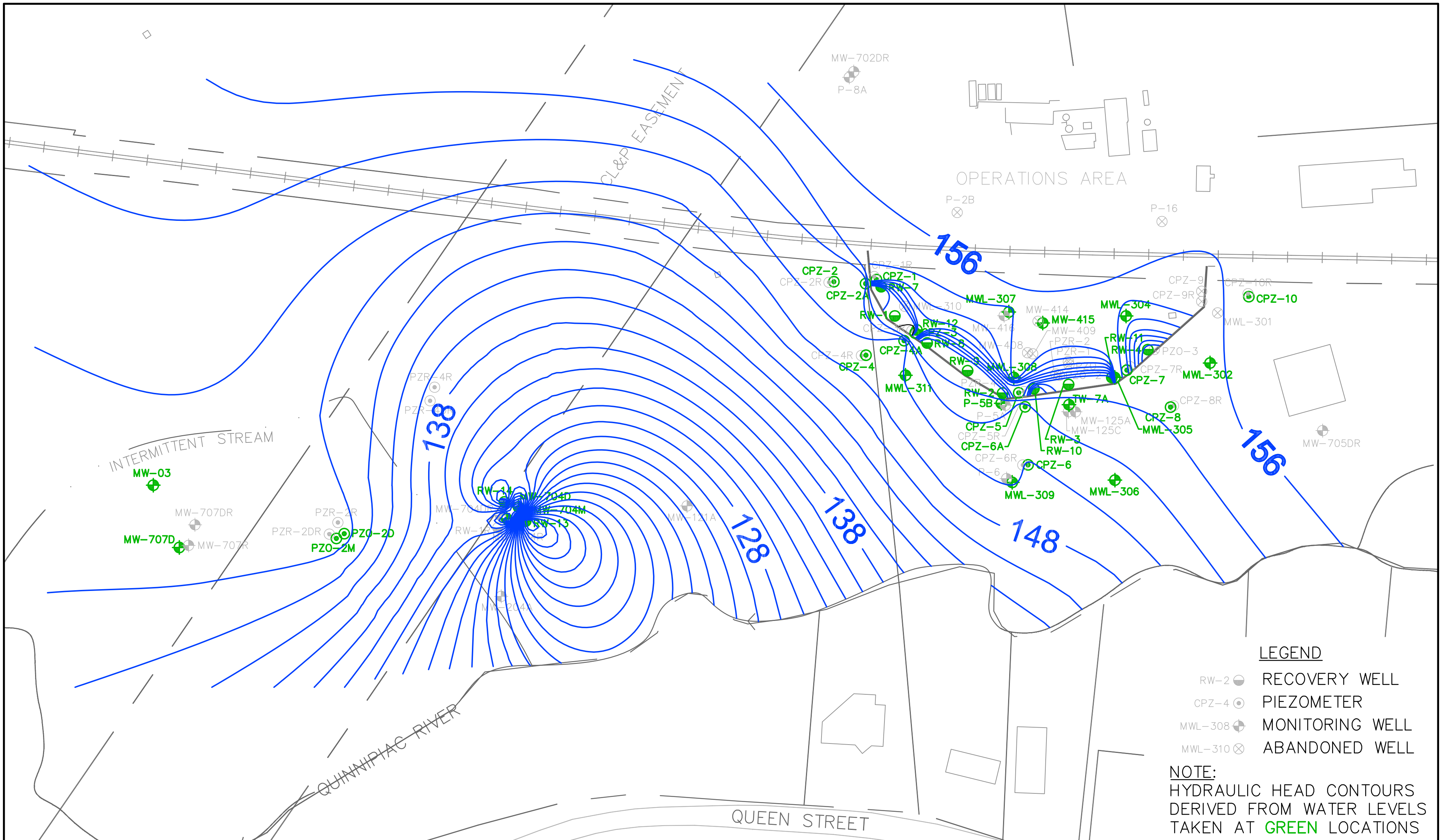

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
MAY 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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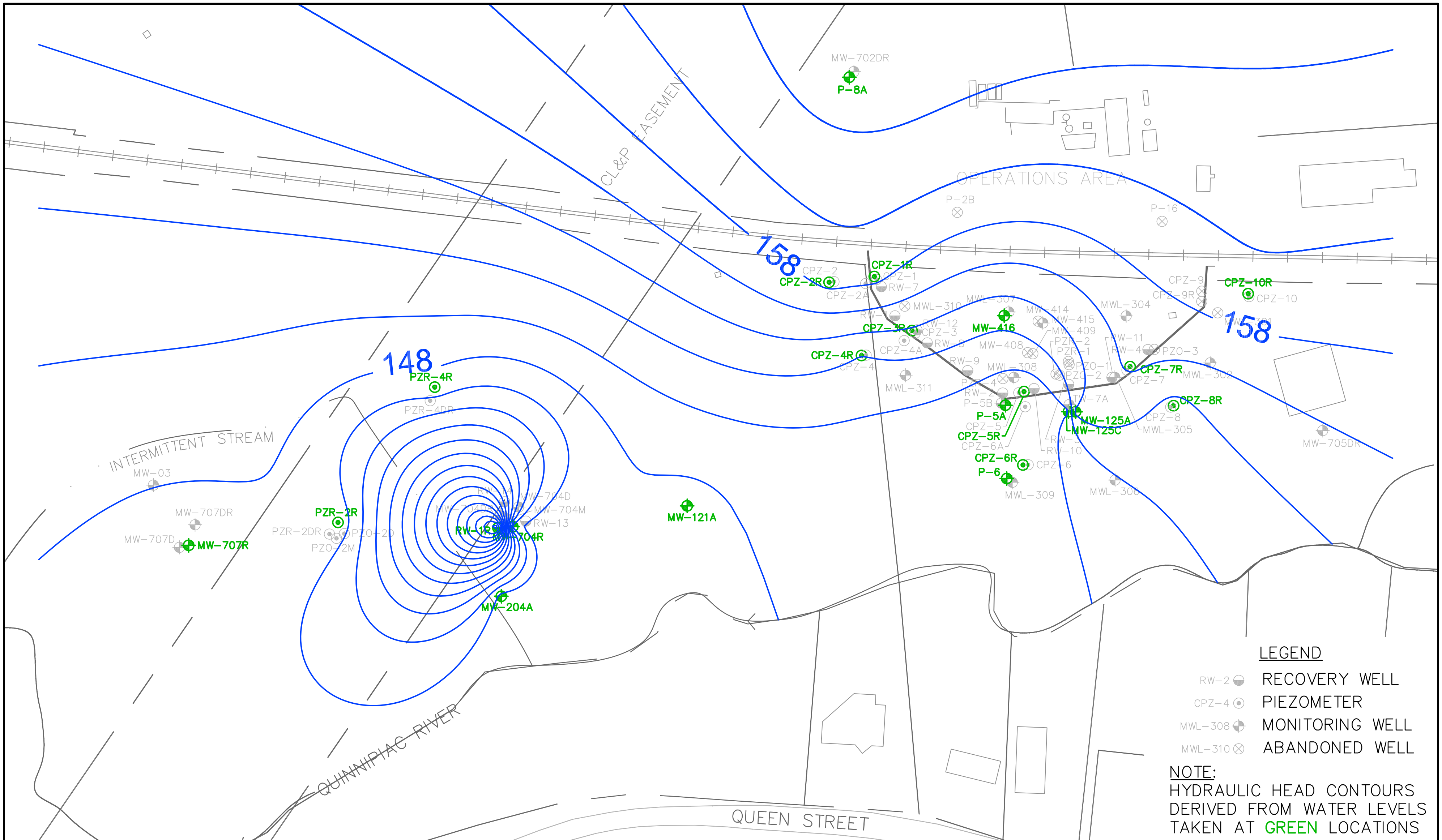

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK HYDRAULIC HEAD CONTOURS MAY 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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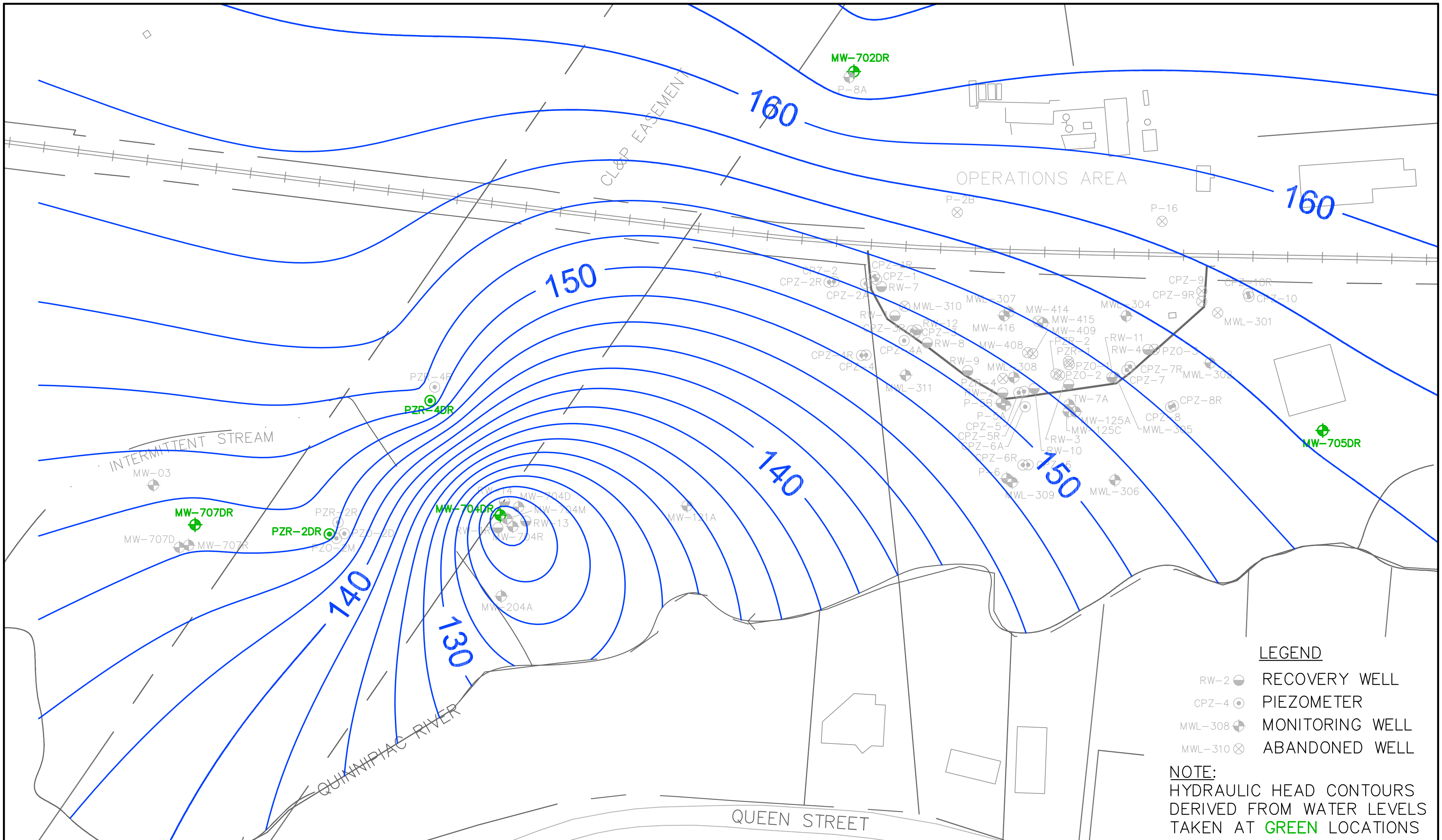

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
MAY 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
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CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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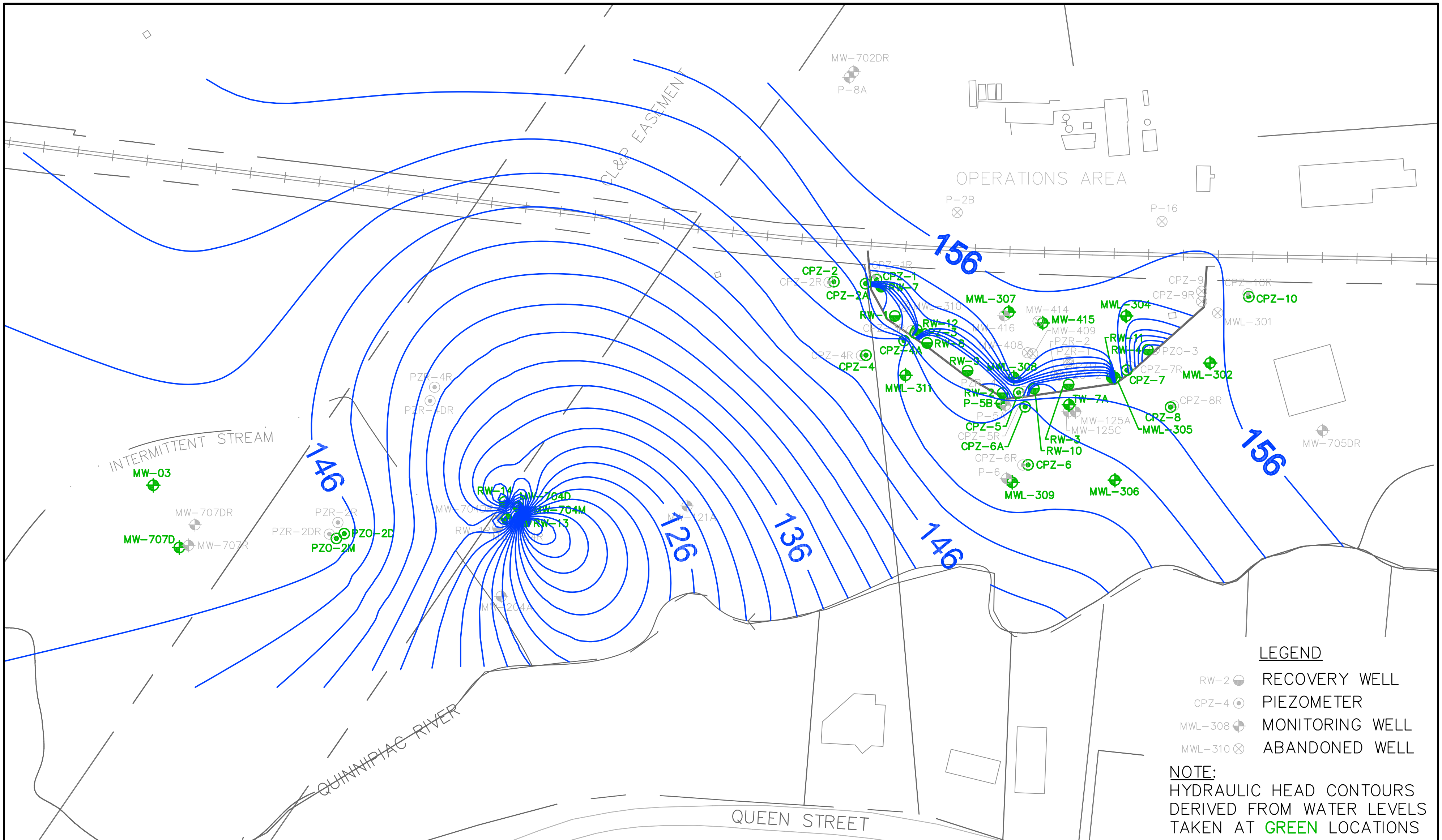

LEGEND
RW-2 RECOVERY WELL
CPZ-4 PIEZOMETER
MWL-308 MONITORING WELL
MWL-310 ABANDONED WELL

NOTE:
HYDRAULIC HEAD CONTOURS DERIVED FROM WATER LEVELS TAKEN AT GREEN LOCATIONS

GRAPHIC SCALE
200 100 0 100 200
APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
JUNE 27, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS
CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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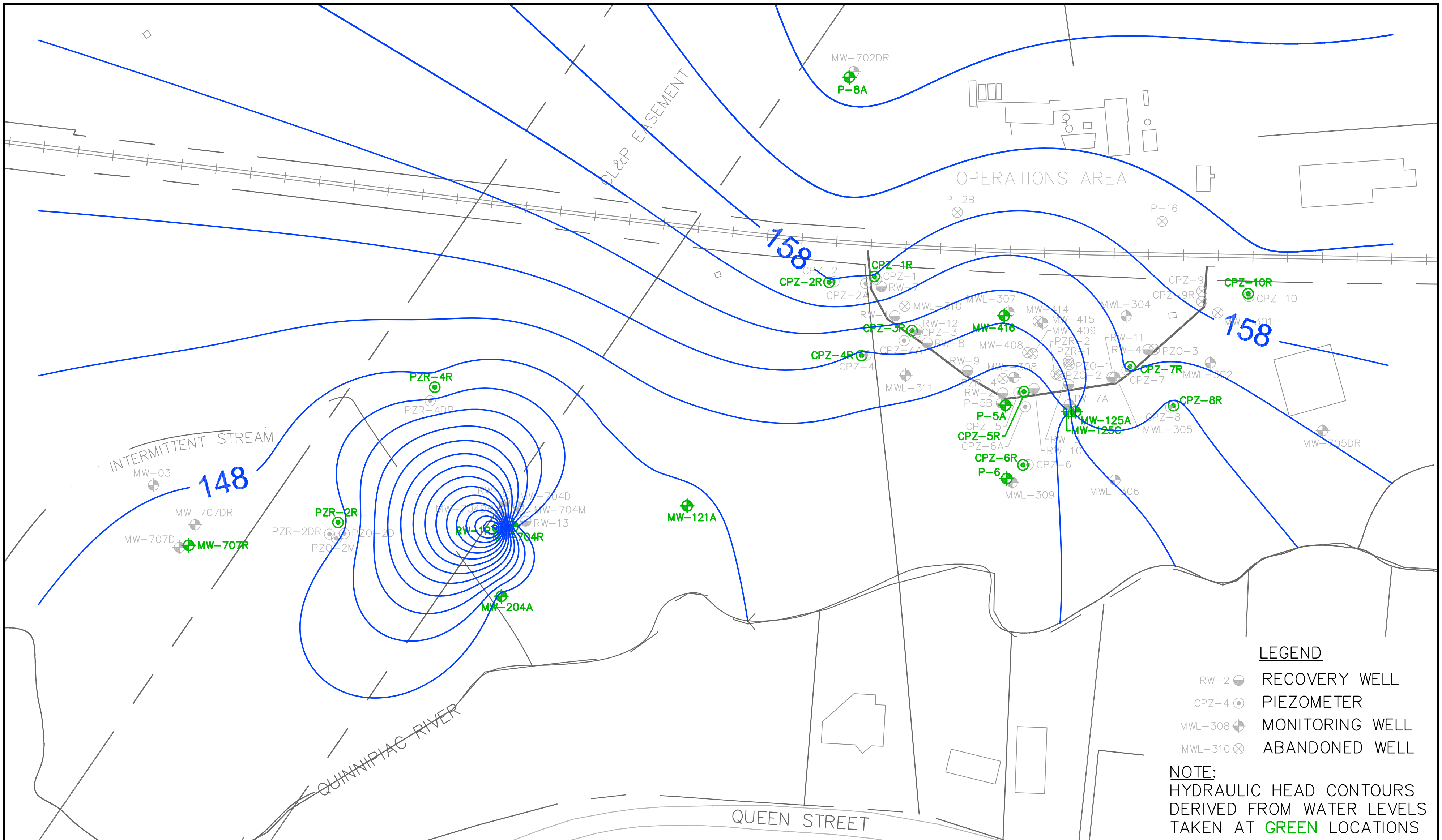

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK HYDRAULIC HEAD CONTOURS JUNE 27, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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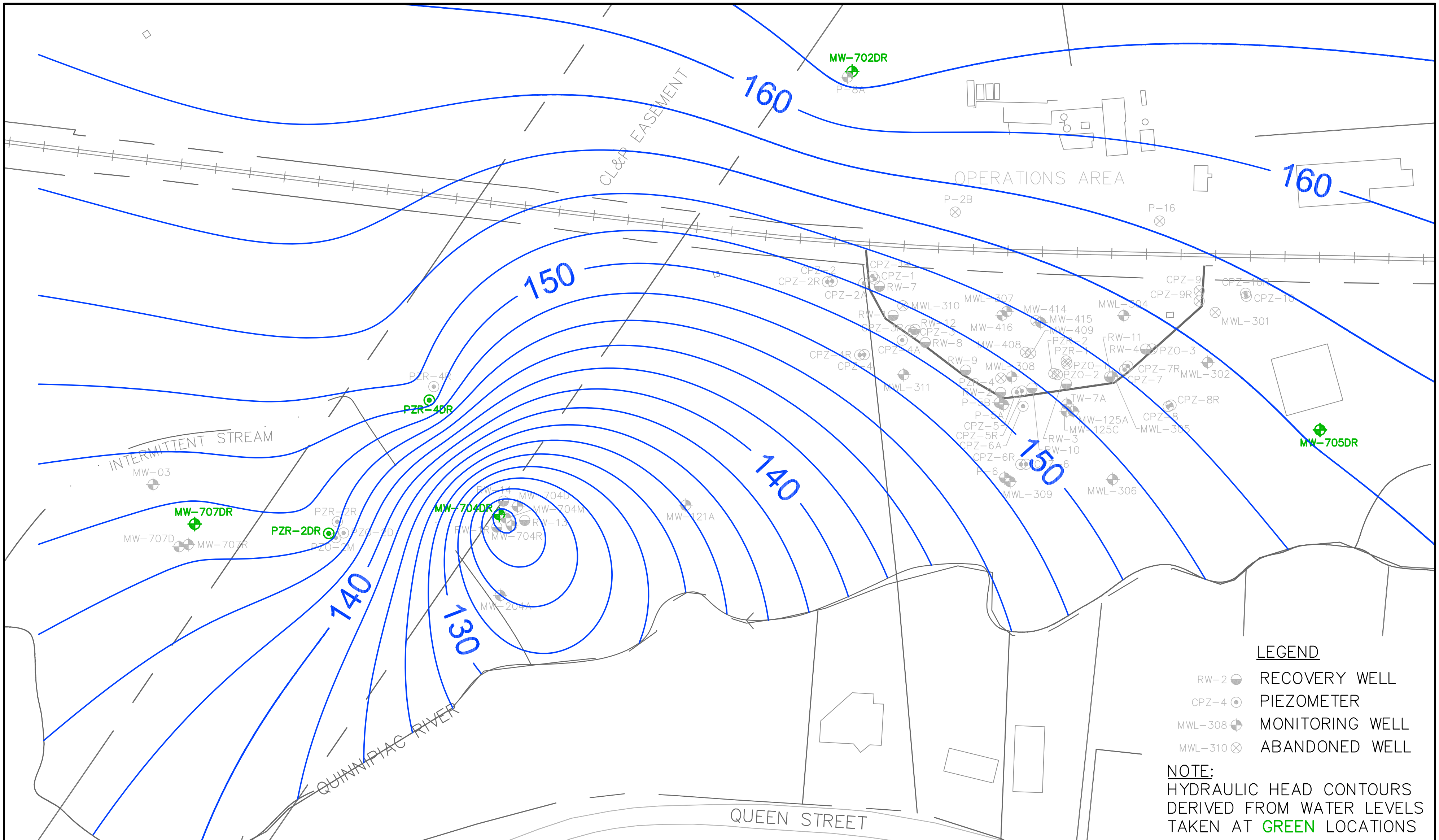

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
JUNE 27, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
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CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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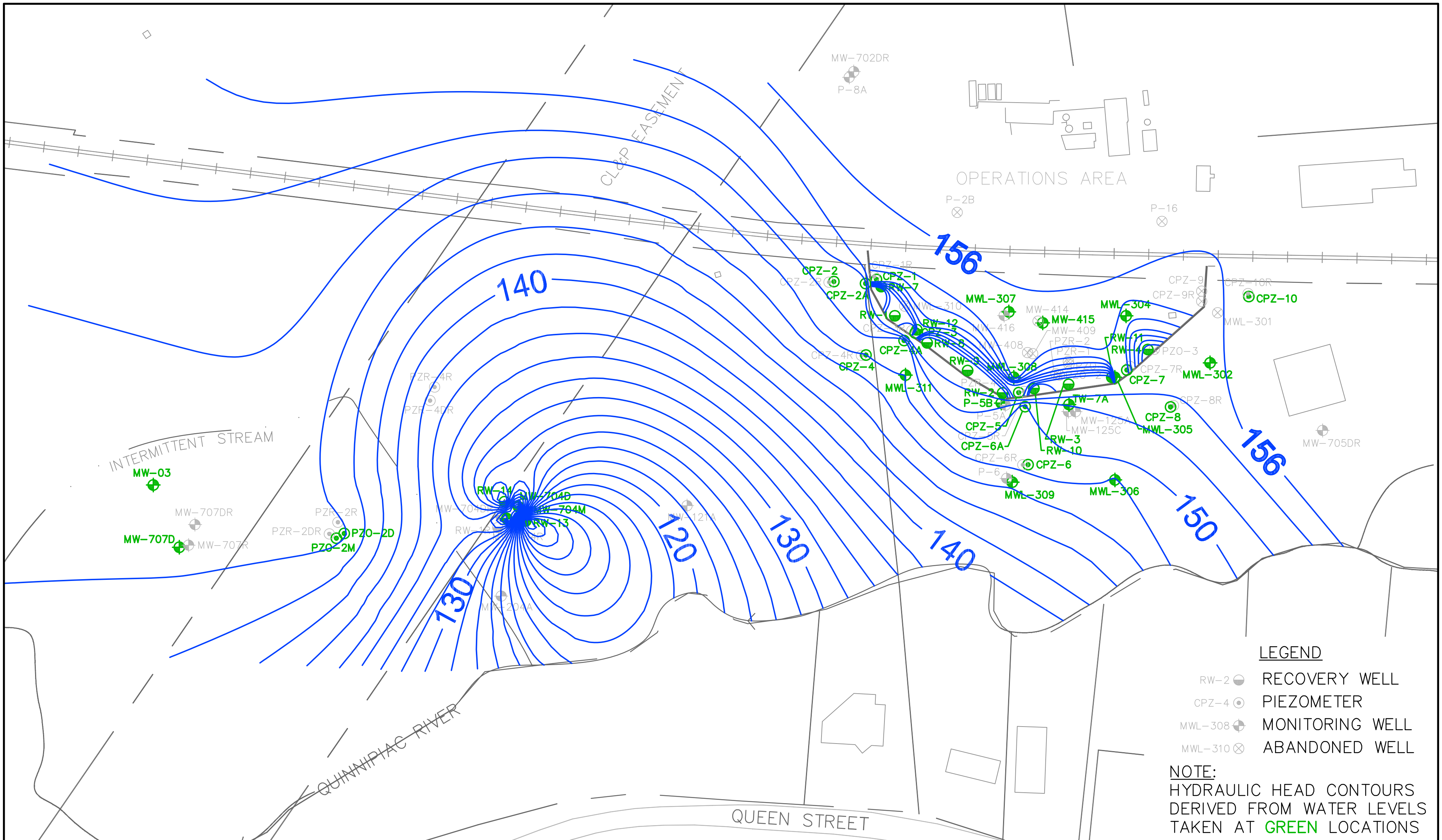

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
JULY 31, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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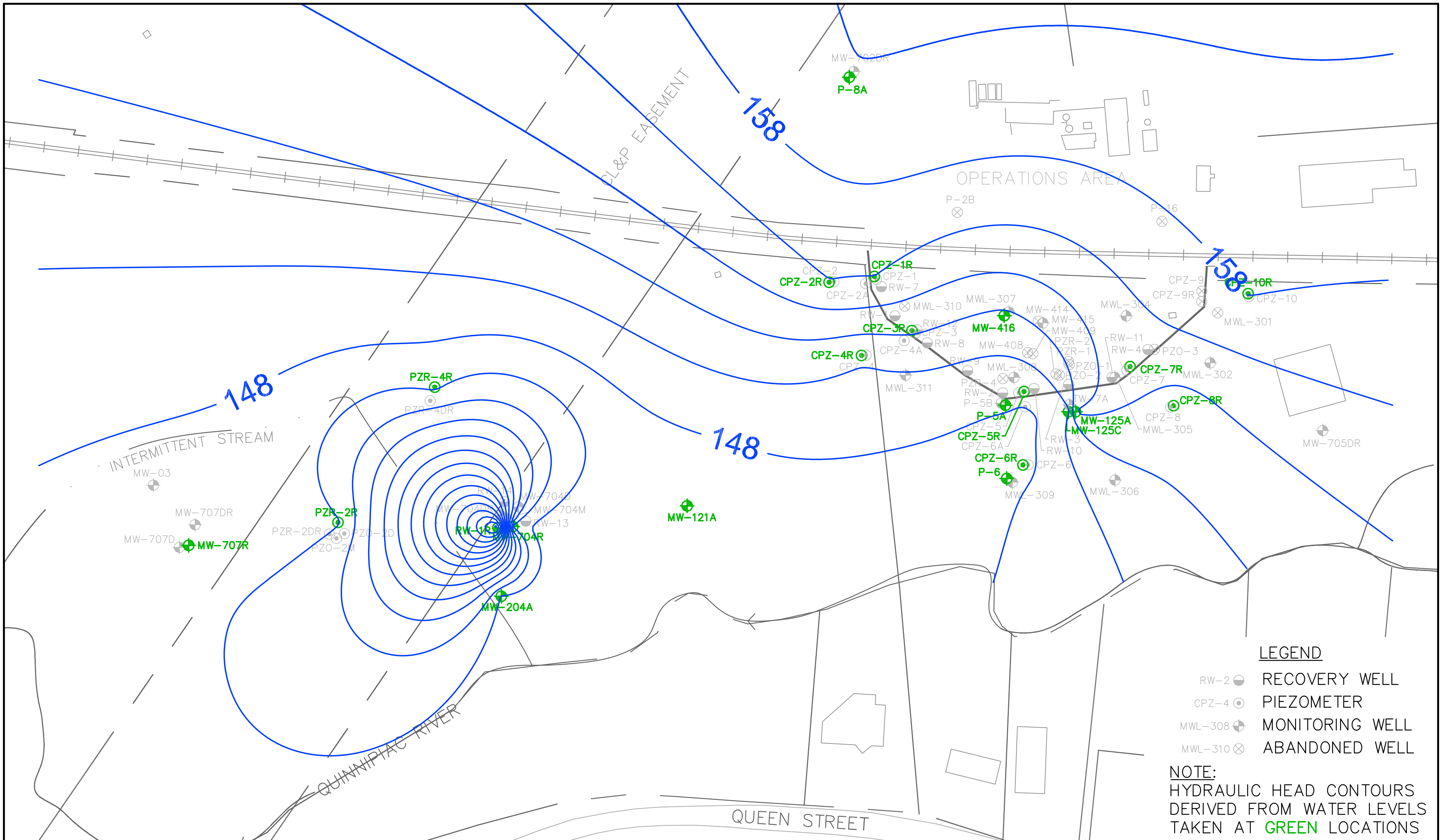

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK
HYDRAULIC HEAD CONTOURS
JULY 31, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
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CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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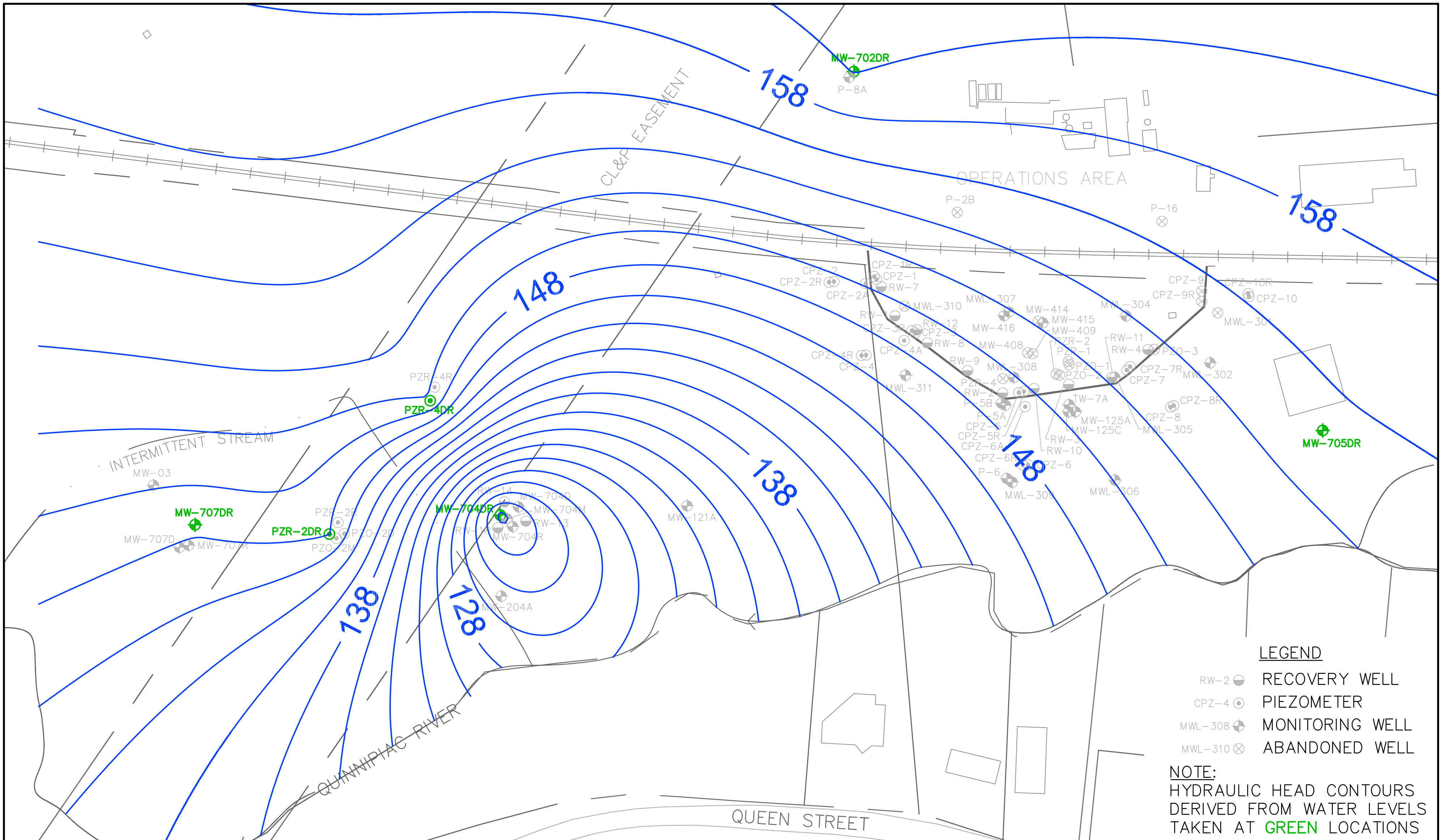

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
JULY 31, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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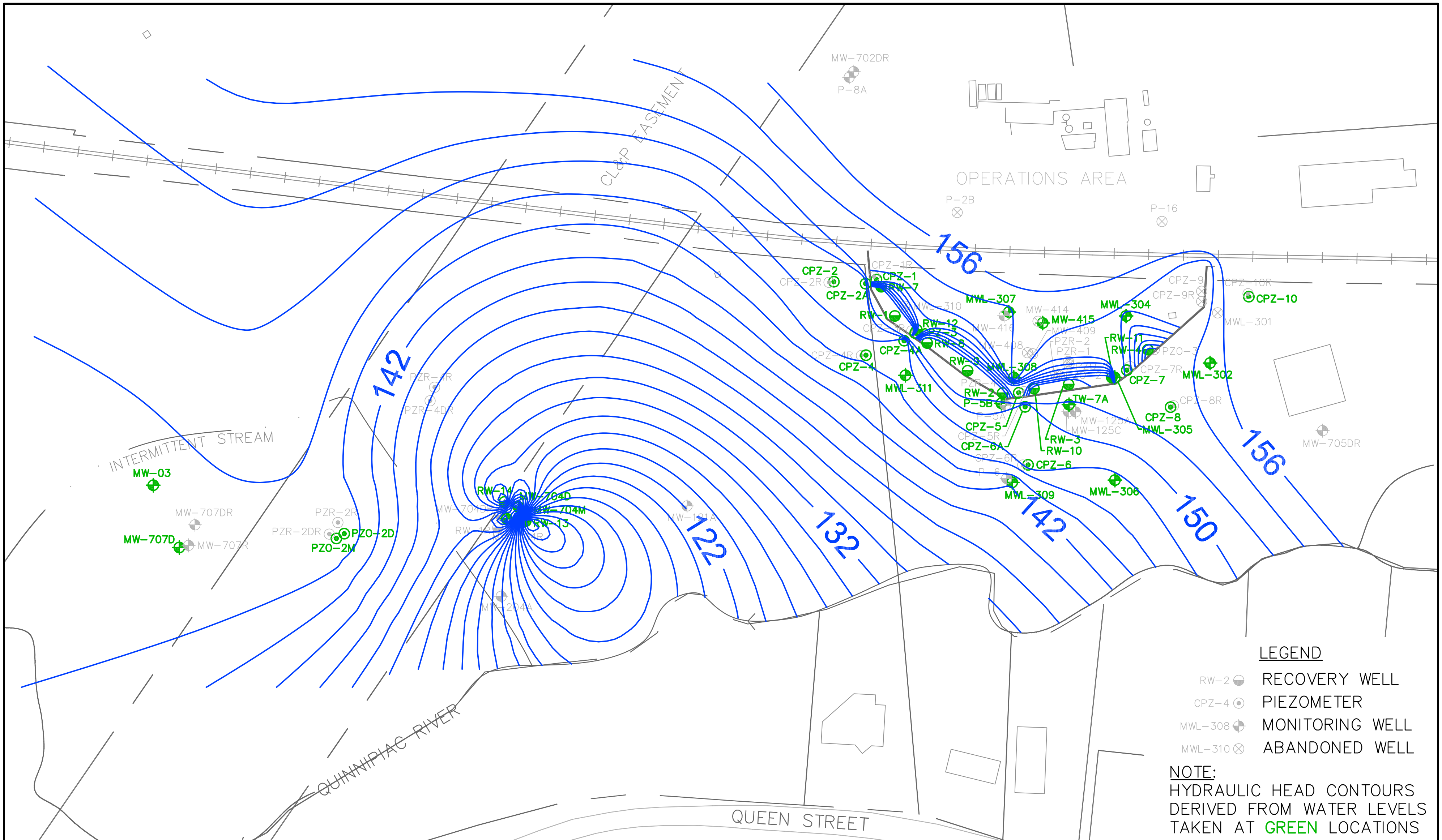

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
AUGUST 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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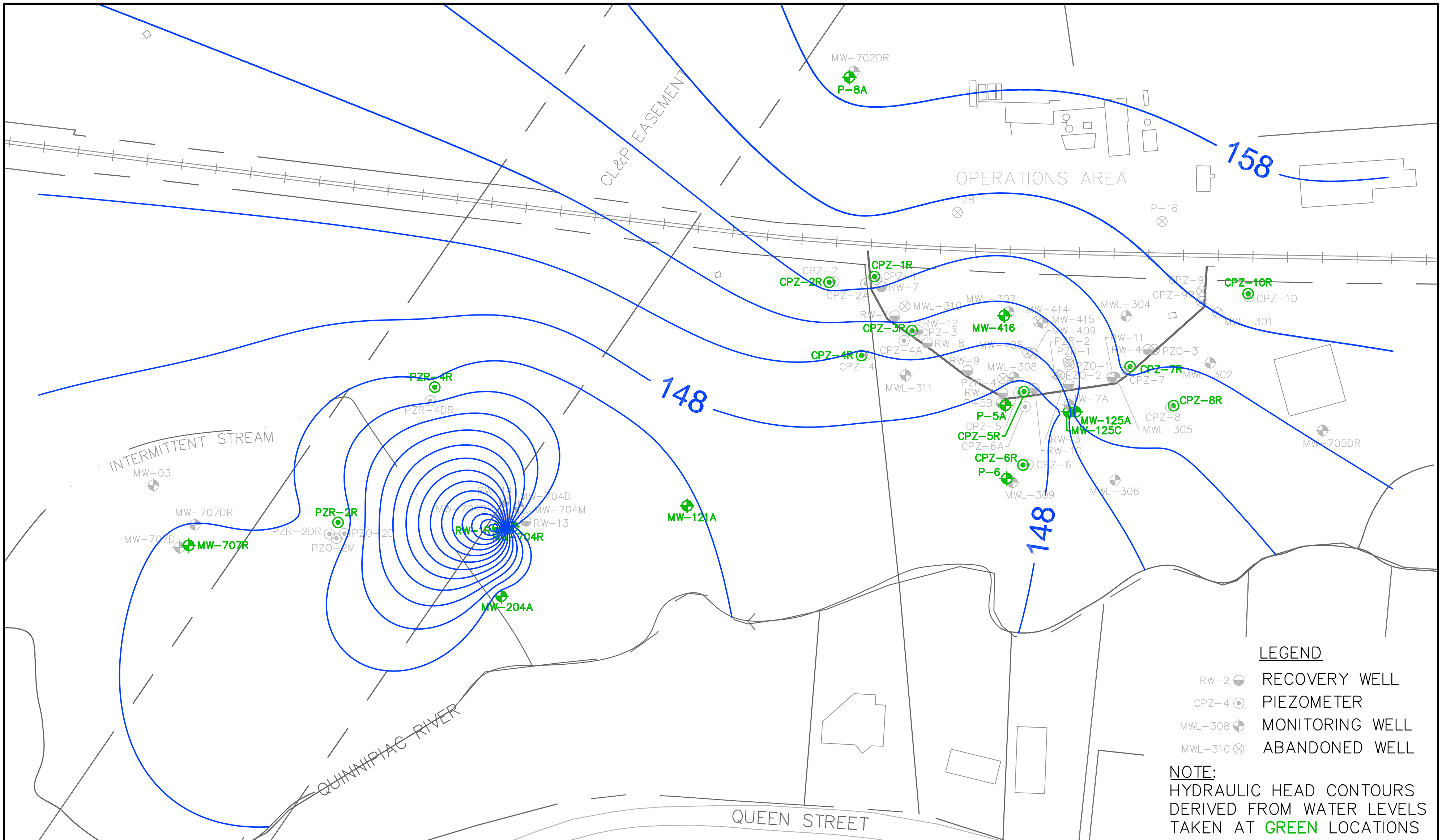

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK HYDRAULIC HEAD CONTOURS AUGUST 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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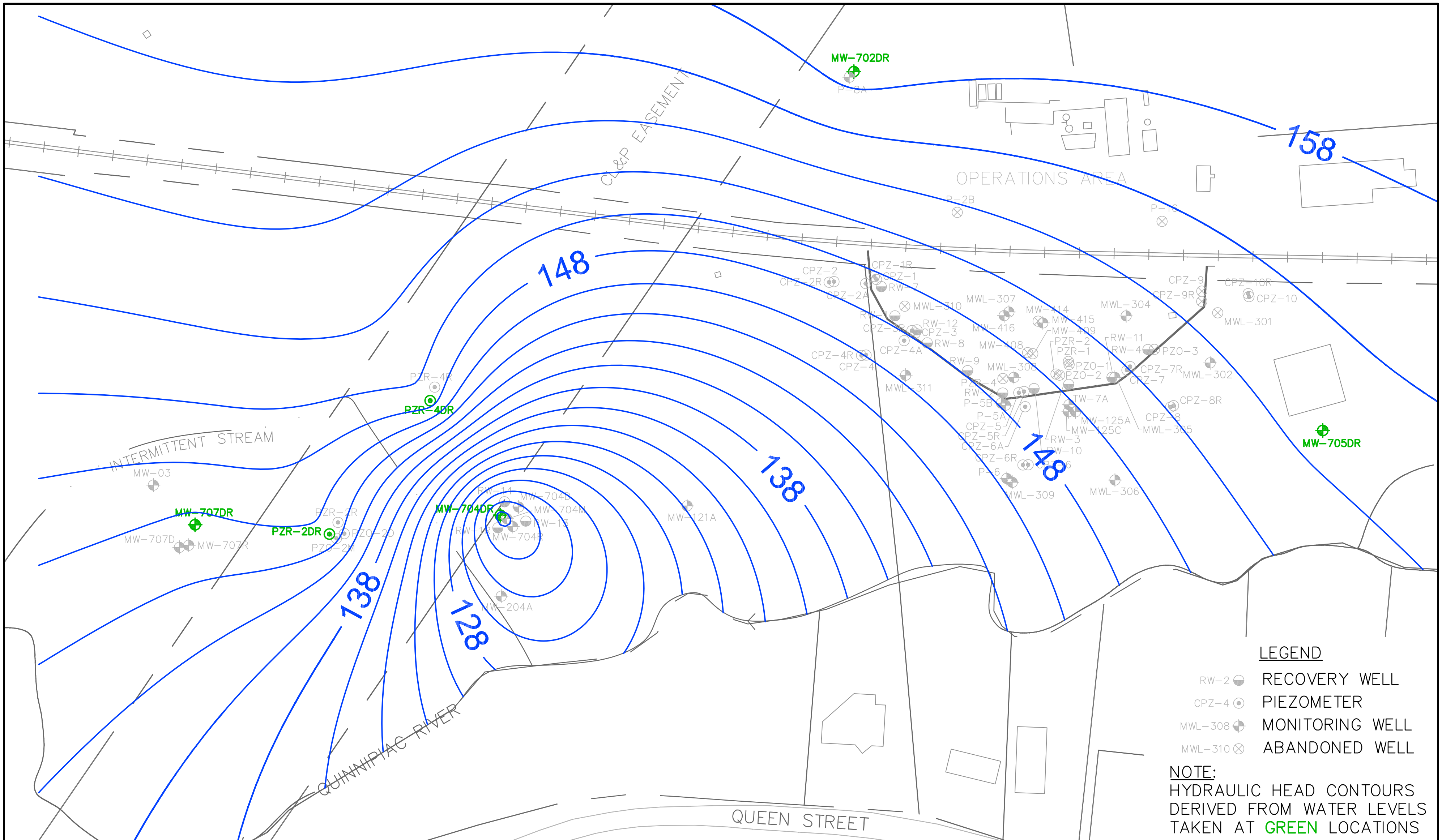

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK HYDRAULIC HEAD CONTOURS AUGUST 29, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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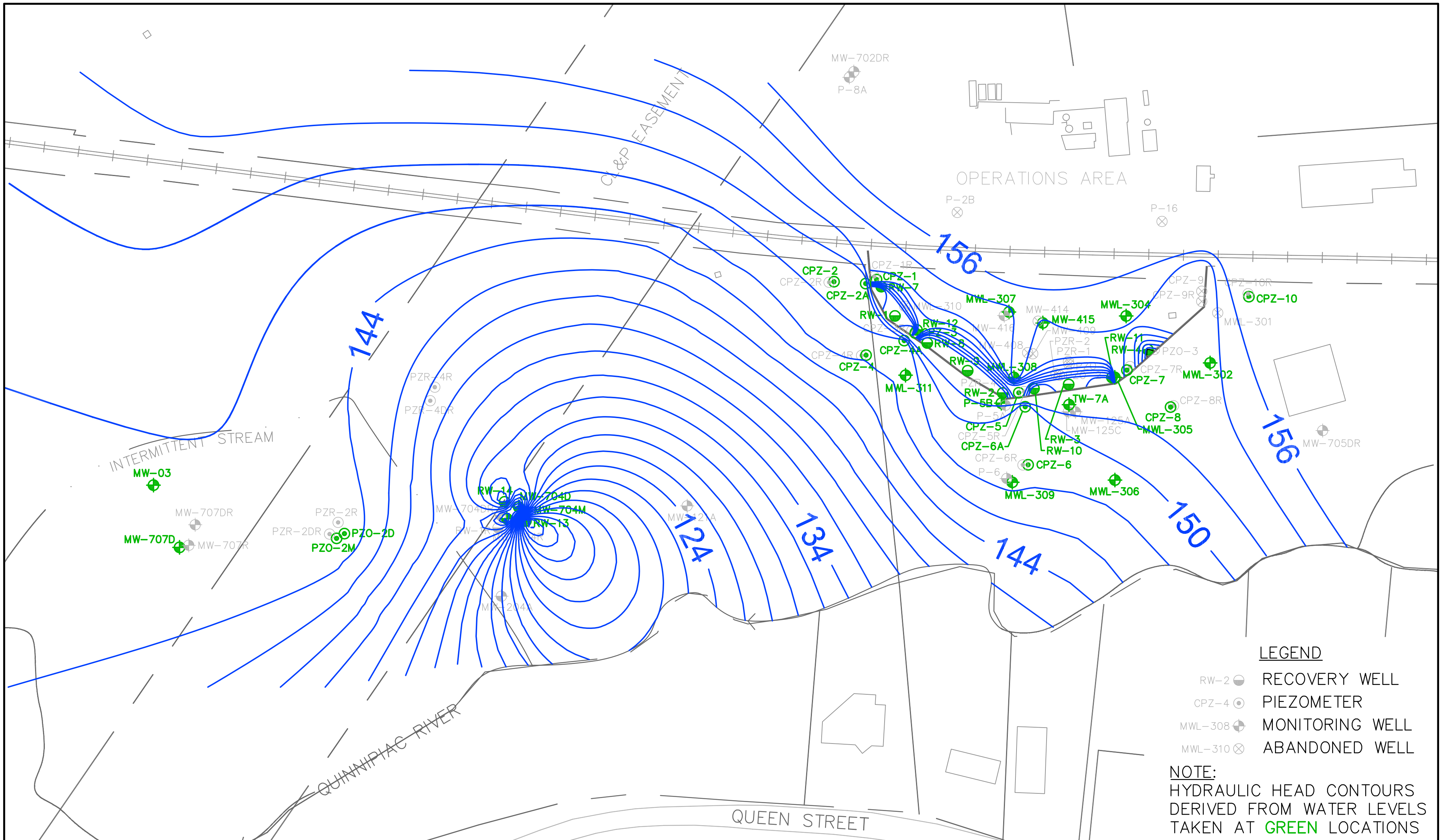

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
SEPTEMBER 25, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
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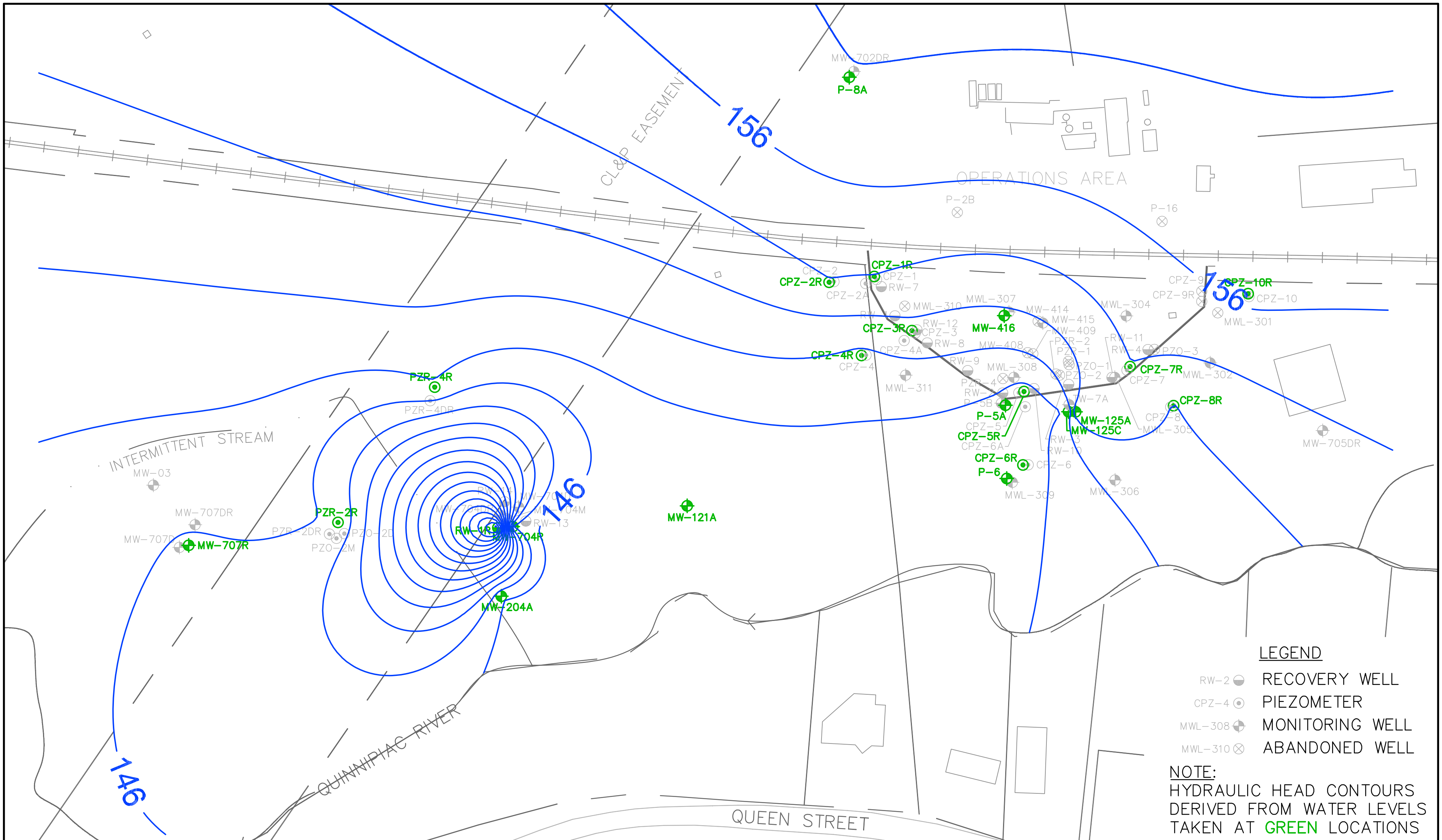

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK HYDRAULIC HEAD CONTOURS SEPTEMBER 25, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
		AS SHOWN		11B

DRAFT

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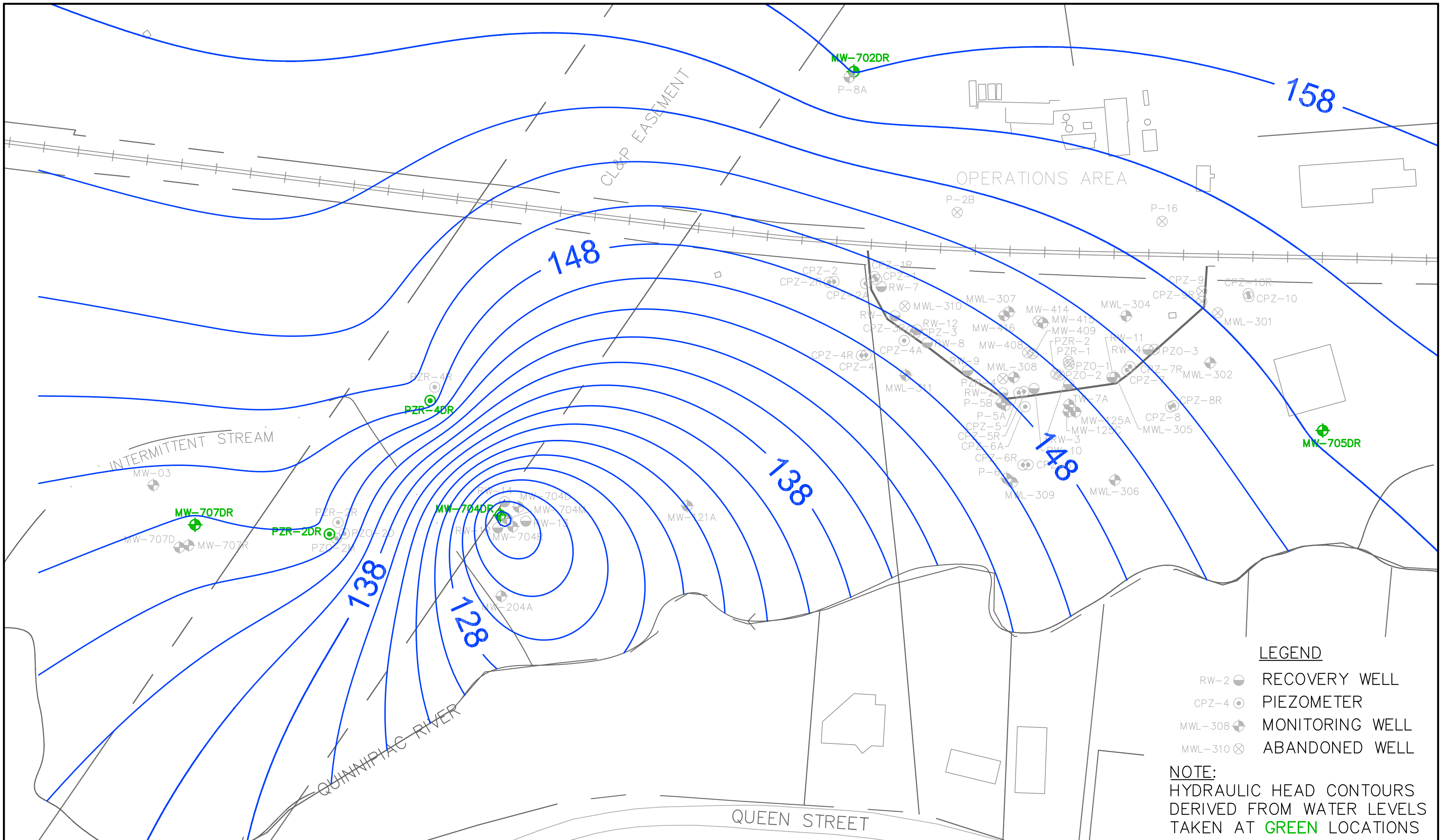

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
SEPTEMBER 25, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
		AS SHOWN		11C

DRAFT

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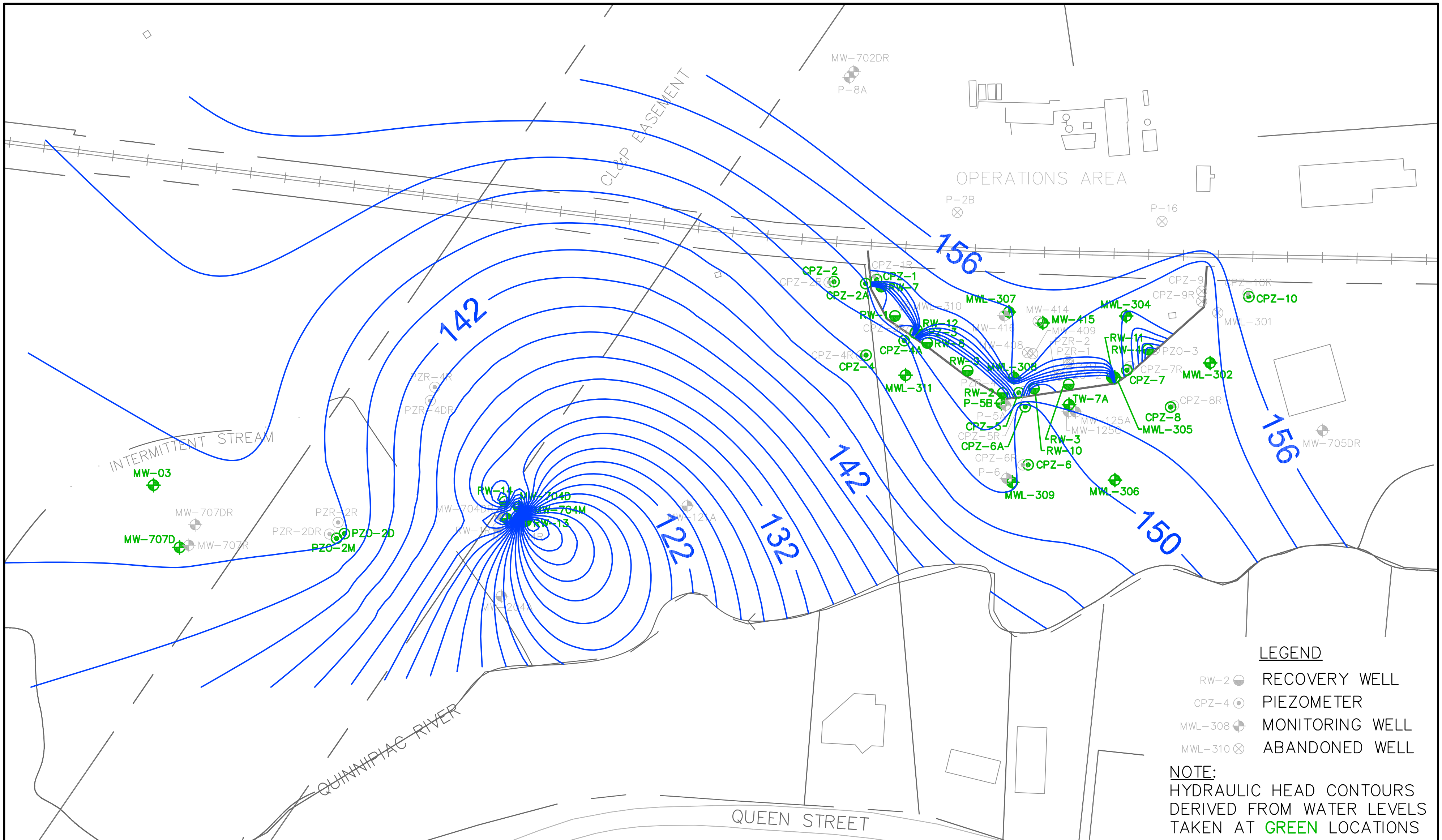

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

OVERBURDEN
HYDRAULIC HEAD CONTOURS
OCTOBER 28, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
		AS SHOWN		12A

DRAFT

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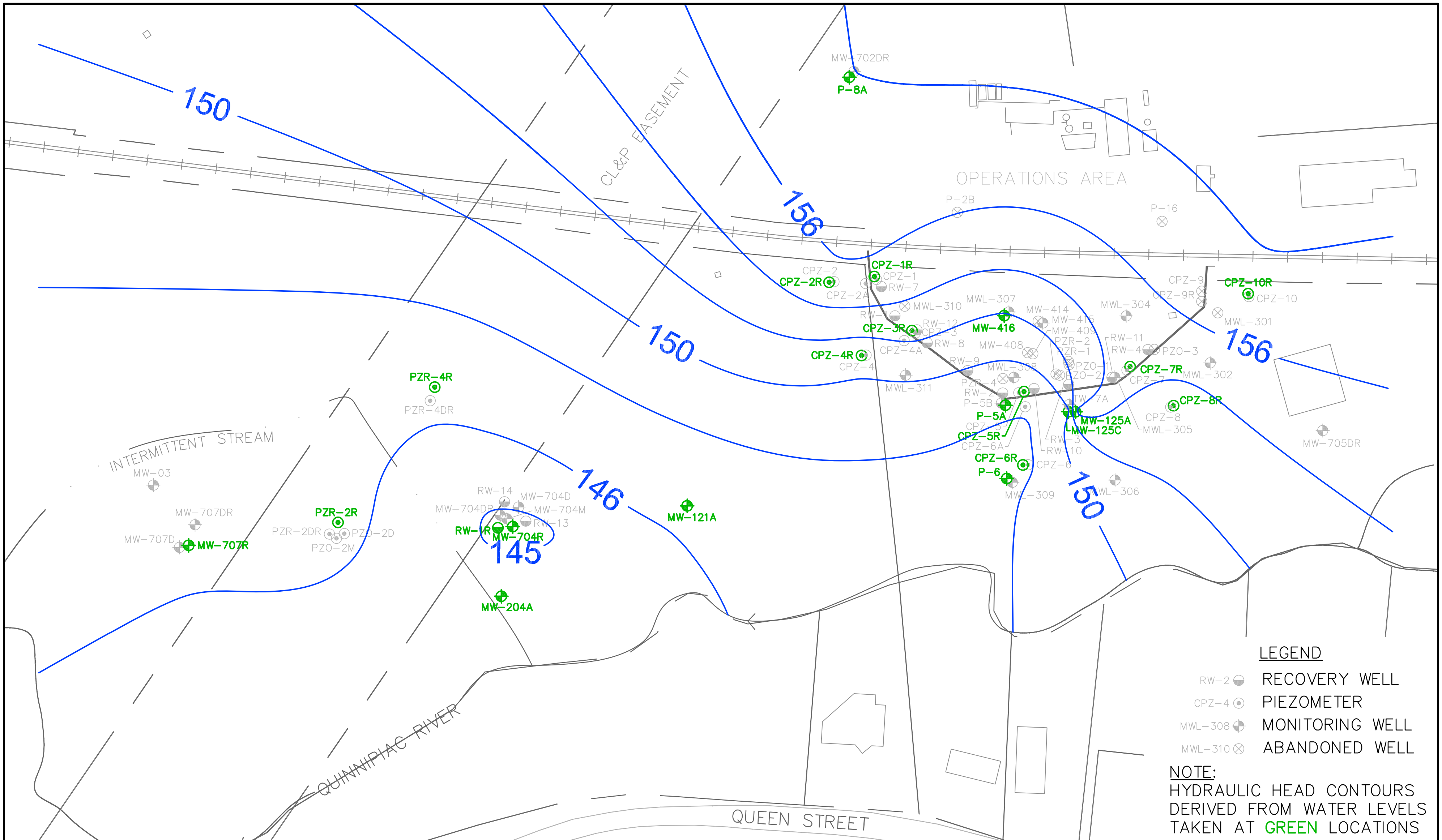

GRAPHIC SCALE

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APPROXIMATE SCALE IN FEET

SHALLOW BEDROCK
HYDRAULIC HEAD CONTOURS
OCTOBER 28, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN	DATE	DES. ENG.	DATE	W.O. NO.
BEG	NOV 2012			13056.001.017
CHECKED	DATE	SCALE	REVISION	FIGURE NO.
		AS SHOWN		12B

DRAFT

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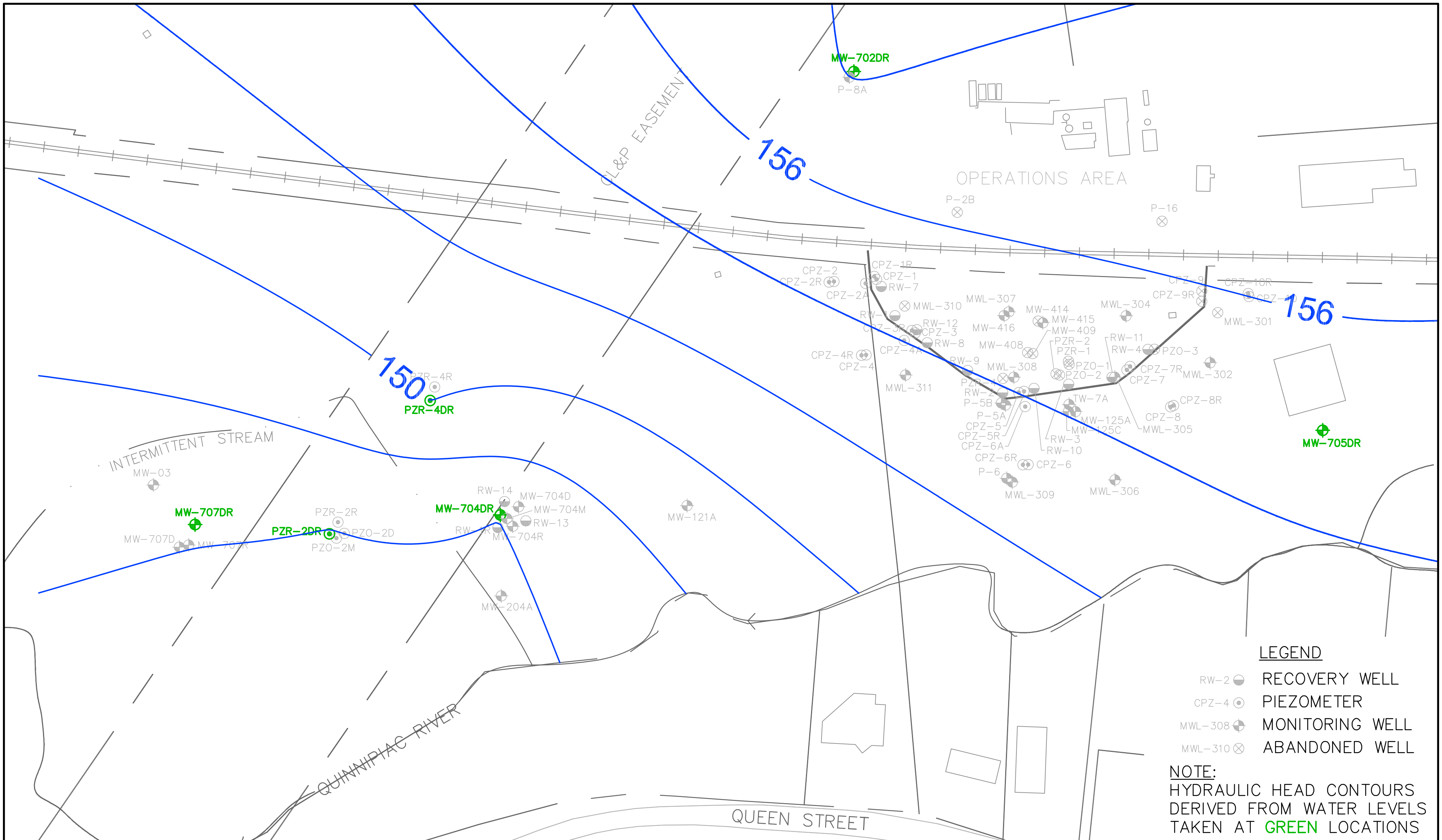

GRAPHIC SCALE

200 100 0 100 200

APPROXIMATE SCALE IN FEET

DEEP BEDROCK
HYDRAULIC HEAD CONTOURS
OCTOBER 28, 2012

SRSNE
SOUTHINGTON, CONNECTICUT

WESTON SOLUTIONS

CONCORD NEW HAMPSHIRE

DRAWN BEG	DATE NOV 2012	DES. ENG.	DATE	W.O. NO. 13056.001.017
CHECKED	DATE	SCALE AS SHOWN	REVISION	FIGURE NO. 12C

FIGURE 13

31 Oct. 2011 through 30 Oct. 2012

Hydraulic Gradient Between CPZ-05 and CPZ-06
NTCRA-1 Overburdern Compliance Pair

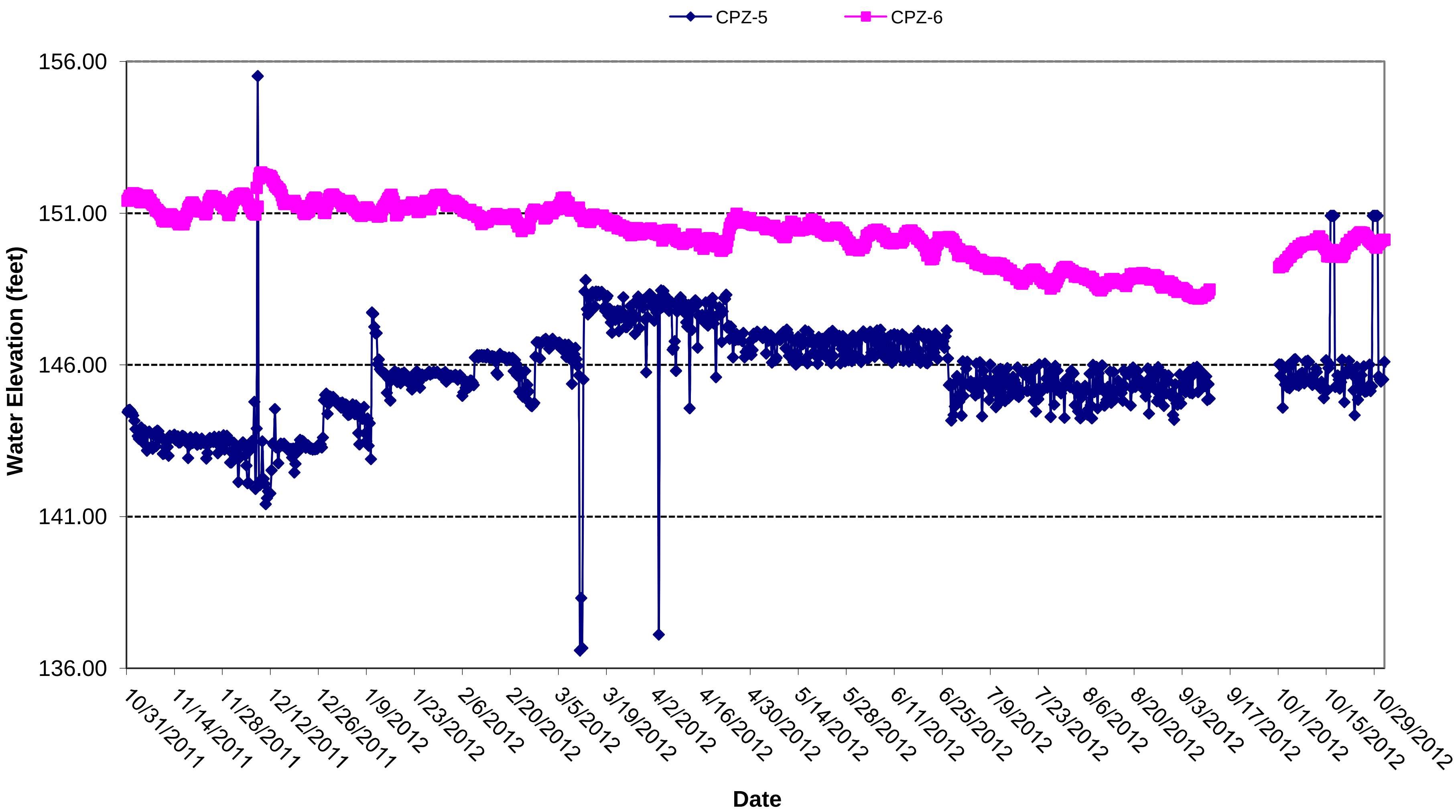

FIGURE 14A

31 Oct. 2011 through 30 Oct. 2012

Hydraulic Gradient Between MW-704R and PZR-2R
NTCRA-2 Shallow Bedrock Compliance Pair

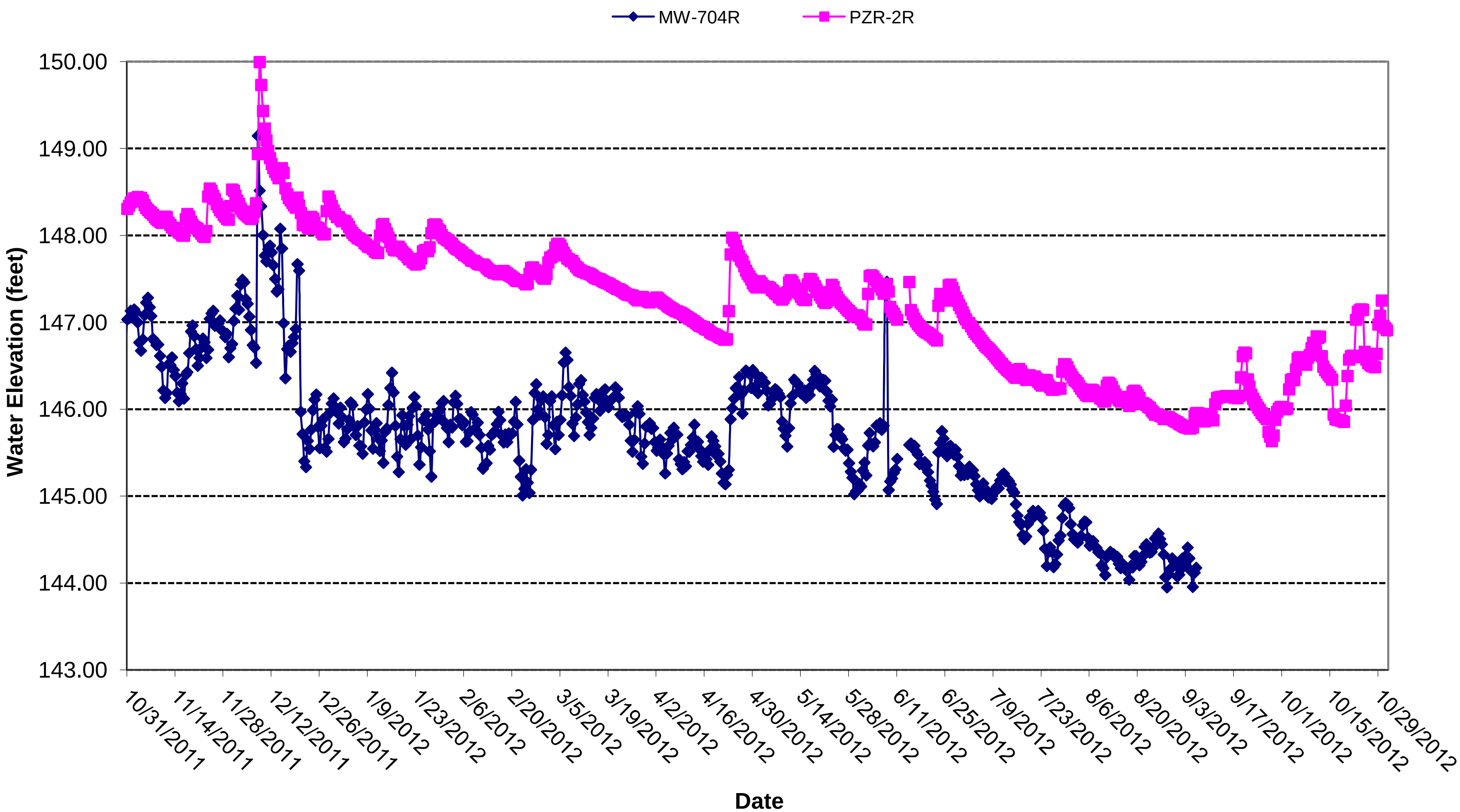

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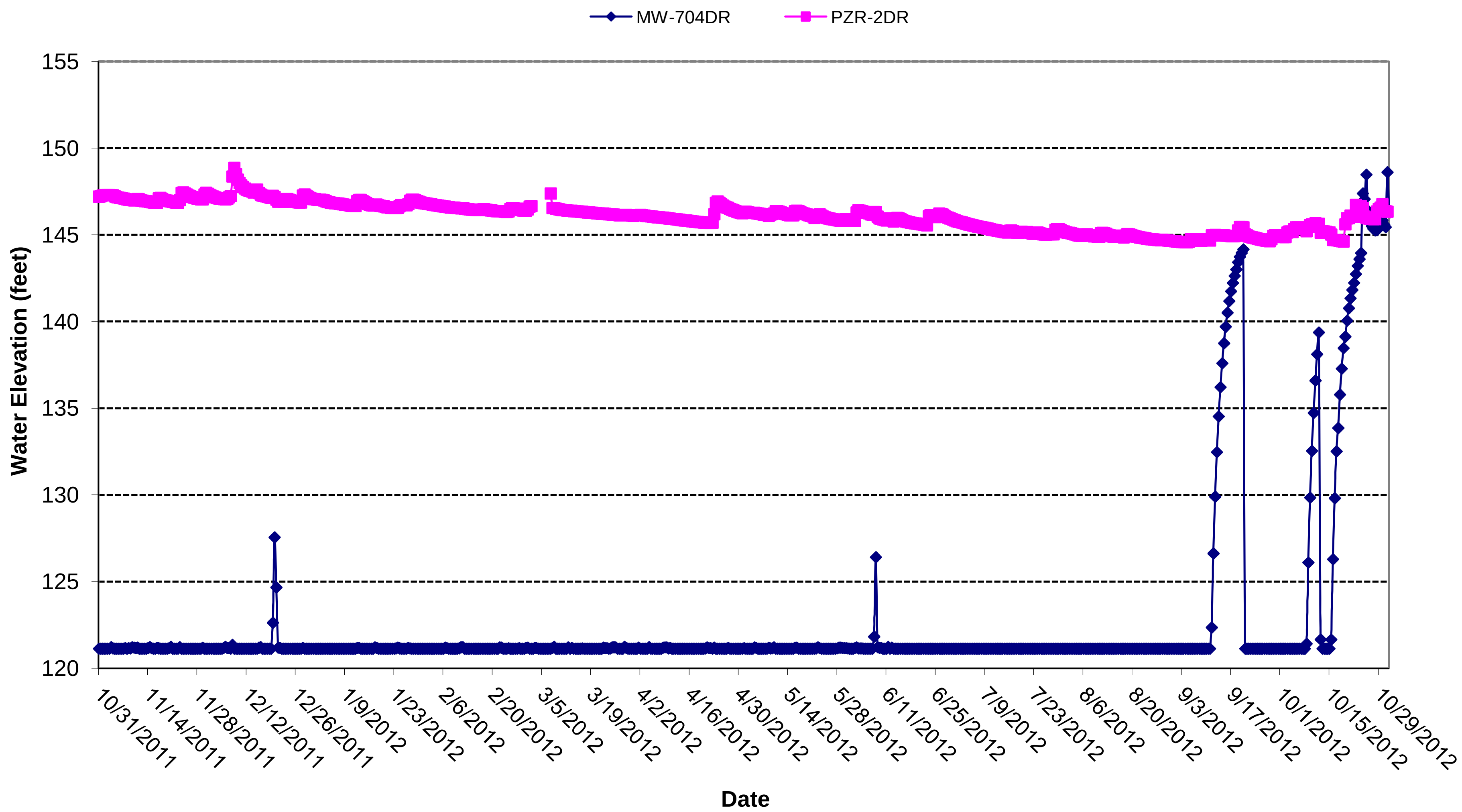
FIGURE 14B

31 Oct. 2011 through 30 Oct. 2012

Hydraulic Gradient Between MW-704DR and PZR-2DR
NTCRA-2 Deep Bedrock Compliance Pair



de maximis, inc.

SRSNE RD/RA Project Schedule
Annual State of Compliance Report #2

ID	Deliverable/Activity	Trigger	Time Frame
0	**RDRA Schedule**		
1	**Lodging of the Consent Decree**		
2	**Entry of the CD**		
3	**Initial Remedial Steps Phase**	EPA Approval of Contractors	
4	**Notification of Supervising Contractor/Project Coordinator**	Lodging of the CD	Satisfied in the draft SOW.
5	**Notification/Selection of a Remedial Design Contractor**	Lodging of the CD	Notification/Selection of a Remedial Design Contractor
6	**Memorandum of Agreement (MOA)**	Entry of the CD.	Within 180 days of Entry of CD
10	**Supplemental Containment Action Plan**	EPA Approval of MOA	Within 30 days of signed MOA.
11	**Implementation of Supplemental Containment Action Plan (TBD)**	Upon notification by EPA, and consistent with the terms of the Memorandum of Agreement	As specified by EPA.
12	**Institutional Control Plan**	Completion of Vapor Intrusion Study	Within 30 days of completion of Vapor Intrusi
19	**Design Initiation Phase**		
43	**Agency Review and Comment on Accelerated Pre Design Studies**		
44	**Agency Review and Comment on Remedial Design Work Plan and POP**		
45	**Pre-Design Studies**		
64	**Pre-ISTR Final Design Package (100 % Design)**	EPA approval or modification of Conce	Within 90 days of notice by EPA.
71	**Technical Information Meeting**	Submittal of 100% Design.	
72	**Agency Review/Comment**		
73	**Agency Approval of Pre-ISTR Package (100% Design) with Comments**		
74	**ISTR Conceptual Design Package (75% Design)**	EPA approval or modification of RD Work Plan.	Within 120 days of EPA approval that necessary pre-design studies to be described in the RD Work Plan are complete
75	**Pre-Design Activities Reports**		
80	**Submit 75% Design Package**		
81	**Technical Information Meeting**		
82	**Agency Approval of 75% Design Package with Comments**		
83	**ISTR Final Design Package (100% Design)**		
86	**Submit ISTR Final Draft Package (100% Design)**		
87	**Technical Information Meeting**		
88	**Agency Approval of ISTR Design Package (100% Design) with Comments**		
89	**Pre-construction Conference(s)**	EPA approval or modification of Final D	Within 30 days of notice by EPA.
90	**Pre-construction Public Meeting(s)**	EPA approval or modification of Final D	Within 45 days of notice by EPA.
91	**Accelerated ISTR Construction Activities**		
92	AT&T Fiber Optic Relocation		
93	Partial CP-2 (culvert relocation) Construction		
94	OAR-2 Surface Preparation for ISTR Work		
95	Thermal Infrastructure Installation (gas, sewer, power)		
96	**Initiation of Remedial Action Construction Activities (ISTR and Soils)**	**EPA approval or modification of Final Design.**	**Within 60 days of notice by EPA.**
97	**Meetings During Construction**	**Start of Construction**	**Weekly during construction**
172	In-Situ Thermal Treatment Construction		
173	Thermal Final Construction Inspection	Within 60 days of notice by Settling Defendants.	
174	Submit Construction Completion Report	Within 30 days of Final Construction Inspection.	Within 30 Days
175	Agency Approval of Completion Report		
176	**Thermal Treatment**		
181	**Post Thermal Activities**		
182	**Soil Investigation**	After In-Situ Thermal to re-assess the size of the area to be capped	
183	**Vapor Control System Evaluation**	After In-Situ Thermal to determine whether (or not) a vapor control system is needed below the cap.	
184	**Final Soil & RCRA C Cap Conceptual Design**		
185	**Final Soil & Multi Layer Cap Submit 75% Design Package**		
186	**Technical Information Meeting**		
187	**Agency Approval of 75% Final Soil & Multi Layer Cap Design Package with Comments**		
188	**Final Soil & Multi Layer Cap 100% Design Submittal**		
189	**Technical Information Meeting**		
190	**Agency Approval of Final Soil & Multi Layer Cap 100% Design**		
191	**Final Soil & Multi Layer Cap Construction**		
192	**Final Construction Inspection**	Settling Defendants conclude construction complete.	Within 60 days of notice by Settling Defendants.
193	**Groundwater Containment & Treatment Evaluation & Optimization Study (GCTEOS**		
194	**Optimization Studies**	Upon completion of the in-situ Thermal Treatment and capping components of the remedy	As directed by the EPA, or proposed by the Settling Defendants, no less frequently than every 10 years
195	**Additional Optimization Study(s) (TBD)**		
196	**Completion Report**	Final construction inspection.	Within 30 days of inspection.
212	**Commencement of Operation and Maintenance**	EPA approval or modification of Construction Completion Report.	Immediately upon notice by EPA.
213	**Compliance Monitoring (CM)**		
214	**Annual Groundwater Sampling Event**		
226	**Biennial Groundwater Sampling Event**		
247	**Five-Year Review Sampling Event**		
251	**Sampling between Railroad Tracks and NTCRA 1 Sheet Pile Wall**		
252	**Pre ISTR Sampling**		
258	**ISTR Sampling**		
261	**Post ISTR Sampling (During Time to Achieve Equilibrium)**		
266	**Post ISTR Equilibrium Sampling**		
277	**Background Sampling Event (Metals Only)**		
283	**Compliance Reporting**		
284	**Monthly Progress Reports**	**Lodging of the CD.**	**On the 10th day following lodging and monthly thereafter.**
369	**Annual State of Compliance Reports**	**One Year After the Lodging of the Consent Decree**	**Annually**
381	**Five Year Review Reports**	**Five Years after the date of the Record of Decision**	**Every Five years**
385	**Compliance Monitoring (CM) Work Plan Evaluation(s)**	**No less frequently than once after implementation of the excavation and capping component, and long-term groundwater containment and treatment system.**	**As part of the five-year reviews.**
389	**Interim Remedial Action Report**	EPA determination that long-term groundwater containment and treatment system is operational and functional.	Within 90 days of notice by EPA.
390	**Determination of Background Metals in Groundwater (TBD)**	Compliance with Interim Cleanup Levels for Groundwater.	No sooner than 365 days prior to submittal of Demonstration of Compliance Report.
391	**Demonstration of Compliance Report (TBD)**	Compliance with cleanup levels.	As demonstrated by Settling Defendants.
392	**Risk Assessment**		
393	**Site Closure (TBD)**		
394	**Summary of Cost Information (TBD)**	Compliance with cleanup levels.	As demonstrated by Settling Defendants.