2012 Annual Groundwater Quality Monitoring Report Savage Well Superfund Site Milford, New Hampshire

Prepared for

Hitchiner Manufacturing Co., Inc.
594 Elm Street, Milford, NH 03055

and

Thomas & Betts Corporation
8155 T&B Boulevard, Memphis, TN 38125

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GRADIENT

www.gradientcorp.com
20 University Road
Cambridge, MA 02138
617-395-5000

SDMS Doc ID 560842

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1 Introduction

A groundwater remedy is currently in progress at the Operable Unit 2 (OU-2) portion of the Savage Well Superfund Site located in Milford, New Hampshire (Site), where the seventh year of continuous operation is now complete. The remediation system was initially operated from October to December 2004 and was restarted in September 2005. A baseline groundwater monitoring round, as defined in the Environmental Monitoring Work Plan (EMP; Gradient and MACTEC, 2004), was undertaken in August 2004 prior to system startup (MACTEC, 2005). An interim baseline groundwater monitoring round was undertaken in September 2005 prior to system restart (GeoSyntec and Gradient, 2005). Quarterly and/or annual groundwater quality monitoring reports have been prepared since that time to document the remedy progress (Gradient, 2006a, 2006b, 2007a, 2007b, 2008, 2009, 2010, 2011, 2013). The first five-year review report was published by the United States Environmental Protection Agency (US EPA) in September 2011 (US EPA, 2011).

This report presents the results of the remedy performance monitoring data collected in 2012,[1] the seventh full year of continuous system operation.

1.1 Overview of Site Setting and History

The Site is located in the western portion of the town of Milford, New Hampshire (Figures 1.1 and 1.2). The Consent Decree (US District Court of NH, 1994) defined two areas to be remediated: the OK Tool Source Area, also called Operable Unit 1 (OU-1); and the Extended Plume, known as OU-2. The US EPA and the New Hampshire Department of Environmental Services (NHDES) are responsible for remediating OU-1, whereas the Settling Parties[2] are responsible for remediation of the overburden aquifer in OU-2. A remedy consisting of a soil cover, slurry wall, soil vapor extraction system, and hydraulic control was implemented in 1999 at OU-1 (US EPA, 2011). A groundwater remedy is being implemented at OU-2 and includes: groundwater extraction and treatment; re-injection of treated water to the subsurface, combined with river discharge; and monitored natural attenuation. The OU-2 extraction system includes three wells (EW-1, EW-2, and EW-3) ranging from 45.5 to 69 feet in depth. Likewise, the subsurface injection system includes three wells (IW-1, IW-2, and IW-3) ranging from 61 to 94.5 feet in depth.

The aforementioned Consent Decree defines OU-2 as "the area of the Site outside of the area defined as the OK Tool Source Area (OU-1)." OU-2 is bounded by North River Road to the north, OK Tool to the west, Elm Street and Tucker Brook to the south, and the Souhegan River to the east. Located within Site boundaries are industrial, commercial, agricultural, and residential areas. The Savage Well is located proximate to the center of the Site (Figure 1.1). Historically, this supply well provided drinking water to the town of Milford until the presence of volatile organic compounds (VOCs) was discovered in 1983. The Site was proposed for inclusion on the National Priorities List (NPL) in September 1983 and eventually placed on the NPL in September 1984 (US EPA, 1984).

[1] Note that the annual 2012 groundwater quality monitoring event was conducted in January 2013.
[2] The Settling Parties are Hitchiner Manufacturing Co., Inc., 594 Elm Street, Milford, NH 03055 and Thomas & Betts Corporation, 8155 T & B Boulevard, Memphis, TN 38125.

The detection of VOCs at the Savage Well led to investigations in the mid-1980s of potential sources associated with industrial facilities in the area – OK Tool Company, Hitchiner Manufacturing Company, and Hendrix Wire & Cable Corporation. The Remedial Investigation/Feasibility Study (RI/FS) was completed in 1991 (HMM, 1991) and a Record of Decision was issued on September 27, 1991 (US EPA, 1991). Investigations performed during the RI/FS revealed that the Site subsurface consists of an unconfined, high yield sand and gravel aquifer, which is underlain by till and bedrock. Tetrachloroethylene (PCE) is the primary constituent of concern at the Site, although other chlorinated VOCs have also been detected.

The OU-2 Draft 100% Remedial Design (MACTEC, 2003) was approved by US EPA on January 22, 2004 (US EPA, 2004). The system was constructed in early to mid-2004 and began operations in October of the same year. Due to operational problems at the injection wells, the system was shut down after approximately five weeks of operation. In response, two of the injection wells (IW-1 and IW 2) were partially rehabilitated, a short-term metals treatment pilot test was conducted, an interim metals treatment plant was designed, and a temporary surface water discharge to the Souhegan River was built after receiving regulatory approval (Gradient, 2006c). The system was successfully restarted on September 6, 2005, and was operated for approximately ten weeks. At that point, the system was temporarily shut down for the construction of the permanent surface water discharge. The system resumed operation on January 26, 2006, and has operated continuously since then, experiencing only brief shutdown periods for regular operations and maintenance (O&M) activities, the installation of the fixed metals treatment system, and repair and redevelopment of injection well IW-3 (Gradient, 2006c, 2006d, 2006e).

During the 2012 calendar year, the three extraction wells were operational between 74% and 90% of the time, extracting groundwater at the rate of approximately 404 gallons per minute (gpm), when pumping, with recharge to groundwater *via* injection wells IW-1, IW-2, and IW-3 (at an average combined injection rate of 310 gpm) and discharge to the Souhegan River (see summary in Table 1.1).[3]

1.2 Report Organization

This groundwater quality monitoring report is organized as follows:

- Section 2 of this document presents a summary of the monitoring program implemented at the Site during this monitoring period;
- Section 3 presents the 2012 monitoring results;
- Section 4 presents recommendations; and
- Section 5 presents the summary and conclusions.

[3] During calendar year 2012, EW-1, EW-2 and EW-3 were not in operation for a total of approximately 96, 37 and 64 days, respectively. When these days are also taken into account, the average pumping rate for that period was 326 gpm and the average treated water injection rate was 275 gpm with the balance discharged to the Souhegan River at an average rate of 51 gpm. See Table 1.1 for individual extraction and injection flow rates and flow summary information through January 31, 2013.

2 Groundwater and Surface Water Monitoring Program

This chapter describes the groundwater and surface water monitoring program implemented during 2012, the seventh year of remedy operations. Groundwater sampling was performed at select wells during the semi-annual monitoring event in June 2012, and the annual sampling event conducted in January 2013. Groundwater monitoring and system O&M efforts were carried out by GeoInsight, Inc. of Manchester, NH.

Note that this report does not include results from the shallow groundwater quality assessment conducted on June 13, 2012, summarized in a separate document (Gradient, 2012a), and reviewed separately by US EPA (US EPA, 2012a).

2.1 Elevation Monitoring Program

Groundwater and surface water elevation measurements were recorded manually or using dedicated data loggers at locations specified in the EMP (Gradient and MACTEC, 2004). Manual measurements were conducted on June 11, 2012 and January 2, 2013[4] as part of the semi-annual and annual sampling events, respectively. Table 2.1 lists the 93 monitoring wells, extraction wells, injection wells, and shallow piezometers where depths to water were measured. Surface water elevations were also obtained at 6 stream and staff gauges. The water elevation monitoring locations are shown on Figure 2.1.

2.1.1 Groundwater Elevation Monitoring

Groundwater elevations at the various monitoring points were obtained by using an electronic water level indicator to measure the depth to groundwater relative to a reference point of known elevation (typically, the top of casing or top of well riser with an elevation surveyed in feet above mean sea level, ft amsl). The groundwater depth measurements were generally recorded within an eight-hour period on the same day.

As indicated in the EMP, continuous monitoring of groundwater levels is occurring at wells MW-108A, MW-119 and MW-121 using water level transducers. Continuous monitoring at MW-108A is being conducted to provide a baseline for potential induced seepage from the Souhegan River due to extraction from wells EW-2 and EW-3. MW-119 and MW-121 are being continuously monitored to assist in evaluating the effect of injecting treated water at injection well IW-1. The transducers for MW-119 and MW-121 are connected to the supervisory control and data acquisition (SCADA) system, whereas MW-108A is equipped with a standalone individual transducer and data logger. The groundwater elevation data collected by these transducers are discussed in Section 3.2.

[4] Water level measurements for four wells were obtained between January 14 and January 16, 2013.

2.1.2 Surface Water Elevation Monitoring

Shallow groundwater and surface water levels were measured to evaluate the potential impact of the remedial action on water elevations near wetlands and agricultural areas (Gradient and MACTEC, 2004, Section 2.1.3). This was accomplished by monitoring piezometer P-101 on the banks of the discharge ditch between the extraction and injection locations, and piezometer P-102 in the low-lying wetlands downgradient of IW-3 (Figure 2.1).

In addition, one staff gauge (S-1) in an unnamed wetland downgradient of IW-3, and several stream gauges (SG-1 through SG-4 and Veterans Memorial Bridge gauge USGSP-2) were monitored along the discharge ditch and the Souhegan River to evaluate potential impacts to surface waters (Figure 2.1). At these locations, the water elevation on the staff or stream gauge was read and converted to true elevation based on the stream gauge survey data.

2.2 Groundwater Quality Monitoring Program

Two rounds of groundwater quality monitoring from a network of 59 wells were undertaken as part of the 2012 program: a semi-annual event, conducted in June 2012, which included groundwater sampling from a subset of 21 monitoring wells; and a comprehensive, annual sampling round performed in January 2013, which included groundwater sampling from the 59 monitoring wells (Table 2.2), including 8 wells, which were sampled at US EPA's request (US EPA, 2012b, 2013; Gradient, 2012b) as part of a one-time sampling event.[5]

Two sampling techniques were used for sample collection: polyethylene-based passive diffusion bags (PDBs) (Vroblesky, 2001); or low-flow purge sampling techniques (US EPA, 1996a, 2010a) (Table 2.2). The sampling methodology choice was based on the results of a low flow-PDB correlation study undertaken as part of the 2004 baseline sampling event (MACTEC, 2005). Standard Operating Procedures (SOPs) included in the EMP were used for groundwater sample collection and updated as appropriate (*e.g.*, US EPA, 2010a, 2010b). Groundwater quality monitoring locations are presented on Figure 2.2. Sample collection methodology and sampling frequency, along with sample collection depths, are provided in Table 2.2.

PDBs were retrieved and sampled two weeks following deployment in monitoring wells. PDB deployment and retrieval information (*e.g.*, date, time, and depth) was documented in sampling summary records included herein as Appendix A. It should be noted that PDBs were deployed at the depth interval where maximum VOC concentrations were recorded in a concentration-depth profiling evaluation (MACTEC, 2005).

Low-flow purge sampling was conducted using a peristaltic pump. New Teflon® well-dedicated tubing was installed in 2011 consistent with US EPA recommendations (US EPA, 2010a). Field low-flow stabilization parameters were recorded during purging, including temperature, pH, specific conductance, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity, using instruments calibrated

[5] US EPA requested sampling from the following 10 wells: MW-3, MW-5A, MW-5B, MW-6A, MW-6B, MW-18A, MW-18B, MW-24B, MI-35 (former Hendrix supply well), and MI-88 (former Hitchiner supply well); however, the two former supply wells (MI-35 and MI-88) could not be sampled due to access issue. Access to MI-88 was blocked by an inoperable, large capacity pump bolted to the wellhead. Although water level could be measured at MI-35, an obstruction at about 4 feet in well MI-35 – possibly related to the riser pipe and/or pumping equipment – prevented the deployment of a passive diffusion bag. The other 8 wells were successfully sampled. Seven of these wells are located South of Elm Street, proximate to the two former supply wells (Figure 2.2).

based on US EPA Region 1 guidance (US EPA, 2010b). Field sampling summary records and instrument calibration forms are provided in Appendix A.

Both PDB and low-flow samples were submitted to Alpha Analytical, Inc. (Alpha Analytical) of Westborough, Massachusetts for VOC analysis by US EPA Method 8260C. To ensure that data collected are scientifically valid, defensible, and of known precision and accuracy, quality assurance (QA) and quality control (QC) procedures were implemented as outlined in the Savage Well Superfund Site Quality Assurance Project Plan (QAPP) (Gradient, 2003). Both groundwater sampling events included the collection and analysis of appropriate types of QC samples as identified in Section 4.2.1 of the EMP, such as field blanks, trip blanks, duplicates, and matrix spike samples. Sample collection documentation, designation, custody, handling, packing, and shipping protocols were followed according to Section 4 of the EMP.

Data results were validated by Gradient in accordance with the EMP and the QAPP. The data validation report is provided in Appendix B.

2.3 Monitoring Well Construction Summary

Construction details for the OU-2 monitoring wells, including horizontal coordinates, elevation information, and well inspection details, are provided in Table 2.3. The locations of monitoring wells, including those that are currently inactive or inoperable, are shown on Figure 2.3. A monitoring well network inspection program was performed during the annual monitoring event to review and document the condition of monitoring wells at OU-2. Several monitoring wells and stream gauges were identified as destroyed or could not be found (Table 2.3). Additional considerations related to the stream gauges are provided below.

In 2012, surface water was monitored at four stream gauges (SG-1 through SG-4),[6] one bridge gauge, one staff gauge within a wetland (S-1), and two shallow piezometers (P-101 and P-102) (Tables 2.1 and 2.3; Section 2.1.2). SG-5, which is located along the discharge ditch referenced in Section 2.1.2 (Figure 2.3), was not found during the two monitoring events, but was later located and determined to be in working condition (Table 2.3). At the onset of the remedy, there was also one additional gauge (SG-6) located along the Souhegan River (Figures 1.1 and 2.3).

Gauges SG-3 and SG-6 located along the Souhegan River have rotted out or collapsed over the past several years as a result of water freezing or flooding, river currents, debris, or other factors. Based on past annual reports:

- SG-6 has been unusable since 2009 (Gradient, 2009, Table 2-3); and
- SG-3 has been unusable since the beginning of 2006 (Gradient, 2006a, p. 4); since then, however, surface water elevations at this location have been obtained by measuring depth to water surface relative to the treatment system discharge outfall to the Souhegan River located proximate to SG-3 (Figures 2.2 and 2.3; Gradient, 2008, Appendix A).

Both river gauges have been destroyed and repaired multiple times (*e.g.*, SG-3 and SG-6 were repaired twice in 2004 and 2005; see MACTEC, 2005, pp. 3-4,8; GeoSyntec and Gradient, 2005, p. 4). As a result, we have questioned the value of replacing and resurveying gauge SG-6 at a cost that is not

[6] Stream gauge SG-4 could not be located during the June 2012 monitoring event. It was found during the January 2013 event, but not accessed due to hazardous conditions (ice) (Table 2.3).

commensurate with the value of the information provided. River elevation information is currently obtained at the two remaining locations (discharge outfall SG-3 and bridge gauge) and, therefore, we do not recommend replacing gauge SG-6.

3 Remediation System Operations and Monitoring Results

3.1 System Operations

The remediation system operated effectively during calendar year 2012 (seventh year of operation), extracting and treating groundwater at a rate of approximately 404 gpm (when in operation) with combined recharge to groundwater (at an average injection rate of 310 gpm) and discharge to the Souhegan River (Table 1.1).[7] The extraction wells were in operation 74% to 90% of the time (depending on well; Table 1.1). Figure 3.1 (Summary of Extraction Well Operation) and Figure 3.2 (Summary of Injection Well and Surface Water Discharge Operation) provide daily values for water volumes extracted, injected, and discharged to surface water by the treatment system during 2012. Significant operational events (*e.g.*, shutdown for system maintenance, well development, or power outage) are also identified on these figures.

Figures 3.3 and 3.4 provide monthly average specific capacity values at extraction and injection wells, respectively. The values were calculated based on flow rate and drawdown/mounding information recorded by the SCADA system. Extraction wells have typically been redeveloped annually and the injection wells every other year. The extraction wells were redeveloped in January/February 2012 and redevelopment did not result in a substantial increase in specific capacity (Figure 3.3). The injection wells were also redeveloped in January/February 2012 and the specific capacity increased significantly (Figure 3.4), with mounding a fraction of its pre-redevelopment value at comparable injection rates. It should be noted that specific capacity appears to be influenced by factors other than redevelopment, including flow rate fluctuations, system shutdown, and precipitation events.

Treatment system influent and effluent quality monitoring is currently conducted monthly, consistent with our recommendation (Gradient, 2013) and US EPA's agreement (US EPA, 2012b).[8] The influent quality monitoring data collected over the last several years continue to indicate a progressive decrease in VOC concentrations in groundwater from each of the three extraction wells (see Section 3.3.2). Similar to prior years, the effluent quality monitoring results have consistently met the remedial objectives prior to subsurface re-injection and river discharge.

3.2 Groundwater and Surface Water Elevation Monitoring Results

Groundwater and surface water elevations were measured at 98 locations within OU-2 during the June 2012 semi-annual and January 2013 annual monitoring rounds (Table 3.1). Potentiometric contour maps generated using the data from the two monitoring events are presented in Figures 3.5a and 3.5b. Groundwater elevation monitoring indicates that groundwater generally flows in an east-northeast

[7] During calendar year 2012, EW-1, EW-2 and EW-3 were not in operation for a total of approximately 96, 37 and 64 days, respectively. When these days are also taken into account, the average pumping rate for that period was 326 gpm and the average treated water injection rate was 275 gpm with the balance discharged to the Souhegan River at an average rate of 51 gpm. See Table 1.1 for individual extraction and injection flow rates and flow summary information through January 31, 2013.

[8] Note that, during 2012, treatment system influent and effluent quality monitoring was conducted bi-monthly through September 2012 and monthly thereafter (upon receiving US EPA's authorization).

direction and discharges to the Souhegan River. The elevation data also delineate the influence of the extraction wells on groundwater flow and continue to demonstrate that the groundwater extraction system is successfully removing affected groundwater from the most impacted portion of the plume. Groundwater elevation monitoring data in the vicinity of the injection wells do not depict significant mounding; however, the groundwater surface gradient flattens out slightly, indicating that injected groundwater is having an influence in this area and is likely flushing portions of the plume downgradient of the injection wells. Finally, consistent with prior years, groundwater elevation data from shallow piezometers P-101 and P-102 and surface water monitoring points S-1 and SG-1 through SG-3 (Table 3.1) continue to indicate that the remedial actions are not significantly impacting the surrounding wetland and agricultural areas.

Continuous groundwater elevation monitoring at wells MW-108A, MW-119, and MW-121 is being conducted as defined in the EMP. Data recorded at these wells during 2012 demonstrate seasonal fluctuations of groundwater elevation in the aquifer (ambient high and low water elevations) of about 3 feet (Figure 3.6). The 2012 groundwater elevations recorded at these wells were generally similar to gauging results from prior years. Groundwater elevations at the three wells reflect regional changes in groundwater elevation due to precipitation and other events. Precipitation events on the order of 1 inch or more had an observable effect on groundwater elevation recordings (Figure 3.6).

3.3 Groundwater Quality Monitoring Results

As noted in Section 2.2, groundwater samples collected during the semi-annual and annual monitoring events were analyzed for VOCs. The results are presented in Tables 3.2a and 3.2b and field sampling summary forms prepared by GeoInsight are provided in Appendix A. For perspective, historical groundwater quality data for OU-2 monitoring wells are provided in Appendix C. Analytical reports, copies of chains-of-custody, and comprehensive data delivery packages prepared by Alpha Analytical are provided in Appendix D.

3.3.1 Data Validation

A Tier I data validation review was performed on received analytical data, including QA/QC samples, which – as described in Section 2.2 – were collected during PDB and low-flow sampling activities as outlined in the QAPP (Gradient, 2003). Groundwater sampling results and QA/QC data were evaluated for "completeness" using Region I Data Validation Functional Guidelines for Evaluating Organic Analyses (US EPA, 1996b) and the Region I Tiered Organic and Inorganic Data Validation Guidelines (US EPA, 1993). All of the data received for this monitoring round were verified as complete. A copy of the data validation report is provided in Appendix B.

3.3.2 VOC Concentrations

Similar to prior years, up to six VOCs were detected in the groundwater samples collected during the semi-annual and annual monitoring events for 2012 (Tables 3.2a and 3.2b).[9] PCE was the most frequently detected compound and was present at the highest concentrations. Although PCE is driving remediation at the Site, other VOCs were also detected above their respective US EPA drinking water maximum contaminant levels (MCLs) (US EPA, 2009), including trichloroethylene (TCE) and 1,1-

[9] Acetone, which was also detected in several samples at low concentrations, is believed to be a PDB artifact (Varhol, c. 2012). This is further supported by lot water and field blanks collected during PDB deployment, which were found to also contain acetone (Appendix D, laboratory reports L1210533 for the semi-annual sampling event and L1300865 for the annual sampling event).

dichloroethylene (1,1-DCE). Section 3.3.2.1 below focuses on PCE. The other VOCs are discussed in Section 3.3.2.2.

3.3.2.1 PCE

Table 3.3 summarizes the PCE distribution statistics for monitoring wells sampled during the semi-annual and annual monitoring events. For the annual (January 2013) event, about half of the 59 monitoring wells had PCE concentrations below the laboratory reporting limit of 0.5 micrograms per liter (µg/L) or the MCL of 5 µg/L (US EPA, 2009).

Table 3.3 PCE Distribution Statistics in Monitoring Well Network

PCE Concentration Range	Number of Monitoring Wells	
	Semi-Annual Sampling June 2012	Annual Sampling January 2013
Below reporting limit (<0.5 µg/L)	1	15
0.5 to 5 µg/L (MCL)	0	14
5 to 50 µg/L	6	18
50 to 100 µg/	9	6
Greater than 100 µg/L	5	6
	21 wells sampled	59 wells sampled

Notes:
Abbreviations: PCE – tetrachloroethylene; µg/L – micrograms per liter; MCL – maximum contaminant level.
(a) The wells sampled as part of the semi-annual event (June 2012) are a subset of the wells sampled annually (January 2013); this subset is comprised of the wells with relatively higher PCE concentrations.

The 6 wells with PCE concentrations equal to or above 100 µg/L as of January 2013 include (Table 3.2b): MW-11R (270 µg/L), MW-14A (160 µg/L), MW-14R (100 µg/l),[10] MW-109B (120 µg/L), MW-110B (420 µg/L), and MW-120C (300 µg/L). These results are generally consistent with those obtained in June 2012 (Table 3.2a).

The highest PCE concentrations are found at depth within the overburden deposits (*e.g.*, MW-110B and MW-120C) and in shallow bedrock (*e.g.*, MW-11R and MW-14R). Measured PCE groundwater concentrations as a function of depth based on the January 2013 sampling event are presented in Figures 3.7 through 3.11. Each figure displays PCE groundwater data[11] associated with the same depth range used in the groundwater flow and solute transport (PCE) model (US EPA, 2002). MW-110B (PCE concentration of 420 µg/L) is located in the deep overburden aquifer (immediately on top of bedrock; MACTEC, 2004) between EW-1 and EW-2 (Figure 3.9). MW-120C (PCE concentration of 300 µg/L), located near Trailer Park Road, is screened in deep overburden deposits located within a previously defined bedrock depression (Figure 3.10).

[10] Note that the PCE concentration at MW-14B (97 µg/L) also approached 100 µg/L in January 2013.
[11] PCE groundwater concentration data contours shown on Figures 3.7 through 3.10 were generated using the Kriging method in ArcGIS (ESRI, 2010), along with manual adjustments.

A comparison of measured PCE concentrations obtained during the January 2013 monitoring event to concentrations since 1989 indicates a continued reduction of PCE concentrations in the overburden aquifer (USGS, 2004; MACTEC, 2005). The United States Geological Survey (USGS) noted that between 1989 and 1994, the PCE plume shifted northward, in part due to a change in groundwater withdrawals at the Site (USGS, 2004). When vertical profiling was completed in 1995, the areal extent of and concentrations within the plume were found to be greatest in the lower portion of the aquifer (*i.e.*, layer 3 and below). The baseline monitoring event conducted in August 2004 confirmed that PCE concentrations were greatest in the northern portion of the Site in the deeper portion of the aquifer, where the extraction wells were later installed (MACTEC, 2005). Since 2004, PCE concentrations have decreased in the overburden aquifer and the areal extent of the plume has also reduced. This is illustrated in Figures 3.12 through 3.15, which show significant reduction in PCE concentrations from August 2004 to January 2013. The observed decline in concentrations is consistent with natural attenuation of the PCE plume due to advection and dispersion, enhanced by the operation of the treatment system during that period. PCE concentrations measured at monitoring wells (Figure 3.16), extraction wells (Figures 3.17a and 3.17b), and combined influent at the treatment plant (Figure 3.18) support this general conclusion since an overall reduction in concentrations continues to be observed over time. From system startup to early 2013, PCE mass remaining in OU-2 has declined by approximately 87% from an estimated 1,830 kilograms (kg) in August 2004 to 231 kg in January 2013 based on available groundwater quality monitoring data (see Section 3.3.3.2 and Figure 3.19); however, as shown on Figure 3.19, the rate of PCE mass removal from OU-2 has been diminishing over time.

The treatment plant system influent PCE concentrations have reached an asymptote. With a significant decline in PCE mass in OU-2 since 2004, treatment plant influent PCE concentrations have declined sharply and are about 20 µg/L or less at each extraction well (Figures 3.17a, 3.17b, and 3.18) – an order of magnitude lower than concentrations at remedy restart in September 2005. In addition, several monitoring wells have demonstrated limited concentration declines over recent years despite continuous system operations during that time (*e.g.*, MI-31, MW-11R, MW-14A/B/R, MW-20B, MW-101C, MW-107C, MW-109B, MW-110B, MW-111C, and MW-120C, see Figure 3.16).

3.3.2.2 Other VOCs

In addition to PCE, which is driving remediation at the Site, VOCs detected above MCL during the semi-annual or annual sampling event include TCE and 1,1-DCE (Tables 3.2a and 3.2b). Other VOCs detected include cis-1,2-dichloroethylene (cDCE), 1,1,1-trichloroethane (1,1,1-TCA), and 1,1-dichloroethane (1,1-DCA) as summarized in Table 3.4. These VOCs can be characterized as follows:

- TCE is a common breakdown compound of PCE (HMM, 1991, Figure 5-1; Wiedemeier *et al*., 1998, Figure 2.2). TCE is believed to be primarily present as a result of biodegradation (HMM, 1991, pp. 4-31, 4-37); however, TCE was also used as a solvent at the OK Tool facility (HMM, 1991, Table 1-2) and may have been released along with PCE (US EPA, 2002, p. 27). In OU-2 groundwater monitoring wells, TCE is present at concentrations on the order of 10-20% of the associated PCE concentrations.
- cDCE is a common breakdown compound of PCE and TCE (HMM, 1991, Figure 5-1; Wiedemeier *et al*., 1998, Figure 2.2) and is more prevalent than 1,1-DCE or trans-1,2-dichloroethylene (Wiedemeier *et al*., 1998, p. 23). In OU-2 groundwater monitoring wells, cDCE concentrations are typically about half of the corresponding TCE concentrations.
- 1,1,1-TCA is a solvent that was used historically at the OK Tool and Settling Parties' facilities (HMM, 1991, Table 1-2) and was historically found in groundwater at concentrations that were orders of magnitude below PCE concentrations (NHWSPCC, 1985, Appendix F; HMM, 1991,

pp. 4-29 to 33, Table 4-5). At present, 1,1,1-TCA has almost completely attenuated from the OU-2 groundwater monitoring wells with only low-level concentrations remaining.

- 1,1-DCA is a common breakdown compound of 1,1,1-TCA (HMM, 1991, Figure 5-1; Wiedemeier *et al*., 1998, p. B4-61). In OU-2 groundwater monitoring wells, 1,1-DCA concentrations are below detection limits or present at low-level concentrations below 20 µg/L, which are expected to attenuate further.
- 1,1-DCE is a common breakdown compound of 1,1,1-TCA (HMM, 1991, Figure 5-1; Wiedemeier *et al*., 1998, p. B4-63). In OU-2 groundwater monitoring wells, 1,1-DCE concentrations are below detection limits or present at low-level concentrations below 14 µg/L, which are generally comparable to those of 1,1-DCA and are also expected to attenuate further.

These VOCs are not specific to OU-2. TCE, cDCE, and 1,1,1-TCA were also detected at OU-1 historically or more recently (NHWSPCC, 1985, Appendix F; HMM, 1991, Table 4-5; USFilter, 2004, Attachment E; Weston, 2014, Table 4-3).

Table 3.4 Distribution Statistics in Monitoring Well Network for VOCs Other Than PCE

Sampling Event	TCE	cDCE	1,1,1-TCA	1,1-DCA	1,1-DCE
June 2012 Semi-Annual Sampling Event (21 wells)					
- Frequency of detection	18/21	17/21	5/21	8/21	11/21
- Number of MCL Exceedances	13/21	0/21	0/21	No MCL	2/21
- Maximum Concentration (µg/L)	57 (MW-110B)	48 (MW-110B)	2.5 (MW-109B)	20 (MW-116A)	14 (MW-116A)
January 2013 Annual Sampling Event (59 wells)					
- Frequency of detection	27/59	22/59	14/59	7/59	8/59
- Number of MCL Exceedances	12/59	0/59	0/59	No MCL	2/59
- Maximum Concentration (µg/L)	39 (MW-11R)	23 (MW-110B)	2.9 (MW-10A)	11 (MW-20B)	8.2 (MW-20B)

Notes:
Abbreviations: TCE – trichloroethylene; cDCE – cis-1,2-dichloroethylene; 1,1,1-TCA – 1,1,1-trichloroethane; 1,1-DCA – 1,1-dichloroethane; 1,1-DCE – 1,1-dichloroethylene; µg/L – micrograms per liter; MCL – maximum contaminant level.
(a) The wells sampled as part of the semi-annual event (June 2012) are a subset of the wells sampled annually (January 2013).

3.3.3 PCE Mass Estimates

3.3.3.1 PCE Mass Removed by Treatment System

A total of 352 kg of PCE mass has been removed by the treatment system since the onset of remedial operations. This PCE mass was calculated using the combined influent concentrations, measured bi-monthly or monthly[12] (Figure 3.18 and Table 3.5). The total PCE mass removed (in kg) during the period

[12] Refer to discussion in Section 3.1.

between two sampling events was obtained using the average influent concentration (in µg/L) in conjunction with the total volume of water extracted during that period (in liters [L]). The calculated PCE mass removal estimate value (352 kg as of the end of 2012) is expected to be an underestimate, since it does not account for the VOCs lost by volatilization during extraction and conveyance to the treatment plant (where the influent sampling ports are located).

The rate of PCE mass removal by the treatment system is continuing to decline. More than three-quarters of the estimated 352 kg PCE mass removed by the treatment system was extracted before the end of 2008 (Table 3.5). The PCE mass removed over the subsequent four years of operations through the end of 2012 represents less than one-quarter of the total mass removed and the mass removed in 2012 (12 kg) represents only 3.4% of the total (Table 3.5). In addition, the year-to-year percent increase in total PCE mass recovered – defined as the mass recovered during a given year divided by the cumulative mass recovered at the onset of that year – has been decreasing since 2007 and is now 3.5% (Table 3.5 and Figure 3.18).

3.3.3.2 PCE Mass Remaining in Aquifer

Approximately 231 kg of PCE mass remains in the OU-2 portion of the aquifer as of January 2013 – a sharp decline from the 1,830 kg PCE mass estimate for August 2004 (Figure 3.19).

The PCE mass remaining estimates were obtained as follows:

- PCE concentration contours for the January 2013 monitoring event were generated for each model layer using the Kriging method (Figures 3.7 through 3.10). These contours were then combined with individual layer thickness and porosity[13] to obtain a value for the total dissolved PCE mass per layer. A retardation factor[14] was applied to the total dissolved PCE mass to calculate the total PCE mass present in the aquifer (see calculations in Appendix E); and
- Similar approaches were used for prior years using the 2004 baseline monitoring round (MACTEC, 2005), four quarterly monitoring rounds during Year 1 (2006) (Gradient, 2006a, 2006b, 2007a, 2007b), and the annual monitoring events for subsequent Years 2 through 6 (2007 through 2011) (Gradient, 2008, 2009, 2010, 2011, 2013).[15]

These calculations indicate that PCE mass remaining in OU-2 has declined from approximately 1,830 kg[16] in August 2004 to approximately 231 kg in January 2013, corresponding to a total mass reduction of 1,599 kg or 87% (Figure 3.19). The reduction in PCE mass is attributable to a combination of natural attenuation and mass removal by the extraction system.

3.3.3.3 Comparison to Groundwater Flow and Solute Transport Model

The numerical three-dimensional groundwater flow and solute transport model, initially developed by US EPA/USGS and updated in the 2002 Remedial Design Investigation (RDI; US EPA, 2002), was executed to simulate actual remedy operations (*i.e.*, actual extraction and injection well pumping rates), as an

[13] Porosity (n) = 0.3.
[14] Retardation Factor (R) = 2 (Layers 1, 3, and 5) and 2.5 (Layers 2 and 4); based on Remedial Design Investigation Report (US EPA, 2002).
[15] Note the model-predicted mass remaining in the aquifer from 2004 on reflects the actual OU-2 remedial system operating conditions (*e.g.*, average water extraction and injection rates).
[16] The August 2004 mass remaining value presented here is for OU-2 alone and does not include mass remaining in the portion of OU-1 outside the slurry wall.

additional check on remediation progress. Model-predicted values for groundwater elevation and PCE concentrations were compared to the measured values obtained from monitoring events conducted since system restart in September 2005.

Residual PCE concentrations (model-predicted minus measured values) in the aquifer for January 2013 were obtained for OU-2 wells (Table 3.6). Residual statistics of mean, minimum, maximum, median, standard deviation, and root-mean-square error (RMSE) are also presented in Table 3.6. These statistics demonstrate that model-predicted PCE concentrations are generally higher than measured values (mean residual = 4 μg/L and RMSE = 82 μg/L) – indicating that the model is conservative in its prediction of PCE concentrations. Note, prior model simulations, such as the calibrated model used for the remedial design also indicated a high bias compared to measurements (calibrated model: mean residual = 92 μg/L and RMSE = 426 μg/L; US EPA, 2002).

An overall comparison of model-predicted total mass remaining in the overburden aquifer to estimated total mass remaining based on measured concentrations in OU-2 from September 2001 to January 2013 is presented in Figure 3.19. Consistent with residual statistics, the model-predicted PCE mass is higher than the mass estimated based on measured concentrations (*i.e.*, the model is conservative). Furthermore, Figure 3.19 illustrates that the measured rate of PCE mass decline in recent years (*i.e.*, the slope of the line) is less than the model predictions. This declining and asymptotic trend in mass removal rate is the reason for the Settling Parties to propose a system shutdown test to US EPA to better assess mass removal through natural attenuation relative to treatment system operations.

4 Recommendations

The influent PCE concentrations at the three extraction wells have reached an asymptote and the contaminant mass removal rate is diminishing (Table 3.5 and Figures 3.17a, 3.17b, and 3.18). Given this decrease in mass removal rate, the PCE mass remaining in OU-2 is decreasing at a pace slower than that of prior years (Figure 3.19). Given these observations, the Settling Parties recommend that the groundwater extraction and treatment system be shut down for a period of several months to a year during 2014-2015, and that groundwater quality be monitored to evaluate mass removal through natural attenuation and, if any, potential rebound effects in the concentrations of PCE and other VOCs.

To that end, and consistent with US EPA's request (US EPA, 2012, Item 8), the Settling Parties will prepare a Shutdown Test Work Plan that will include details of the shutdown and specific monitoring to be conducted during the shutdown. The Work Plan will also include a detailed schedule and duration for the shutdown.[17]

[17] A draft work plan for the temporary suspension of groundwater extraction and treatment activities was submitted to US EPA and NHDES in June 2014.

5 Summary and Conclusions

Nineteen rounds of groundwater elevation and quality monitoring have been completed over seven years to assess remedy progression at the OU-2 portion of the Savage Well Superfund Site (Gradient, 2006a, 2006b, 2007a, 2007b, 2008, 2009, 2010, 2011, 2013).[18] These data indicate that the remedy has been operating as designed and effectively reducing contaminant mass in the aquifer. Specific conclusions based on the most recent monitoring results are as follows:

- Overall, the OU-2 remedy has been progressing effectively, but appears to be reaching a point of diminishing returns from a contaminant mass removal standpoint. During calendar year 2012, the three extraction wells were in operation between 74% and 90% of the time. Groundwater was withdrawn from the extraction wells and treated at an approximate rate of 404 gpm (when in operation). After treatment, approximately 310 gpm (when in operation) was being injected into the subsurface, with the remaining balance discharged to the Souhegan River (Table 1.1).
- PCE concentrations in a number of monitoring wells have been consistently less than 5 µg/L (the MCL for PCE) or below the quantitation limit (Figure 3.16). Influent PCE concentrations in EW-1, EW-2 and EW-3 have also declined from approximately 500 µg/L in 2005 to 20 µg/L or less (Figures 3.17a, 3.17b, and 3.18).
- A comparison of PCE concentrations measured in January 2013 and those obtained as part of the 2004 baseline and 2005 interim baseline monitoring rounds generally indicates a sharp decline in concentrations (Figure 3.16). Since 2004, the overall PCE mass in OU-2 has decreased by approximately 1,599 kg (from 1,830 to 231 kg), an estimated 87% decline (Figure 3.19). The rate of decline, however, is diminishing over time.
- The estimated PCE mass in the aquifer based on measurements continue to be less than the model-predicted mass presented in the RDI report (US EPA, 2002).
- Consistent with the significant decline in PCE mass in OU-2 since 2004, treatment plant influent PCE concentrations and mass removal have reached an asymptote (Table 3.5 and Figures 3.17a, 3.17b, and 3.18). These results suggest diminishing returns in mass recovered per volume pumped and the need to consider alternatives to groundwater extraction, including part-time system shutdown and/or expanded monitored natural attenuation.

A Shutdown Test Work Plan will be submitted to US EPA and NHDES in early 2014.[19]

[18] Since remedy restart, groundwater monitoring events have been conducted in Dec. '05/Jan. '06, Apr. '06, July '06, Nov. '06, Apr. '07, Aug. '07, Dec. '07, Jan./Feb. '08, Mar. '08, Sept. '08, Dec. '08, June '09, Nov./Dec. '09, June '10, Dec. '10, June '11, Mar. '12, June '12, and Jan. '13.

[19] A draft work plan for the temporary suspension of groundwater extraction and treatment activities was submitted to US EPA and NHDES in June 2014.

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Tables

Table 1.1 Summary of Average Extraction and Injection Rates, Savage Well Superfund Site, Milford, NH

	Extraction Rates (gpm)				Injection Rates (gpm)				Souhegan River
	EW-1	EW-2	EW-3	Total	IW-1	IW-2	IW-3	Total	Discharge (gpm)
Calendar Year 2012 (Jan. 1 through Dec. 31)									
Average Flow Rate (when in operation)	196	114	94	**404**	92	115	103	**310**	94
No. Days not in Operation	95.5	37	63.5		44	45	41.5		
% Time Well is Operating	74%	90%	83%		88%	88%	89%		
Average Flow Rate (for reporting period)	145	102	79	**326**	82	101	92	**275**	51
Period Jan. 1, 2012 through Jan. 31, 2013									
Average Flow Rate (when in operation)	196	113	95	**404**	94	116	105	**315**	89
No. Days not in Operation	95.5	37	63.5		44	45.5	41.5		
% Time Well is Operating	76%	91%	84%		89%	89%	90%		
Average Flow Rate (for reporting period)	149	103	80	**332**	84	103	94	**281**	51

Notes:

1. Flow rate data reported in gallons per minute (gpm).

Table 2.1 Water Level Monitoring Locations, Savage Well Superfund Site, Milford, NH

Water Level Monitoring Locations	
Monitoring Wells	
FH-4	MW-101B
FH-5	MW-101C
FH-9	MW-102
FH-27	MW-102B
MI-4	MW-103
MI-10	MW-103A
MI-11	MW-104
MI-31	MW-104A
MI-35*	MW-105
MW-3*	MW-105A
MW-5A*	MW-106
MW-5B*	MW-107A
MW-6A*	MW-107B
MW-6B*	MW-107C
MW-9C	MW-108A
MW-10A	MW-109A
MW-10B	MW-109B
MW-10C	MW-110A
MW-11A	MW-110B
MW-11B	MW-111A
MW-11R	MW-111B
MW-12A	MW-111C
MW-12B	MW-112A
MW-13A	MW-113A
MW-13B	MW-114
MW-14A	MW-115A
MW-14B	MW-115B
MW-14R	MW-116A
MW-17C	MW-116R
MW-18A*	MW-117
MW-18B*	MW-118A
MW-19A	MW-118B
MW-19B	MW-119
MW-20A	MW-120A
MW-20B	MW-120B
MW-21B	MW-120C
MW-21C	MW-121
MW-22A	PZ-A1
MW-24A	PZ-A4
MW-24B*	PZ-A5
MW-31R	PZ-B3
MW-32B	PZ-B4
MW-101A	

Table 2.1 Water Level Monitoring Locations, Savage Well Superfund Site, Milford, NH

Water Level Monitoring Locations	
Injection Wells[1]	**Extraction Wells**
IW-1A	EW-1
IW-2A	EW-2
IW-3A	EW-3
Stream Gauges[2]	**Shallow Piezometers**
SG-1	P-101
SG-2	P-102
SG-3	**Staff Gauge**
SG-4	S-1
Bridge Gauge (USGSP-2)	

Notes:

1. IW-1A, IW-2A, and IW-3A are piezometers located approximately 6 to 8 feet away from injection wells IW-1, IW-2, and IW-3, respectively.
2. Stream discharge is not measured at these locations.
3. Total no. of monitoring points: 99. Nine locations (shown in table with a *) correspond to wells where one-time monitoring event was conducted.
4. MW-121 is equipped with a water level transducer/data logger, but depth to water is not recorded manually at this location.

Table 2.2 Groundwater Quality Monitoring Program, Savage Well Superfund Site, Milford, NH

Well ID	Sampling Frequency	Well Screen			Prescribed PDB[2] or Low Flow Pump Intake Depth (ft-bgs)	Actual PDB or Low Flow Pump Intake Depth (if Different) (ft-bgs)
		Top (ft-bgs)	Bottom (ft-bgs)	Length (ft)		
Wells Sampled Using PDB[1] Samplers (37 wells)						
MW-9C	Annual	80.3	90.3	10	80.8	82.9[3]
MW-10A	Annual	19.0	29.0	10	19.8	
MW-10B	Annual	44.0	54.0	10	49.0	
MW-10C	Semi-Annual	81.5	91.5	10	88.3	
MW-11B	Annual	52.3	64.3	12	58.3	
MW-13A	Annual	23.9	33.9	10	33.8	33.9[3]
MW-13B	Annual	48.0	58.0	10	53.5	
MW-14A	Semi-Annual	19.0	29.0	10	28.3	
MW-14B	Semi-Annual	50.0	60.0	10	50.8	
MW-14R	Semi-Annual	63.0	110.0	47	86.5	
MW-17C	Semi-Annual	85.0	95.0	10	85.8	
MW-20A	Annual	15.2	25.2	10	16.0	
MW-20B	Semi-Annual	35.0	45.0	10	44.3	
MW-101A	Annual	9.0	19.0	10	14.0	
MW-101B	Annual	45.0	55.0	10	50.0	
MW-102	Annual	61.5	71.5	10	62.3	69.5[3]
MW-103	Semi-Annual	54.0	64.0	10	54.8	57.5[3]
MW-103A	Annual	27.0	37.0	10	32.0	
MW-104	Semi-Annual	24.0	34.0	10	29.0	28.5[3]
MW-104A	Semi-Annual	10.0	20.0	10	17.5	
MW-105	Semi-Annual	51.0	61.0	10	60.3	54.0/60.3[4]
MW-105A	Annual	21.0	31.0	10	21.8	
MW-106	Annual	49.0	59.0	10	54.0	53.5[3]
MW-107A	Annual	57.0	67.0	10	62.0	
MW-107B	Semi-Annual	70.0	80.0	10	70.8	
MW-107C	Semi-Annual	83.0	93.0	10	88.0	
MW-108A	Annual	40.0	50.0	10	45.0	
MW-109A	Semi-Annual	10.0	20.0	10	15.0	
MW-111A	Annual	38.0	48.0	10	47.5	
MW-111C	Semi-Annual	77.5	87.5	10	78.3	
MW-114	Annual	42.0	52.0	10	42.8	
MW-116A	Semi-Annual	40.0	50.0	10	43.5	
MW-120A	Annual	50.5	60.5	10	59.5	
MW-120B	Annual	61.0	71.0	10	61.8	
MW-120C	Semi-Annual	81.0	91.0	10	85.0	
PZ-B3	Annual	11.5	16.5	5	14.0	
PZ-B4	Annual	45.0	50.0	5	47.5	

Table 2.2 Groundwater Quality Monitoring Program, Savage Well Superfund Site, Milford, NH

Well ID	Sampling Frequency	Well Screen			Prescribed PDB[2] or Low Flow Pump Intake Depth (ft-bgs)	Actual PDB or Low Flow Pump Intake Depth (if Different) (ft-bgs)
		Top (ft-bgs)	Bottom (ft-bgs)	Length (ft)		
Wells Sampled Using Low Flow Sampling Procedures (14 wells)						
FH-27	Annual	36.0	41.0	5	38.5	
MI-4	Annual	39.0	49.0	10	44.0	
MI-31	Semi-Annual	36.0	54.0	18	45.0	
MW-11R	Semi-Annual	70.5	115.5	45	90.0	
MW-19B	Annual	39.0	49.0	10	44.0	
MW-24A	Annual	19.5	29.5	10	24.5	
MW-101C	Semi-Annual	93.0	103.0	10	98.0	
MW-102B	Annual	47.0	57.0	10	52.0	
MW-109B	Semi-Annual	45.0	55.0	10	50.0	
MW-110A	Annual	32.7	42.7	10	38.5	
MW-110B	Semi-Annual	52.7	62.7	10	61.5	60.0/61.5[5]
MW-111B	Annual	67.5	77.5	10	76.5	
MW-115B	Annual	40.1	50.1	10	45.1	
MW-118B	Annual	71.9	81.9	10	76.9	
Wells Sampled Using Low Flow Sampling Procedures As Part of One-Time Sampling Event (8 wells)						
MW-3	One-Time	11.5	21.5	10	16.5	
MW-5A	One-Time	28.0	38.0	10	33.0	
MW-5B	One-Time	50.4	60.4	10	55.4	
MW-6A	One-Time	8.0	20.0	12	14.0	
MW-6B	One-Time	56.8	66.8	10	61.8	
MW-18A	One-Time	44.5	54.5	10	49.5	
MW-18B	One-Time	72.0	82.0	10	77.0	
MW-24B	One-Time	31.0	41.0	10	36.0	

Notes:

1. PDB = passive diffusion bag; ft = feet; ft bgs = feet below ground surface.
2. PDB deployment depth corresponds to interval with the highest VOC concentration in August/September 2004 vertical profiling study.
3. Deployment depth adjusted due to existing, well-dedicated metal tethers.
4. Well MW-105 – During the June 2012 semi-annual sampling event, the PDB was deployed at 54.0 ft bgs due to the presence of silt at the bottom of the well. The well was redeveloped in November 2012. During the January 2013 annual sampling event, the PDB was deployed at the prescribed depth of 60.3 ft bgs.
5. Well MW-110B – During the June 2012 semi-annual sampling event, the low-flow pump intake was set at 60.0 ft bgs due to the presence of silt at the bottom of the well. The well was redeveloped in November 2012. During the January 2013 annual sampling event, the pump intake was set at the prescribed depth of 61.5 ft bgs.
6. Total no. of monitoring points: 59, including 30 monitoring wells sampled annually, 21 monitoring wells sampled semi-annually, and 8 monitoring wells sampled on a one-time basis.
7. Samples were analyzed for volatile organic compounds by US EPA Method 8260C.

Table 2.3 Summary of Monitoring Well Construction Information, Savage Well Superfund Site, Milford, NH

Well ID	Location		Construction Data																	
	Easting	Northing	Surface Elevation (ft-amsl)		Outer Casing (or Road Box) Elevation (ft-amsl)		Reference Elevation Type	Reference Elevation (ft-amsl)		Top of Well Screen (ft bgs)	Bottom of Well Screen (ft bgs)	Screen Interval (ft bgs)		Designation	Measured Well Depth (ft below TOR or TOC)	Date of Installation	Date of Last Inspection	Well Condition
Wells (or Other Monitoring Points) Within EMP Sampling Network																				
Sample and Gauge																				
FH-27	978957.5	126176.8	g	251.3	g	NA/248.80	g/n	TOR/TOC	251.45/248.80	g/n	36.0	41.0	5	g	Monitoring Well	39.15 (6/11/2012)	NA	1/14/2013	Viable	
MI-4	978596.4	124892.5	g	255.0	g	257.49/257.59	g/j	TOC	257.49/257.59	g/j	39.0	49.0	10	g	Monitoring Well	40.92 (6/11/2012)	4/14/1981	1/2/2013	Viable - obstruction in well at ~36 ft bgs	
MI-31	975786.14	124591.71	a	266.1/266.1	a/g	NA	a/g	TOR	267.20/267.23	a/g	36.0	54.0	18	g	Monitoring Well	55.88	8/3/1983	1/2/2013	Viable	
MW-9C	976503.3	124473.6	g	266.3	g	NA	g	TOR	268.09	g	80.3	90.3	10	h	Monitoring Well	89.92	11/3/1988	1/2/2013	Viable	
MW-10A	976221.40	124928.54	a	262.8/262.2	a/g	262.63	a	TOR	262.37/263.77	a/g	19.0	29.0	10	g	Monitoring Well	27.96	11/10/1988	1/2/2013	Viable	
MW-10B	976218.38	124928.29	a	262.7/262.2	a/g	262.70	a	TOR	262.34/263.55	a/g	44.0	54.0	10	g	Monitoring Well	51.52	11/17/1988	1/2/2013	Viable	
MW-10C	976215.0	124930.6	g	262.8	g	NA	g	TOR	264.74/262.56	g/i	81.5	91.5	10	g	Monitoring Well	89.52	11/16/1988	1/2/2013	Viable	
MW-11B	976435.2	125885.3	g	261.0	g	NA	g	TOR	262.83	g	52.3	64.3	12	g	Monitoring Well	66.04	11/3/1988	1/2/2013	Viable	
MW-11R	976435.0	125881.6	g	261.0	g	NA	g	TOR	262.47	g	70.5	115.5	45	h	Monitoring Well	NM	11/1/1988	1/2/2013	Viable	
MW-13A	977298.8	125084.8	g	257.9	g	NA	g	TOR	258.04/259.85	g/i	23.9	33.9	10	g	Monitoring Well	34.57	11/29/1988	1/2/2013	Viable	
MW-13B	977300.6	125081.1	g	257.9	g	NA	g	TOR	259.35	g	48.0	58.0	10	g	Monitoring Well	59.70	11/26/1988	1/2/2013	Viable	
MW-14A	978695.9	125654.9	g	253.4	g	254.85	g	TOR	254.65	i	19.0	29.0	10	g	Monitoring Well	30.35	11/22/1988	1/2/2013	Viable	
MW-14B	978696.6	125651.1	g	253.3	g	255.14	g	TOR	255.13	i	50.0	60.0	10	g	Monitoring Well	61.46	11/21/1988	1/2/2013	Viable	
MW-14R	978696.0	125647.0	g	253.8	g	NA	g	TOR	255.60/255.50	f/g	63.0	110.0	47	h	Monitoring Well	>100 (6/11/2012)	11/17/1988	1/2/2013	Viable	
MW-17C	976212.71	124758.06	a	264.2/264.7	a/g	NA/265.99	a/e	TOR	265.30/265.79	a/e	85.0	95.0	10	g	Monitoring Well	94.98	5/23/1989	1/2/2013	Viable	
MW-19B	977294.8	124124.8	g	260.9	g	NA	g	TOR	263.44/263.88	g/i	39.0	49.0	10	g	Monitoring Well	50.88	6/8/1989	1/2/2013	Viable	
MW-20A	977472.9	124629.1	g	260.8	g	NA	g	TOR	263.23	g	15.2	25.2	10	g	Monitoring Well	27.30	6/1/1989	1/2/2013	Viable	
MW-20B	977476.1	124622.3	g	260.7	g	NA	g	TOR	263.03	g	35.0	45.0	10	g	Monitoring Well	47.03	5/31/1989	1/2/2013	Viable	
MW-24A	977644.9	126373.3	g	257.1	g	NA	g	TOR	259.67	g	19.5	29.5	10	g	Monitoring Well	31.91	6/7/1989	1/2/2013	Viable - redeveloped in November 2012	
MW-101A	975981.9	125600.9	g	NA	g	NA	g	TOR	266.55	g	9.0	19.0	10	g	Monitoring Well	21.26	11/4/1998	1/2/2013	Viable	
MW-101B	975984.5	125594.2	g	NA	g	NA	g	TOR	266.33	g	45.0	55.0	10	g	Monitoring Well	56.90	11/4/1998	1/2/2013	Viable	
MW-101C	975985.1	125588.7	g	NA	g	266.56*	g	TOR	265.73*	i	93.0	103.0	10	g	Monitoring Well	>101 (6/11/2012)	11/4/1998	1/2/2013	Viable	
MW-102	976774.78	125063.25	e	259.7	e	262.13	e	TOR	261.88	e	61.5	71.5	10	l	Monitoring Well	73.29	8/29/2001	1/2/2013	Viable	
MW-102B	976771.13	125068.97	d	260.2	d	260.23	d	TOR	259.66	d	47.0	57.0	10	k	Monitoring Well	55.66	10/24/2003	1/2/2013	Viable - redeveloped in November 2012	
MW-103	977151.72	125420.83	e	259.3	e	262.17	e	TOC/TOR	262.17/261.93	e	54.0	64.0	10	l	Monitoring Well	66.18	8/31/2001	1/2/2013	Viable	
MW-103A	977154.64	125414.78	d	259.6	d	259.60	d	TOR	259.16	d	27.0	37.0	10	k	Monitoring Well	36.00	10/28/2003	1/2/2013	Viable	
MW-104	977680.23	125910.90	e	255.6	e	258.38	e	TOR	258.18	e	24.0	34.0	10	l	Monitoring Well	34.21	9/5/2001	1/2/2013	Viable	
MW-104A	977677.33	125918.60	d	255.6	d	258.06	d	TOR	257.52	d	10.0	20.0	10	k	Monitoring Well	21.80	10/29/2003	1/2/2013	Viable	
MW-105	977856.95	125286.71	e	257.7	e	260.29	e	TOR	260.09	e	51.0	61.0	10	l	Monitoring Well	67.58	9/6/2001	1/2/2013	Viable - redeveloped in November 2012	
MW-105A	977863.40	125284.68	d	257.5	d	257.76	d	TOR	257.31	d	21.0	31.0	10	k	Monitoring Well	30.11	10/28/2003	1/2/2013	Viable	
MW-106	977167.79	124510.28	a	259.1/259.2	a/e	NA/259.18	a/e	TOR	259.20/258.94	a/e	49.0	59.0	10.0	l	Monitoring Well	57.84	9/18/2001	1/2/2013	Viable - resurveyed in June 2011	
MW-107A	976155.24	125344.42	d	264.9	d	264.90	d	TOR	264.37	d	57.0	67.0	10	k	Monitoring Well	66.28	11/5/2003	1/2/2013	Viable	
MW-107B	976160.60	125343.08	d	264.7	d	264.60	d	TOR	264.20	d	70.0	80.0	10	k	Monitoring Well	79.00	11/4/2003	1/2/2013	Viable	
MW-107C	976165.29	125339.69	d	264.7	d	264.65	d	TOR	264.23	d	83.0	93.0	10	k	Monitoring Well	91.31	11/4/2003	1/2/2013	Viable	
MW-108A	976891.42	125760.26	d	NA/258.9	c/d	NA/258.93	c/d	TOR	258.55/258.52	c/d	40.0	50.0	10	k	Monitoring Well	47.52	10/31/2003	1/2/2013	Viable - equipped with water level transducer	
MW-109A	977968.59	125777.40	d	253.9	d	256.17	d	TOR	255.76	d	10.0	20.0	10	k	Monitoring Well	21.39	10/29/2003	1/2/2013	Viable	
MW-109B	977974.98	125774.68	d	253.7	d	255.91	d	TOR	255.44	d	45.0	55.0	10	k	Monitoring Well	54.70	10/29/2003	1/2/2013	Viable	
MW-110A	976551.66	125630.66	d	261.1	d	261.18	d	TOR	260.74	d	32.7	42.7	10	k	Monitoring Well	43.05	10/23/2003	1/2/2013	Viable	
MW-110B	976551.39	125625.47	d	NA/261.0	c/d	NA/261.13	c/d	TOR	261.21/260.90	c/d	52.7	62.7	10	k	Monitoring Well	62.85	10/22/2003	1/2/2013	Viable - redeveloped in November 2012	
MW-111A	976917.23	124675.56	a	260.5/260.5	a/d	260.54/260.58	a/d	TOR	259.93/259.95	a/d	38.0	48.0	10	k	Monitoring Well	47.07	10/24/2003	1/2/2013	Viable	
MW-111B	976919.14	124672.32	a	260.4/260.5	a/d	260.41/260.49	a/d	TOR	259.89/259.93	a/d	67.5	77.5	10	k	Monitoring Well	76.56	10/23/2003	1/2/2013	Viable	
MW-111C	976920.93	124669.52	a	260.3/260.5	a/d	260.34/260.43	a/d	TOR	259.88/259.89	a/d	77.5	87.5	10	k	Monitoring Well	86.05	10/23/2003	1/2/2013	Viable	
MW-114	979686.31	126279.90	d	250.8	d	253.15	d	TOR	252.84	d	42.0	52.0	10	k	Monitoring Well	52.96 (6/11/2012)	10/30/2003	1/16/2013	Viable	
MW-115B	980606.91	126148.30	c	261.0†	c	253.40	c	TOR	252.30/252.76	c/f	40.1	50.1	10	i	Monitoring Well	52.98	6/2004	1/2/2013	Viable	
MW-116A	978200.04	124854.93	d	257.5	d	260.33	d	TOR	259.70	d	40.0	50.0	10	k	Monitoring Well	50.21	11/2003	1/2/2013	Viable	
MW-118B	980424.86	125545.60	c	253.7†	c	251.08	c	TOR	250.62/250.40	c/j	71.9	81.9	10	i	Monitoring Well	84.13	6/2004	1/2/2013	Viable - redeveloped in November 2012	
MW-120A	976374.32	125099.35	d	263.2	d	263.17	d	TOR	262.97	d	50.5	60.5	10	k	Monitoring Well	59.28	11/7/2003	1/2/2013	Viable	
MW-120B	976365.18	125101.07	d	262.8	d	262.74	d	TOR	262.44/262.51	d/f	61.0	71.0	10	k	Monitoring Well	NM	11/7/2003	1/2/2013	Viable - redeveloped in November 2012	
MW-120C	976368.57	125100.01	d	262.9	d	262.93	d	TOR	262.64	d	81.0	91.0	10	k	Monitoring Well	89.85	11/6/2003	1/2/2013	Viable	
PZ-B3	979199.6	126069.1	g	254.1	g	NA	g	TOR	256.26	g	11.5	16.5	5	g	Monitoring Well	19.60	6/12/1995	1/2/2013	Viable	
PZ-B4	979201.8	126071.2	g	254.3	g	NA	g	TOR	256.21	g	45.0	50.0	5	g	Monitoring Well	51.92	6/12/1995	1/2/2013	Viable	

Table 2.3 Summary of Monitoring Well Construction Information, Savage Well Superfund Site, Milford, NH

Well ID	Location		Construction Data																
	Easting	Northing	Surface Elevation (ft-amsl)		Outer Casing (or Road Box) Elevation (ft-amsl)		Reference Elevation Type	Reference Elevation (ft-amsl)		Top of Well Screen (ft bgs)	Bottom of Well Screen (ft bgs)	Screen Interval (ft bgs)		Designation	Measured Well Depth (ft below TOR or TOC)	Date of Installation	Date of Last Inspection	Well Condition
Gauge Only																		
EW-1	976335.76	125545.41	b	262.0	b	261.30	b	TOR	261.35	j	28.5	68.5	40	m	Extraction Well	NM	2/24/2003	2013	Viable (sampled monthly)
EW-2	976687.52	125705.73	b	261.1	b	260.60	b	TOR	260.13	j	29.0	69.0	40	m	Extraction Well	NM	2/20/2003	2013	Viable (sampled monthly)
EW-3	977046.37	125713.55	b	260.4	b	259.82	b	TOR	259.30	j	17.5	45.5	28	m	Extraction Well	NM	2/27/2003	2013	Viable (sampled monthly)
FH-4 (aka FH-14)	975867.0	126592.8	g	262.2	g	NA	g	At Pump	263.53	g	32.0	42.0	10	g	Extraction Well	NM	NA	1/2/2013	Fish hatchery pumping well
FH-5 (aka FH-10)	975988.3	127199.9	g	268.0	g	NA	g	TOR	267.89	g	50.0	65.0	15	g	Extraction well	NM	NA	1/2/2013	Fish hatchery pumping well
FH-9	975997.3	127233.1	g	268.3	g	269.83	g	TOC	269.83	g	NA	52.0	NA	g	Monitoring Well	NM	NA	1/2/2013	Viable
IW-1A	976168.69	124572.80	a	263.5	a	263.54	a	TOR	263.05	a	2.0	12.0	10	m	Inject. Well Piezom.	8.10 (6/11/2012)	2 or 3/2003	1/2/2013	Viable
IW-2A	976700.13	124387.52	a	263.6	a	263.64	a	TOR	263.31	a	2.0	12.0	10	m	Inject. Well Piezom.	9.65 (6/11/2012)	2 or 3/2003	1/2/2013	Viable
IW-3A	978226.30	124457.98	a	260.0	a	260.06	a	TOR	259.71	a	2.0	12.0	10	m	Inject. Well Piezom.	14.00 (6/11/2012)	2 or 3/2003	1/2/2013	Viable
MI-10	979677.4	124853.9	g	252.2	g	NA	g	TOR	255.12	g	44.0	47.0	3	g	Monitoring Well	48.74	4/7/1983	1/2/2013	Viable
MI-11	979580.1	125310.7	g	252.1	g	254.52	g	TOC	254.52	g	40.0	56.0	16	g	Monitoring Well	42.21	4/11/1983	1/2/2013	Partially silted in with broken PVC riser
MW-11A	976433.3	125888.7	g	260.9	g	NA	g	TOR	262.78	g	20.5	30.5	10	g	Monitoring Well	31.86	11/3/1988	1/2/2013	Viable
MW-12A	978133.3	124280.7	g	264.0	g	NA	g	TOR	265.96	g	25.0	35.0	10	g	Monitoring Well	34.75	12/5/1988	1/2/2013	Viable
MW-12B	978134.3	124287.4	g	264.0	g	NA	g	TOR	265.61	g	56.0	66.0	10	g	Monitoring Well	66.26	12/1/1988	1/2/2013	Viable
MW-19A	977289.2	124123.2	g	261.6	g	NA	g	TOR	263.68/264.30	g/i	23.5	33.5	10	g	Monitoring Well	34.69	6/8/1989	1/2/2013	Viable
MW-21B	979001.2	124469.8	g	259.3	g	NA	g	TOR	261.77	g	20.0	30.0	10	g	Monitoring Well	32.40	6/19/1989	1/2/2013	Viable
MW-21C	979001.5	124474.0	g	259.4	g	NA	g	TOR	261.34	g	44.1	54.1	10	g	Monitoring Well	55.10 (6/11/2012)	6/14/1989	6/11/2012	Viable - lock frozen on Jan. 2, 2013
MW-22A	981102.3	126204.0	g	250.2	g	NA	g	TOR	252.52	g	13.8	23.8	10	g	Monitoring Well	22.73	1/5/1990	1/2/2013	Viable
MW-31R	978979.1	126191.9	g	250.1	g	251.87/249.68	g/n	TOC	251.87/249.68	g/n	60.0	273.0	213	g	Monitoring Well	NM	11/7/1989	1/2/2013	Viable
MW-32B	981369.8	125487.1	g	248.3	g	NA	g	TOR	251.23/244.41	g/n	31.8	41.8	10	g	Monitoring Well	43.54	1/4/1990	1/2/2013	Viable
MW-112A	976213.29	126193.89	d	262.7	d	264.69	d	TOR	265.04	d	29.0	39.0	10	k	Monitoring Well	40.78	10/28/2003	1/2/2013	Viable
MW-113A	978348.74	126240.01	d	253.1	d	255.51	d	TOR	255.21/249.83	d/n	30.0	40.0	10	k	Monitoring Well	40.15	10/31/2003	1/2/2013	Viable
MW-115A	980613.71	126148.27	c	261.1†	c	253.48	c	TOR	252.33/252.89	c/f	10.1	20.1	10	i	Monitoring Well	23.21	6/2004	1/2/2013	Viable
MW-116R	978206.35	124853.86	d	257.7	d	258.60	d	TOR	258.35	d	209.0	219.0	10	k	Monitoring Well	>100	12/11/2003	1/2/2013	Viable
MW-117	978210.87	124544.80	a	255.1/254.9	a/d	NA/257.16	a/d	TOR	256.77/256.78	a/d	48.0	58.0	10	k	Monitoring Well	58.12 (6/11/2012)	11/11/2003	6/11/2012	Viable - not found on Jan. 2, 2013
MW-118A	980429.90	125545.26	c	253.9†	c	250.74	c	TOR	250.59/250.39	c/j	49.2	59.2	10	i	Monitoring Well	52.70	6/2004	1/2/2013	Viable
MW-119	976074.04	124610.67	a	265.7/265.5	a/d	265.71/265.68	a/d	TOR	265.29/265.43	a/d	1.0	11.0	10	k	Monitoring Well	10.48 (6/11/2012)	10/29/2003	6/11/2012	Viable - equipped with water level transducer - not found on Jan. 2, 2013
MW-121	975990.41	124704.09	a	263.5/263.5	a/b	263.52/263.50	a/b	TOR	263.15/263.12	a/b	NA	NA	NA		Monitoring Well	NM	NA	6/2/2011	Viable - equipped with water level transducer
P-101	977421.47	124743.28	d	256.6	d	NA	d	TOR	258.91	d	1.0	6.0	5	k	Shallow Piezometer	18.89 (6/11/2012)	11/12/2003	6/11/2012	Viable - not found on Jan. 2, 2013
P-102	978220.49	124548.10	a	254.5/254.6	a/d	NA	a	TOR	256.10/256.18	a/d	0.4	10.0	9.6	k	Shallow Piezometer	2.90 (6/11/2012)	11/11/2003	6/11/2012	Viable - not found on Jan. 2, 2013
PZ-A1	977301.3	125087.4	g	257.4	g	NA	g	TOR	260.06	g	10.0	15.0	5	g	Monitoring Well	17.02	6/21/1995	1/2/2013	Viable
PZ-A4	977358.8	125206.6	g	258.9	g	NA	g	TOR	261.59	g	10.0	15.0	5	g	Monitoring Well	17.64	6/15/1995	1/2/2013	Viable
PZ-A5	977354.8	125204.7	g	258.8	g	NA	g	TOR	261.45	g	45.0	55.0	10	g	Monitoring Well	52.06	6/15/1995	1/2/2013	Viable
S-1	978226.13	124555.74	p	NA		-		TOP	267.52	i	-	-	-		Staff Gauge	-	NA	6/11/2012	Viable - not found on Jan. 2, 2013
SG-1	976951.23	124232.82	p	NA		-		TOP	256.30	i	-	-	-		Stream Gauge	-	NA	1/2/2013	Viable
SG-2	976913.67	124814.96	p	NA		-		TOP	264.37	i	-	-	-		Stream Gauge	-	NA	1/2/2013	Viable
SG-3	976706.70	126092.51	p	NA		-		TOP	258.37	p	-	-	-		Survey Point	-	NA	6/11/2012	Water level measured relative to treatment system outfall pipe (stream gauge destroyed).
SG-4	977538.84	125192.67	p	NA		-		TOP	257.98	i	-	-	-		Stream Gauge	-	NA	1/2/2013	Viable - not accessed on Jan. 2, 2013 (ice)
Bridge Gauge (USGSP-2)	975054.57	125394.76	p	NA		-		TOP	278.85	p	-	-	-		Manual Gauge	-	NA	1/2/2013	Manual gauging point on Veterans Memorial Bridge
Wells Not Included in EMP Sampling Network																		
IW-1	976171.35	124565.57	a	263.2 / 263.3	a/b	263.23 (vault)	a	Lower Nut	261.00	a	44.5	94.5	50	m	Injection Well	NM	2/2003	2013	Sealed wellheads under pressure
IW-2	976705.79	124387.38	a	263.3 / 263.6	a/b	263.34 (vault)	a	Top of Check	261.56	a	42.0	87.0	45	m	Injection Well	NM	3/7/2003	2013	Sealed wellheads under pressure
IW-3	978233.27	124459.05	a	259.4 / 259.7	a/b	259.43 (vault)	a	Top of Check	257.23	a	16.0	61.0	45	m	Injection Well	NM	2/2003	2013	Sealed wellheads under pressure
FH-22	978953.0	126400.0	g	253.1	g	252.64	i	TOR	252.64/255.10	i/g	24.0	29.0	5	g	Monitoring Well	25.01	NA	11/16/2009	May not be able to fit PDB down due to bend in PVC
MI-35	976578.5	124150.8	g	262.2	g	263.20	g	TOC	263.20	g	NA	55.0	NA	g	Former Hendrix Supply Well	46.16	NA	1/16/2013	Obstruction at about 4 ft, possibly riser pipe and/or pumping equipment
MI-88 (aka MI-33)	975651.3	124011.3	g	268.0	g	NA	g	TOR	265.90	g	32.0	42.0	10	o	Former Hitchiner Supply Well	NM	NA	12/2012	Well access blocked by inoperable, large capacity pump bolted to wellhead
MW-3	975915.6	123237.1	g	268.7	g	NA	g	TOR	270.54	g	11.5	21.5	10	g	Monitoring Well	23.31	12/13/1988	1/2/2013	Viable - **sampled on a one-time basis in Jan.**
MW-5A	975414.6	123981.8	g	267.6	g	NA	g	TOR	269.71	g	28.0	38.0	10	g	Monitoring Well	39.88	10/19/1988	1/2/2013	Viable - **sampled on a one-time basis in Jan.**
MW-5B	975408.3	123982.6	g	267.6	g	NA	g	TOR	269.61	g	50.4	60.4	10	g	Monitoring Well	61.71	10/18/1988	1/2/2013	Viable - **sampled on a one-time basis in Jan.**
MW-6A	975521.4	124481.8	g	267.0	g	NA	g	TOR	269.11	g	8.0	20.0	12	g	Monitoring Well	NM	10/26/1988	1/2/2013	Viable - **sampled on a one-time basis in Jan.**

Table 2.3 Summary of Monitoring Well Construction Information, Savage Well Superfund Site, Milford, NH

	Location		Construction Data																
Well ID	Easting	Northing		Surface Elevation (ft-amsl)		Outer Casing (or Road Box) Elevation (ft-amsl)		Reference Elevation Type	Reference Elevation (ft-amsl)		Top of Well Screen (ft bgs)	Bottom of Well Screen (ft bgs)	Screen Interval (ft bgs)		Designation	Measured Well Depth (ft below TOR or TOC)	Date of Installation	Date of Last Inspection	Well Condition
MW-6B	975521.2	124486.8	g	267.1	g	NA	g	TOR	268.95	g	56.8	66.8	10	g	Monitoring Well	68.73	10/25/1988	1/2/2013	Viable - **sampled on a one-time basis in Jan.**
MW-18A	975824.8	124273.4	g	267.9	g	NA	g	TOR	269.78	g	44.5	54.5	10	g	Monitoring Well	56.50	6/14/1989	1/2/2013	Viable - **sampled on a one-time basis in Jan.**
MW-18B	975824.1	124279.1	g	268.0	g	NA	g	TOR	270.30	g	72.0	82.0	10	g	Monitoring Well	85.06	6/14/1989	1/2/2013	Viable - **sampled on a one-time basis in Jan.**
MW-22B	981098.7	126201.3	g	250.1	g	NA	g	TOR	252.77	g	33.5	43.5	10	g	Monitoring Well	46.22	1/5/1990	1/2/2013	Viable
MW-24B	977649.7	126372.3	g	256.8	g	NA	g	TOR	259.39	g	31.0	41.0	10	g	Monitoring Well	NM	6/6/1989	1/15/2013	Viable - **sampled on a one-time basis in Jan.**
MW-34	979987.0	126490.7	g	258.5	g	NA	g	TOR	260.91	g	9.5	19.5	10	g	Monitoring Well	20.12	1/11/1990	11/20/2010	Viable
P-16	979986.6	126500.0	g	258.3	g	260.43	i	TOR	260.43	g	12.0	13.0	1	g	Unknown	12.87	NA	11/16/2009	Viable
Destroyed, Inoperable, or Missing Monitoring Points																			
FH-13	975717.7	126524.2	g	260.0	g	269.03	i	TOR	269.03	g	33.0	43.0	10	g	Unknown	NM	NA	11/16/2009	Unable to locate well
FH-15	976951.6	126886.4	g	265.1	g	NA	g	At Pump/TOR	265.72	g/i	18.0	38.0	20	g	Unknown	NM	NA	11/16/2009	Unable to locate well
FH-19	978898.8	126408.4	g	NA	g	256.17	g	TOC	256.17	g	NA	NA	NA	g	Monitoring Well	NM	NA	11/16/2009	Unable to locate well
FH-25	979102.5	126406.5	g	252.1	g	254.04	g	TOC/TOR	254.04/251.63	g/i	23.0	28.0	5	g	Monitoring Well	27.39	NA	11/16/2009	Destroyed
FH-30	981103.12	126340.40	d	248.8/248.3	d/g	250.41/250.69	d/g	TOC	250.41/250.69	d/g	NA	23.0	NA	g	Monitoring Well	NM	NA	11/20/2010	Unable to locate - dense undergrowth - newly fenced cow pasture (bull)
MW-1A	974929.8	122712.2	g	279.7	g	NA	g	TOR	281.26	g	5.0	17.0	12	g	Monitoring Well	NM	11/10/1988	11/16/2009	Unable to locate well
MW-1B	974926.7	122718.3	g	279.5	g	NA	g	TOR	281.38	g	35.4	45.4	10	g	Monitoring Well	NM	11/10/1988	11/16/2009	Unable to locate well
MW-1C	974922.8	122726.7	g	279.5	g	NA	g	TOR	281.28	g	51.1	61.1	10	g	Monitoring Well	NM	11/9/1988	11/16/2009	Unable to locate well
MW-4A	975307.9	123586.4	g	266.5	g	NA	g	TOR	268.34	g	19.7	29.7	10	g	Monitoring Well	NM	10/25/1988	11/16/2009	Unable to locate well
MW-4B	975303.5	123583.8	g	266.7	g	NA	g	TOR	268.59	g	45.8	55.8	10	g	Monitoring Well	NM	10/24/1988	11/16/2009	Unable to locate well
MW-4R	975299.9	123581.5	g	266.4	g	268.47	g	TOC/TOR	268.47/267.94	g/i	63.7	97.8	34.1	h	Monitoring Well	NM	10/19/1988	11/16/2009	Unable to locate well
MW-15A	982006.4	125915.3	g	256.8	g	NA	g	TOR	258.53	g	12.5	27.5	15	g	Monitoring Well	NM	12/8/1988	11/16/2009	Unable to locate well
MW-15B	982001.4	125914.5	g	257.0	g	NA	g	TOR	258.61	g	29.4	36.4	7	g	Monitoring Well	NM	12/7/1988	11/16/2009	Unable to locate well
SG-5	978295.87	125590.93	p	NA		-		TOP	261.83	i	-	-	-		Stream Gauge	-	NA	6/11/2012	Unable to find (note: located in June 2014)
SG-6	978690.73	126067.84	p	NA		-		TOP	246.10	j	-	-	-		Stream Gauge	-	NA	2/17/2012	Destroyed
SPZ-1	976415.4	128176.9	g	257.4	g	NA	g	TOR	259.17	g	2.0	7.0	5	g	Shallow Piezometer	NM	NA	11/16/2009	Unable to locate well

Notes:

1. Well construction information and survey information (northing, easting, and ground, casing and reference elevations) was obtained from the the following sources (see letter references shown in table):
   - a Survey completed on June 2, 2011 by Meridian Land Services, Inc. (Meridian).
   - b Injection well, extraction well, and piezometer survey completed in the Fall of 2004 by Meridian (work order 85215B1).
   - c Monitoring well survey completed in the Fall of 2004 by Meridian (work order 85214B).
   - d Monitoring well, piezometer, and staff gauge survey completed in the Fall of 2003 by Meridian (work order 852141).
   - e Monitoring well survey completed in the Fall of 2001 by Meridian (work order 85211).
   - f Elevation survey completed by GeoInsight, Inc. (GeoInsight) on November 9, 2010.
   - g Data from Appendix 1 of US Geological Survey (USGS) report dated 2006 and entitled "Effects of a Remedial System and its Operation on Volatile Compound-Contaminated Ground Water, Operable Unit 1, Savage Municipal Well Superfund Site, Milford, New Hampshire, 1998-2004."
   - h Data from HMM Associates, Inc. report dated June 1991 and entitled "Remedial Investigation, Savage Municipal Water Supply Site, Milford, NH."
   - i Data from Tables 2-1 and 3-1 of MACTEC Engineering and Consulting, Inc. (MACTEC) report dated March 2005 and entitled "Draft Baseline Groundwater Monitoring Report, Savage Well Superfund Site, Milford, New Hampshire."
   - j Data from Table 3-1 of report by GeoSyntec Consultants and Gradient dated December 2005 and entitled "Draft Interim Baseline Groundwater Monitoring Report, Savage Well Superfund Site, Milford, NH."
   - k Data from Appendix D of MACTEC report dated March 2004 and entitled "Draft Fall 2003 Well Installation and Groundwater Monitoring Summary Report, Savage Well Superfund Site, Milford, New Hampshire."
   - l Data from Appendix B of Harding ESE, Inc. report dated June 2002 and entitled "Draft 2001 Field Investigation Report, Savage Well Superfund Site, Milford, New Hampshire."
   - m Data from Table 2-2 of MACTEC report dated June 2003 and entitled "Draft 2003 Extraction and Injection Well Installation Field Program Report, Savage Well Superfund Site, Milford, New Hampshire."
   - n Data from Table 3-1 of Gradient report dated August 2006 and entitled "Groundwater Quality Monitoring Report, Spring 2006, Savage Well Superfund Site, Milford, New Hampshire (Draft)."
   - o Data from Table 1-1 of USGS report dated 2005 and entitled "Results of a Monitoring Program of Continuous Water Levels and Physical Water Properties at the Operable Unit 1 Area of the Savage Municipal Well Superfund Site, Milford, New Hampshire, Water Years 2000–03."
   - p Data from Tables 2-3 and 3-1 of Gradient report dated June 2009 and entitled "Draft Annual Groundwater Quality Monitoring Report - 2008, Savage Municipal Water Supply Well Superfund Site, Milford, New Hampshire."
2. NA = not available; NM = not measured; ft = feet; ft-amsl = feet above mean sea level (National Geodetic Vertical Datum of 1929 [NGVD 29]); ft bgs = feet below ground surface; TOR = top of riser; TOC = top of casing; TOP = top of staff.
3. * An elevation survey completed by GeoInsight at MW-101C in March 2014 suggests that the TOC and TOR values reported for MW-101C were reversed. The above values as shown are believed to be correct.
   † Ground elevations from Meridian's Fall 2004 survey for monitoring wells MW-115A, MW-115B, MW-118A, and MW-118B appear to be incorrect.
4. EW-1, EW-2, and EW-3 sampled monthly as part of monitoring of system operations.
5. No. of wells within environmental monitoring plan (EMP) sampling network which are gauged and sampled: 51 (with an additional 8 wells for 2012 as part of a one-time sampling event; see Table 2.2 for details).
   No. of wells or other monitoring points within EMP sampling network which are gauged but not sampled: 39 (with MI-35 for 2012 as part of a one-time monitoring event; see Tables 2.1 and 3.1 for details).
   No. of wells not included within EMP sampling network: 17.
   No. of wells (or other monitoring points) that are destroyed, inoperable or missing: 16.
   Total no. of wells in table: 123.

Table 3.1 Groundwater and Surface Water Elevations - June 2012 and January 2013, Savage Well Superfund Site, Milford, NH

Well ID	Measurement Point	Reference Elevation (ft-amsl)	11-Jun-12		2-Jan-13	
			DTW (ft)	GW Elevation (ft-amsl)	DTW (ft)	GW Elevation (ft-amsl)
EW-1	TOR	261.35	11.76	249.59	NM	NA
EW-2	TOR	260.13	29.81	230.32	31.16	228.97
EW-3	TOR	259.30	7.91	251.39	6.11	253.19
FH-4	TOR	263.53	25.20	238.33	17.43	246.10
FH-5	TOR	267.89	NM	-	38.70	229.19
FH-9	TOC	269.83	12.11	257.72	22.55	247.28
FH-27	TOC	248.80	5.21	243.59	5.28	243.52
IW-1A	TOR	263.05	2.70	260.35	1.44	261.61
IW-2A	TOR	263.31	4.59	258.72	4.55	258.76
IW-3A	TOR	259.71	4.75	254.96	4.72	254.99
MI-4	TOC	257.59	4.41	253.18	4.60	252.99
MI-10	TOR	255.12	5.28	249.84	5.65	249.47
MI-11	TOC	254.52	NM	-	3.61	250.91
MI-31	TOR	267.20	6.58	260.62	6.88	260.32
MI-35	TOC	263.20	NM	-	3.67	259.53
MW-3	TOR	270.54	NM	-	8.78	261.76
MW-5A	TOR	269.71	NM	-	7.91	261.80
MW-5B	TOR	269.61	NM	-	7.85	261.76
MW-6A	TOR	269.11	NM	-	8.12	260.99
MW-6B	TOR	268.95	NM	-	8.03	260.92
MW-9C	TOR	268.09	9.20	258.89	9.10	258.99
MW-10A	TOR	262.37	2.79	259.58	3.21	259.16
MW-10B	TOR	262.34	2.76	259.58	3.17	259.17
MW-10C	TOR	262.56	3.46	259.10	3.84	258.72
MW-11A	TOR	262.78	6.21	256.57	6.48	256.30
MW-11B	TOR	262.83	6.65	256.18	6.91	255.92
MW-11R	TOR	262.47	7.58	254.89	7.04	255.43
MW-12A	TOR	265.96	11.05	254.91	11.33	254.63
MW-12B	TOR	265.61	10.15	255.46	10.91	254.70
MW-13A	TOR	259.85	3.99	255.86	3.97	255.88
MW-13B	TOR	259.35	4.00	255.35	4.20	255.15
MW-14A	TOR	254.65	4.59	250.06	4.86	249.79
MW-14B	TOR	255.13	4.91	250.22	5.08	250.05
MW-14R	TOR	255.60	5.68	249.92	6.86	248.74
MW-17C	TOR	265.30	5.41	259.89	5.82	259.48
MW-18A	TOR	269.78	NM	-	9.15	260.63
MW-18B	TOR	270.30	NM	-	9.65	260.65
MW-19A	TOR	264.30	6.75	257.55	6.97	257.33
MW-19B	TOR	263.88	6.51	257.37	6.72	257.16
MW-20A	TOR	263.23	7.42	255.81	7.53	255.70
MW-20B	TOR	263.03	7.21	255.82	7.32	255.71
MW-21B	TOR	261.77	8.51	253.26	8.98	252.79
MW-21C	TOR	261.34	8.12	253.22	NM	-
MW-22A	TOR	252.52	8.65	243.87	8.76	243.76
MW-24A	TOR	259.67	8.24	251.43	8.36	251.31
MW-24B	TOR	259.39	NM	-	7.58	251.81
MW-31R	TOC	249.68	NM	-	5.32	244.36
MW-32B	TOR	244.41	7.88	236.53	7.91	236.50
MW-101A	TOR	266.55	7.98	258.57	8.36	258.19
MW-101B	TOR	266.33	7.70	258.63	8.06	258.27
MW-101C	TOR	265.73	7.55	258.18	7.75	257.98
MW-102	TOR	261.88	4.64	257.24	4.96	256.92
MW-102B	TOR	259.66	2.40	257.26	2.75	256.91
MW-103	TOC	262.17	8.11	254.06	8.43	253.74
MW-103A	TOR	259.16	3.99	255.17	5.51	253.65
MW-104	TOR	258.18	6.71	251.47	6.95	251.23
MW-104A	TOR	257.52	6.10	251.42	6.30	251.22
MW-105	TOR	260.09	7.26	252.83	7.41	252.68
MW-105A	TOR	257.31	4.62	252.69	3.93	253.38
MW-106	TOR	259.20	2.20	257.00	2.27	256.93

Table 3.1 Groundwater and Surface Water Elevations - June 2012 and January 2013, Savage Well Superfund Site, Milford, NH

Well ID	Measurement Point	Reference Elevation (ft-amsl)	11-Jun-12		2-Jan-13	
			DTW (ft)	GW Elevation (ft-amsl)	DTW (ft)	GW Elevation (ft-amsl)
MW-107A	TOR	264.37	5.75	258.62	6.19	258.18
MW-107B	TOR	264.20	5.68	258.52	6.11	258.09
MW-107C	TOR	264.23	5.71	258.52	5.17	259.06
MW-108A	TOR	258.52	4.65	253.87	4.93	253.59
MW-109A	TOR	255.76	5.06	250.70	5.19	250.57
MW-109B	TOR	255.44	4.68	250.76	4.81	250.63
MW-110A	TOR	260.74	5.52	255.22	5.96	254.78
MW-110B	TOR	260.90	4.95	255.95	5.50	255.40
MW-111A	TOR	259.93	2.25	257.68	2.38	257.55
MW-111B	TOR	259.89	2.25	257.64	2.38	257.51
MW-111C	TOR	259.88	2.25	257.63	2.36	257.52
MW-112A	TOR	265.04	7.35	257.69	7.30	257.74
MW-113A	TOR	249.83	6.00	243.83	6.14	243.69
MW-114	TOR	252.84	6.21	246.63	5.77	247.07
MW-115A	TOR	252.89	7.96	244.93	8.22	244.67
MW-115B	TOR	252.76	7.82	244.94	8.12	244.64
MW-116A	TOR	259.70	6.05	253.65	6.29	253.41
MW-116R	TOR	258.35	3.99	254.36	3.22	255.13
MW-117	TOR	256.77	2.35	254.42	NM	-
MW-118A	TOR	250.39	4.26	246.13	4.59	245.80
MW-118B	TOR	250.40	4.49	245.91	4.77	245.63
MW-119	TOR	265.29	4.75	260.54	NM	-
MW-120A	TOR	262.97	4.43	258.54	4.88	258.09
MW-120B	TOR	262.51	4.00	258.51	4.43	258.08
MW-120C	TOR	262.64	4.11	258.53	4.52	258.12
P-101	TOR	258.91	6.62	252.29	NM	-
P-102	TOR	256.10	1.88	254.22	NM	-
PZ-A1	TOR	260.06	NM	-	5.03	255.03
PZ-A4	TOR	261.59	NM	-	7.51	254.08
PZ-A5	TOR	261.45	7.20	254.25	7.43	254.02
PZ-B3	TOR	256.26	8.73	247.53	8.64	247.62
PZ-B4	TOR	256.21	8.13	248.08	8.21	248.00
S-1	TOP (note 6)	267.52	Dry	-	NM	-
SG-1	TOP (note 6)	256.30	NM	-	Dry	-
SG-2	TOP (note 6)	264.37	1.98	263.02	2.00	263.04
SG-3	TOP	258.37	5.43	252.94	NM	-
SG-4	TOP (note 6)	257.98	NM	-	NM	-
Bridge Gauge	TOP	278.85	11.80	267.05	11.49	267.36

Notes:

1. TOR = top of riser; TOC = top of casing; TOP = top of staff; NM = not measured; DTW = depth to water;
GW = groundwater; ft = feet; ft-amsl = feet above mean sea level (National Geodetic Vertical Datum of 1929 [NGVD 29]).
2. Bridge Gauge = Measuring point on top of eastern side of Veterans Memorial Bridge (USGSP-2).
3. Groundwater elevations at the extraction wells were recorded manually using water level indicators deployed within these wells. Groundwater elevations representative of elevations at injection wells (IW-1, IW-2, and IW-3) were recorded manually using water level indicators deployed at piezometers (IW-1A, IW-2A, and IW-3A) located 6 to 8 feet away from the injection wells.
4. Continuous monitoring of groundwater elevations (using transducers/data loggers) was conducted at MW-108A, MW-119, and MW-121. Data from these wells is presented in Figure 3-6.
5. Refer to Table 2.3 for reference elevation information sources.
6. Groundwater elevation (in ft amsl) is obtained by substracting depth to water (in ft) from the reference elevation (in ft amsl). For staff gauge S-1 and stream gauges SG-1 through SG-4 (except SG-3), water elevation is obtained by substracting the height of the gauge (3.33 ft) to the elevation of the top of the staff (shown in table) and adding the height of water measured at the gauge (shown in table).
7. Depth-to-water (DTW) measurements for the annual monitoring event were obtained on January 2, 2013 with the following exceptions:
FH-27 (DTW measured on Jan. 14, 2013); MI-35 (DTW measured on Jan. 16, 2013); MW-24B (DTW measured on Jan. 15, 2013);
and MW-114 (DTW measured on Jan. 16, 2013).

Table 3.2a Semi-Annual Groundwater Quality Monitoring Results - VOCs, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MI-31		MW-10C		MW-11R		MW-11R-DP		MW-14A		MW-14B		MW-14R		MW-17C		MW-20B		MW-101C		MW-103		MW-104	
Date	**(µg/L)**	**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**	
Volatile Organic Compounds (µg/L)																									
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U	1.2	U	1.2	U	1.2	U	0.5	U	1.2	U	0.5	U	0.5	U	0.76	
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U	2.3		6.1		7.6		0.75	U	12		0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U	1.8		4.4		3.6		0.5	U	7.9		0.5	U	0.55		0.5	U
Acetone	-	5	U	12		5	U	5	U	18		14		12	U	12		12	U	5	U	11		10	
cis-1,2-Dichloroethene	70	0.52		0.5	U	20		21		6.7		6.1		9		0.5	U	9.1		5		18		0.5	U
Tetrachloroethene	5	94		11		250		250		110		95		95		0.5	U	90		90		85		9.9	
Trichloroethene	5	2.2		0.5	U	38		41		18		11		20		0.5	U	17		6.7		22		0.64	

Well ID	MCL [1]	MW-104A		MW-105		MW-107B		MW-107B-DP		MW-107C		MW-109A		MW-109B		MW-110B		MW-111C		MW-116A		MW-120C	
Date	**(µg/L)**	**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**		**6/25/2012**	
Volatile Organic Compounds (µg/L)																							
1,1,1-Trichloroethane	200	0.76		1.2	U	0.5	U	0.5	U	1	U	0.8		2.5		0.5	U	1.2		0.5	U	0.5	U
1,1-Dichloroethane	-	0.75	U	2.1		0.75	U	0.75	U	1.5	U	0.75	U	1.9		0.75	U	1.2		20		0.75	U
1,1-Dichloroethene	7	0.5	U	2		0.5	U	0.5	U	1	U	0.5	U	1		0.55		1.3		14		0.63	
Acetone	-	13		12	U	14		12		14		16		5	U	5	U	12		10		11	
cis-1,2-Dichloroethene	70	0.5	U	4.5		1.5		1.5		2.3		1.2		4.8		48		2		4.2		15	
Tetrachloroethene	5	10		88		24		21		60		22		130		570		42		71		330	
Trichloroethene	5	0.5	U	11		2.1		2		3.7		2.4		7.8		57		6		10		26	

Notes:

1. MCL - Maximum Contaminant Levels (US EPA, 2009)
2. Well ID with abbreviation 'DP' shown indicates analytical results for a duplicate sample (MW-11R and MW-107B).
3. U = Compound not detected above method quantitation limit, quantitation limit provided.
4. Only volatile organic compounds (VOCs) detected above quantitation limit are shown. Other VOCs analyzed by the laboratory were below quantitation limits.

Table 3.2b Annual Groundwater Quality Monitoring Results - VOCs, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	FH-27		PZ-B3		PZ-B4		MI-4		MI-31		MW-3		MW-5A		MW-5B		MW-6A		MW-6B	
Date	(µg/L)	1/14/2013		1/17/2013		1/17/2013		1/14/2013		1/15/2013		1/15/2013		1/14/2013		1/14/2013		1/14/2013		1/14/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	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	0.5	U
1,1-Dichloroethane	-	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	0.75	U
1,1-Dichloroethene	7	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	0.5	U
Acetone	-	5	U	22		24		5	U	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	70	1.1		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
Tetrachloroethene	5	5.6		0.9		0.5	U	0.5	U	82		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	2.1		0.5	U	0.5	U	0.5	U	1.7		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-9C		MW-10A		MW-10B		MW-10C		MW-11B		MW-11R		MW-11R-DP		MW-13A		MW-13B		MW-14A	
Date	(µg/L)	1/17/2013		1/17/2013		1/7/2013		1/17/2013		1/17/2013		1/16/2013		1/16/2013		1/17/2013		1/17/2013		1/17/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	0.5	U	2.9		1.8		0.78		0.5	U	2.5	U	2.5	U	2.1		1.4		1.2	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	3.8	U	3.8	U	0.75	U	0.75	U	2.8	
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U	0.5	U	0.5	U	2.4	
Acetone	-	16		17		19		15		20		25	U	25	U	27		28		26	
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	19		18		0.5	U	0.5	U	8.5	
Tetrachloroethene	5	4.3		0.88		5.9		8.1		0.5	U	270		270		2.2		10		160	
Trichloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	39		37		0.5	U	0.75		28	

Well ID	MCL [1]	MW-14B		MW-14R		MW-17C		MW-18A		MW-18B		MW-18B-DP		MW-19B		MW-20A		MW-20B		MW-24A	
Date	(µg/L)	1/17/2013		1/17/2013		1/17/2013		1/14/2013		1/15/2013		1/15/2013		1/15/2013		1/17/2013		1/17/2013		1/15/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	1.2	U	1.2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.2	U	0.5	U
1,1-Dichloroethane	-	7.1		8.4		0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	11		0.75	U
1,1-Dichloroethene	7	5.4		4.6		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	8.2		0.5	U
Acetone	-	31		21		18		5	U	5	U	5	U	5	U	12		18		5	U
cis-1,2-Dichloroethene	70	6.3		10		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	9.4		0.76	
Tetrachloroethene	5	97		100		0.5	U	0.5	U	0.5	U	0.5	U	3.5		1.1		81		8.1	
Trichloroethene	5	12		23		0.5	U	0.5	U	0.5	U	0.5	U	1.1		0.5	U	15		2.3	

Well ID	MCL [1]	MW-24B		MW-101A		MW-101B		MW-101C		MW-102		MW-102B		MW-103		MW-103A		MW-104		MW-104A	
Date	(µg/L)	1/15/2013		1/17/2013		1/17/2013		1/16/2013		1/17/2013		1/16/2013		1/17/2013		1/17/2013		1/17/2013		1/17/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.81		0.71	
1,1-Dichloroethane	-	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	0.75	U
1,1-Dichloroethene	7	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	0.5	U
Acetone	-	5	U	19		18		5	U	19		5	U	18		23		18		21	
cis-1,2-Dichloroethene	70	1.2		0.5	U	0.5	U	4		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	5	12		0.5	U	0.5	U	88		0.59		1.2		5.3		0.5	U	7.4		9.6	
Trichloroethene	5	3		0.5	U	0.5	U	6.4		0.5	U	0.5	U	0.98		0.5	U	0.5	U	0.51	

Table 3.2b Annual Groundwater Quality Monitoring Results - VOCs, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-105		MW-105A		MW-106		MW-107A		MW-107B		MW-107B-DP		MW-107C		MW-108A		MW-109A		MW-109B	
Date	(µg/L)	1/17/2013		1/17/2013		1/17/2013		1/17/2013		1/17/2013		1/17/2013		1/17/2013		1/17/2013		1/17/2013		1/15/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.6		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.71		1.8	
1,1-Dichloroethane	-	0.75	U	0.75	U	6.2		0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	1.9	U
1,1-Dichloroethene	7	0.5	U	0.5	U	5.4		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.2	U
Acetone	-	19		19		15		18		18		17		22		20		19		12	U
cis-1,2-Dichloroethene	70	0.84		0.5	U	3.7		0.5	U	0.91		0.93		2.4		0.5	U	2		3.9	
Tetrachloroethene	5	17		2		52		6.7		17		19		82		0.5	U	38		120	
Trichloroethene	5	1.3		0.5	U	10		0.5	U	1.6		1.6		4.4		0.5	U	3.7		6.8	

Well ID	MCL [1]	MW-110A		MW-110B		MW-111A		MW-111B		MW-111C		MW-114		MW-115B		MW-116A		MW-118B		MW-120A	
Date	(µg/L)	1/16/2013		1/16/2013		1/17/2013		1/16/2013		1/17/2013		1/31/2013		1/14/2013		1/17/2013		1/14/2013		1/17/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	0.59		5	U	2.2		0.5	U	0.68		0.5	U	0.5	U	0.5	U	0.5	U	0.52	
1,1-Dichloroethane	-	0.75	U	7.5	U	0.75	U	0.75	U	0.75	U	0.94		0.75	U	10		0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	5	U	0.5	U	0.5	U	0.93		0.5	U	0.5	U	7.5		0.5	U	0.5	U
Acetone	-	5	U	50	U	19		5	U	18		19		5	U	19		5	U	16	
cis-1,2-Dichloroethene	70	0.5	U	23		0.5	U	0.5	U	1.5		1.1		2		2.2		1.8		0.5	U
Tetrachloroethene	5	3.9		420		1.5		7.7		27		5.6		3.9		34		1.8		10	
Trichloroethene	5	0.5	U	31		0.5	U	0.5	U	4.6		6.2		0.97		5.8		1.8		0.5	U

Well ID	MCL [1]	MW-120B		MW-120C	
Date	(µg/L)	1/17/2013		1/17/2013	
Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	200	0.5	U	0.5	U
1,1-Dichloroethane	-	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	
Acetone	-	19		25	
cis-1,2-Dichloroethene	70	0.5	U	13	
Tetrachloroethene	5	1.4		300	
Trichloroethene	5	0.5	U	22	

Notes:
1. MCL - Maximum Contaminant Levels (US EPA, 2009)
2. Well ID with abbreviation 'DP' shown indicates analytical results for a duplicate sample (MW-11R, MW-18B, and MW-107B).
3. U = Compound not detected above method quantitation limit, quantitation limit provided.
4. Only volatile organic compounds (VOCs) detected above quantitation limit are shown. Other VOCs analyzed by the laboratory were below quantitation limits.
5. Based on historical groundwater quality data, samples MW-120A and MW-120C are believed to have been reversed during sampling. The groundwater quality database and above table have been revised accordingly.

Table 3.5 Estimated PCE Mass Removed by Extraction System, Savage Well Superfund Site, Milford, NH

Calendar Year	Estimated PCE Mass Removed by Extraction Sytem During Calendar Year (kg)[1]	PCE Cumulative Mass Removed Since Remedy Startup (kg)	% Increase in PCE Mass Removed from Year to Year[2]	% of Total PCE Mass Removed as of the end of 2012[3]	
2004 (partial year)	31	31	-	8.8%	
2005 (partial year)	48	79	155%	13.6%	
2006	107	186	135%	30.4%	79%
2007	61	247	33%	17.3%	
2008	30	277	12%	8.5%	
2009	26	303	9.4%	7.4%	
2010	20	323	6.6%	5.7%	21%
2011	17	340	5.3%	4.8%	
2012	12	352	3.5%	3.4%	
				100%	

Notes:

1. The tetrachloroethene (PCE) mass removal was estimated using influent concentrations measured every two weeks as part of the system monitoring program. The combined system influent concentration (in micrograms per liter, µg/L) was obtained as the flow rate weighted average of the influent concentrations from the three extraction wells. The combined influent concentration was used in conjunction with the total volume of water extracted during that period (in liters, L derived from extraction flow rates [in gallons per minute, gpm] and pumping duration) to obtain the total PCE mass removed (in kilograms, kg) during that period.

2. The percent increase in PCE mass removed from year to year for a given year corresponds to the mass removed during that year divided by the cumulative mass removed at the end of the prior year.

3. For a given year, the percent of total PCE mass removed as of the end of 2012 corresponds to the mass removed during that year divided by the total estimated PCE mass removed as of the end of 2012 (354 kg).

Table 3.6 Groundwater PCE Concentration Residuals (January 2013), Savage Well Superfund Site, Milford, NH

Model Layer	Well ID	Measured[1] (µg/L)		Modeled[2] (µg/L)	Residual (µg/L) (Modeled - Measured)
Layer 1 (0-15 ft BWT)	MW-104A	9.6		82	72
	MW-109A	38		36	-2
	MW-115A	-		5.5	-
	PZ-B3	0.9		24	23
Layer 2 (15-35 ft BWT)	FH-4	-		1.4	-
	FH-27	5.6		15	9
	MW-101A	0	(0.5U)	17	17
	MW-103A	0	(0.5U)	29	29
	MW-104	7.4		129	121
	MW-105A	2		7	5.2
	MW-10A	0.88		6.2	5.3
	MW-112A	-		14	-
	MW-113A	-		106	-
	MW-118A	-		1.6	-
	MW-11A	-		53	-
	MW-12A	-		0.24	-
	MW-13A	2.2		4.3	2.1
	MW-14A	160		20	-140
	MW-19A	-		0.20	-
	MW-20A	1.1		1.8	0.7
	MW-21B	-		0.12	-
	MW-22A	-		4.2	-
	MW-24A	8.1		121	113
	MW-32B	-		0.9	-
Layer 3 (35-55 ft BWT)	FH-9	-		3.7	-
	MI-10	-		0.34	-
	MI-11	-		8.0	-
	MI-31	82		6.0	-76
	MI-4	0	(0.5U)	3.5	3.5
	MW-101B	0	(0.5U)	39	39
	MW-102B	1.2		21	20
	MW-103	5.3		54	48
	MW-105	17		13	-4
	MW-106	52		3.1	-49
	MW-107A	6.7		55	48
	MW-108A	0	(0.5U)	93	93
	MW-109B	120		51	-69
	MW-10B	5.9		10	5
	MW-110A	3.9		65	61
	MW-111A	1.5		1.5	0.0
	MW-114	5.6		38	33
	MW-115B	3.9		10	5.9
	MW-116A	34		3.9	-30
	MW-118B	1.8		2.9	1.1
	MW-11B	0	(0.5U)	122	122
	MW-12B	-		0.9	-
	MW-13B	10		9	-1.0
	MW-14B	97		41	-56
	MW-20B	81		5.2	-76
	MW-21C	-		0.18	-
	PZ-B4	0	(0.5U)	52	52

Table 3.6 Groundwater PCE Concentration Residuals (January 2013), Savage Well Superfund Site, Milford, NH

Model Layer	Well ID	Measured[1] (µg/L)	Modeled[2] (µg/L)	Residual (µg/L) (Modeled - Measured)
Layer 4 (55-75 ft BWT or top of bedrock)	MW-102	0.59	35	34
	MW-107B	17	83	66
	MW-110B	420	92	-328
	MW-111B	7.7	1.8	-6
	MW-117	-	0.23	-
	MW-120A	10	23	13
	MW-120B[3]	1.4	-	-
Layer 5 (75 ft BWT to top of bedrock)	MW-101C	88	159	71
	MW-107C	82	215	133
	MW-10C	8.1	38	30
	MW-111C	27	5.5	-21
	MW-120C	300	41	-259
	MW-17C	0 (0.5U)	9	9
	MW-9C	4.3	12	8
			Mean Error (µg/L):	**4**
			Minimum (µg/L):	**-328**
			Maximum (µg/L):	**133**
			Median (µg/L):	**7.6**
			Standard Deviation (µg/L):	**83**
			RMSE (µg/L):	**82**

Notes:

(1) Measured values taken from January 2013 annual sampling event.

(2) Model-predicted values obtained using updated numerical three-dimensional groundwater flow and solute transport model, initially developed by EPA/USGS and updated in the 2002 Remedial Design Investigation Report (US EPA, 2002).

(3) Well MW-120B is not used in the analysis since MW-120A and MW-120B are in the same model grid.

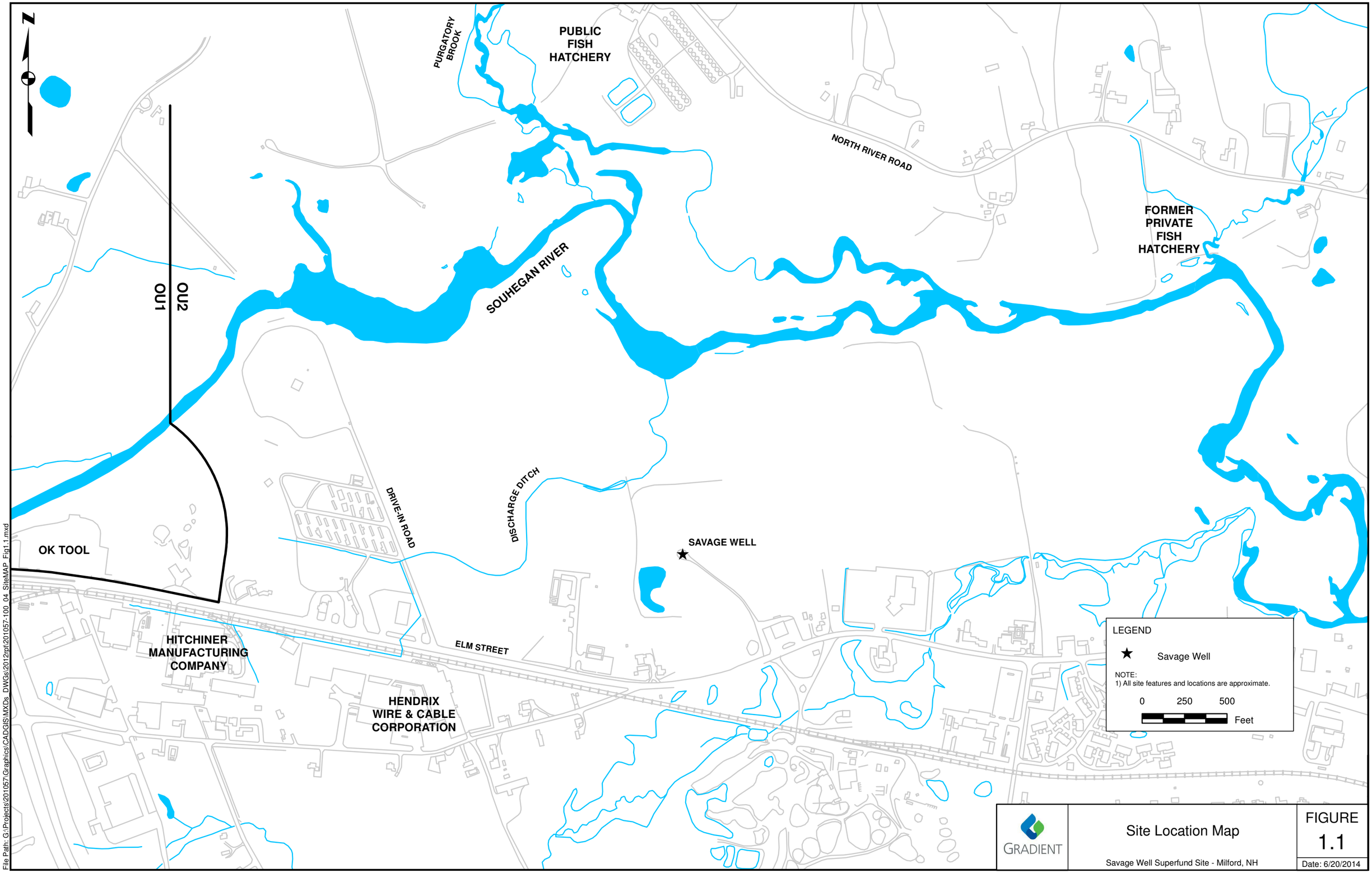
(4) Non-detects were taken as 0 µg/L.

(5) "-" indicates that no sampling was done.

(6) U = Compound not detected above method quantitation limit with quantitation limit provided.

(7) RMSE - Root Mean Square Error
ft BWT - feet below water table

Figures



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Site Location Map

Savage Well Superfund Site - Milford, NH

FIGURE 1.1

Date: 6/20/2014

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Site Aerial Photograph

Savage Well Superfund Site - Milford, NH

FIGURE 1.2

Date: 6/20/2014

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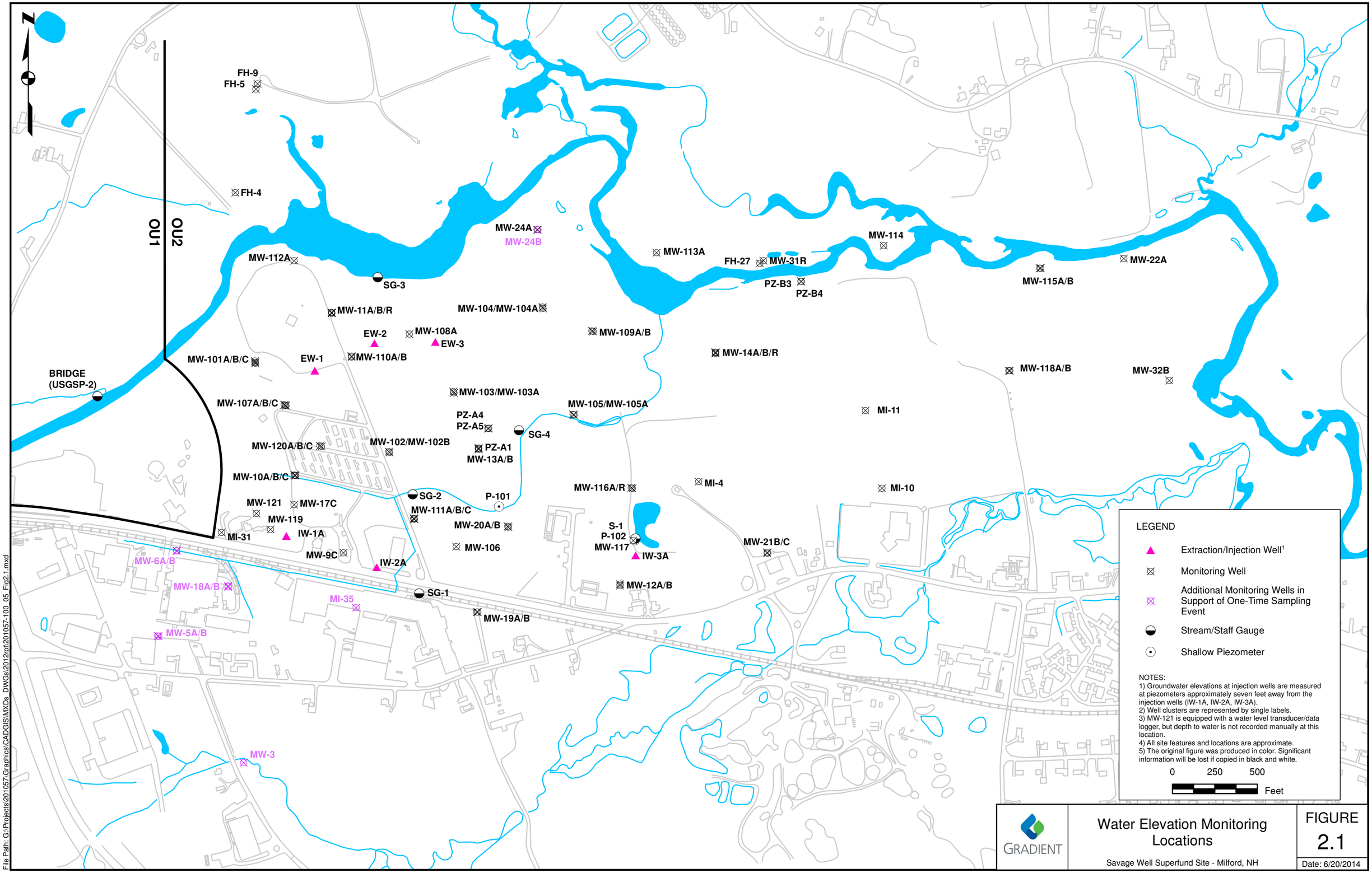
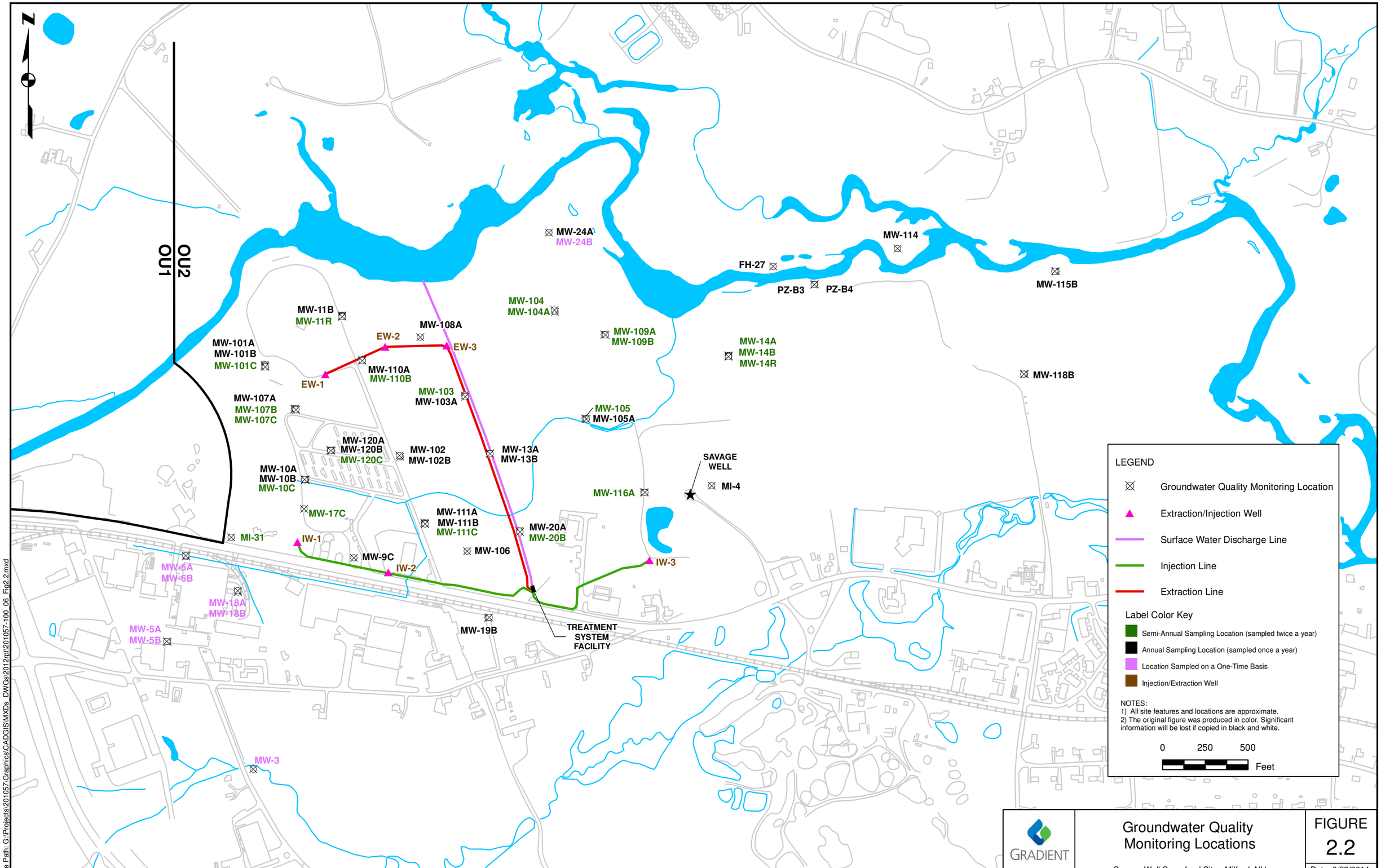

N
OU1
OU2
FH-9
FH-5
FH-4
MW-24A
MW-24B
MW-112A
SG-3
MW-113A
FH-27
MW-31R
MW-114
PZ-B3
PZ-B4
MW-115A/B
MW-22A
MW-11A/B/R
MW-104/MW-104A
EW-2
MW-108A
EW-3
MW-109A/B
MW-14A/B/R
MW-101A/B/C
EW-1
MW-110A/B
BRIDGE
(USGSP-2)
MW-118A/B
MW-32B
MW-103/MW-103A
MW-107A/B/C
MW-105/MW-105A
PZ-A4
PZ-A5
SG-4
MI-11
MW-120A/B/C
MW-102/MW-102B
PZ-A1
MW-13A/B
MW-10A/B/C
MW-116A/R
MI-4
MI-10
SG-2
P-101
MW-121
MW-17C
MW-111A/B/C
MW-119
MW-20A/B
S-1
P-102
MW-117
MI-31
IW-1A
MW-106
IW-3A
MW-21B/C
MW-6A/B
MW-9C
IW-2A
MW-18A/B
MW-12A/B
SG-1
MI-35
MW-19A/B
MW-5A/B
MW-3
LEGEND
Extraction/Injection Well[1]
Monitoring Well
Additional Monitoring Wells in Support of One-Time Sampling Event
Stream/Staff Gauge
Shallow Piezometer
NOTES:
1) Groundwater elevations at injection wells are measured at piezometers approximately seven feet away from the injection wells (IW-1A, IW-2A, IW-3A).
2) Well clusters are represented by single labels.
3) MW-121 is equipped with a water level transducer/data logger, but depth to water is not recorded manually at this location.
4) All site features and locations are approximate.
5) The original figure was produced in color. Significant information will be lost if copied in black and white.
0 250 500
Feet
GRADIENT
Water Elevation Monitoring Locations
Savage Well Superfund Site - Milford, NH
FIGURE
2.1
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_05_Fig2.1.mxd



GRADIENT

Groundwater Quality Monitoring Locations

Savage Well Superfund Site - Milford, NH

FIGURE 2.2

Date: 6/23/2014

File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_06_Fig2.2.mxd

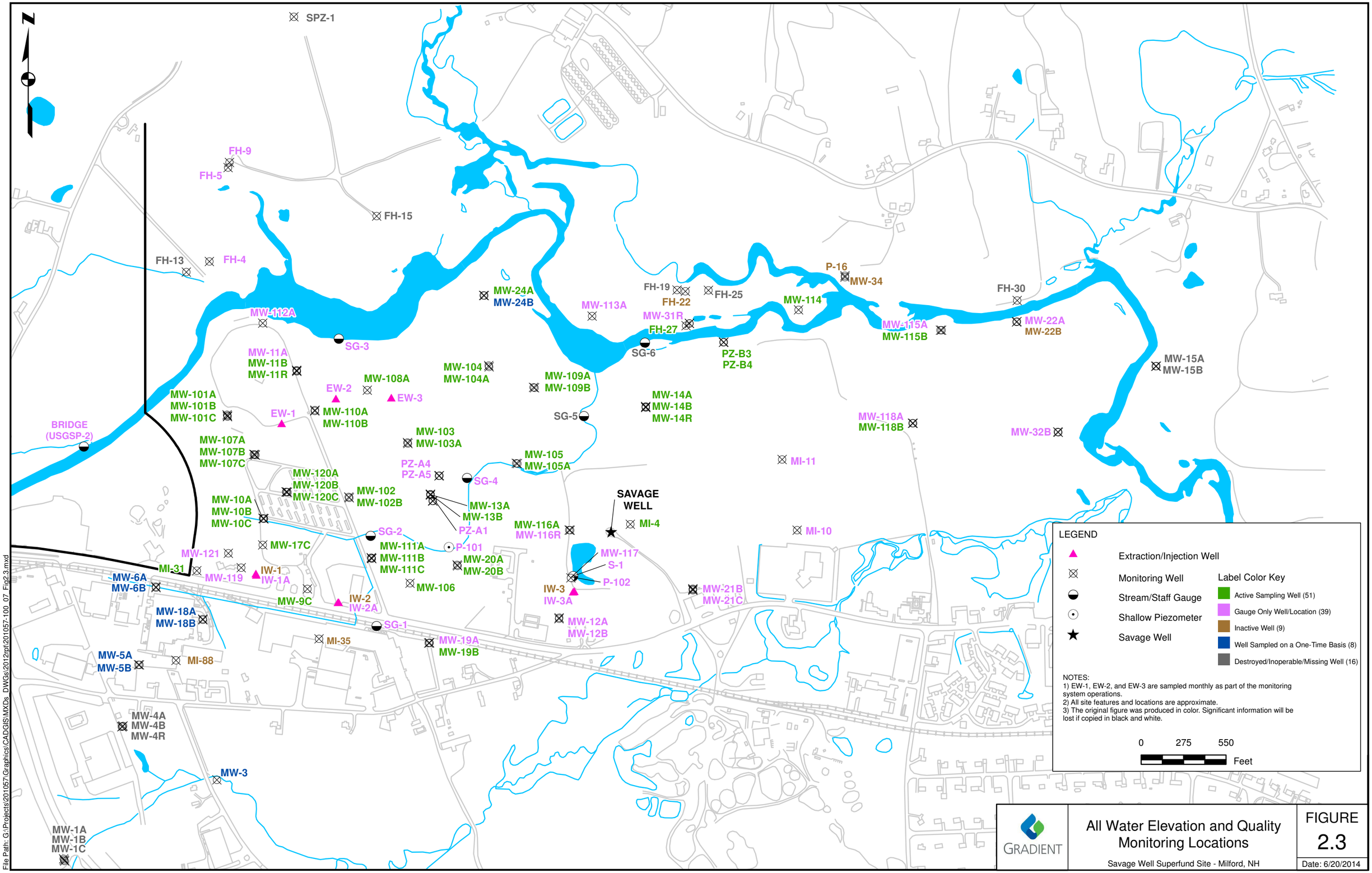
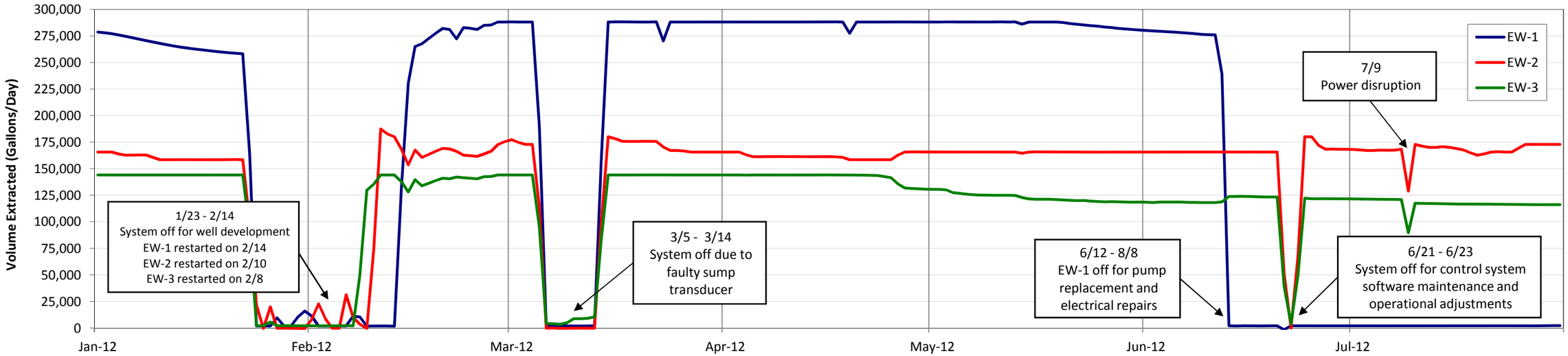

N
SPZ-1
FH-9
FH-5
FH-15
FH-13
FH-4
MW-112A
SG-3
MW-11A
MW-11B
MW-11R
MW-101A
MW-101B
MW-101C
BRIDGE
(USGSP-2)
EW-2
EW-1
MW-108A
EW-3
MW-110A
MW-110B
MW-107A
MW-107B
MW-107C
MW-120A
MW-120B
MW-120C
MW-102
MW-102B
MW-10A
MW-10B
MW-10C
MW-17C
MW-121
MI-31
MW-119
IW-1
IW-1A
MW-6A
MW-6B
MW-9C
IW-2
IW-2A
MW-18A
MW-18B
SG-1
MW-5A
MW-5B
MI-88
MI-35
MW-4A
MW-4B
MW-4R
MW-3
MW-1A
MW-1B
MW-1C
MW-24A
MW-24B
MW-104
MW-104A
MW-109A
MW-109B
MW-113A
MW-31R
FH-27
FH-19
FH-22
FH-25
SG-6
PZ-B3
PZ-B4
MW-14A
MW-14B
MW-14R
SG-5
MW-103
MW-103A
PZ-A4
PZ-A5
SG-4
MW-105
MW-105A
MW-13A
MW-13B
PZ-A1
SG-2
MW-111A
MW-111B
MW-111C
P-101
MW-20A
MW-20B
MW-106
MW-116A
MW-116R
SAVAGE
WELL
MI-4
MW-117
S-1
P-102
IW-3
IW-3A
MW-12A
MW-12B
MW-19A
MW-19B
P-16
MW-34
MW-114
MW-115A
MW-115B
FH-30
MW-22A
MW-22B
MW-15A
MW-15B
MW-118A
MW-118B
MW-32B
MI-11
MI-10
MW-21B
MW-21C
LEGEND
Extraction/Injection Well
Monitoring Well
Stream/Staff Gauge
Shallow Piezometer
Savage Well
Label Color Key
Active Sampling Well (51)
Gauge Only Well/Location (39)
Inactive Well (9)
Well Sampled on a One-Time Basis (8)
Destroyed/Inoperable/Missing Well (16)
NOTES:
1) EW-1, EW-2, and EW-3 are sampled monthly as part of the monitoring system operations.
2) All site features and locations are approximate.
3) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
275
550
Feet
GRADIENT
All Water Elevation and Quality Monitoring Locations
Savage Well Superfund Site - Milford, NH
FIGURE
2.3
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012\pt\201057-100_07_Fig2.3.mxd

Figure 3.1
Summary of Extraction Well Operation
Savage Well Superfund Site, Milford, NH



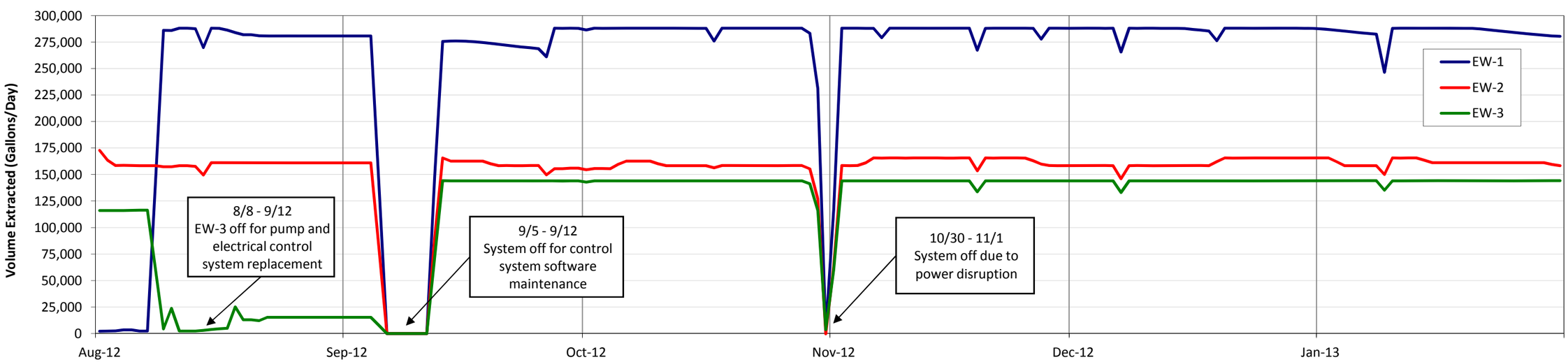
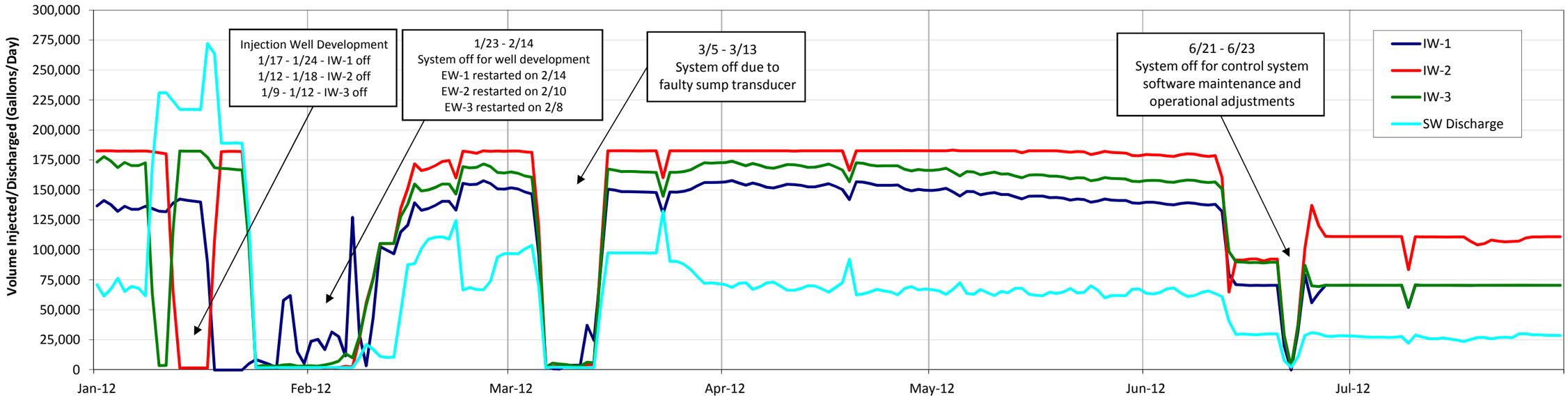
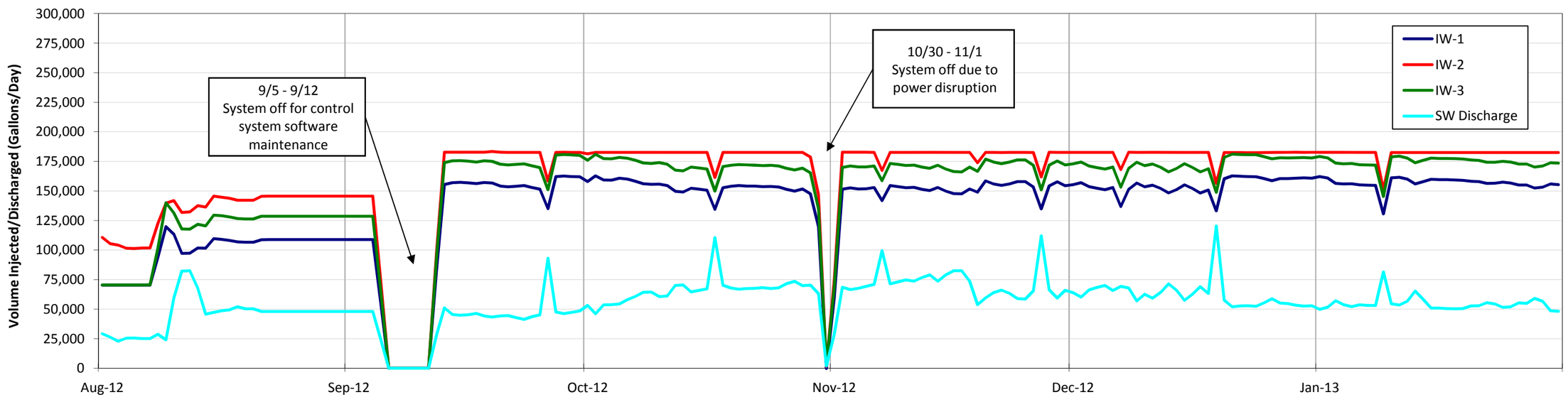


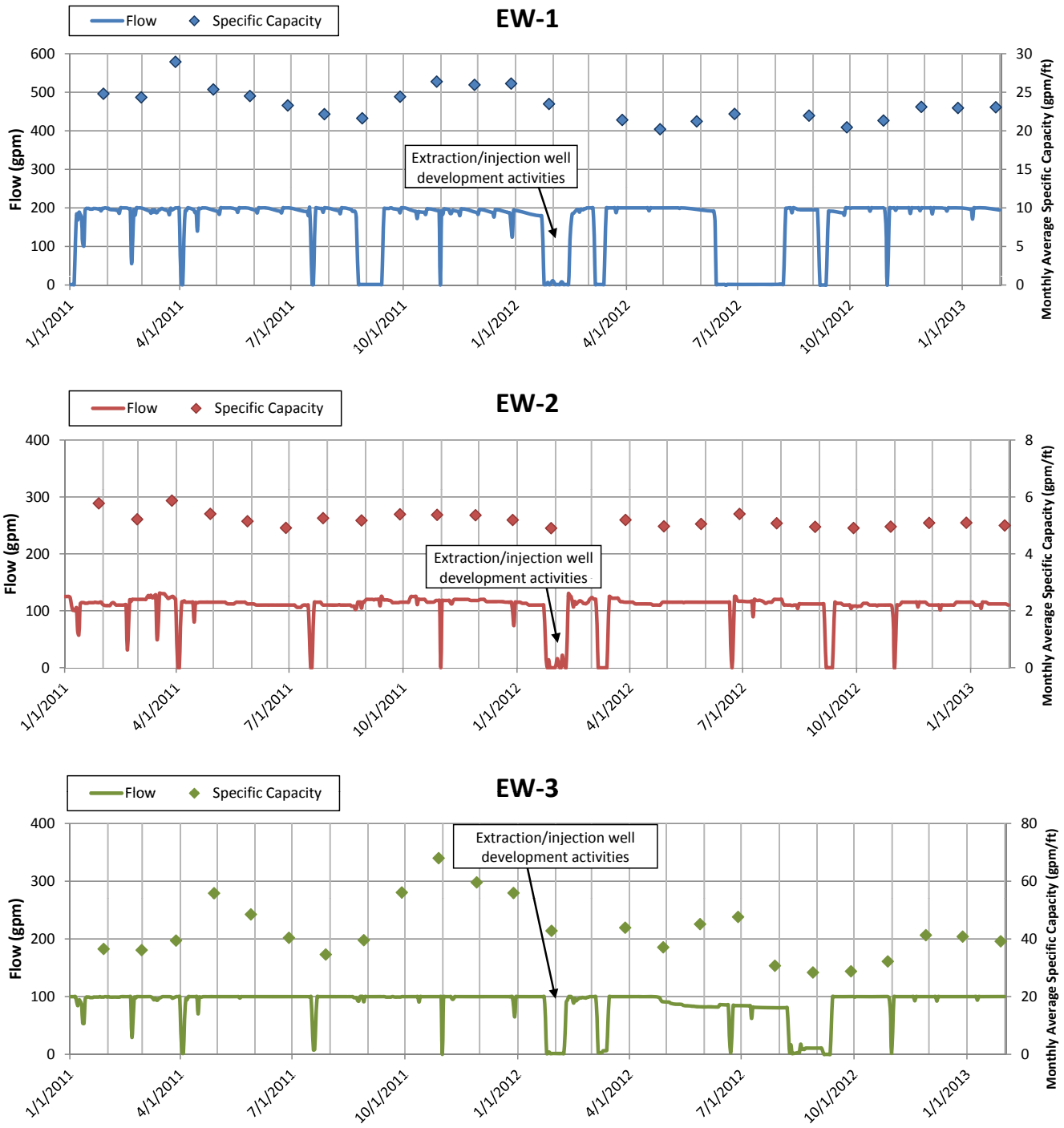
Figure 3.2
Summary of Injection Well and Surface Water Discharge Operation
Savage Well Superfund Site, Milford, NH





Notes:
1. SW = Surface Water (Souhegan River)

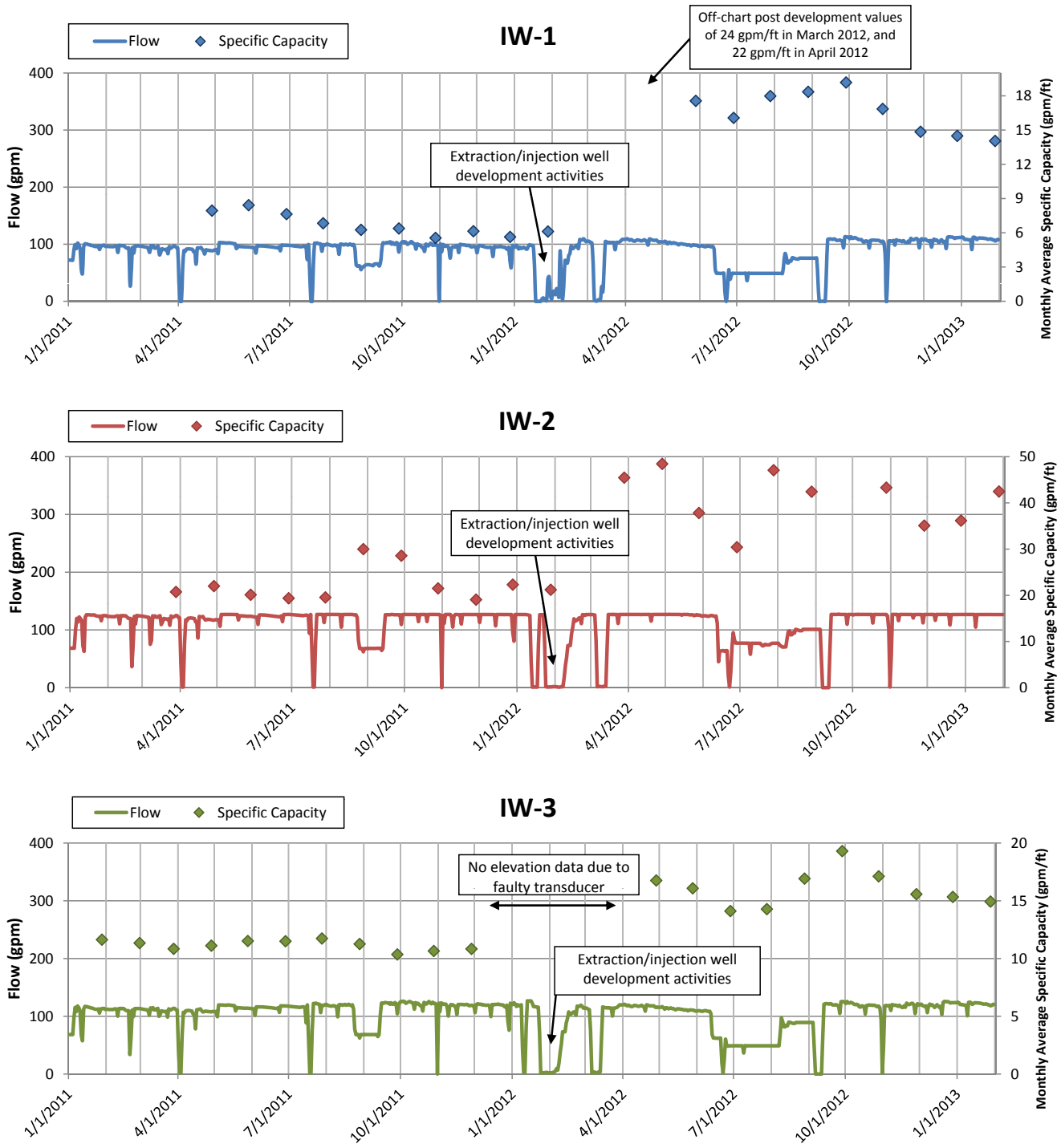
Figure 3.3
Monthly Average Specific Capacity at Extraction Wells
Savage Well Superfund Site, Milford, NH



Notes:

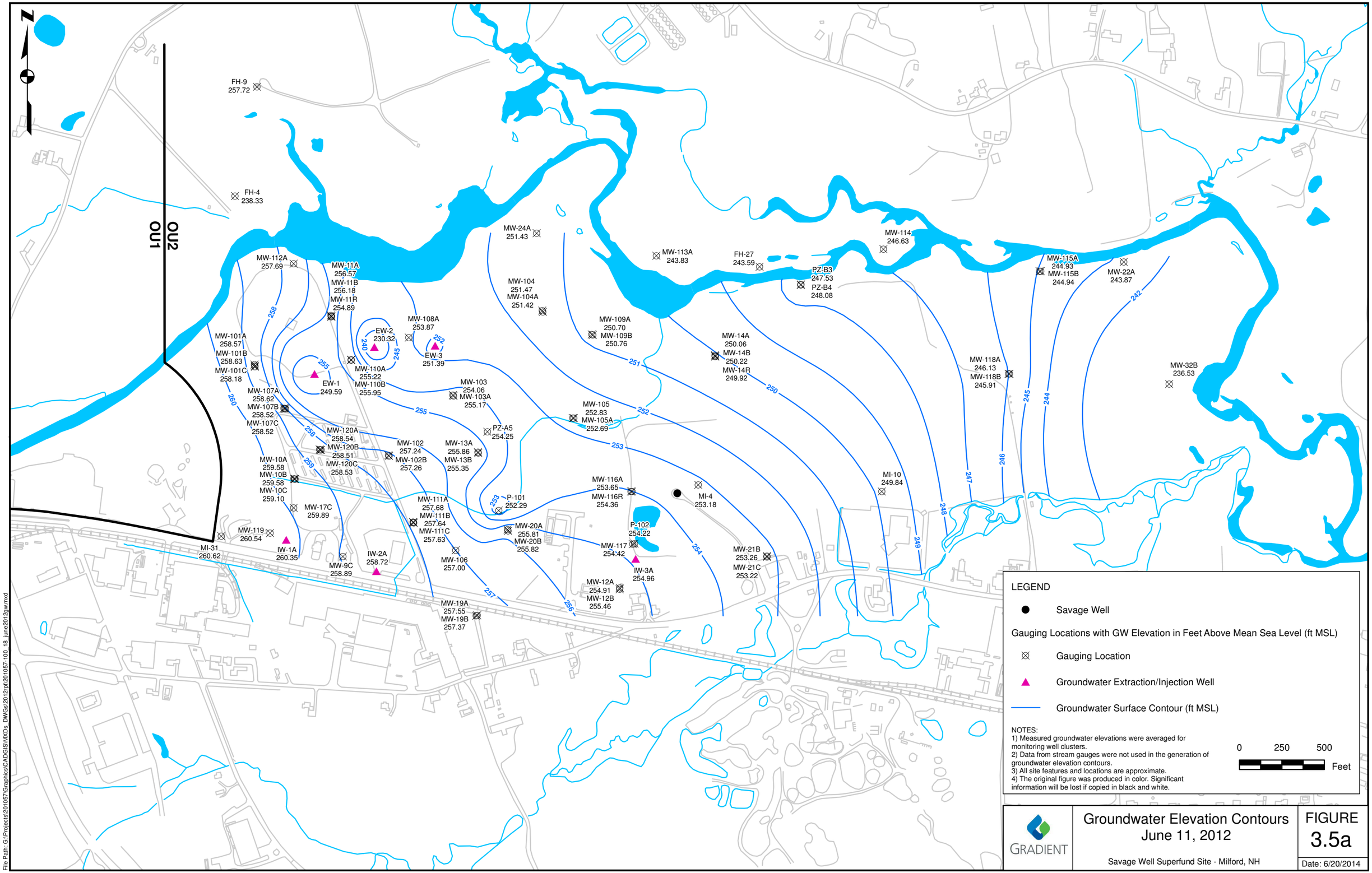
1. Specific capacity values were calculated using the extraction well flow rate (gallons per minute, gpm) divided by the corresponding drawdown (in feet, ft) measured by pressure transducers within extraction wells.
2. For drawdown calculations, the annual average groundwater elevation measured near EWs was used (USGS, 1999; US EPA, 2002).
3. Monthly average specific capacity values are plotted at the end of each month (e.g. the monthly average for Sept. 2011 is plotted on Sept. 30, 2011).
4. Erroneous data and data for periods when the wells were not in operation were excluded from the calculation of specific capacity.

Figure 3.4
Monthly Average Specific Capacity at Injection Wells
Savage Well Superfund Site, Milford, NH



Notes:

1. Specific capacity values were calculated using injection well flow rate (in gallons per minute, gpm) divided by corresponding mounding (in feet, ft) measured by pressure tranducers within injection wells.
2. Monthly average specific capacity values are plotted at the end of each month (e.g., the monthly average for Sept. 2011 is plotted on Sept. 30, 2011).
3. Erroneous data and data for periods when the wells were not in operation were excluded from the calculation of specific capacity.


N
OU2
OU1
FH-9
257.72
FH-4
238.33
MW-112A
257.69
MW-11A
256.57
MW-11B
256.18
MW-11R
254.89
MW-101A
258.57
MW-101B
258.63
MW-101C
258.18
MW-107A
258.62
MW-107B
258.52
MW-107C
258.52
MW-120A
258.54
MW-120B
258.51
MW-120C
258.53
MW-10A
259.58
MW-10B
259.58
MW-10C
259.10
MW-17C
259.89
MW-119
260.54
MI-31
260.62
IW-1A
260.35
MW-9C
258.89
IW-2A
258.72
EW-2
230.32
EW-1
249.59
MW-108A
253.87
EW-3
251.39
MW-110A
255.22
MW-110B
255.95
MW-102
257.24
MW-102B
257.26
MW-103
254.06
MW-103A
255.17
MW-13A
255.86
MW-13B
255.35
PZ-A5
254.25
MW-111A
257.68
MW-111B
257.64
MW-111C
257.63
MW-106
257.00
MW-19A
257.55
MW-19B
257.37
P-101
252.29
MW-20A
255.81
MW-20B
255.82
MW-24A
251.43
MW-104
251.47
MW-104A
251.42
MW-105
252.83
MW-105A
252.69
MW-116A
253.65
MW-116R
254.36
MW-117
254.42
IW-3A
254.96
MW-12A
254.91
MW-12B
255.46
P-102
254.22
MI-4
253.18
MW-109A
250.70
MW-109B
250.76
MW-113A
243.83
FH-27
243.59
PZ-B3
247.53
PZ-B4
248.08
MW-14A
250.06
MW-14B
250.22
MW-14R
249.92
MW-21B
253.26
MW-21C
253.22
MI-10
249.84
MW-114
246.63
MW-118A
246.13
MW-118B
245.91
MW-115A
244.93
MW-115B
244.94
MW-22A
243.87
MW-32B
236.53
258
259
260
255
252
240
245
251
250
253
254
257
256
249
248
247
246
245
244
242
LEGEND
Savage Well
Gauging Locations with GW Elevation in Feet Above Mean Sea Level (ft MSL)
Gauging Location
Groundwater Extraction/Injection Well
Groundwater Surface Contour (ft MSL)
NOTES:
1) Measured groundwater elevations were averaged for monitoring well clusters.
2) Data from stream gauges were not used in the generation of groundwater elevation contours.
3) All site features and locations are approximate.
4) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
250
500
Feet
GRADIENT
Groundwater Elevation Contours
June 11, 2012
Savage Well Superfund Site - Milford, NH
FIGURE
3.5a
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CAD\GIS\MXDs_DWGs\2012\pt\201057-100_18_june2012gw.mxd

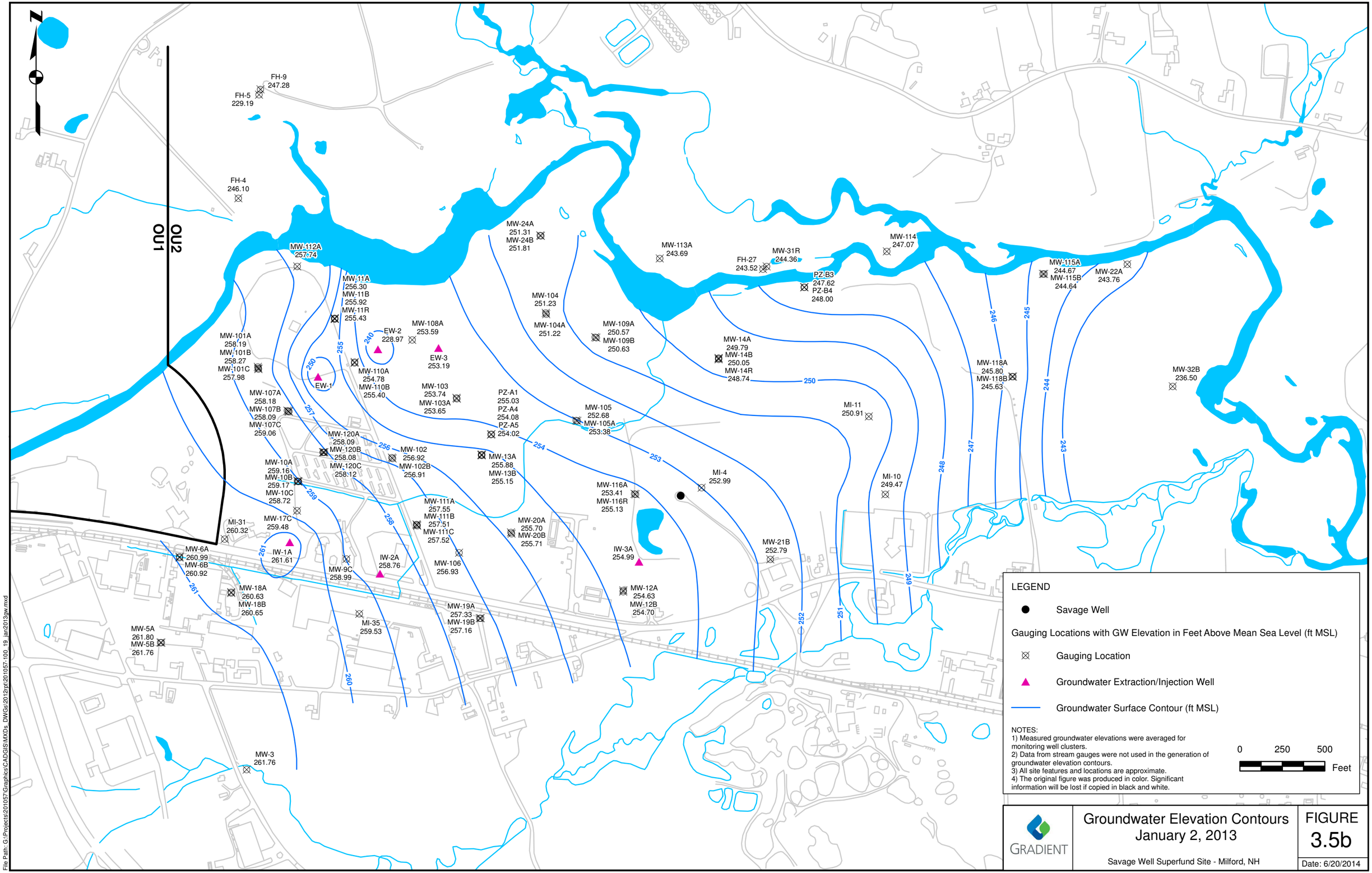
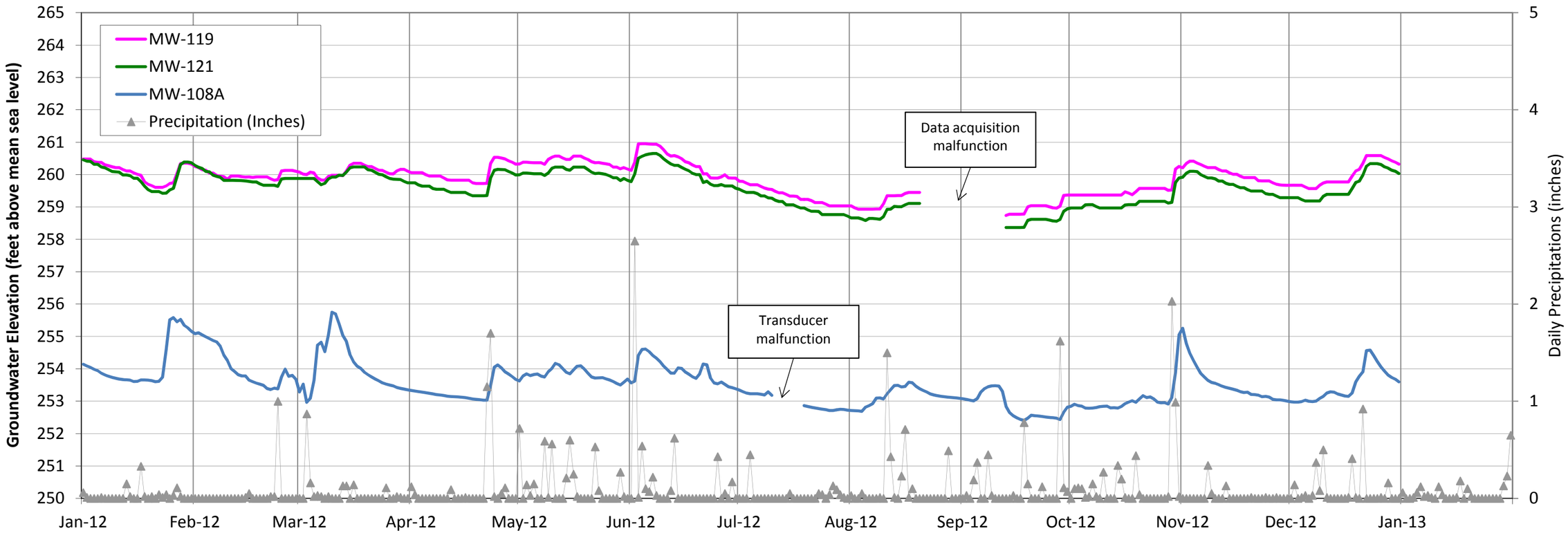
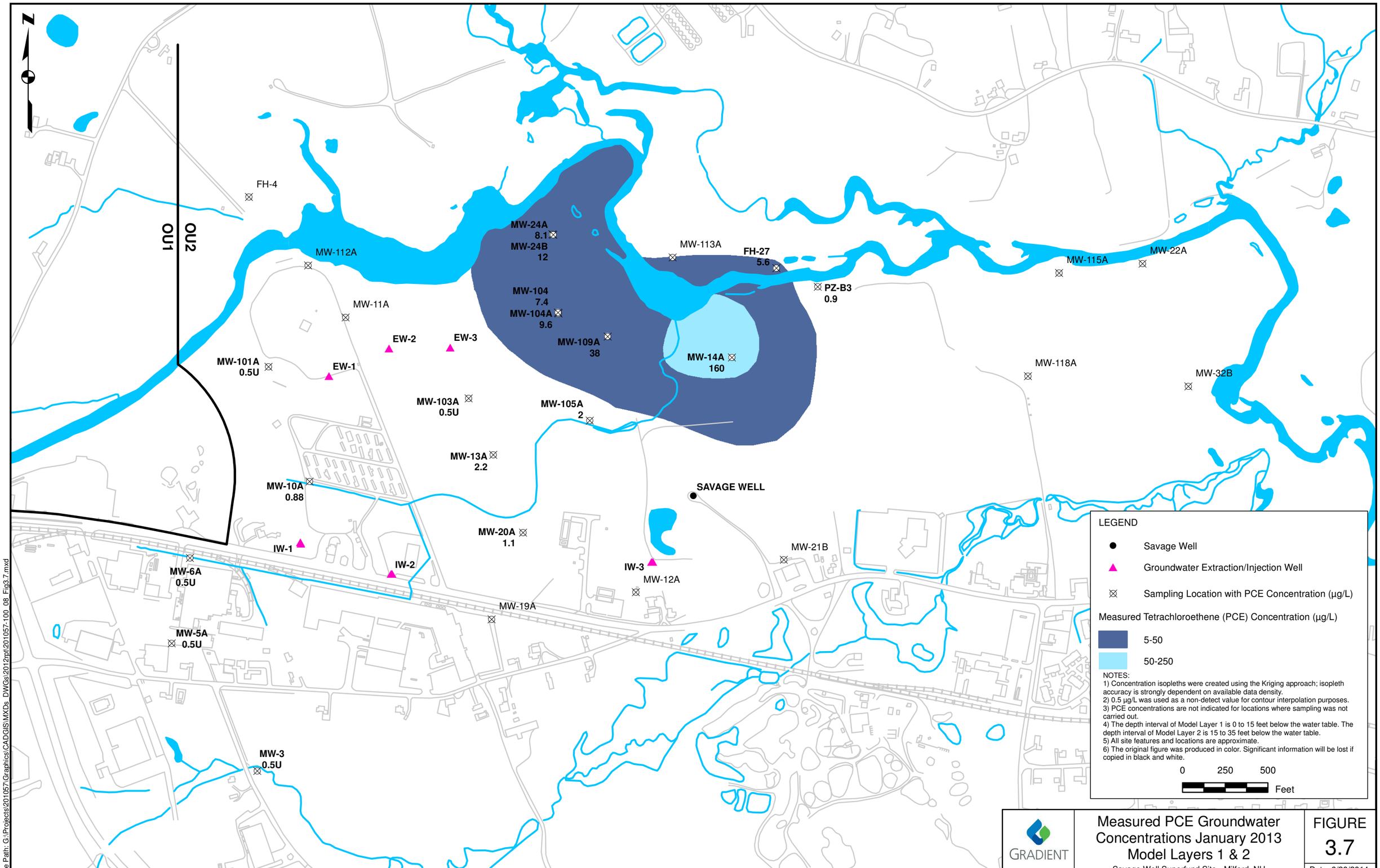

N
OU2
OU1
FH-9
247.28
FH-5
229.19
FH-4
246.10
MW-112A
257.74
MW-11A
256.30
MW-11B
255.92
MW-11R
255.43
MW-101A
258.19
MW-101B
258.27
MW-101C
257.98
MW-107A
258.18
MW-107B
258.09
MW-107C
259.06
MW-10A
259.16
MW-10B
259.17
MW-10C
258.72
MW-17C
259.48
MI-31
260.32
MW-6A
260.99
MW-6B
260.92
MW-18A
260.63
MW-18B
260.65
MW-5A
261.80
MW-5B
261.76
MW-3
261.76
EW-1
EW-2
228.97
EW-3
253.19
IW-1A
261.61
MW-108A
253.59
MW-110A
254.78
MW-110B
255.40
MW-103
253.74
MW-103A
253.65
MW-120A
258.09
MW-120B
258.08
MW-120C
258.12
MW-102
256.92
MW-102B
256.91
MW-9C
258.99
IW-2A
258.76
MI-35
259.53
MW-24A
251.31
MW-24B
251.81
MW-104
251.23
MW-104A
251.22
PZ-A1
255.03
PZ-A4
254.08
PZ-A5
254.02
MW-13A
255.88
MW-13B
255.15
MW-111A
257.55
MW-111B
257.51
MW-111C
257.52
MW-106
256.93
MW-19A
257.33
MW-19B
257.16
MW-20A
255.70
MW-20B
255.71
MW-105
252.68
MW-105A
253.38
MW-116A
253.41
MW-116R
255.13
IW-3A
254.99
MW-109A
250.57
MW-109B
250.63
MW-113A
243.69
FH-27
243.52
MW-31R
244.36
PZ-B3
247.62
PZ-B4
248.00
MW-14A
249.79
MW-14B
250.05
MW-14R
248.74
MI-4
252.99
MW-12A
254.63
MW-12B
254.70
MI-11
250.91
MW-114
247.07
MW-21B
252.79
MI-10
249.47
MW-118A
245.80
MW-118B
245.63
MW-115A
244.67
MW-115B
244.64
MW-22A
243.76
MW-32B
236.50
240
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
244
243
LEGEND
Savage Well
Gauging Locations with GW Elevation in Feet Above Mean Sea Level (ft MSL)
Gauging Location
Groundwater Extraction/Injection Well
Groundwater Surface Contour (ft MSL)
NOTES:
1) Measured groundwater elevations were averaged for monitoring well clusters.
2) Data from stream gauges were not used in the generation of groundwater elevation contours.
3) All site features and locations are approximate.
4) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
250
500
Feet
GRADIENT
Groundwater Elevation Contours
January 2, 2013
Savage Well Superfund Site - Milford, NH
FIGURE
3.5b
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs, DWGs\2012\pt\201057-100_19_jan2013gw.mxd

Figure 3.6
Groundwater Elevation Data – MW-108A, MW-119, and MW-121
Savage Well Superfund Site, Milford, NH





GRADIENT

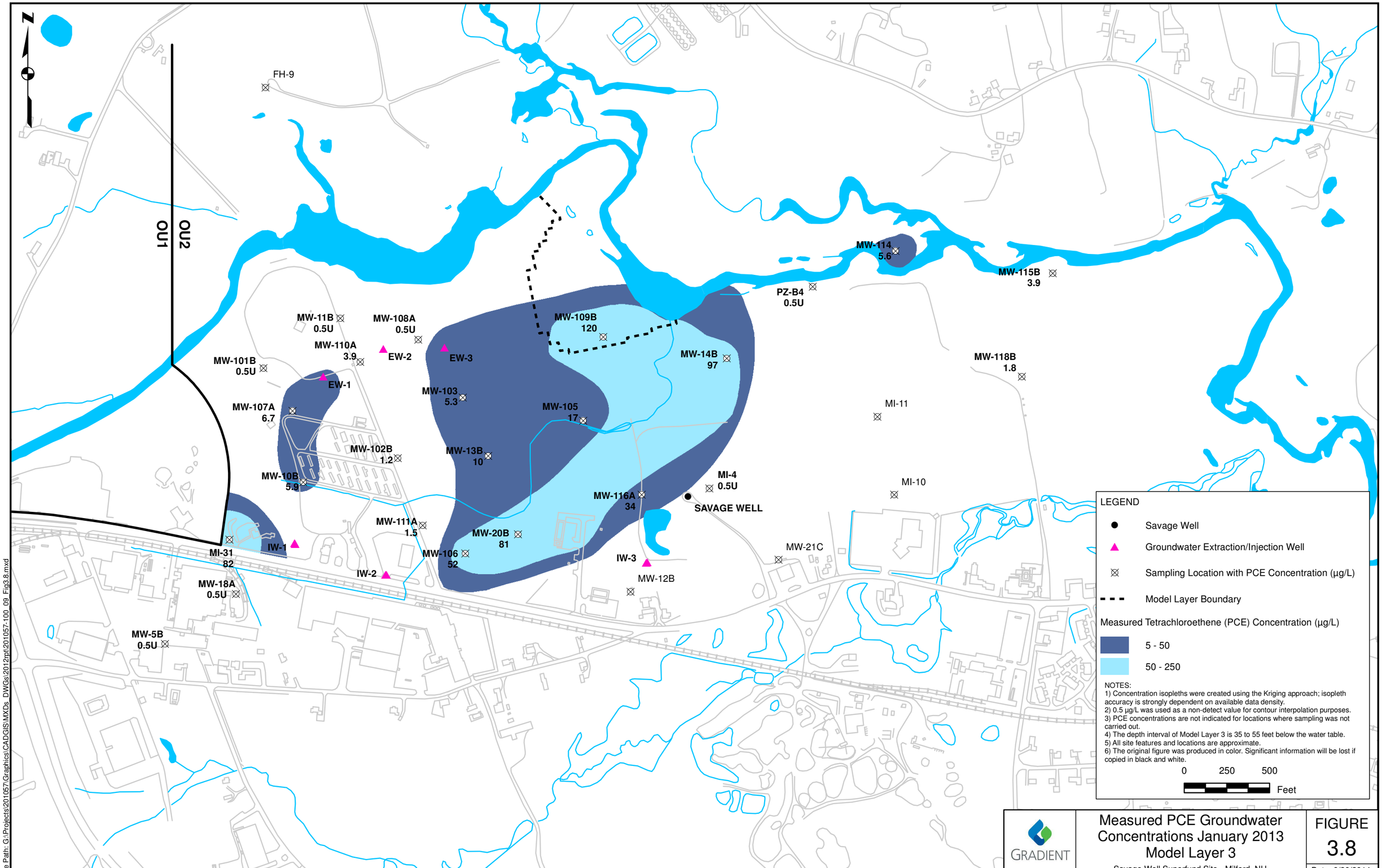
Measured PCE Groundwater Concentrations January 2013 Model Layers 1 & 2

Savage Well Superfund Site - Milford, NH

FIGURE 3.7

Date: 6/20/2014

File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012\pl\201057-100_08_Fig3.7.mxd



GRADIENT

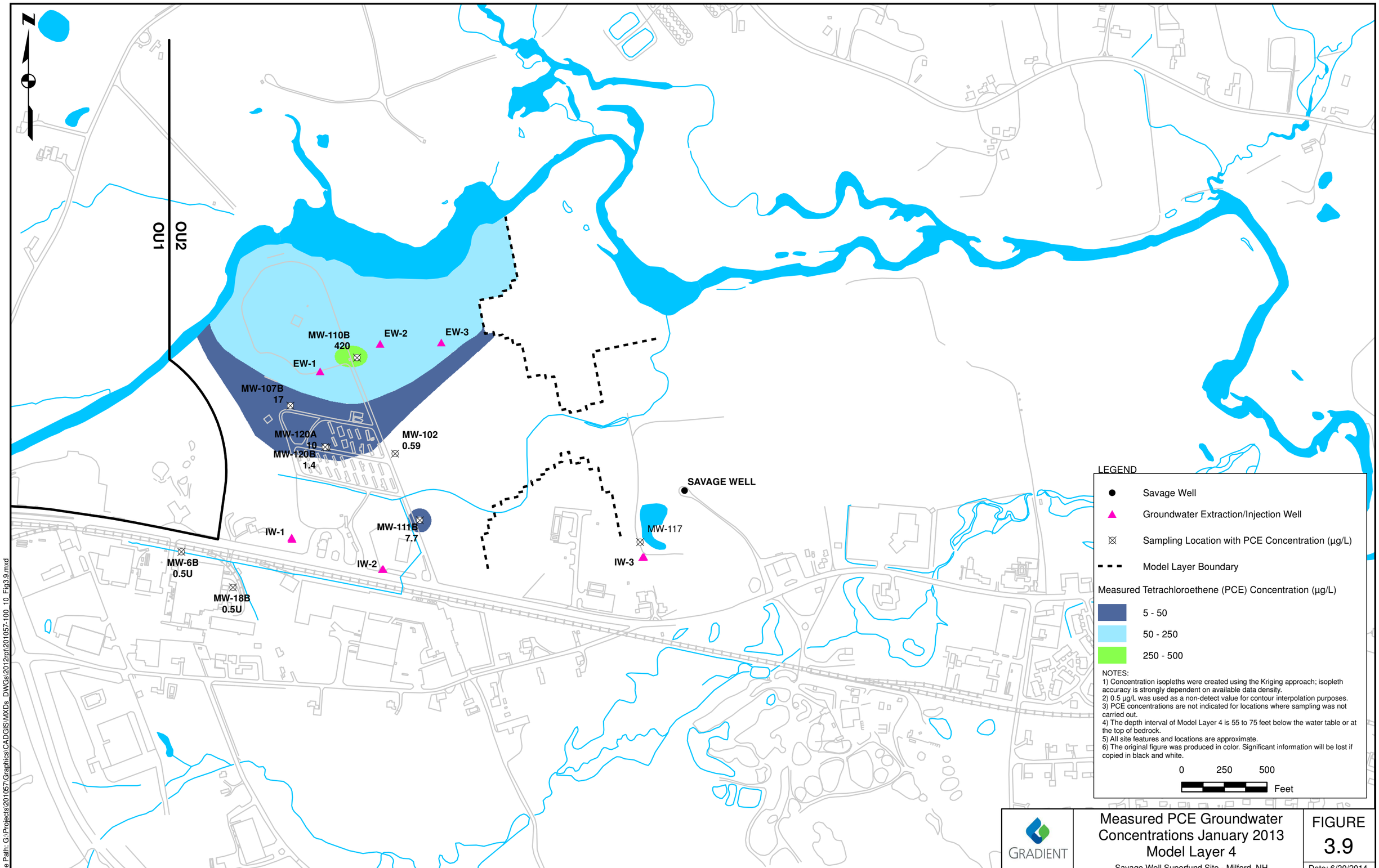
Measured PCE Groundwater Concentrations January 2013 Model Layer 3

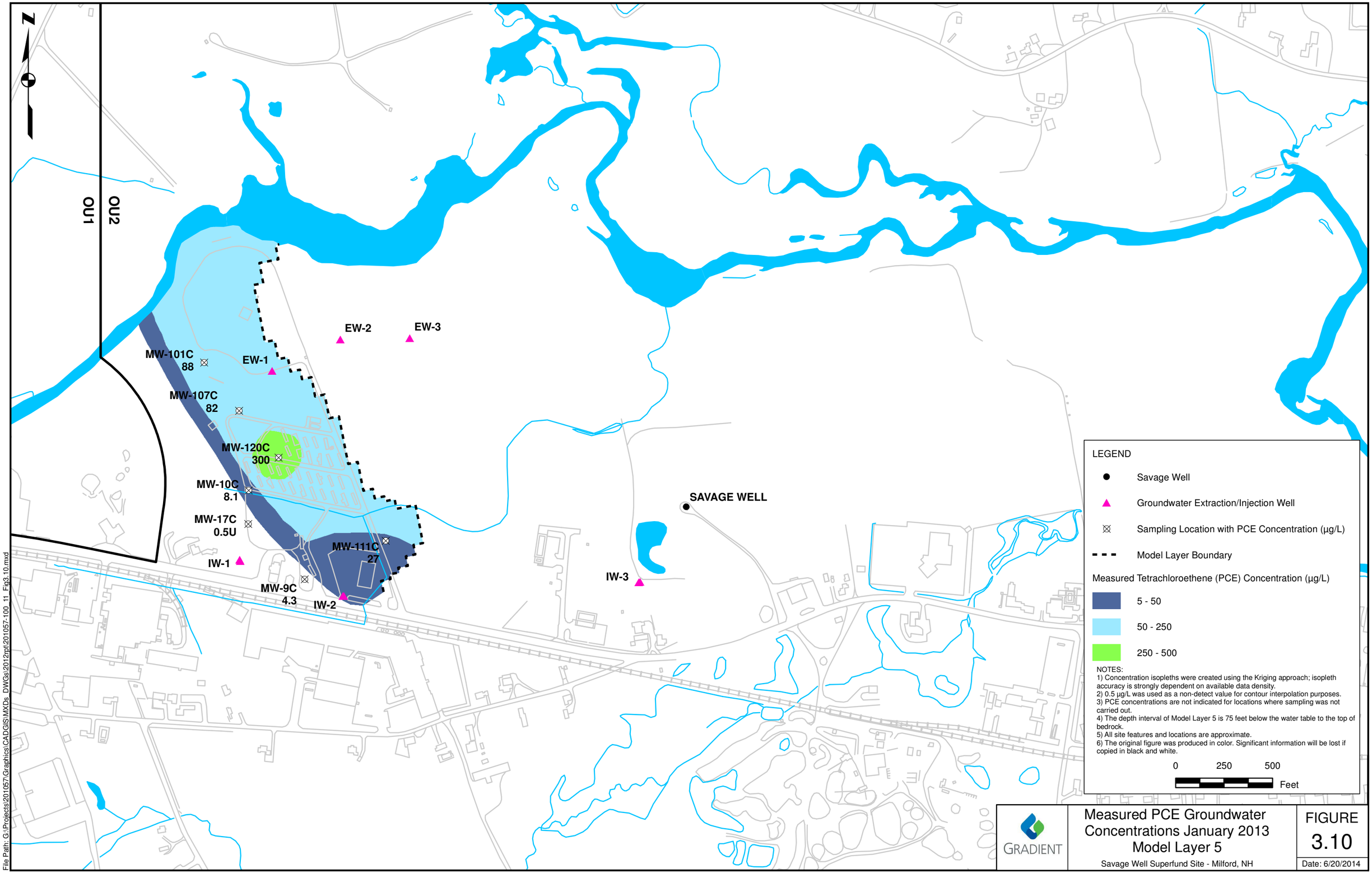
Savage Well Superfund Site - Milford, NH

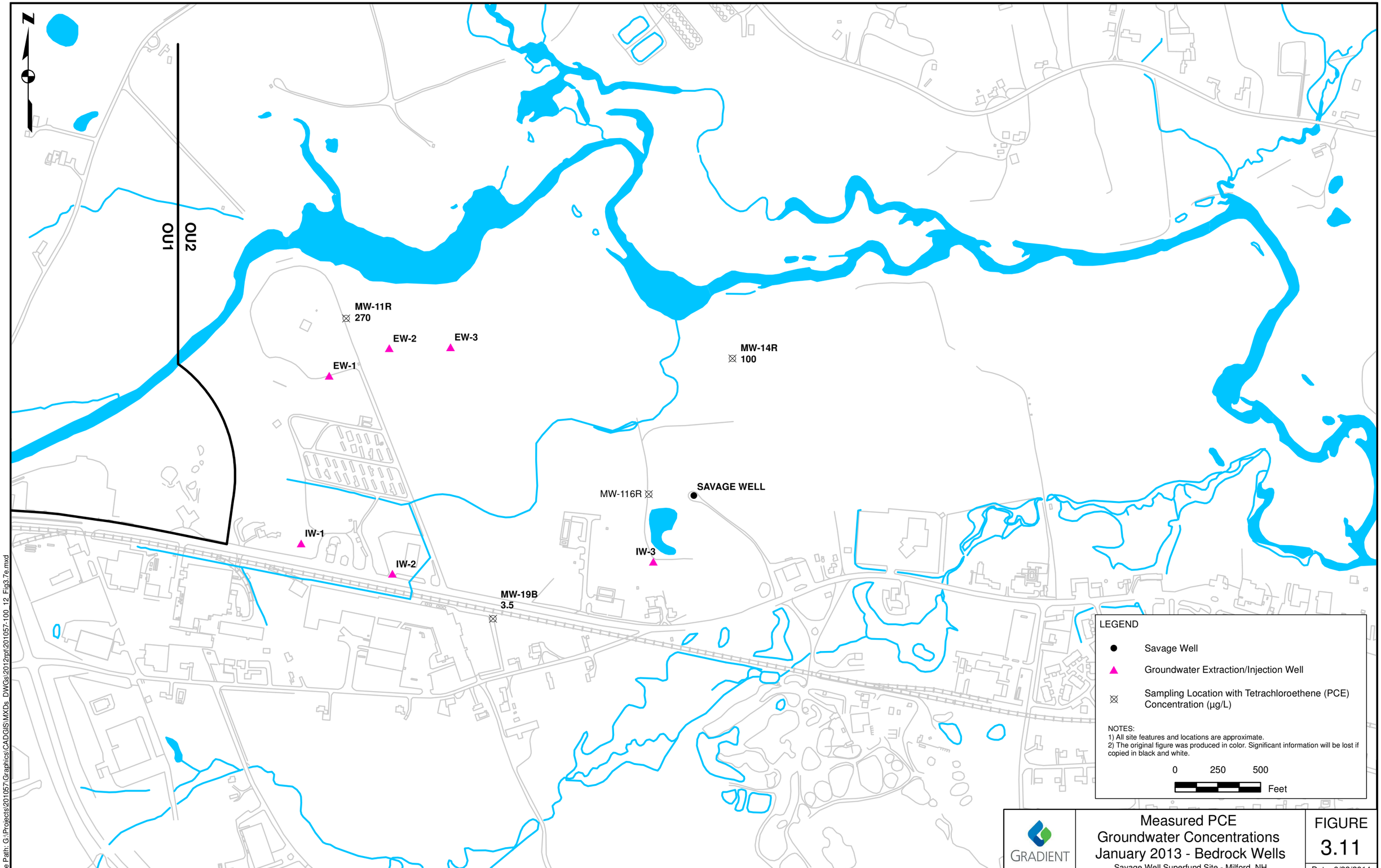
FIGURE 3.8

Date: 6/20/2014

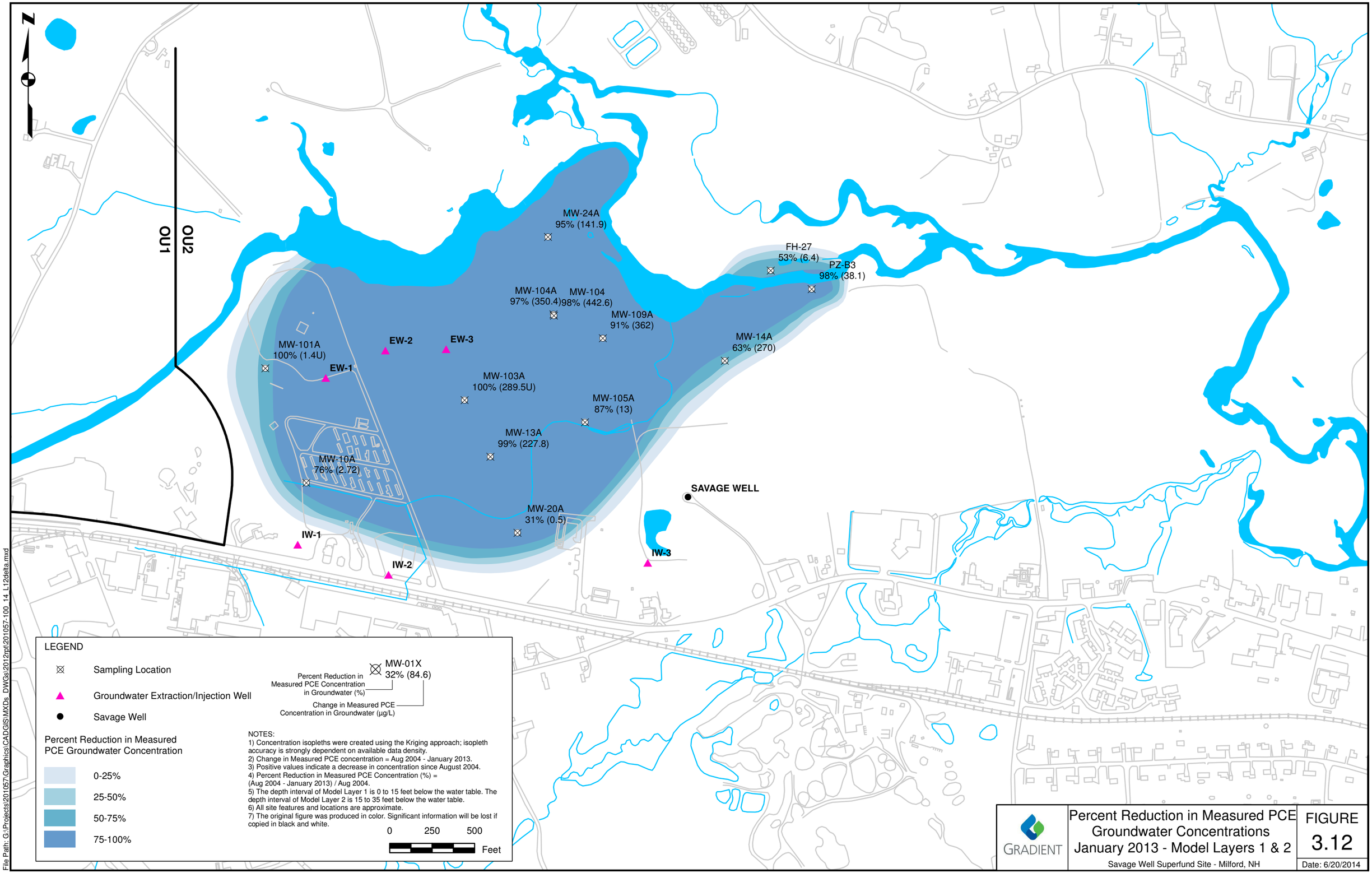
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_09_Fig3.8.mxd


N
OU2
OU1
MW-110B
420
EW-2
EW-3
EW-1
MW-107B
17
MW-120A
10
MW-120B
1.4
MW-102
0.59
SAVAGE WELL
MW-111B
7.7
IW-1
IW-2
MW-117
IW-3
MW-6B
0.5U
MW-18B
0.5U
LEGEND
Savage Well
Groundwater Extraction/Injection Well
Sampling Location with PCE Concentration (µg/L)
Model Layer Boundary
Measured Tetrachloroethene (PCE) Concentration (µg/L)
5 - 50
50 - 250
250 - 500
NOTES:
1) Concentration isopleths were created using the Kriging approach; isopleth accuracy is strongly dependent on available data density.
2) 0.5 µg/L was used as a non-detect value for contour interpolation purposes.
3) PCE concentrations are not indicated for locations where sampling was not carried out.
4) The depth interval of Model Layer 4 is 55 to 75 feet below the water table or at the top of bedrock.
5) All site features and locations are approximate.
6) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
250
500
Feet
GRADIENT
Measured PCE Groundwater Concentrations January 2013 Model Layer 4
Savage Well Superfund Site - Milford, NH
FIGURE
3.9
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CAD\GIS\MXDs_DWGs\2012\pt\201057-100_10_Fig3.9.mxd


N
OU1
OU2
EW-2
EW-3
EW-1
MW-101C
88
MW-107C
82
MW-120C
300
MW-10C
8.1
MW-17C
0.5U
MW-111C
27
IW-1
MW-9C
4.3
IW-2
SAVAGE WELL
IW-3
LEGEND
Savage Well
Groundwater Extraction/Injection Well
Sampling Location with PCE Concentration (µg/L)
Model Layer Boundary
Measured Tetrachloroethene (PCE) Concentration (µg/L)
5 - 50
50 - 250
250 - 500
NOTES:
1) Concentration isopleths were created using the Kriging approach; isopleth accuracy is strongly dependent on available data density.
2) 0.5 µg/L was used as a non-detect value for contour interpolation purposes.
3) PCE concentrations are not indicated for locations where sampling was not carried out.
4) The depth interval of Model Layer 5 is 75 feet below the water table to the top of bedrock.
5) All site features and locations are approximate.
6) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
250
500
Feet
GRADIENT
Measured PCE Groundwater Concentrations January 2013 Model Layer 5
Savage Well Superfund Site - Milford, NH
FIGURE
3.10
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_11_Fig3.10.mxd



File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_12_Fig3.7e.mxd


N
OU2
OU1
MW-24A
95% (141.9)
FH-27
53% (6.4)
PZ-B3
98% (38.1)
MW-104A
97% (350.4)
MW-104
98% (442.6)
MW-109A
91% (362)
MW-14A
63% (270)
MW-101A
100% (1.4U)
EW-2
EW-3
EW-1
MW-103A
100% (289.5U)
MW-105A
87% (13)
MW-13A
99% (227.8)
MW-10A
76% (2.72)
SAVAGE WELL
MW-20A
31% (0.5)
IW-1
IW-2
IW-3
LEGEND
Sampling Location
Groundwater Extraction/Injection Well
Savage Well
MW-01X
32% (84.6)
Percent Reduction in Measured PCE Concentration in Groundwater (%)
Change in Measured PCE Concentration in Groundwater (µg/L)
Percent Reduction in Measured PCE Groundwater Concentration
0-25%
25-50%
50-75%
75-100%
NOTES:
1) Concentration isopleths were created using the Kriging approach; isopleth accuracy is strongly dependent on available data density.
2) Change in Measured PCE concentration = Aug 2004 - January 2013.
3) Positive values indicate a decrease in concentration since August 2004.
4) Percent Reduction in Measured PCE Concentration (%) = (Aug 2004 - January 2013) / Aug 2004.
5) The depth interval of Model Layer 1 is 0 to 15 feet below the water table. The depth interval of Model Layer 2 is 15 to 35 feet below the water table.
6) All site features and locations are approximate.
7) The original figure was produced in color. Significant information will be lost if copied in black and white.
0 250 500
Feet
GRADIENT
Percent Reduction in Measured PCE Groundwater Concentrations
January 2013 - Model Layers 1 & 2
Savage Well Superfund Site - Milford, NH
FIGURE
3.12
Date: 6/20/2014
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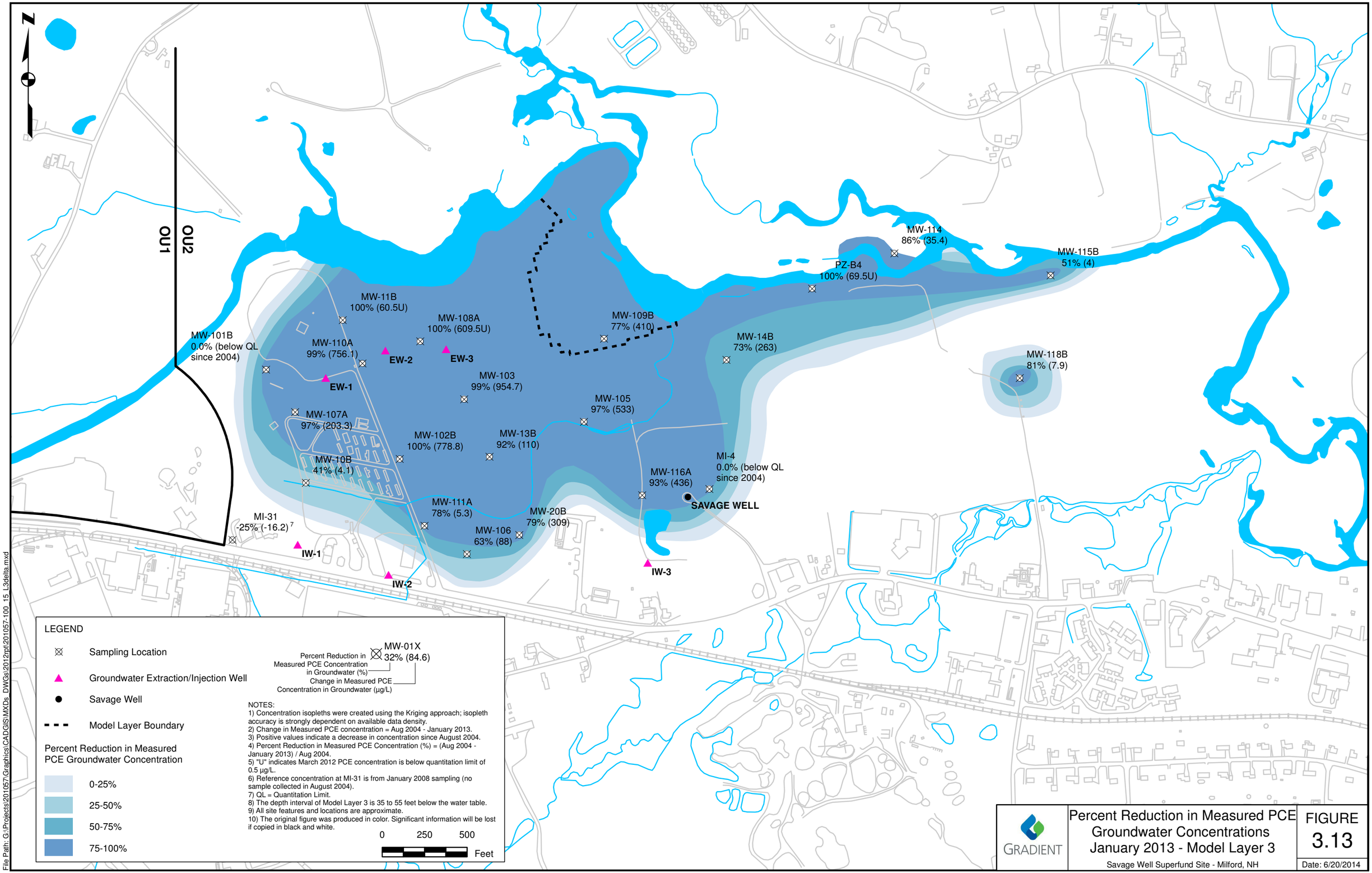
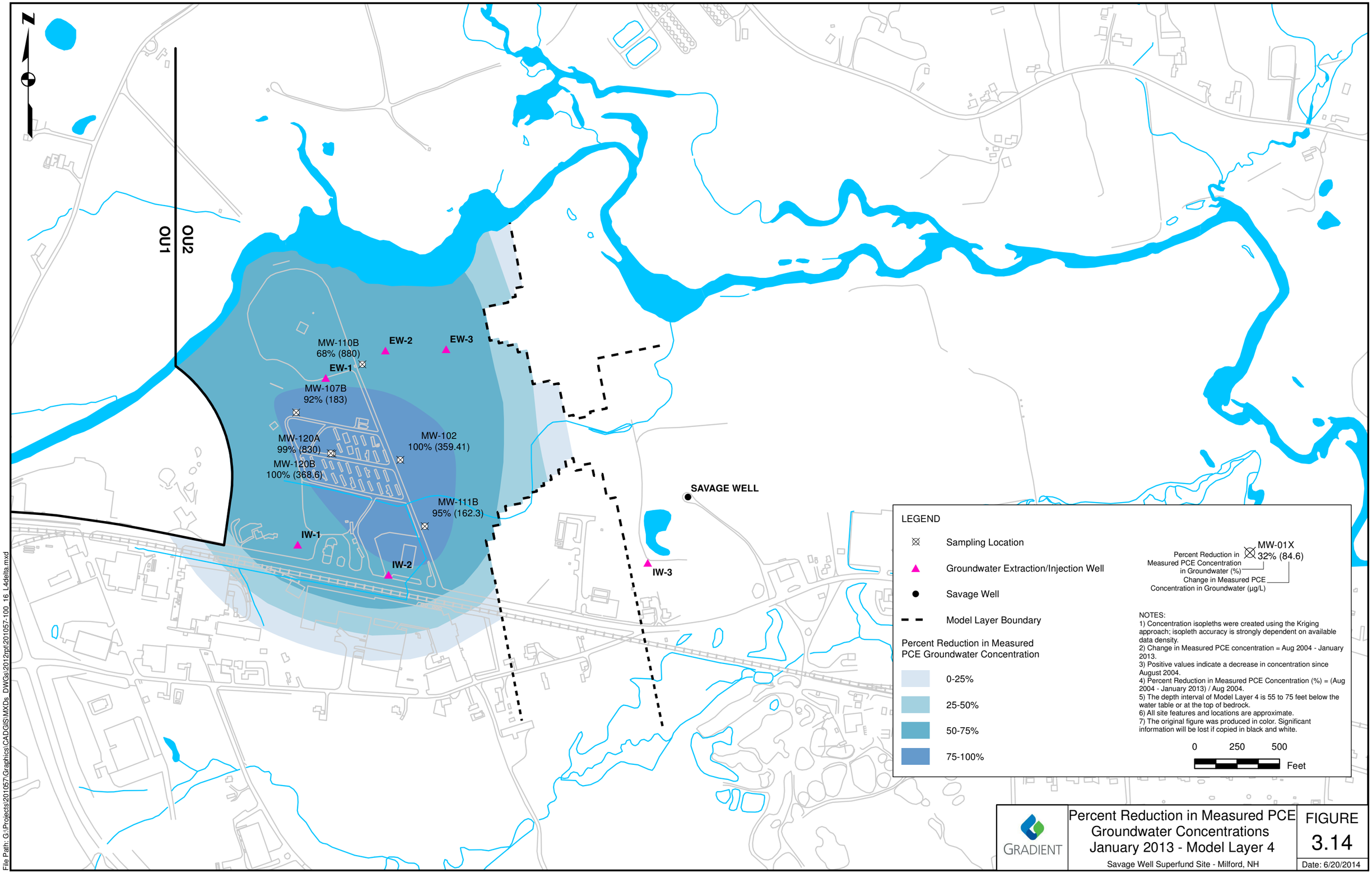

N
OU1
OU2
MW-101B
0.0% (below QL
since 2004)
MW-11B
100% (60.5U)
MW-108A
100% (609.5U)
MW-110A
99% (756.1)
EW-2
EW-3
EW-1
MW-109B
77% (410)
MW-114
86% (35.4)
PZ-B4
100% (69.5U)
MW-115B
51% (4)
MW-14B
73% (263)
MW-118B
81% (7.9)
MW-103
99% (954.7)
MW-105
97% (533)
MW-107A
97% (203.3)
MW-102B
100% (778.8)
MW-13B
92% (110)
MW-10B
41% (4.1)
MW-116A
93% (436)
MI-4
0.0% (below QL
since 2004)
SAVAGE WELL
MW-111A
78% (5.3)
MW-20B
79% (309)
MI-31
-25% (-16.2) 7
MW-106
63% (88)
IW-1
IW-2
IW-3
LEGEND
Sampling Location
Groundwater Extraction/Injection Well
Savage Well
Model Layer Boundary
Percent Reduction in Measured PCE Groundwater Concentration
0-25%
25-50%
50-75%
75-100%
MW-01X
32% (84.6)
Percent Reduction in Measured PCE Concentration in Groundwater (%)
Change in Measured PCE Concentration in Groundwater (µg/L)
NOTES:
1) Concentration isopleths were created using the Kriging approach; isopleth accuracy is strongly dependent on available data density.
2) Change in Measured PCE concentration = Aug 2004 - January 2013.
3) Positive values indicate a decrease in concentration since August 2004.
4) Percent Reduction in Measured PCE Concentration (%) = (Aug 2004 - January 2013) / Aug 2004.
5) "U" indicates March 2012 PCE concentration is below quantitation limit of 0.5 µg/L.
6) Reference concentration at MI-31 is from January 2008 sampling (no sample collected in August 2004).
7) QL = Quantitation Limit.
8) The depth interval of Model Layer 3 is 35 to 55 feet below the water table.
9) All site features and locations are approximate.
10) The original figure was produced in color. Significant information will be lost if copied in black and white.
0 250 500
Feet
GRADIENT
Percent Reduction in Measured PCE Groundwater Concentrations January 2013 - Model Layer 3
Savage Well Superfund Site - Milford, NH
FIGURE 3.13
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_15_L3delta.mxd


N
OU2
OU1
MW-110B
68% (880)
EW-2
EW-3
EW-1
MW-107B
92% (183)
MW-120A
99% (830)
MW-102
100% (359.41)
MW-120B
100% (368.6)
MW-111B
95% (162.3)
IW-1
IW-2
IW-3
SAVAGE WELL
LEGEND
Sampling Location
Groundwater Extraction/Injection Well
Savage Well
Model Layer Boundary
Percent Reduction in Measured PCE Groundwater Concentration
0-25%
25-50%
50-75%
75-100%
MW-01X
32% (84.6)
Percent Reduction in Measured PCE Concentration in Groundwater (%)
Change in Measured PCE Concentration in Groundwater (µg/L)
NOTES:
1) Concentration isopleths were created using the Kriging approach; isopleth accuracy is strongly dependent on available data density.
2) Change in Measured PCE concentration = Aug 2004 - January 2013.
3) Positive values indicate a decrease in concentration since August 2004.
4) Percent Reduction in Measured PCE Concentration (%) = (Aug 2004 - January 2013) / Aug 2004.
5) The depth interval of Model Layer 4 is 55 to 75 feet below the water table or at the top of bedrock.
6) All site features and locations are approximate.
7) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
250
500
Feet
GRADIENT
Percent Reduction in Measured PCE Groundwater Concentrations January 2013 - Model Layer 4
Savage Well Superfund Site - Milford, NH
FIGURE
3.14
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_16_L4delta.mxd

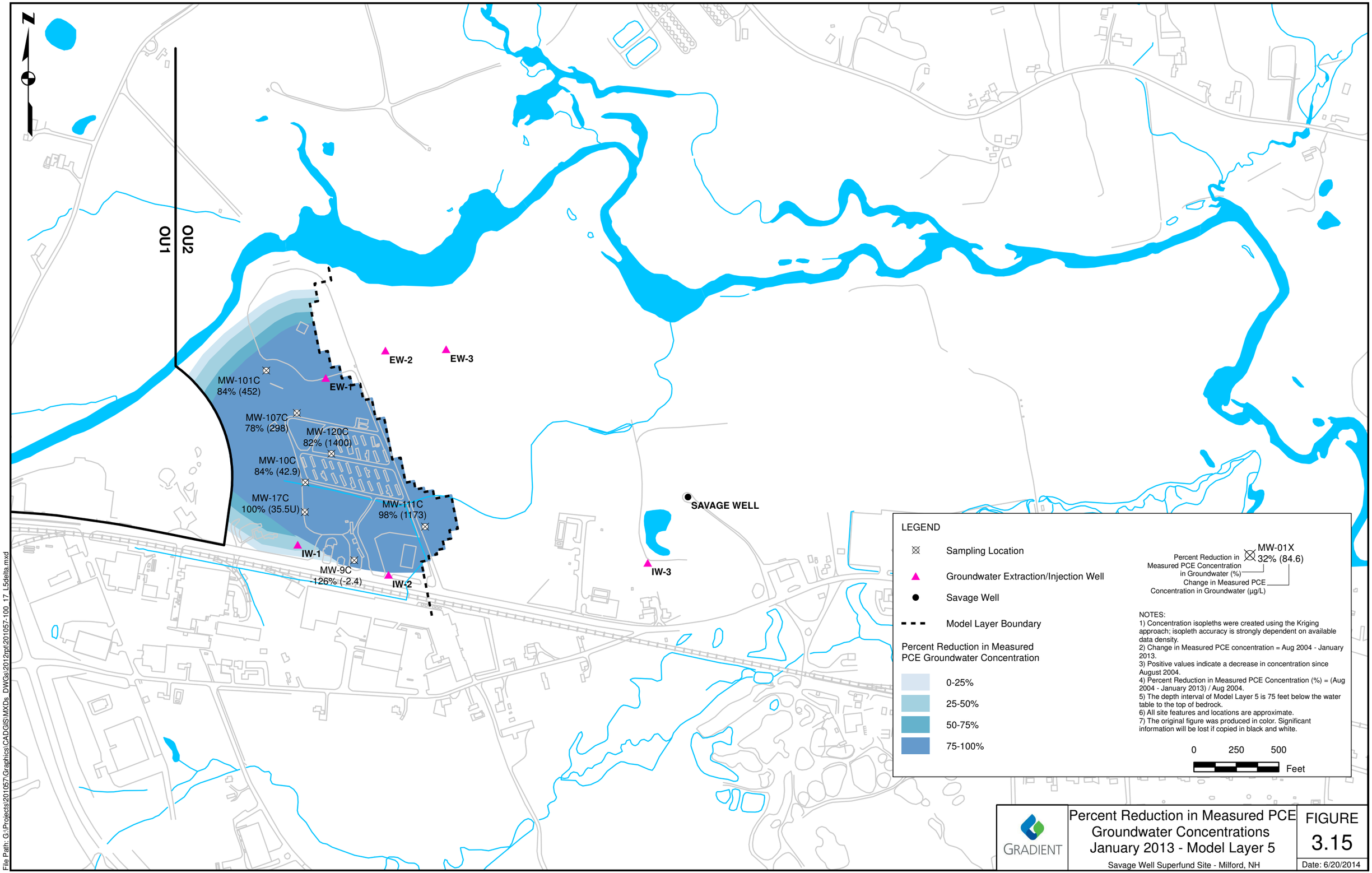

N
OU1
OU2
EW-1
EW-2
EW-3
IW-1
IW-2
IW-3
MW-101C
84% (452)
MW-107C
78% (298)
MW-120C
82% (1400)
MW-10C
84% (42.9)
MW-17C
100% (35.5U)
MW-111C
98% (1173)
MW-9C
-126% (-2.4)
SAVAGE WELL
LEGEND
Sampling Location
Groundwater Extraction/Injection Well
Savage Well
Model Layer Boundary
Percent Reduction in Measured PCE Groundwater Concentration
0-25%
25-50%
50-75%
75-100%
MW-01X
32% (84.6)
Percent Reduction in Measured PCE Concentration in Groundwater (%)
Change in Measured PCE Concentration in Groundwater (µg/L)
NOTES:
1) Concentration isopleths were created using the Kriging approach; isopleth accuracy is strongly dependent on available data density.
2) Change in Measured PCE concentration = Aug 2004 - January 2013.
3) Positive values indicate a decrease in concentration since August 2004.
4) Percent Reduction in Measured PCE Concentration (%) = (Aug 2004 - January 2013) / Aug 2004.
5) The depth interval of Model Layer 5 is 75 feet below the water table to the top of bedrock.
6) All site features and locations are approximate.
7) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
250
500
Feet
GRADIENT
Percent Reduction in Measured PCE Groundwater Concentrations January 2013 - Model Layer 5
Savage Well Superfund Site - Milford, NH
FIGURE
3.15
Date: 6/20/2014
File Path: G:\Projects\201057\Graphics\CADGIS\MXDs_DWGs\2012rpt\201057-100_17_L5deltа.mxd

Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

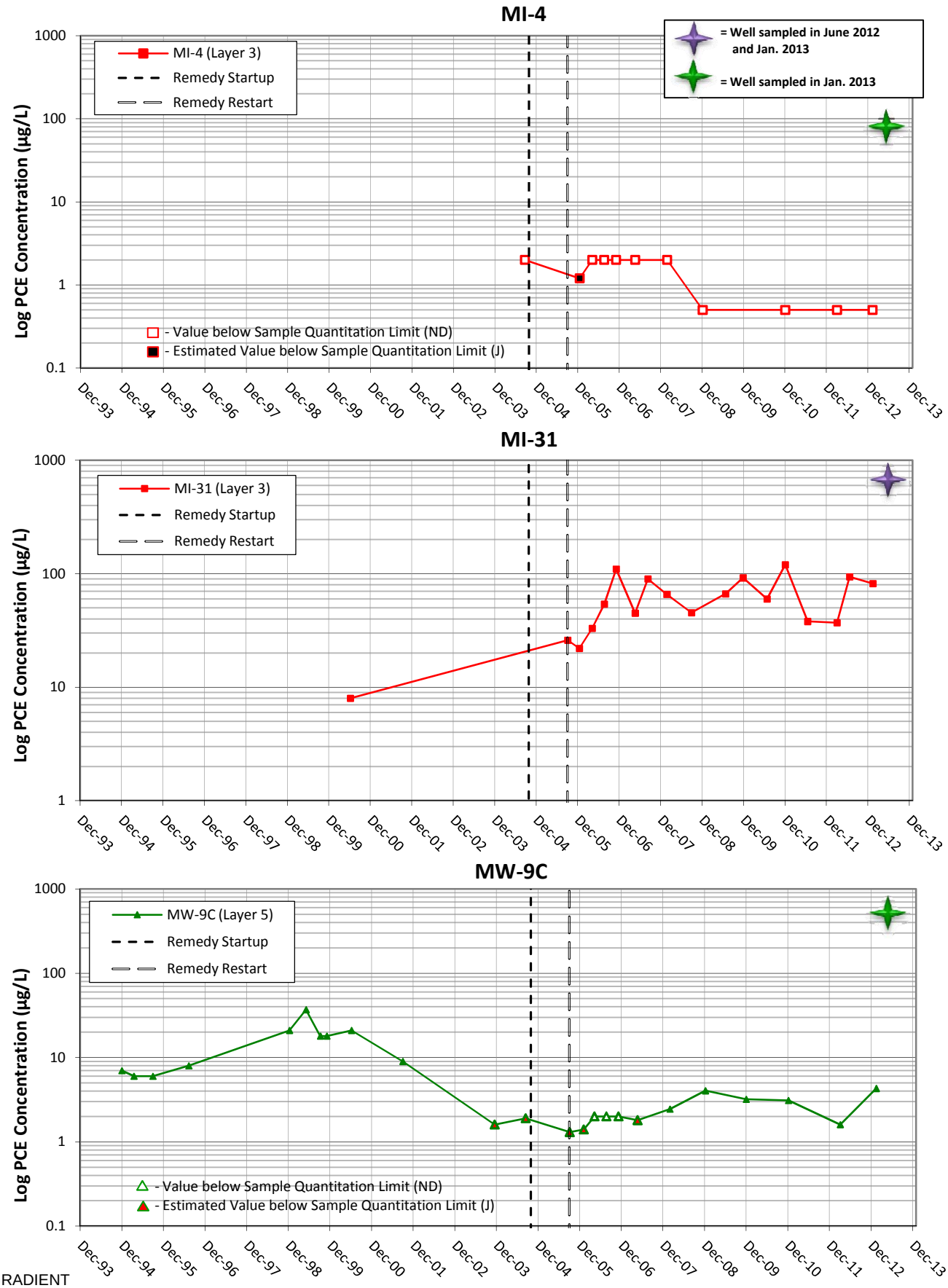
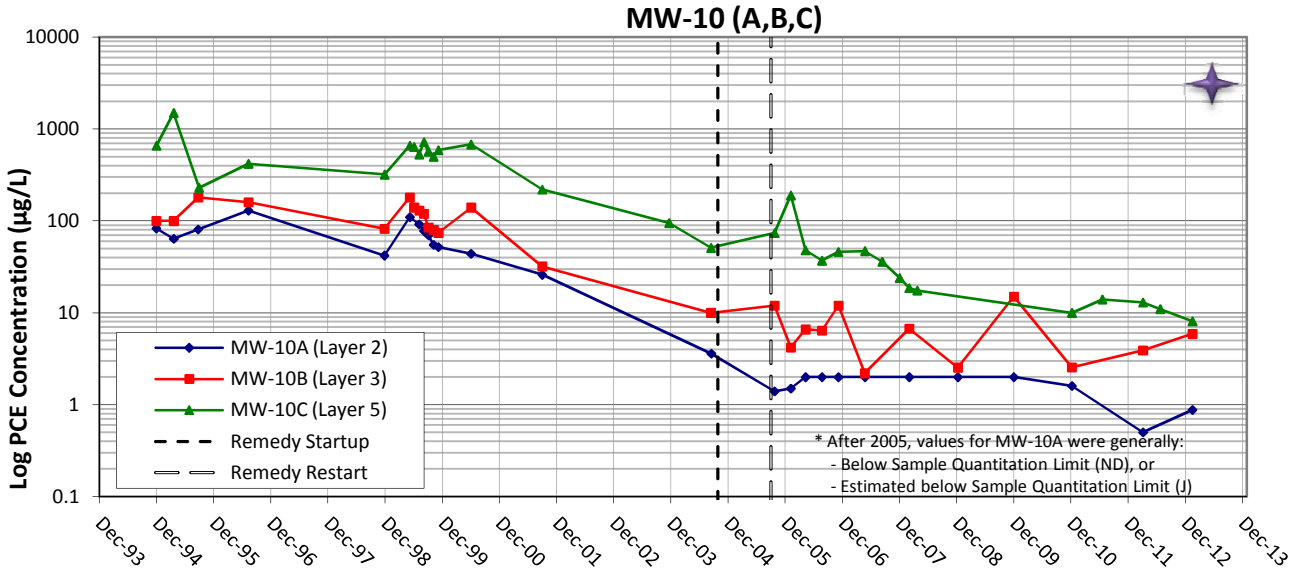
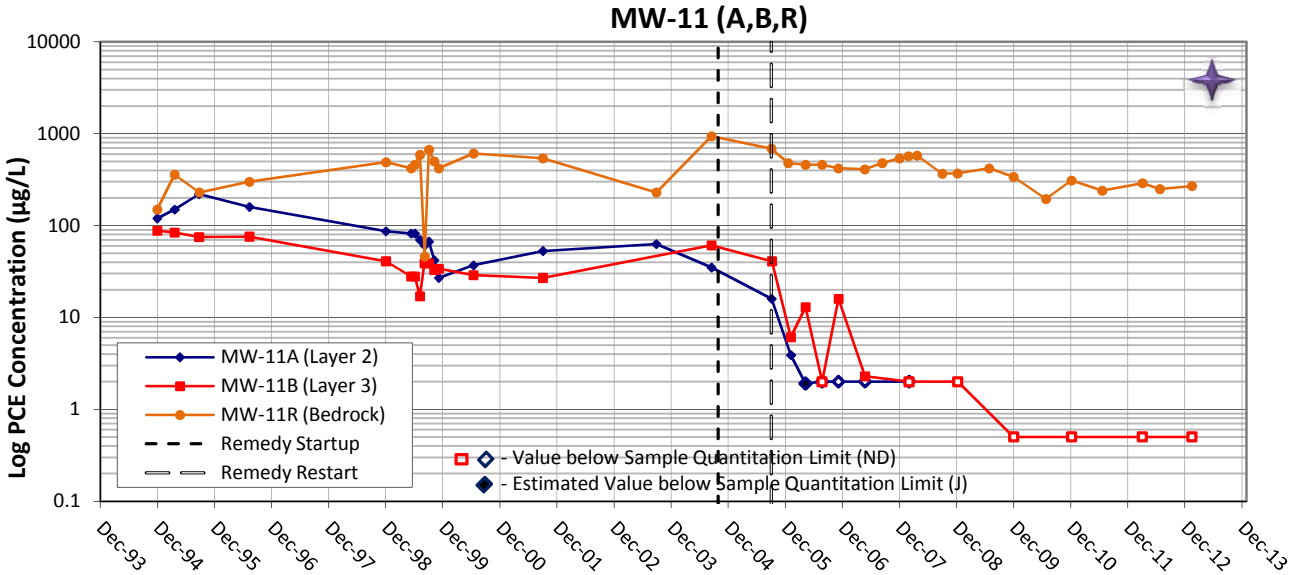


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH





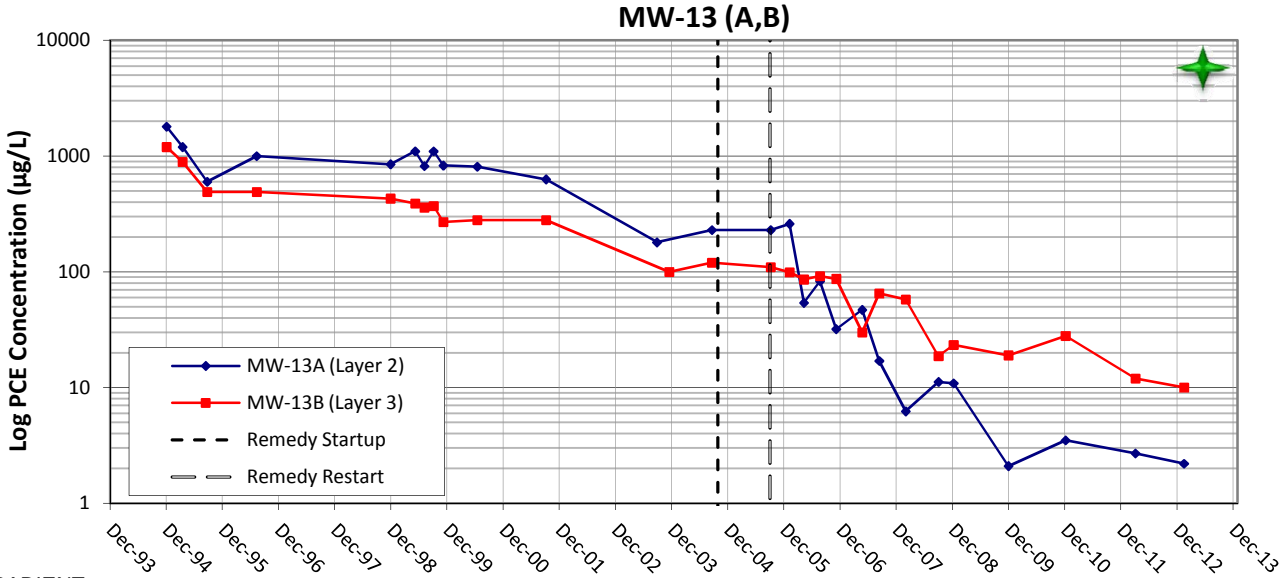


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

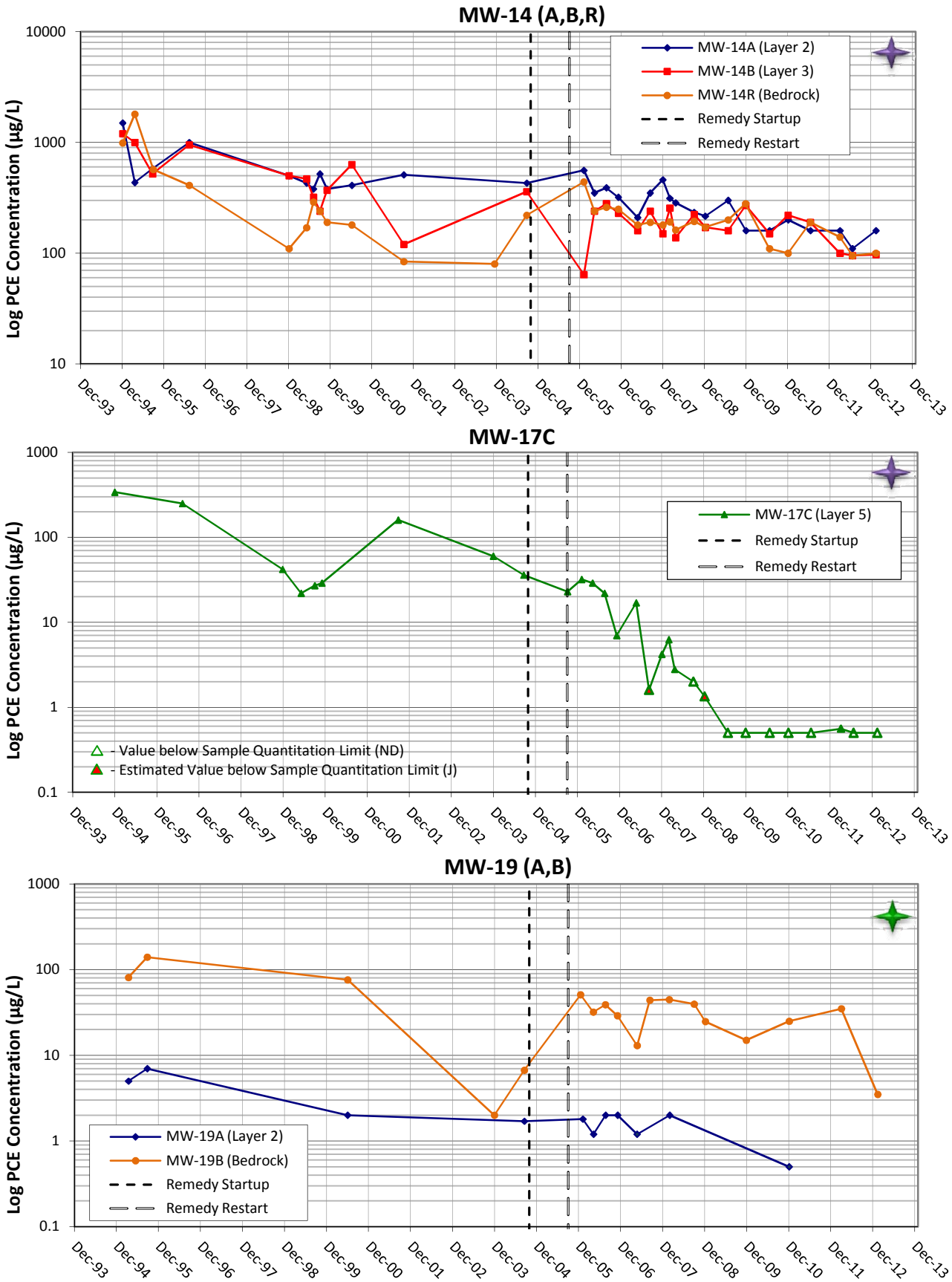


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

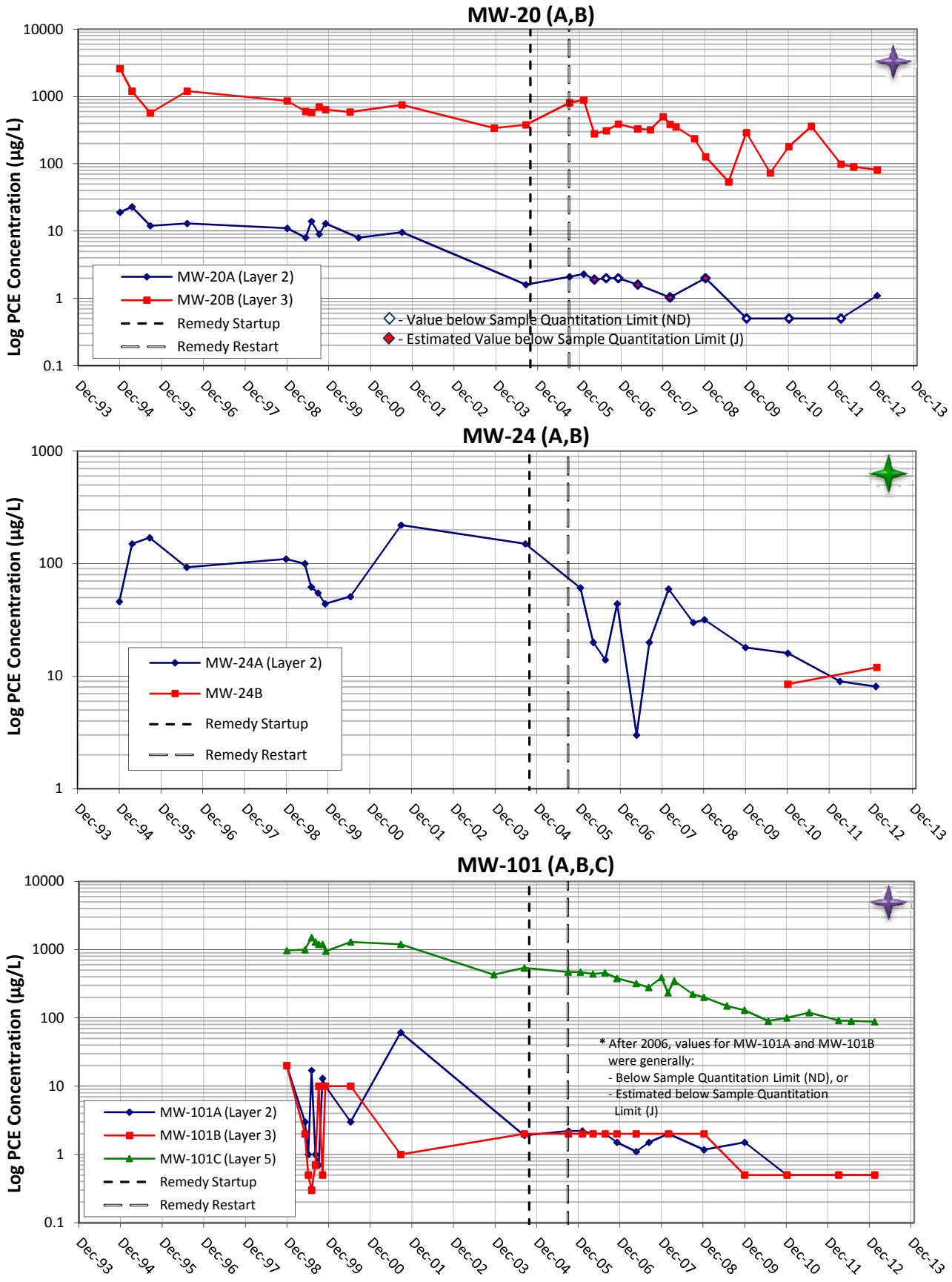


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

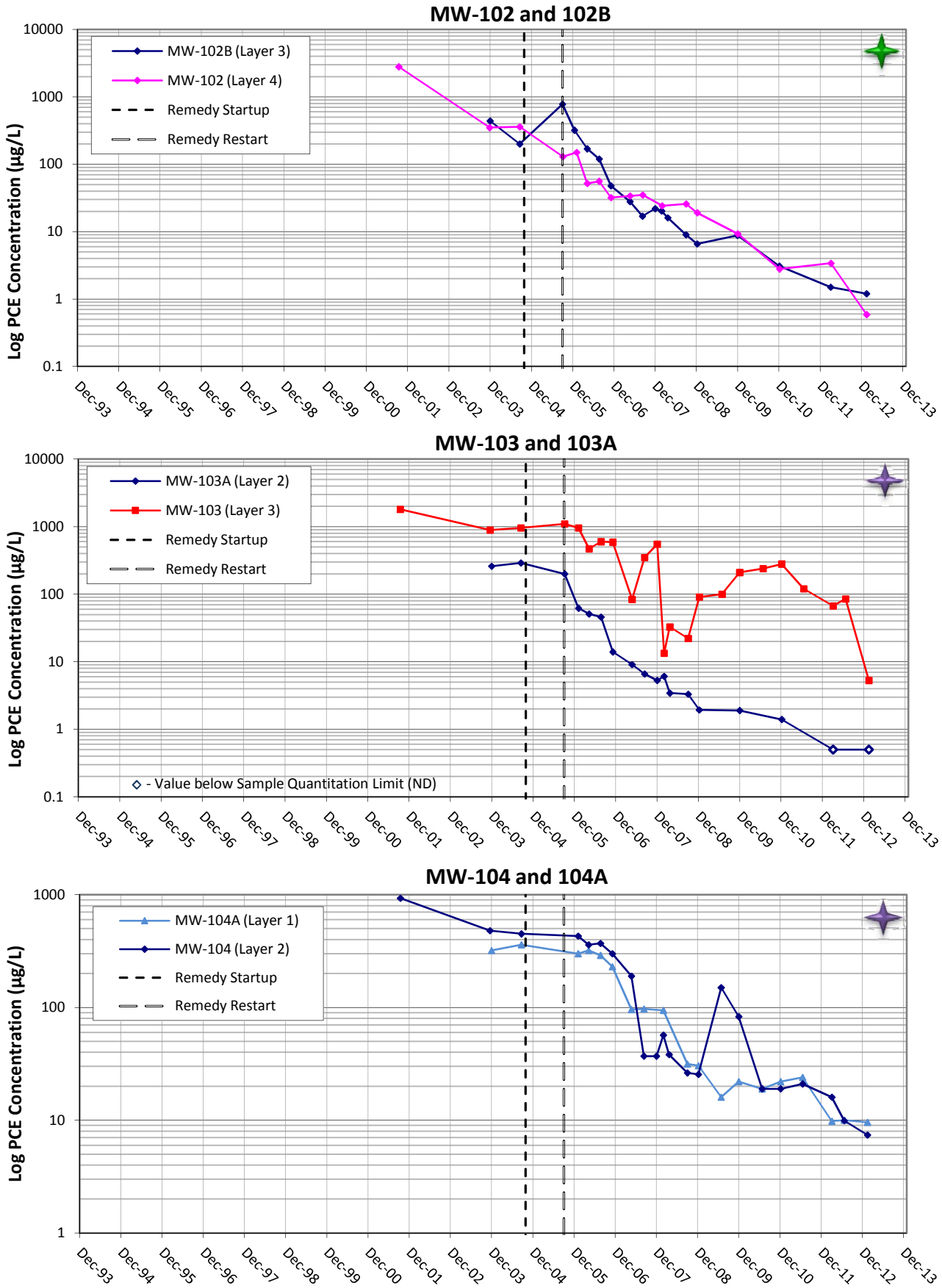


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

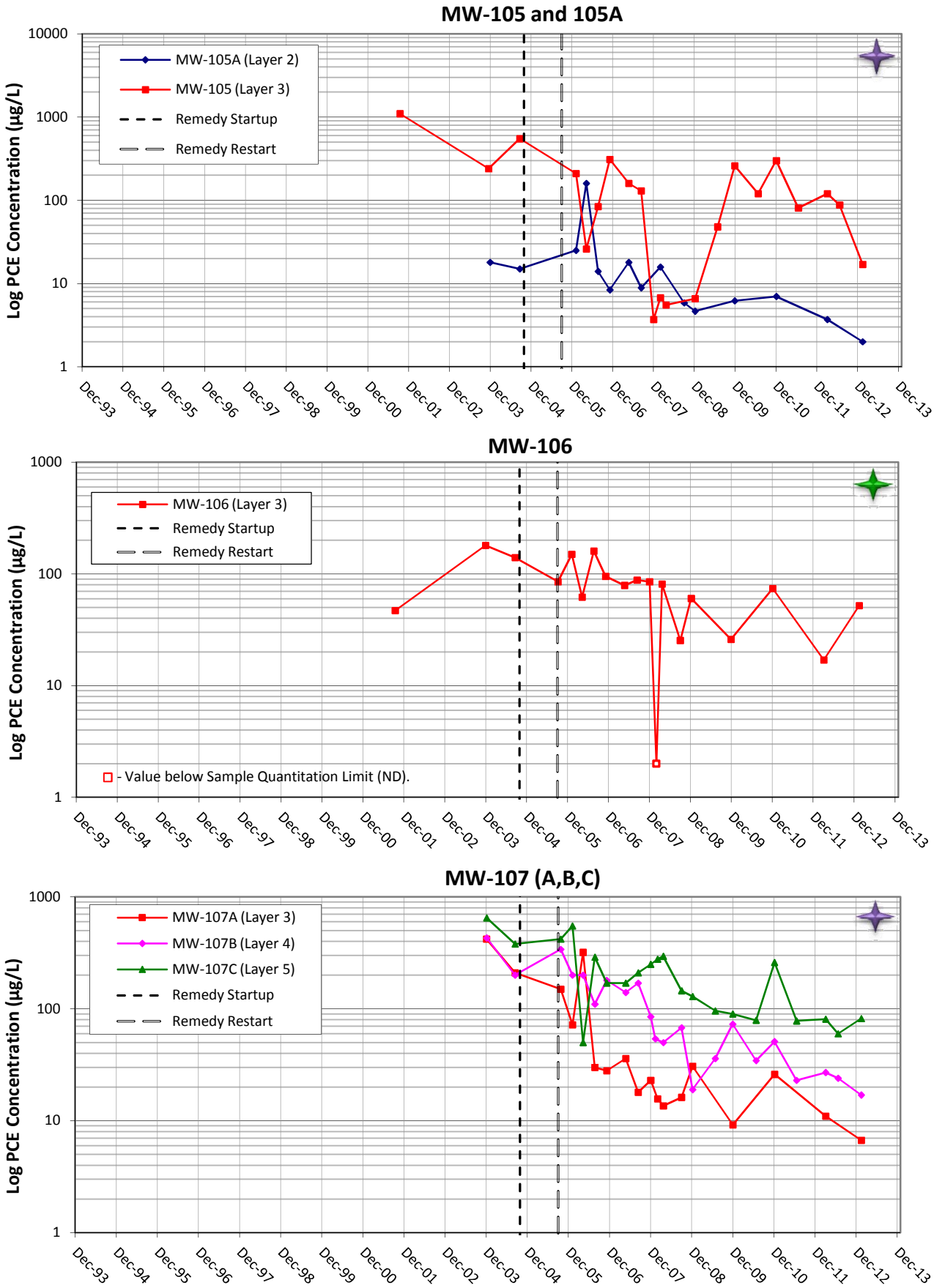


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

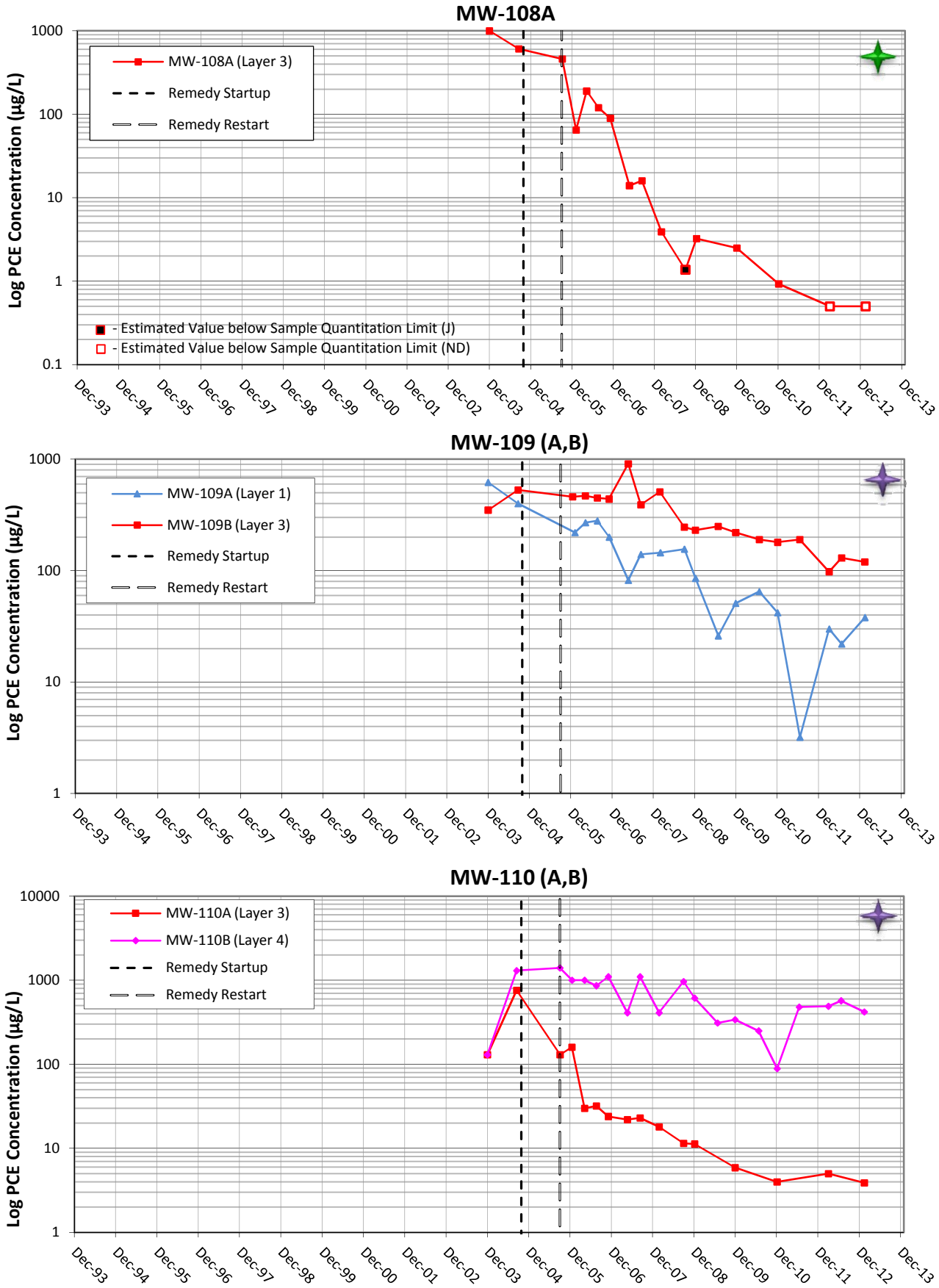


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

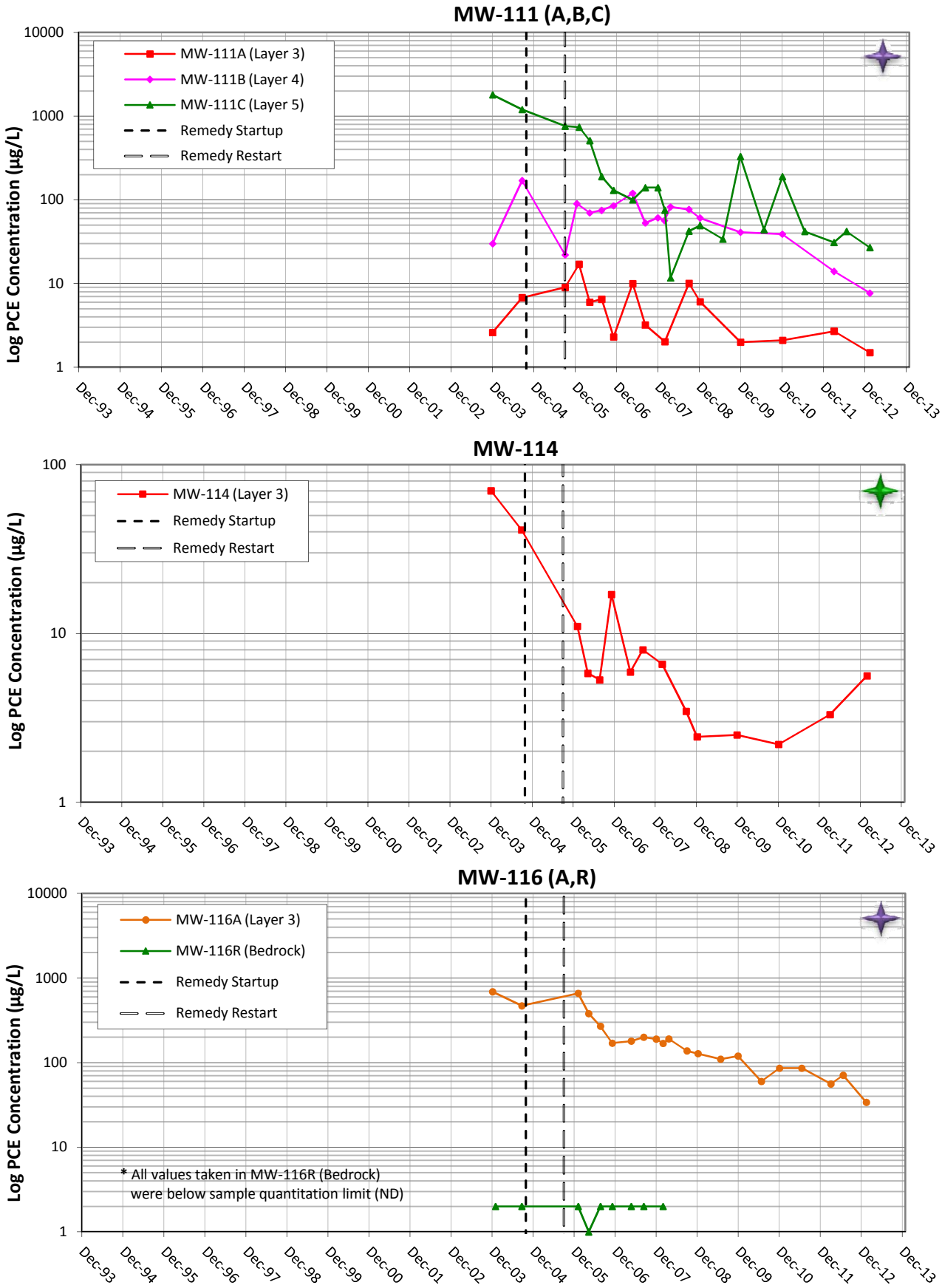


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

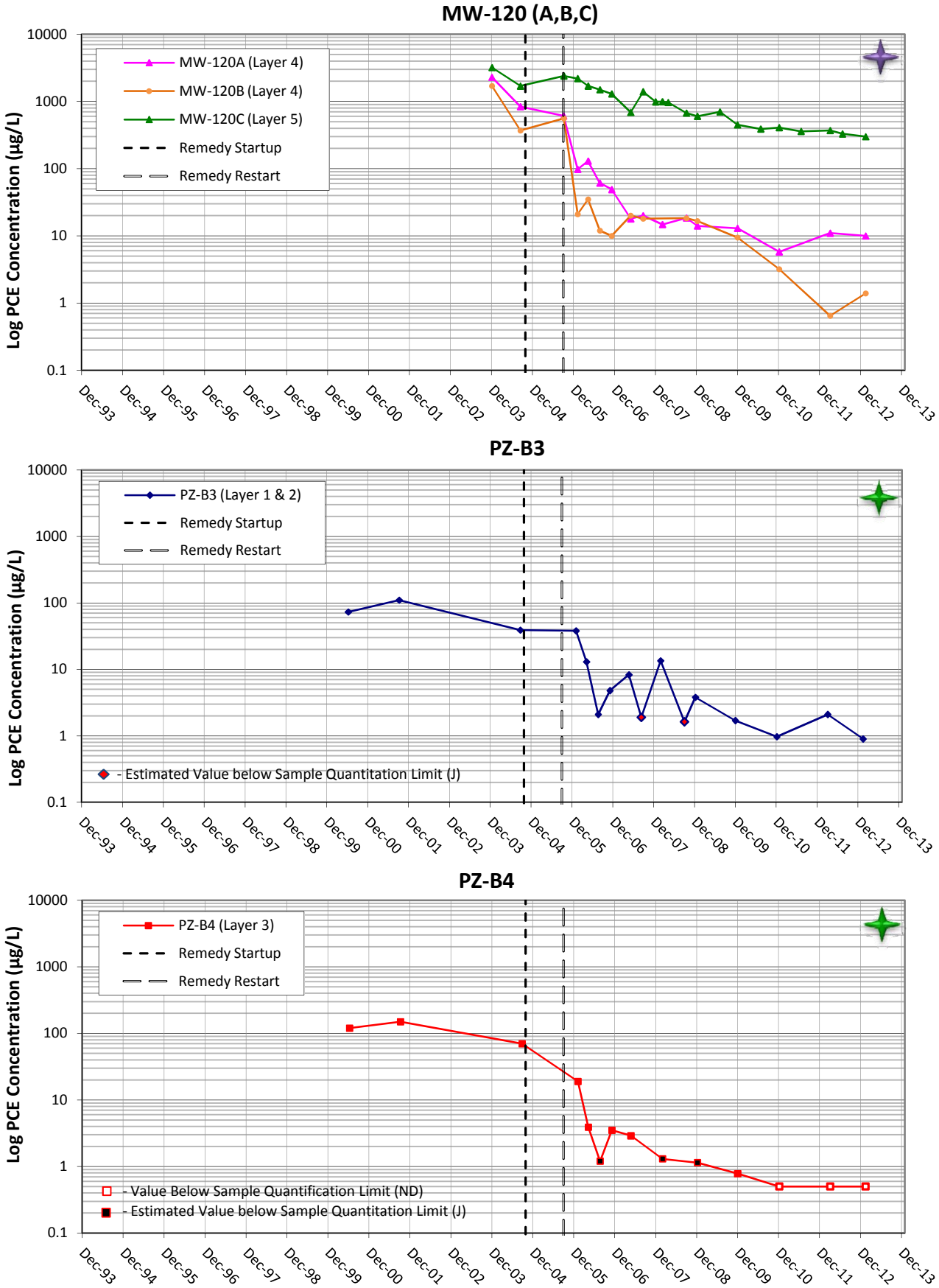


Figure 3.16
PCE Concentration *versus* Time for Select Monitoring Wells
Savage Well Superfund Site, Milford, NH

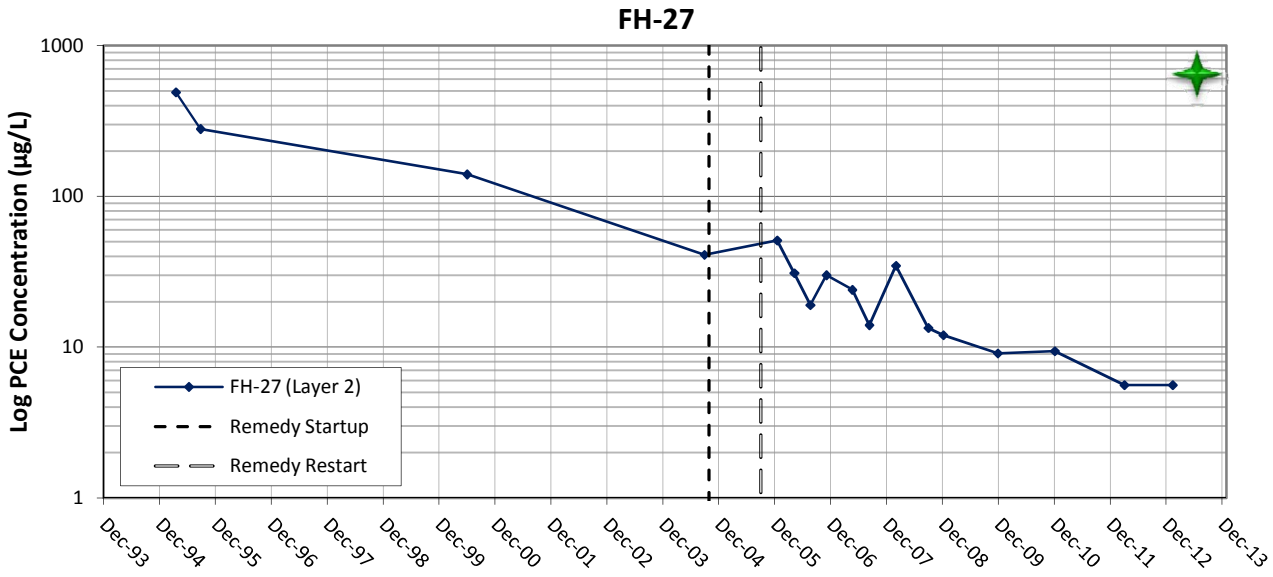


Figure 3.17a
PCE Concentration *versus* Time for Extraction Wells
Savage Well Superfund Site, Milford, NH

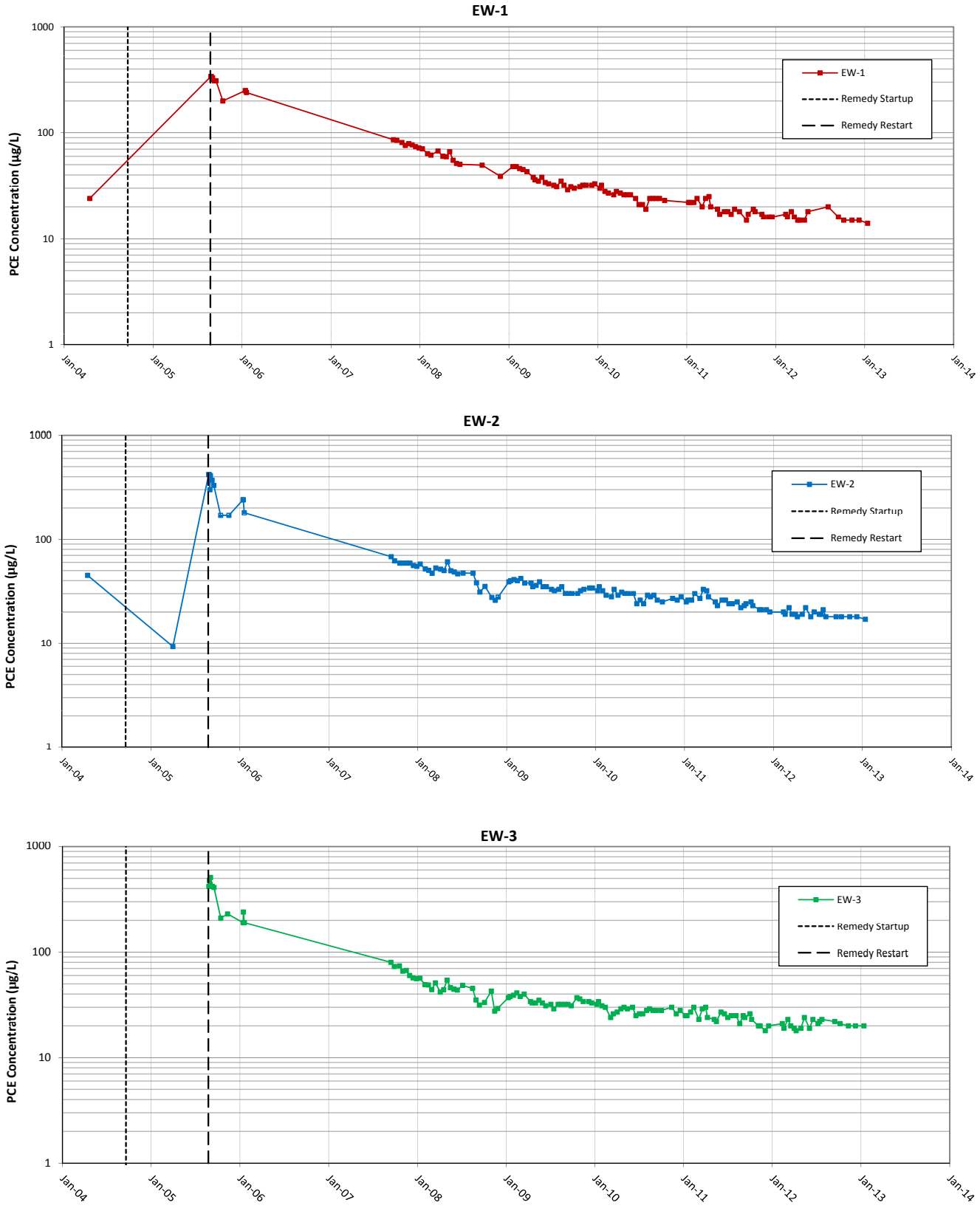


Figure 3.17b
PCE Concentration *versus* Time for Extraction Wells - 2010-2012
Savage Well Superfund Site, Milford, NH

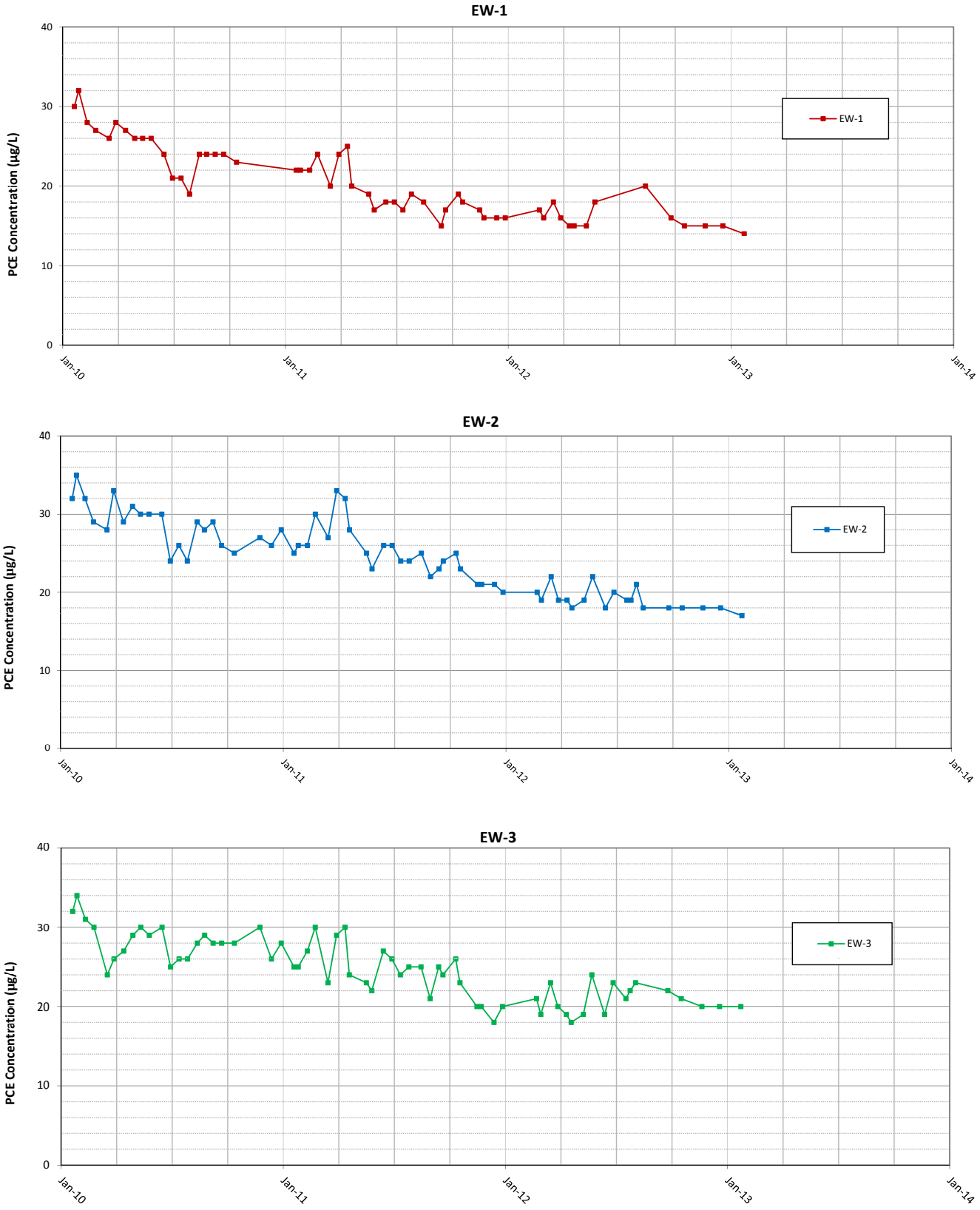
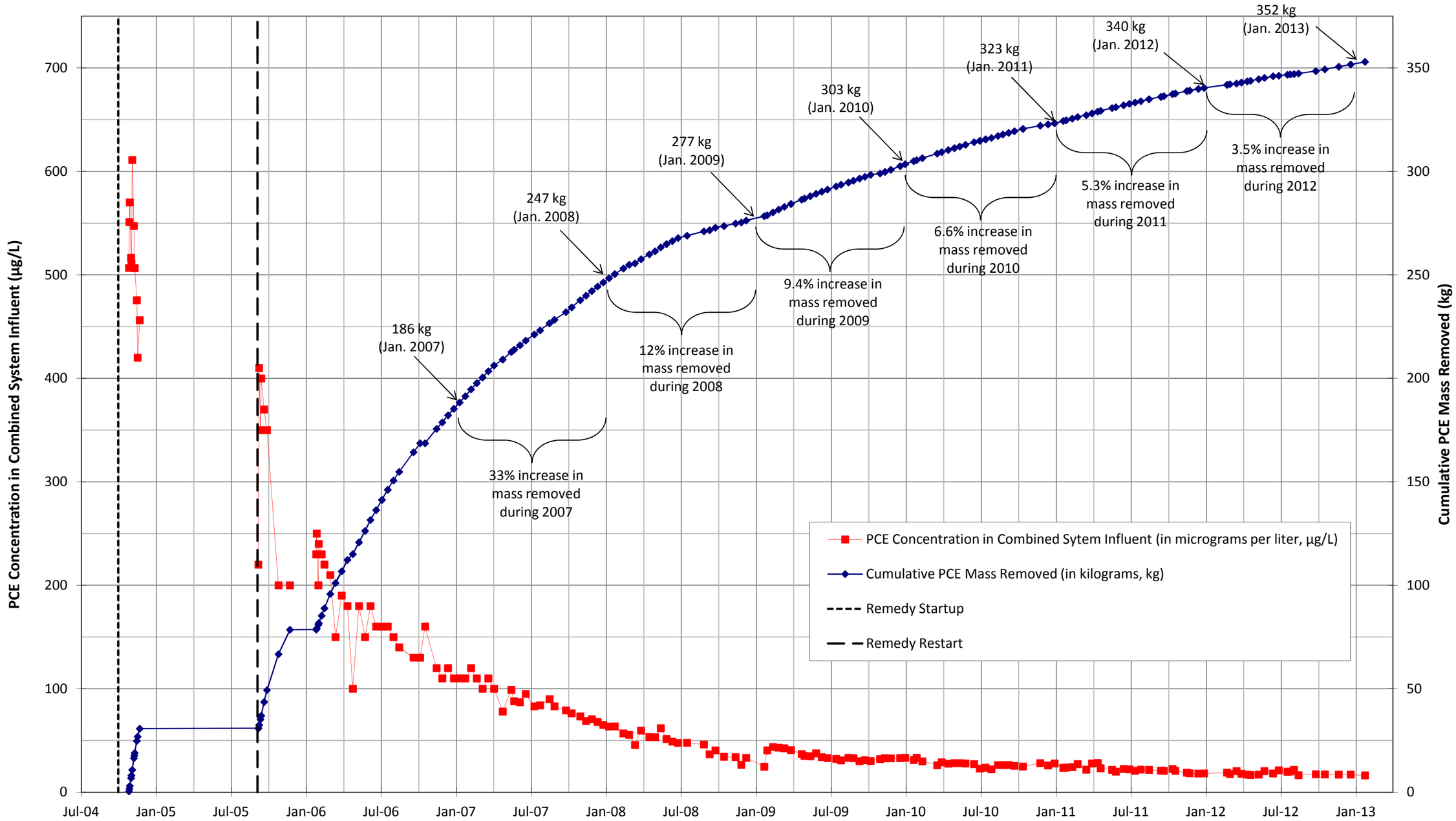
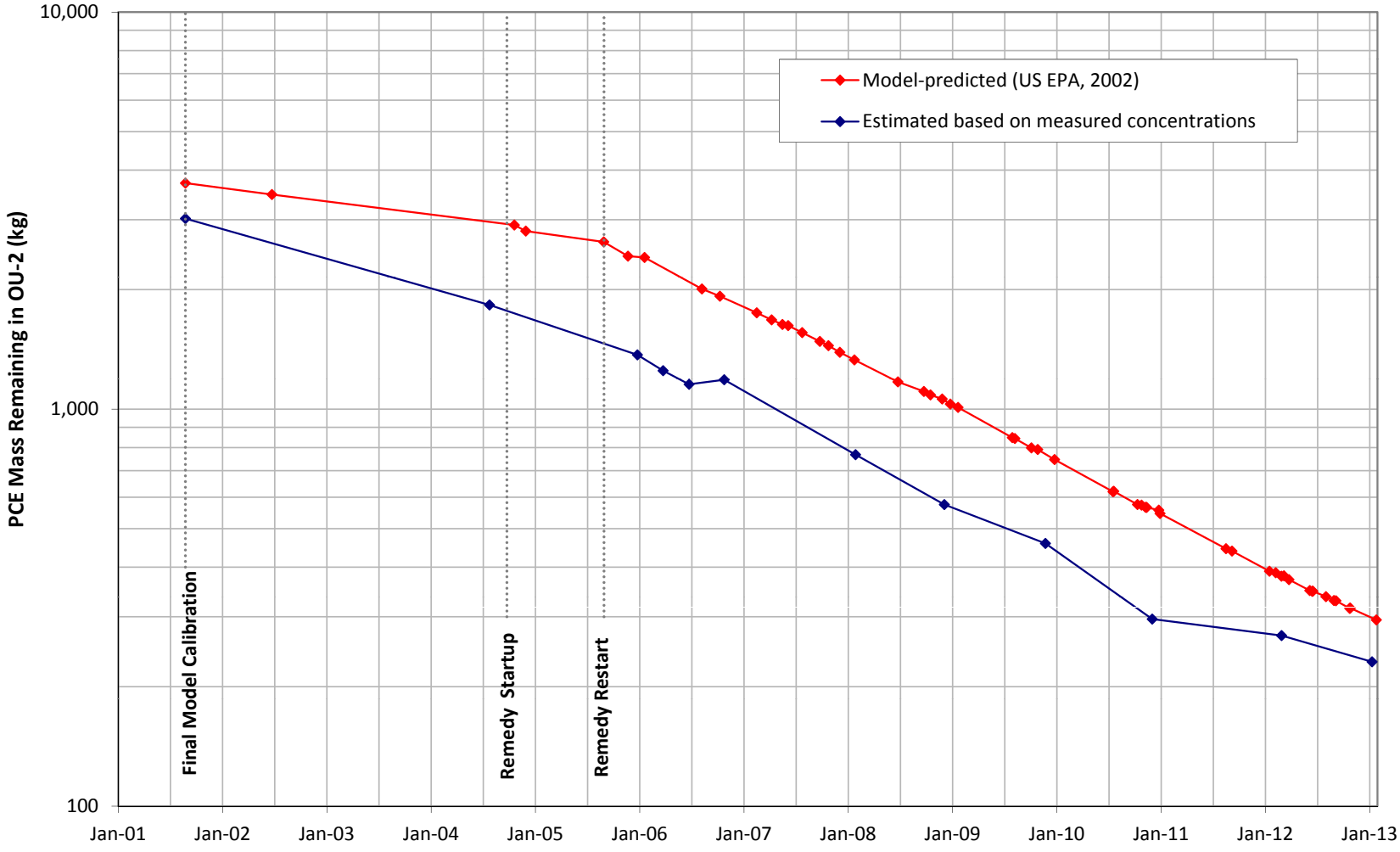


Figure 3.18
PCE Concentration in Combined Influent and Cumulative Estimated PCE Mass Removed
Savage Well Superfund Site, Milford, NH



Note: Tetrachloroethene (PCE) mass removal was estimated using influent concentrations measured approximately every two weeks (every four weeks after August 2012) as part of the system monitoring program. The combined system influent concentration (in µg/L) was obtained as the flow rate weighted average of the influent concentrations from the three extraction wells. The combined influent concentration was used in conjunction with the total volume of water extracted during that period (in liters, L derived from extraction flow rates [in gallons per minute, gpm] and pumping duration) to obtain the total PCE mass removed (in kg) during that period.

Figure 3.19
Comparison of Model-Predicted *versus* Estimated PCE Mass Remaining in OU-2
Savage Well Superfund Site, Milford, NH



Notes:
The 2001 estimated tetrachloroethene (PCE) mass remaining in the aquifer (based on measured concentrations) is based on plume contour maps presented in Figures 2-5 and 2-6 of the 2002 Remedial Design Investigation Report (US EPA, 2002). The 2004 estimated mass is based on contour maps presented in Figures 3-2 through 3-5 of the 2005 Baseline Groundwater Monitoring Report (MACTEC, 2005). Mass estimates for other events are presented in 2006 Quarterly Reports 1 through 4 (January 2006 - November 2006) and subsequent Annual Reports from 2007 to the present. The September 2005 event consisted of a reduced well set that provided insufficient data for estimating mass remaining in the aquifer.

Appendices

Appendices Contents

Appendix A Field Records **(in CD)**
2012 Semi-Annual Sampling – Field Records
2012 Annual Sampling – Field Records
Appendix B Data Validation
2012 Data Validation Memorandum
CSF DC-2 Forms **(in CD)**
Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells
Appendix D Laboratory Reports **(in CD)**
2012 Semi-Annual Sampling – Analytical Data
Chains of Custody
Data Delivery Packages
Laboratory Reports
2012 Annual Sampling – Analytical Data
Chains of Custody
Data Delivery Packages
Laboratory Reports
Appendix E PCE Mass Remaining at OU-2 – Calculations for January 2013

Appendix A

Field Records
(Provided in CD)

SDMS IMAGE REPLACEMENT SHEET
US EPA New England
Superfund Document Management System

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- ☐ Non-Print Material

Additional Comments (optional):

Appendices A, B, and D are contained in a separate file (SDMS# 560843) due to size considerations.

To View This Document, Please Contact the EPA New England Office of Site Remediation and Restoration Records and Information Center
617-918-1440

Appendix B

Data Validation

Memorandum

To: File **Date:** October 9, 2013

From: Laurent C. Levy, Ph.D, P.E.

Subject: 2012 Data Validation
Savage Well Superfund Site, Operable Unit-2 (OU-2)

Overview

Sample Delivery Groups:	2012 Semi-Annual Sampling: L1210533; L1211339; L1211343. 2012 Annual Sampling: L1300865; L1300867; L1301133; L1301134; L1301135; L1301913.
Laboratory:	Alpha Analytical, Inc., Westborough, Massachusetts
Site Name:	Savage Municipal Water Supply Well Superfund Site
Site Location:	Milford, New Hampshire
Event(s):	2012 Semi-Annual and Annual Groundwater Monitoring Program
Collection: Dates:	2012 Semi-Annual Sampling Event: 6/11/2012 - 6/25/2012 2012 Annual Sampling Event: 1/2/2013 – 1/31/2013

Semi-Annual Sampling Event

Volatiles:

SDG[1]: L1210533
1 aqueous/low/sample ID: LOT# 0309NM (distilled water)
1 field blank: G-MW-107B/70_8-FB
1 trip blank/low/sample ID: TRIP_061112

SDG: L1211339
16 aqueous/low/sample IDs: G-MW-103/57_5-I
G-MW-104/28_5-I
G-MW-104A/17_5-I
G-MW-105/57-I
G-MW-107B/70_8-I
G-MW-107C/88-I
G-MW-109A/15-I

[1] SDG = Sample Delivery Group

20 University Road, Cambridge, MA 02138 | 617-395-5000 | www.gradientcorp.com

	G-MW-10C/88_3-I
	G-MW-111C/78_3-I
	G-MW-116A/43_5-I
	G-MW-120C/85-I
	G-MW-14A/28_3-I
	G-MW-14B/50_8-I
	G-MW-14R/86_5-I
	G-MW-17C/85_8-I
	G-MW-20B/44_3-I
1 field duplicate/replicate:	G-MW-107B/70_8-DP
1 trip blank/low/sample ID:	TRIP_062512

SDG: L1211343

5 aqueous/low/sample ID[2]:	G-MI-31/45PL-I
	G-MW-101C/98PL-I
	G-MW-109B/50PL-I
	G-MW-110B/60PL-I
	G-MW-11R/90PL-I
1 field duplicate/replicate:	G-MW-11R/90PL-DP
1 field blank:	G-MW-11R/90PL-FB
1 trip blank/low/sample ID:	TRIP-062512-1

Annual Sampling Event

Volatiles:

SDG: L1300865

1 aqueous/low/sample ID:	LOT #1001NQ (distilled water)
1 field blank:	G-MW-107B/7O_8-FB
1 trip blank/low/sample ID:	TRIP_010213

SDG: L1300867

9 aqueous/low/sample IDs:	G-FH-27/38_5PL-I
	G-MI-4/44PL-I
	G-MW-115B/45_1PL-I
	G-MW-118B/76_9PL-I
	G-MW-18A/49_5PL-I
	G-MW-5A/33PL_I
	G-MW-5B/55_4PL-I
	G-MW-6A/14PL_I
	G-MW-6B/66_8PL-I
1 trip blank/low/sample ID:	TRIP_011413

SDG: L1301133

6 aqueous/low/sample IDs:	G-MW-101C/98PL-I
	G-MW-102B/52PL-I
	G-MW-110A/38_5PL-I

[2] The chain of custody reported the IDs for these samples without "PL." The laboratory analytical report case narrative noted "All Client IDs were amended at the client's request."

	G-MW-110B/61_5PL-I
	G-MW-111B/76_5PL-I
	G-MW-11R/90PL-I
1 field duplicate/replicate:	G-MW-11R/90PL-DP
2 field blanks:	G-MW-111B/76_5PL-FB
	G-MW-11R/90PL-FB
1 trip blank/low/sample ID:	TRIP_011613

SDG: L1301134

7 aqueous/low/sample ID:	G-MI-31/45PL-I
	G-MW-109B/50PL-I[3]
	G-MW-18B/77PL-I
	G-MW-19B/44PL-I[4]
	G-MW-24A/24_5PL-I
	G-MW-24B/36PL-I
	G-MW-3/16_5PL-I
1 field duplicate/replicate:	G-MW-18B/77PL-DP
1 trip blank/low/sample ID:	TRIP_011513

SDG: L1301135

36 aqueous/low/sample IDs:	G-MW-101A/14-I
	G-MW-101B/50-I
	G-MW-102/69_5-I
	G-MW-103/57_5-I
	G-MW-103A/32-I
	G-MW-104/28_5-I
	G-MW-104A/17_5-I
	G-MW-105/60_3-I
	G-MW-105A/21_8-I
	G-MW-106/53_5-I
	G-MW-107A/62-I
	G-MW-107B/70_8-I
	G-MW-107C/88-I
	G-MW-108A/45-I
	G-MW-109A/17_5-I
	G-MW-10A/19_8-I[5]
	G-MW-10B/49-I[5]
	G-MW-10C/88_3-I[5]
	G-MW-111A/47_5-I
	G-MW-111C/78_3-I
	G-MW-116A/43_5-I
	G-MW-11B/58_3-I
	G-MW-120A/59_5-I[6]

[3] The chain of custody reported the ID for this sample as G-MW-109B/55PL-I. The laboratory analytical report case narrative noted: At the client's request, the sample identified as "G-MW-109B/55PL-I" on the chain of custody is reported as "G-MW-109B/50PL-I".

[4] This sample was left off of the chain of custody. The laboratory analytical report case narrative noted: A sample identified as "G-MW-19B/44PL-I" was received but not listed on the Chain of Custody. At the client's request, this sample was analyzed.

[5] These samples were left off of the chain of custody. The laboratory analytical report case narrative noted: Samples identified as "G-MW-10A/19_18.I", "G-MW-10B/49-I", and "G-MW-10C/88_3-I" were received but not listed on the chain of custody. The samples were analyzed at the client's request.

	G-MW-120B/61_8-I
	G-MW-120C/85-I[6]
	G-MW-13A/34_3-I
	G-MW-13B/53_5-I
	G-MW-14A/28_3-I
	G-MW-14B/50_8-I
	G-MW-14R/86_5-I
	G-MW-17C/85_8-I
	G-MW-20A/16-I
	G-MW-20B/44_3-I
	G-MW-9C/82_9-I
	G-PZ-B3/14-I
	G-PZ-B4/47_5-I
1 field duplicate/replicate:	G-MW-107B/70_8-R
1 trip blank/low/sample ID:	TRIP_011713

<u>SDG: L1301913</u>

1 aqueous/low/sample ID:	G-MW-114/42_8-I

Summary

A Tier I data validation review (Complete Sample Delivery Group File [CSF] audit) was performed on the volatile organic compound (VOC) analytical data from 80 groundwater water samples, 5 field replicates/duplicates, 8 trip blanks, 2 distilled water blanks, and 5 field blanks contained in 9 sample delivery groups (SDGs) (see associated CSF Forms DC-2, attached).

The samples were collected by GeoInsight, Inc. of Manchester, NH at the Savage Municipal Water Supply Well Superfund Site located in Milford, NH in support of the 2012 semi-annual and annual groundwater monitoring program.

This report includes sample data for the 2012 semi-annual sampling event (samples collected on June 11 and 25, 2012) and the 2012 annual sampling event (samples collected on January 2, 14, 15, 16, 17, and 31, 2013). The samples were analyzed by Alpha Analytical, Inc., Westborough, MA for VOCs according to the protocols described in US EPA SW-846 Method 8260.

The data were evaluated for "completeness" using Region I Data Validation Functional Guidelines for Evaluating Organic Analyses (US EPA, 1996b), and the Region I Tiered Organic and Inorganic Data Validation Guidelines (US EPA, 1993).

All criteria were met for completeness.

Attachments:

CSF Forms DC-2 for 2012 Semi-Annual Sampling Event SDGs (L1210533, L1211339, and L1211343)
CSF Forms DC-2 for 2012 Annual Sampling Event SDGs (L1300865, L1300867, L1301133, L1301134, L1301135, and L1301913)

[6] Based on previous annual sampling results, it is apparent that samples G-MW-120A/59_5-I and G-MW-120C/85-I vials were mislabeled, therefore G-MW-120A/59_5-I results should be considered for G-MW-120C/85-I, and *vice versa*.

CSF DC-2 Forms
(Provided in CD)

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Appendices A, B, and D are contained in a separate file (SDMS# 560843) due to size considerations.

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Appendix C

Historical Groundwater Quality Data at OU-2 Monitoring Wells

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	FH-4													
Date	(µg/L)	12/22/2005		4/13/2006		7/27/2006		11/7/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	5	U
Acetone	-	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	2	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	FH-5					
Date	(µg/L)	7/27/2006		8/16/2007		12/9/2010	
Volatile Organic Compounds (µg/L)							
1,1,1-Trichloroethane	200	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	5	U	5	U
Acetone	-	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	J	3	U
Tetrachloroethene	5	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	0.5	U

Well ID	MCL [1]	FH-9											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	6.69	
Acetone	-	5	U	20		34		36		16	B	19.4	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	FH-27																									
Date	(µg/L)	12/21/2005		4/11/2006		7/25/2006		11/7/2006		4/25/2007		8/14/2007		1/29/2008		9/2/2008		12/9/2008		11/30/2009		12/6/2010		3/5/2012		1/14/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2		1.2	J	1.1	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	3.8		2.4		2		2		1.8	J	1.5	J	1.87	J	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2		1.2	J	2	U	2	U	1	J	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	2	U	2	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	8		3.3		5.3		2.4		1.9	J	4.3		1.67	J	2.51		1.11	J	1.4		1.1		0.59		1.1	
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	2	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	51		31		19		30		24		14		34.7		13.4		12		9.1		9.4		5.6		5.6	
Trichloroethene	5	15		7.6		10		8.4		6.4		8.9		8		3.28		3.43		2.3		2.9		11		2.1	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MI-4																					
Date	(µg/L)	12/22/2005		4/11/2006		7/25/2006		11/7/2006		4/25/2007		1/31/2008		12/9/2008		11/30/2009		12/6/2010		3/6/2012		1/14/2013	
Volatile Organic Compounds (µg/L)																							
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	2	U	5	U	5	U	5	U	5	U	2	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	2	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	1.2	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MI-10													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	16		2	U	2	U	5	U
Acetone	-	5	U	14		47		33		22	B	14.5		10	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	1.5	J	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MI-11													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U
Acetone	-	5	U	17		44		35		17	B	39		17.4	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	3.9	J	5	U
Tetrachloroethene	5	1.2	J	1.8	J	2	U	1.9	J	2.1		1.9	J	1.51	J
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MI-31																									
Date	(µg/L)	9/8/2005		9/8/2005		12/20/2005		4/11/2006		7/25/2006		11/7/2006		4/25/2007		8/15/2007		1/29/2008		9/2/2008		12/9/2008		6/29/2009		6/29/2009	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2.4		2.3	U	2.8		2.8		1.6	J	1.4	J	1.1	J	2	U	1.18	J	1.52	J	1.25	J	0.59		0.66	
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U	2	U	2	U	5	U	5	U
Acetone	-	5	U	5	U	5	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	2	U	2	U	5	U	2	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U
Tetrachloroethene	5	22		26		22		33		54		110		45		90		65.8		45.3		30.6		66		67	
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2.3		1	J	2	J	1.26	J	2	U	2	U	1.3		1.4	

bladder pump peristaltic pump replicate lab analysis

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MI-31													
Date	(µg/L)	11/30/2009		6/28/2010		12/6/2010		6/21/2011		3/5/2012		6/25/2012		1/15/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	0.5	U	1	U	0.84		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.75	U	1.5	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	1.5	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	10	U	5	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	10	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	1	U	0.5	U	0.5	U	0.5	U	0.52		0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	6	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	92		60		120		38		37		94		82	
Trichloroethene	5	1.8		1.3		2.2		0.75		0.72		2.2		1.7	

Well ID	MCL [1]	MW-3	
Date	(µg/L)	1/15/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-5A	
Date	(µg/L)	1/14/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-5B	
Date	(µg/L)	1/14/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-6A	
Date	(µg/L)	1/14/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-6B	
Date	(µg/L)	1/14/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-9C																									
Date	(µg/L)	9/9/2005		1/9/2006		1/9/2006-DP		4/13/2006		4/13/2006-DP		7/27/2006		7/27/2006-DP		11/9/2006		11/9/2006-DP		4/27/2007		4/27/2007-DP		8/16/2007		8/16/2007-DP	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U
Acetone	-	6.6		5	U	5	U	21		25		31		31		41		30		15	B	18	B	5	U	21	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	1.3	J	1.4	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	1.8	J	1.9	J	2	U	6.2	
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MW-9C											
Date	(µg/L)	2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	13.2		8.84		5	U	5	U	5	U	5	U
Acetone	-	17.5		25.5		11		24		23		16	
Chlorobenzene	100	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	2.45		4.04		3.2		3.1		1.6		4.3	
Trichloroethene	5	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-10A																									
Date	(µg/L)	9/27/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	3.5		2.3		1.5	J	1.1	J	6		2.2		2.6		1.42	J	3.1		3.9		1		2.9			
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U		
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U		
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U		
2-Butanone (Methyl Ethyl Ketone)	-	2.8		2	U	2	U	7.4		2	U	2	U	5	U	7.48		5	U	5	U	5	U	5	U		
Acetone	-	5.5		5	U	22		40		34		16	B	17.8		22.1		11		30		26		17			
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U		
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U		
Tetrachloroethene	5	1.4	J	1.5	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	1.6		0.5	U	0.88			
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U		

Well ID	MCL [1]	MW-10B																									
Date	(µg/L)	9/27/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/11/2008		12/3/2009		12/9/2010		12/9/2010-DP		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	6		6.7		5.4		3.9		1.4	J	2.9		3.33		2	U	1.5		0.5	U	0.5	U	2.5		1.8	
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	3.1		2	U	2	U	2	U	2	U	2	U	5	U	6.16		5	U	5	U	5	U	5	U	5	U
Acetone	-	5.2		5	U	21		28		31		17	B	16.2		23.1		5.4		23		21		14		19	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	12		4.2		6.6		6.4		12		2.2		6.75		2.54		15		2.5		2.6		3.9		5.9	
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-10C																									
Date	(µg/L)	9/27/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		12/9/2010		6/22/2011		3/7/2012	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	4.4		4.7		4.1		3.6		2.3		1.7	J	1.5	J	2	U	2	U	2	U	2.3		0.66		0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2.9		2	U	2	U	2	U	2	U	2	U	2	U	22		5	U	5	U	5	U	5.8		5	U
Acetone	-	5.1		5	U	21		36		30		15	B	24		14		17.2		34.1		30		14		29	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	1.1	J	2		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	74		190		48		37		46		47		36		24		18.6		17.5		10		14		13	
Trichloroethene	5	2.1		2.8		1.4	J	1.1	J	1.1	J	1.2	J	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-10C			
Date	(µg/L)	6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	200	0.5	U	0.78	
1,1,2-Trichloroethane	5	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U
Acetone	-	12		15	
Chlorobenzene	100	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U
Tetrachloroethene	5	11		8.1	
Trichloroethene	5	0.5	U	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-11A													
Date	(µg/L)	9/7/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U
Acetone	-	5	U	5	U	23		28		30		16	B	17.4	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	16		3.9		1.9	J	2	U	2	U	2	U	2	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MW-11B																									
Date	(µg/L)	9/9/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	9.88		5	U	5	U	5	U	5	U
Acetone	-	3	J	5	U	24		34		33		24	B	17.9		23.7		12		23		28		20	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2.5		2	U	2	U	2	U	1.3	J	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	41		6.1		13		2	U	16		2.3		2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	4.9		1.1	J	2	U	2	U	1.4	J	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-11R																									
Date	(µg/L)	9/6/2005		12/22/2005		4/12/2006		7/26/2006		11/8/2006		4/26/2007		8/14/2007		12/4/2007		1/30/2008		3/25/2008		9/3/2008		9/3/2008-DP		12/9/2008	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	5	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	-	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	7	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	25	U	25	U	10	U	25	U	10	U
Acetone	-	25	U	25	U	25	U	25	U	25	U	26	JB	25	U	25	U	25	U	25	U	25	U	25	U	10	U
Chlorobenzene	100	10	U	10	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
cis-1,2-Dichloroethene	70	59		52		43		37		32		35		36		46		38.4		40.2		29.8		33.4		27.4	
Dichloromethane (Methylene Chloride)	5	10	U	10	U	10	U	25	U	10	U	11	JB	25	U	25	U	25	U	10	U	10	U	25	U	10	U
Tetrachloroethene	5	690		480		460		460		420		410		480		540		570		579		368		345		370	
Trichloroethene	5	49		42		40		40		40		44		44		55		53.5		53.4		38.8		37.8		36.8	

Well ID	MCL [1]	MW-11R																									
Date	(µg/L)	12/9/2008-DP		6/29/2009		6/29/2009		6/29/2009-DP		6/29/2009-DP		12/2/2009		6/28/2010		6/28/2010-DP		12/8/2010		12/8/2010-DP		12/9/2010 - 94'		12/9/2010 - 98'		12/9/2010 - 102'	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	10	U	1	U	5	U	1.2	U	1.2	U	5	U	5	U	2.5	U	5	U	5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	10	U	16		7.5	U	1.9	U	1.9	U	7.5	U	7.5	U	3.8	U	7.5	U	7.5	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	10	U	1.5	U	7.5	U	1.9	U	1.9	U	7.5	U	7.5	U	3.8	U	7.5	U	7.5	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	10	U	1	U	5	U	1.2	U	1.2	U	5	U	5	U	2.5	U	5	U	5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	50	U	12	U	12	U	50	U	50	U	25	U	50	U	50	U	5	U	5	U	5	U
Acetone	-	10	U	10	U	50	U	12	U	12	U	50	U	50	U	25	U	50	U	50	U	31		14		24	
Chlorobenzene	100	10	U	1	U	5	U	1.2	U	1.2	U	5	U	5	U	2.5	U	5	U	5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	28.4		30		29		29		30		27		22		21		28		30		28		28		27	
Dichloromethane (Methylene Chloride)	5	10	U	6	U	30	U	7.5	U	7.5	U	30	U	30	U	15	U	30	U	30	U	3	U	3	U	3	U
Tetrachloroethene	5	346		450		360		420		420		340		210		180		310		310		91		90		100	
Trichloroethene	5	35.4		41		38		39		39		38		30		32		38		40		34		39		38	
						replicate lab analysis				replicate lab analysis								low flow sampling - intake at 90'						passive diffusion bag sampling at varying depths			

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-11R											
Date	(µg/L)	6/22/2011		3/6/2012		6/25/2012		6/25/2012-DP		1/16/2013		1/16/2013 -DP	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U
1,1,2-Trichloroethane	5	7.5	U	0.75	U	0.75	U	0.75	U	3.8	U	3.8	U
1,1-Dichloroethane	-	7.5	U	0.75	U	0.75	U	0.75	U	3.8	U	3.8	U
1,1-Dichloroethene	7	5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U
2-Butanone (Methyl Ethyl Ketone)	-	50	U	5	U	5	U	5	U	25	U	25	U
Acetone	-	50	U	5	U	5	U	5	U	25	U	25	U
Chlorobenzene	100	5	U	0.5	U	0.5	U	0.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	70	18		23		20		21		19		18	
Dichloromethane (Methylene Chloride)	5	30	U	3	U	3	U	3	U	15	U	15	U
Tetrachloroethene	5	240		290		250		250		270		270	
Trichloroethene	5	32		38		38		41		39		37	

Well ID	MCL [1]	MW-12A													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U
Acetone	-	5	U	17		35		40		16	B	16.8		8.2	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	1.3	J	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-12B																	
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)																			
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U	14.7		5	U
Acetone	-	5	U	15		37		46		17	B	32		16.9		73		8.4	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	3.2	J	5	U	2	U	3	U
Tetrachloroethene	5	1.3	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-13A																									
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	4.8		4.9		3.6		4.4		4.2		3.4		2.9		3.59		3.66		3.08		2.1		3.4		1.7	
1,1,2-Trichloroethane	5	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	4	U	1.2	J	1.2	J	1.2	J	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	4	U	2	U	2	U	2	U	2	U	5	U	2	U	13		3.29		5	U	5	U	5	U
Acetone	-	5	U	10	U	20		39		39		17	B	23		15.7		68.2		24		12		11		40	
Chlorobenzene	100	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	13		15		2.5		3.2		1.6	J	2.5		2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	10	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	230		260		54		83		32		47		17		6.24		11.2		10.9		2.1		3.5		2.7	
Trichloroethene	5	15		16		3		4.1		2.4		3.2		1	J	2	U	2	U	2	U	0.5	U	2.1		0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-13A	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	2.1	
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	27	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	2.2	
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-13B																											
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	5.6		5.5		4.7		4.2		5.2		4.2		4.2		6.12		5.37		4.5		2.4		2.8		1.7	
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	1.5	J	1.5	J	1.3	J	1.2	J	1.2	J	2	U	2	U	1	J	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	9.69		9.6		5	U	5	U	5	U
Acetone	-	5	U	5	U	19		33		35		14	B	29		16.4		67.6		25.4		14		15		26	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	3.1		3.1		2.8		2.8		2.6		2	U	1.6	J	1.52	J	2	U	2	U	0.54		1.9		0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	4.9	J	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	110		99		86		92		87		30		65		57.8		18.7		23.4		19		28		12	
Trichloroethene	5	5		4.8		4.5		6.3		5.3		1.7	J	4.1		3.4		1.26	J	1.43	J	1.3		3.8		0.57	

Well ID	MCL [1]	MW-13B	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	1.4	
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	28	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	10	
Trichloroethene	5	0.75	

Well ID	MCL [1]	MW-14A																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009		12/3/2009	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	10	U	10	U	10	U	10	U	4	U	10	U	10	U	10	U	4	U	4	U	4	U	1	U	2.5	U
1,1,2-Trichloroethane	5	10	U	10	U	10	U	10	U	4	U	10	U	10	U	10	U	4	U	4	U	4	U	1.5	U	3.8	U
1,1-Dichloroethane	-	8.9	J	8.9	J	8.2	J	8.8	J	6.5		7.2	J	9.8	J	7.6	J	9.26		4.94		4.78		5.2		3.9	
1,1-Dichloroethene	7	5.6	J	10	U	6.8	J	5.8	J	4.2		6	J	8.6	J	5.75	J	7.06		3.58	J	3.5	J	1	U	3	
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	10	U	10	U	4	U	25	U	10	U	5.55	J	10	U	12.1		7.18		10	U	25	U
Acetone	-	25	U	27		52		50		20	B	37		30		25.4		35.5		67.6		25.1		11		25	U
Chlorobenzene	100	10	U	10	U	10	U	10	U	4	U	10	U	10	U	10	U	4	U	4	U	4	U	1	U	2.5	U
cis-1,2-Dichloroethene	70	26		31		27		29		23		21		34		27.6		30.6		18.1		17.1		20		13	
Dichloromethane (Methylene Chloride)	5	25	U	10	U	25	U	25	U	7.8	JB	5.9	J	25	U	25	U	4	U	4	U	4	U	6	U	15	U
Tetrachloroethene	5	560		350		390		320		210		350		460		313		285		234		216		300		160	
Trichloroethene	5	51		57		49		56		44		44		60		48.8		62		34		34.6		40		26	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-14A											
Date	(µg/L)	6/28/2010		12/9/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	2.5	U	0.5	U	2.5	U	2.5	U	1.2	U	1.2	U
1,1,2-Trichloroethane	5	3.8	U	0.75	U	3.8	U	3.8	U	1.9	U	1.9	U
1,1-Dichloroethane	-	3.8	U	4.3		3.8	U	3.8	U	2.3		2.8	
1,1-Dichloroethene	7	2.6		3.4		2.5	U	2.5	U	1.8		2.4	
2-Butanone (Methyl Ethyl Ketone)	-	25	U	5	U	25	U	25	U	12	U	12	U
Acetone	-	27		9.5		59		54		18		26	
Chlorobenzene	100	2.5	U	0.5	U	2.5	U	2.5	U	1.2	U	1.2	U
cis-1,2-Dichloroethene	70	11		16		8.6		8		6.7		8.5	
Dichloromethane (Methylene Chloride)	5	15	U	3	U	15	U	15	U	7.5	U	7.5	U
Tetrachloroethene	5	160		200		160		160		110		160	
Trichloroethene	5	24		31		21		21		18		28	

Well ID	MCL [1]	MW-14B																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		2/4/2008-DP		3/26/2008		9/4/2008		12/11/2008		12/11/2008-DP	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	1.4	J	2	J	1.7	J	2	U	4	U	2	U	1.2	J	10	U	10	U	2	U	4	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	4	U	2	U	2	U	10	U	10	U	2	U	4	U	2	U	2	U
1,1-Dichloroethane	-	6.7		11		9.7		10		7.3		8		8.8		11.4		16		7.56		8.54		11.6		10.2	
1,1-Dichloroethene	7	3		8.2		9.9		8.9		5		6.5		6.2		7.35	J	10.8		5.71		6.2		8.14		7.02	
2-Butanone (Methyl Ethyl Ketone)	-	2	U	77		2	U	2	U	4	U	5	U	26		25	U	25	U	5	U	12.4		4.92		7.3	
Acetone	-	5	U	19		37		38		20		22		15		22.6	J	26		31.5		54.2		23.8		22.1	
Chlorobenzene	100	2	U	2	U	2	U	2	U	4	U	2	U	2	U	10	U	10	U	2	U	4	U	2	U	2	U
cis-1,2-Dichloroethene	70	9		14		14		14		9		9		9.7		13.6		19.8		8.92		10.2		13.7		11.5	
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	4.1	J	2.1	J	5	U	25	U	25	U	2	U	4	U	2	U	2	U
Tetrachloroethene	5	64		240		280		200		160		170		150		256		414		138		224		182		189	
Trichloroethene	5	13		21		24		21		14		15		14		20.2		30.4		13.6		15.9		21.9		18.7	

Well ID	MCL [1]	MW-14B																	
Date	(µg/L)	6/30/2009		12/1/2009		6/28/2010		12/8/2010		6/22/2011		3/7/2012		3/7/2012-DP		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																			
1,1,1-Trichloroethane	200	0.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	1.2	U	1.2	U	1.2	U
1,1,2-Trichloroethane	5	0.75	U	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	1.9	U	1.9	U	1.9	U
1,1-Dichloroethane	-	8.1		11		8.8		9.8		8		4.8		5.4		6.1		7.1	
1,1-Dichloroethene	7	5.5		6.6		6.4		5.5		5.8		3.3		3.8		4.4		5.4	
2-Butanone (Methyl Ethyl Ketone)	-	6.2		25	U	25	U	25	U	25	U	25	U	12	U	12	U	12	U
Acetone	-	13		25	U	27		25	U	43		25	U	48		14		31	
Chlorobenzene	100	0.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	1.2	U	1.2	U	1.2	U
cis-1,2-Dichloroethene	70	9.8		11		9.7		8.7		8.6		4.8		5.2		6.1		6.3	
Dichloromethane (Methylene Chloride)	5	3	U	15	U	15	U	15	U	15	U	15	U	7.5	U	7.5	U	7.5	U
Tetrachloroethene	5	160		270		150		220		190		100		110		95		97	
Trichloroethene	5	15		17		15		14		15		8.7		8.7		11		12	

Well ID	MCL [1]	MW-14R																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009		11/30/2009	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	10	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	0.5	U	2.5	U
1,1,2-Trichloroethane	5	10	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	0.75	U	3.8	U
1,1-Dichloroethane	-	16		19		18		18		16		12		16		14.3		14		12.1		11.5		12		13	
1,1-Dichloroethene	7	8.8	J	12		12		12		11		8.2		10		8.38		8.98		7.71		7.04		7.6		6.5	
2-Butanone (Methyl Ethyl Ketone)	-	10	U	2	U	2	U	2	U	2	U	10	U	9.5		2	U	5	U	13.6		4.7		6.9		25	U
Acetone	-	25	U	19		35		37		16	B	24		17		20.5		31.1		72.1		24.1		14		25	U
Chlorobenzene	100	10	U	2	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	0.5	U	2.5	U
cis-1,2-Dichloroethene	70	25		33		30		30		27		19		26		21.6		21.6		19.2		17.6		18		15	
Dichloromethane (Methylene Chloride)	5	25	U	2	U	5	U	5	U	5	U	6.2	J	5	U	5	U	2	U	2	U	2	U	3	U	15	U
Tetrachloroethene	5	440		230		260		220		180		190		180		192		162		194		172		200		280	
Trichloroethene	5	63		68		68		60		55		40		51		43.7		42.6		39.4		35.5		36		32	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-14R													
Date	(µg/L)	6/28/2010		12/8/2010 - 72'		12/8/2010 - 86.5'		6/21/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2.5	U	2	U	2	U	2	U	2	U	1.2	U	1.2	U
1,1,2-Trichloroethane	5	3.8	U	3	U	3	U	3	U	3	U	1.9	U	1.9	U
1,1-Dichloroethane	-	9.5		8.4		8.1		11		8.4		7.6		8.4	
1,1-Dichloroethene	7	5.5		3.3		2.7		4.3		3.7		3.6		4.6	
2-Butanone (Methyl Ethyl Ketone)	-	25	U	20	U	20	U	20	U	20	U	12	U	12	U
Acetone	-	26		20	U	20	U	20	U	58		12	U	21	
Chlorobenzene	100	2.5	U	2	U	2	U	2	U	2	U	1.2	U	1.2	U
cis-1,2-Dichloroethene	70	13		9.8		9.2		11		10		9		10	
Dichloromethane (Methylene Chloride)	5	15	U	12	U	12	U	12	U	12	U	7.5	U	7.5	U
Tetrachloroethene	5	110		110		100		190		140		95		100	
Trichloroethene	5	27		21		19		25		21		20		23	
				low flow at 72'		low flow at 86.5'									

Well ID	MCL [1]	MW-17C																											
Date	(µg/L)	9/8/2005		9/8/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2.2		2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U	21		5.75		5	U	13.7		3			
Acetone	-	2	U	2	U	5	U	21		29		31		16	B	23		15		35.5		30.4		69.5		23.6			
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	2	U	2	U
Tetrachloroethene	5	22		23		32		29		22		7		17		1.6	J	4.2		6.27		2.8		2	U	1.34	J		
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
		bladder pump		peristaltic pump																									

Well ID	MCL [1]	MW-17C															
Date	(µg/L)	6/30/2009		12/3/2009		6/28/2010		12/9/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																	
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	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
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	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-Butanone (Methyl Ethyl Ketone)	-	6		5	U	5.1		5	U	6.5		5	U	5	U	5	U
Acetone	-	15		12		28		39		17		60		12		18	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.56		0.5	U	0.5	U
Trichloroethene	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

Well ID	MCL [1]	MW-18A	
Date	(µg/L)	1/14/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-18B			
Date	(µg/L)	1/15/2013		1/15/13-DP	
Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	200	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U
Acetone	-	5	U	5	U
Chlorobenzene	100	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U
Tetrachloroethene	5	0.5	U	0.5	U
Trichloroethene	5	0.5	U	0.5	U

Well ID	MCL [1]	MW-19A															
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)																	
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U	5	U
Acetone	-	5	U	22		34		29		14	B	14		16.2		11	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	1.8	J	1.2	J	2	U	2	U	1.2	J	1	J	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-19B																									
Date	(µg/L)	12/22/2005		4/11/2006		7/25/2006		11/7/2006		4/26/2007		8/15/2007		1/31/2008		9/3/2008		12/10/2008		11/30/2009		12/8/2010		3/5/2012		1/15/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	14		8.9		13		8.1		3.9		13		10.5		11.7		8.97		5.1		7.4		5.9		0.75	U
1,1-Dichloroethene	7	5.3		3.7		5.2		3.2		1.4	J	6.5		4.03		4.55		3.57		1.7		2.4		2.2		0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	2	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	2	U	5	U	5	U	5	U	3.9	J	5	U	5	U	2	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2.2		1.2	J	1.8	J	1.2	J	2	U	2		2.22		11.2		15.4		3.6		1.8		1.1		0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	2	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	51		32		39		29		13		44		44.7		39.6		24.8		15		25		35		3.5	
Trichloroethene	5	4.9		3.1		3.5		2.9		1.3	J	4.4		5.92		5.29		3.03		3.6		4.6		3.4		1.1	

Well ID	MCL [1]	MW-20A																									
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	1.2	J	1.7	J	2	U	2	U	1.7	J	1.05	J	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	8.48		5	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	5	U	20		32		38		14	B	20.2		25.8		18		11		22		12			
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	2.1		2.3		1.9	J	2	U	2	U	1.6	J	1.03	J	2	U	0.5	U	0.5	U	0.5	U	1.1			
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-20B																											
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	17		11	J	7.8		8.1		7.9		6.8	J	4.7		7.2	J	6.4	J	7.05	J	4.88		3.67		0.84			
1,1,2-Trichloroethane	5	11		20	U	4	U	4	U	4	U	10	U	4	U	10	U	10	U	10	U	4	U	2	U	0.75	U		
1,1-Dichloroethane	-	23		22		20		20		18		19		21		28		23.6		25.4		14.5		17.8		13			
1,1-Dichloroethene	7	18		14	J	15		15		14		9.8	J	16		20		16.2		18.9		10.2		12.4		4.6			
2-Butanone (Methyl Ethyl Ketone)	-	2	U	20	U	4	U	4	U	4	U	10	U	10	U	10	U	10	U	25	U	9.16		6.79		5.8			
Acetone	-	4	J	50	U	22		44		33		25	B	24		25	U	14.4	J	37.2		67.3		25.9		18			
Chlorobenzene	100	2	U	20	U	4	U	4	U	4	U	10	U	4	U	10	U	10	U	10	U	4	U	2	U	0.5	U		
cis-1,2-Dichloroethene	70	33		31		26		21		24		22		24		34		27.4		23.8		15.2		18		13			
Dichloromethane (Methylene Chloride)	5	2	U	50	U	10	U	10	U	10	U	22	JB	10	U	25	U	25	U	10	U	4	U	2	U	3	U		
Tetrachloroethene	5	810		890		280		310		390		330		320		500		387		353		236		127		54			
Trichloroethene	5	58		42		66		80		54		42		45		50		51		37.4		21.7		22.9		19			

Well ID	MCL [1]	MW-20B													
Date	(µg/L)	12/1/2009		6/28/2010		12/7/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2.7		4.4		5.3		5	U	1.2	U	1.2	U	1.2	U
1,1,2-Trichloroethane	5	0.75	U	1.9	U	1.9	U	7.5	U	1.9	U	1.9	U	1.9	U
1,1-Dichloroethane	-	11		16		7.8		76		12		12		11	
1,1-Dichloroethene	7	6.8		9.8		4.4		51		8.2		7.9		8.2	
2-Butanone (Methyl Ethyl Ketone)	-	5	U	12	U	12	U	50	U	12	U	12	U	12	U
Acetone	-	5	U	31		12	U	61		44		12	U	18	
Chlorobenzene	100	0.5	U	1.2	U	1.2	U	5	U	1.2	U	1.2	U	1.2	U
cis-1,2-Dichloroethene	70	9.2		22		6.8		83		9.8		9.1		9.4	
Dichloromethane (Methylene Chloride)	5	3	U	7.5	U	7.5	U	30	U	7.5	U	7.5	U	7.5	U
Tetrachloroethene	5	290		73		180		360		99		90		81	
Trichloroethene	5	17		54		12		450		17		17		15	

Well ID	MCL [1]	MW-21B													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	10		5	U
Acetone	-	5	U	15		38		46		17	B	21.5		10	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-21C													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	1.79	J	5	U
Acetone	-	5	U	14		36		37		23	B	20.8		8.7	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	3.8		2		2.5		2	U	1.4	J	1.2	J	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-22A													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	7		2	U	2	U	2	U	5	U
Acetone	-	5	U	14		55		34		14	B	15.4		11	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	J	2	U	2	U	2	U	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-24A																											
Date	(µg/L)	12/20/2005		4/12/2006		7/26/2006		11/7/2006		4/25/2007		8/15/2007		1/30/2008		9/2/2008		12/9/2008		12/2/2009		12/7/2010		3/6/2012		1/15/2013	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	5	U	2	U	2	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	2	U	5	U	5	U	5	U	5	U	2	U	5	U	2	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	6		1.7	J	1.6	J	4		2	U	3		4.62		3.24		2.76		1.9		1.6		0.88		0.76	
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	2	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	61		20		14		44		3.8		20		59.5		30		31.8		18		16		9		8.1	
Trichloroethene	5	7.5		2.6		1.7	J	6.2		2	U	3.6		6.99		5.02		4.59		3.7		3.3		1.9		2.3	

Well ID	MCL [1]	MW-24B			
Date	(µg/L)	12/7/2010		1/15/2013	
Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	200	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U
Acetone	-	5	U	5	U
Chlorobenzene	100	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	1.1		1.2	
Dichloromethane (Methylene Chloride)	5	3	U	3	U
Tetrachloroethene	5	8.5		12	
Trichloroethene	5	2.5		3	

Well ID	MCL [1]	MW-31R													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	1.5	J	1.6	J	2	U	1.2	J	1.3	J	1.39	J	0.9	
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	5	U
Acetone	-	5	U	20		31		29		13	B	21.3		12	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	3		2		1.6	J	3.1		1.1	J	2.79		1.8	
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	1.7	J	2	U	0.5	U
Trichloroethene	5	4.8		4.4		4		3		4.2		2.45		2	

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Well ID	MCL [1]	MW-32B													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/6/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U
Acetone	-	5	U	15		46		32		15	B	6.31		5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-34	
Date	(µg/L)	12/6/2010	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-101A																									
Date	(µg/L)	9/9/2005		9/9/2005-DP		1/9/2006		1/9/2006-DP		4/13/2006		4/13/2006-DP		7/27/2006		7/27/2006-DP		11/9/2006		11/9/2006-DP		4/27/2007		4/27/2007-DP		8/16/2007	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U
Acetone	-	7.7		6.2		5	U	5	U	19		19		32		37		28		36		14	B	14	B	21	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	7	
Tetrachloroethene	5	2.2		2.3		2.2		2.2		2	U	2	U	2	U	1	J	1.5	J	1.4	J	1.1	J	2	U	1.5	J
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MW-101A													
Date	(µg/L)	8/16/2007-DP		2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5.4		8.2		5	U	5	U	5	U	5	U
Acetone	-	23		20.3		22.8		12		47		62		19	
Chlorobenzene	100	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3.9	J	5	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	1.5	J	2	U	1.17	J	1.5		0.5	U	0.5	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U

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Well ID	MCL [1]	MW-101B																							
Date	(µg/L)	9/9/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																									
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	8.81		5	U	5	U	5	U	5	U
Acetone	-	4	J	5	U	17		34		30		13	B	16.6		21.9		11		34		55		18	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-101C																							
Date	(µg/L)	9/6/2005		9/6/2005-DP		12/22/2005		12/22/2005-DP		4/12/2006		4/12/2006-DP		7/26/2006		7/26/2006-DP		11/8/2006		11/8/2006-DP		4/26/2007		4/26/2007-DP		8/14/2007	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	4	U	4	U	10	U	10	U	4	U
1,1,2-Trichloroethane	5	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	4	U	4	U	10	U	10	U	4	U
1,1-Dichloroethane	-	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	4	U	4	U	10	U	10	U	4	U
1,1-Dichloroethene	7	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	4	U	4	U	10	U	10	U	4	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	4	U	4	U	10	U	10	U	4	U
Acetone	-	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	10	U	10	U	11	JB	16	JB	10	U
Chlorobenzene	100	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	4	U	4	U	10	U	10	U	4	U
cis-1,2-Dichloroethene	70	31		29		27		29		25		25		21		24		17		17		16		17		13	
Dichloromethane (Methylene Chloride)	5	10	U	10	U	10	U	10	U	10	U	10	U	25	U	25	U	4	U	4	U	25	U	6	J	10	U
Tetrachloroethene	5	470		470		470		470		440		450		460		460		380		360		320		330		280	
Trichloroethene	5	26		27		28		28		25		24		21		20		19		18		17		17		15	

Well ID	MCL [1]	MW-101C																							
Date	(µg/L)	8/14/2007-DP		12/4/2007		1/31/2008		1/31/2008-DP		3/25/2008		9/3/2008		12/10/2008		6/30/2009		12/1/2009		6/28/2010		12/8/2010		6/22/2011		6/22/2011-DP	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	4	U	10	U	10	U	10	U	10	U	2	U	2	U	0.5	U	2.5	U	2	U	2	U	2	U	1.2	U
1,1,2-Trichloroethane	5	4	U	10	U	10	U	10	U	10	U	2	U	2	U	0.75	U	3.8	U	3	U	3	U	3	U	1.9	U
1,1-Dichloroethane	-	4	U	10	U	10	U	10	U	10	U	2	U	2	U	0.75	U	3.8	U	3	U	3	U	3	U	1.9	U
1,1-Dichloroethene	7	4	U	10	U	10	U	10	U	10	U	2	U	2	U	0.5	U	2.5	U	2	U	2	U	2	U	1.2	U
2-Butanone (Methyl Ethyl Ketone)	-	4	U	10	U	25	U	25	U	25	U	2	U	2	U	5	U	25	U	20	U	20	U	20	U	12	U
Acetone	-	10	U	25	U	25	U	25	U	25	U	5	U	2	U	5	U	25	U	20	U	20	U	20	U	12	U
Chlorobenzene	100	4	U	10	U	10	U	10	U	10	U	2	U	2	U	0.5	U	2.5	U	2	U	2	U	2	U	1.2	U
cis-1,2-Dichloroethene	70	14		18		10.1		12.4		13.6		10		8.4		7.4		7		9.8		5.9		8.6		9.9	
Dichloromethane (Methylene Chloride)	5	10	U	25	U	25	U	25	U	10	U	2	U	2	U	3	U	15	U	12	U	12	U	12	U	7.5	U
Tetrachloroethene	5	290		390		234		287		348		165		157		150		130		90		100		120		110	
Trichloroethene	5	15		20		13.2		15		18.8		13.7		12.5		13		11		9.3		7		7.4		7.7	

Well ID	MCL [1]	MW-101C					
Date	(µg/L)	3/6/2012		6/25/2012		1/16/2013	
Volatile Organic Compounds (µg/L)							
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U
Acetone	-	5	U	5	U	5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	4.4		5		4	
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U
Tetrachloroethene	5	92		90		88	
Trichloroethene	5	6		6.7		6.4	

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Well ID	MCL [1]	MW-102																											
Date	(µg/L)	9/9/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	1.7	J	3.2		3.3		4.9		4.9		4.4		4.7		3.05		2.14		3.09		2		0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	14.6		4.81		5	U	5	U	5	U
Acetone	-	3.9	J	5	U	20		33		31		31	B	27		17.3		68.2		23.5		12		33		44	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	5.2		7		1.4	J	1.3	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5.9		5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	130		150		52		56		32		34		35		24.2		25.8		19.1		9.3		2.8		3.4	
Trichloroethene	5	6.4		8.1		1.8	J	1.7	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-102	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	19	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.59	
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-102B																											
Date	(µg/L)	9/6/2005		12/21/2005		4/12/2006		7/27/2006		11/8/2006		4/26/2007		8/14/2007		12/4/2007		1/30/2008		3/25/2008		9/2/2008		12/10/2008		12/1/2009	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	2.1	J	2.9	J	3.2		3.2		4.1		3.7		3.6		5		4.55		5.13		3.62		2.45		1.8	
1,1,2-Trichloroethane	5	4	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	4	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	4	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	4	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	2	U	2	U	5	U
Acetone	-	10	U	10	U	2	U	5	U	5	U	5	U	1.8	J	5	U	5	U	5	U	5	U	2	U	5	U
Chlorobenzene	100	4	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	19		25		9.4		5.2		1	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	4	U	4	U	2	U	5	U	2	U	5	U	5	U	5	U	5	U	2	U	2	U	2	U	3	U
Tetrachloroethene	5	340		320		170		120		48		28		17		22		20.3		16.1		9.03		6.59		8.8	
Trichloroethene	5	20		23		9.5		5.6		1.5	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-102B					
Date	(µg/L)	12/7/2010		3/5/2012		1/16/2013	
Volatile Organic Compounds (µg/L)							
1,1,1-Trichloroethane	200	2.1		0.6		0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U
Acetone	-	5	U	5	U	5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U
Tetrachloroethene	5	3.1		1.5		1.2	
Trichloroethene	5	0.5	U	0.5	U	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-103																									
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	1.1	J	20	U	10	U	10	U	2	U	2	U	10	U	10	U	1.15	J	2	U	2	U	1.06	J	0.81	
1,1,2-Trichloroethane	5	2	U	20	U	10	U	10	U	2	U	2	U	10	U	10	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	20	U	10	U	10	U	2	U	2	U	10	U	10	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	1.3	J	20	U	10	U	10	U	2	U	2	U	10	U	10	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	20	U	10	U	10	U	2	U	2	U	25	U	10	U	5	U	5	U	13.6		9.14		7.4	
Acetone	-	3.7	J	50	U	28		54		36		10		34		14	J	22.8		32		66		22.7		15	
Chlorobenzene	100	2	U	20	U	10	U	10	U	2	U	2	U	10	U	10	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	90		56		38		50		56		6.9		37		55		2	U	1.42	J	4.42		5.73		18	
Dichloromethane (Methylene Chloride)	5	2	U	50	U	25	U	25	U	5	U	5	U	12	JB	25	U	5	U	2	U	2	U	2	U	3	U
Tetrachloroethene	5	1100		960		470		600		620		84		350		550		13.4		32.7		22.2		91.1		100	
Trichloroethene	5	89		61		38		53		59		8.2		39		64		2	U	2.64		5.03		8.69		21	

Well ID	MCL [1]	MW-103													
Date	(µg/L)	12/3/2009		6/28/2010		12/9/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	5	U	1.2	U	2.1		2.5	U	1	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	7.5	U	1.9	U	0.75	U	3.8	U	1.5	U	0.75	U	0.75	U
1,1-Dichloroethane	-	7.5	U	1.9	U	0.79		3.8	U	1.5	U	0.75	U	0.75	U
1,1-Dichloroethene	7	5	U	1.2	U	1.2		2.5	U	1	U	0.55		0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	50	U	12	U	5	U	25	U	10	U	5	U	5	U
Acetone	-	50	U	30		14		25	U	48		11		18	
Chlorobenzene	100	5	U	1.2	U	0.5	U	2.5	U	1	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	28		39		42		21		6.2		18		0.5	U
Dichloromethane (Methylene Chloride)	5	30	U	7.5	U	3	U	15	U	6	U	3	U	3	U
Tetrachloroethene	5	210		240		280		120		67		85		5.3	
Trichloroethene	5	33		43		60		28		10		22		0.98	

Well ID	MCL [1]	MW-103A																									
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		12/3/2009	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	3	J	2.3		2.3		2.3		2.4		2.4		2.8		3.4		2.89		2.28		3.12		2.26		0.85	
1,1,2-Trichloroethane	5	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	4	U	2	U	2	U	2	U	2	U	2	U	5	U	20		5	U	5	U	14.9		9.24		5	U
Acetone	-	10	U	5	U	20		44		39		12	B	25		14		16.1		31.6		71.6		22.4		12	
Chlorobenzene	100	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	9.5		2.2		1.3	J	1.4	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	4	U	5	U	5	U	5	U	5	U	5	U	11		5	U	5	U	2	U	2	U	2	U	3	U
Tetrachloroethene	5	200		62		51		46		14		9.1		6.6		5.3		6.09		3.44		3.31		1.94	J	1.9	
Trichloroethene	5	9.5		3		1.8	J	2.2		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-103A					
Date	(µg/L)	12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)							
1,1,1-Trichloroethane	200	1.3		0.65		0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U
Acetone	-	8		52		23	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U
Tetrachloroethene	5	1.4		0.5	U	0.5	U
Trichloroethene	5	0.5	U	0.5	U	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-104																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009		12/3/2009	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	10	U	2	J	10	U	2.6	J	1.1	J	2	U	2	U	2.06		1.39	J	2	U	2	U	2.4		1.6	
1,1,2-Trichloroethane	5	10	U	7.8		10	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	1.9	U
1,1-Dichloroethane	-	10	U	4	U	10	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	1.9	U
1,1-Dichloroethene	7	10	U	4	U	10	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	1.2	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	4	U	10	U	4	U	2	U	5	U	21		5	U	5	U	17.2		4.72		6.8		12	U
Acetone	-	25	U	18		51		46		18	B	20		16		19.6		29.9		70.6		23.6		16		12	U
Chlorobenzene	100	10	U	4	U	10	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	1.2	U
cis-1,2-Dichloroethene	70	24		22		20		17		9.3		2	U	2	U	2	U	2	U	2	U	2	U	5.8		3.9	
Dichloromethane (Methylene Chloride)	5	25	U	10	U	25	U	10	U	5	U	2.2	JB	5	U	5	U	2	U	2	U	2	U	3	U	7.5	U
Tetrachloroethene	5	430		360		370		300		190		37		37		56.9		38.2		26.3		25.5		150		83	
Trichloroethene	5	27		23		22		23		12		1	J	1.4	J	2.15		1.24	J	2	U	2	U	11		8.3	

Well ID	MCL [1]	MW-104											
Date	(µg/L)	6/28/2010		12/9/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	2		1.6		1		0.9		0.76		0.81	
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	15		5	U	5	U	5	U
Acetone	-	28		10		47		47		10		18	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	19		19		21		16		9.9		7.4	
Trichloroethene	5	2.7		0.65		0.79		0.61		0.64		0.5	U

Well ID	MCL [1]	MW-104A																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		6/30/2009		12/3/2009		6/28/2010		12/9/2010	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	4	U	4	U	4	U	1.6	J	2	U	1.1	J	4	U	1.07	J	1.02	J	1.2		0.93		2		1.4	
1,1,2-Trichloroethane	5	4	U	4	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	4	U	4	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	4	U	4	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	4	U	4	U	4	U	7.9		2	U	5	U	13.6		11		3.37		6.3		5	U	5	U	5	U
Acetone	-	10	U	20		37		68		15	B	22		22.8		69.2		24.7		17		13		28		11	
Chlorobenzene	100	4	U	4	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	16		16		13		10		3.6		2.5		4.4		2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	10	U	10	U	10	U	5	U	5	U	9	B	10	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	300		320		290		160		96		97		94.3		31.5		30.5		16		22		19		22	
Trichloroethene	5	20		17		14		12		4.8		3.7		5.24		2	U	1	J	0.5	U	0.65		0.5	U	0.57	

Well ID	MCL [1]	MW-104A							
Date	(µg/L)	6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)									
1,1,1-Trichloroethane	200	0.71		0.55		0.76		0.71	
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	14		5	U	5	U	5	U
Acetone	-	42		25		13		21	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U
Tetrachloroethene	5	24		9.8		10		9.6	
Trichloroethene	5	0.83		0.5	U	0.5	U	0.51	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-105																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		12/11/2008		6/30/2009		11/30/2009		6/28/2010	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	6.4		6		5.4		4.6		4.3		4.9		1.1	J	1.31	J	1.18	J	1.16	J	0.65		1		3.6	
1,1,2-Trichloroethane	5	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	1.9	U
1,1-Dichloroethane	-	3.6	J	3.8		2.2		4.7		3.4		2.8		1.1	J	2	U	2	U	2	U	1.7		4.8		2.4	
1,1-Dichloroethene	7	2.5	J	3.4		2.5		5.2		3.2		3.1		2	U	2	U	2	U	2	U	0.5	U	3.5		2.3	
2-Butanone (Methyl Ethyl Ketone)	-	4	U	2	U	2	U	2	U	2	U	5	U	5.7		5	U	5	U	4.11		6.1		5	U	12	U
Acetone	-	10	U	17		36		36		19	B	24		16		11.9		32.6		24.3		16		5	U	26	
Chlorobenzene	100	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	1.2	U
cis-1,2-Dichloroethene	70	8.5		6.7		3.7		16		9.8		4.8		1.3	J	1.22	J	1	J	2	U	3.2		11		6.2	
Dichloromethane (Methylene Chloride)	5	10	U	5	U	5	U	5	U	5	U	8		5	U	5	U	2	U	2	U	3	U	3	U	7.5	U
Tetrachloroethene	5	210		160		84		260		160		130		3.7		6.76		5.52		6.6		48		260		120	
Trichloroethene	5	12		11		6.5		30		16		8.2		1.6	J	1.92	J	1.82	J	1.35	J	5.5		21		15	

Well ID	MCL [1]	MW-105									
Date	(µg/L)	12/7/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)											
1,1,1-Trichloroethane	200	1.2	U	1	U	1.2	U	1.2	U	0.5	U
1,1,2-Trichloroethane	5	1.9	U	1.5	U	1.9	U	1.9	U	0.75	U
1,1-Dichloroethane	-	5.2		1.8		3.3		2.1		0.75	U
1,1-Dichloroethene	7	3.4		1.5		2.7		2		0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	12	U	14		12	U	12	U	5	U
Acetone	-	12	U	46		44		12	U	19	
Chlorobenzene	100	1.2	U	1	U	1.2	U	1.2	U	0.5	U
cis-1,2-Dichloroethene	70	10		3.4		7.1		4.5		0.84	
Dichloromethane (Methylene Chloride)	5	7.5	U	6	U	7.5	U	7.5	U	3	U
Tetrachloroethene	5	300		81		120		88		17	
Trichloroethene	5	21		7.2		16		11		1.3	

Well ID	MCL [1]	MW-105A																											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		11/30/2009		12/7/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	3.8		3.4		1.8	J	2.8		3.1		1.1	J	2.17		2	U	2	U	0.5	U	0.91		0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	1.2	J	1.3	J	1.3	J	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	5	U	16.2		8.39		5	U	5	U	5	U	5	U
Acetone	-	5	U	18		36		38		17	B	23		19.1		72.1		23.4		5	U	5	U	46		19	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	1.2	J	1.3	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	5	U	4.5	J	5	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	25		26		14		8.4		18		8.9		15.8		5.85		4.66		6.2		7		3.7		2	
Trichloroethene	5	1.6	J	2.1		2.4		1.6	J	1.2	J	1.8	J	1.09	J	1.43	J	2	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-106																											
Date	(µg/L)	9/9/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		12/1/2009	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	5.9		4.1		2.9		4.3		3.3		2.4		2.2		2.6		2	U	2.36		2	U	1.58	J	0.73	
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	5.4		8.8		4.5		14		9		8.4		7.7		12		2	U	11.7		3.83		6.84		1.1	
1,1-Dichloroethene	7	4		5.2		3.8		11		8		7		6.5		10		2	U	8.87		3.2		4.95		0.77	
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	22		5	U	5	U	14.4		7.63		5	U
Acetone	-	5	U	5	U	18		35		34		31	B	23		14		17.9		31.1		69		25.7		5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2.3		4.8		3		5.6		4.5		4.3		3.3		9		2	U	4.77		1.91	J	3.04		0.57	
Dichloromethane (Methylene Chloride)	5	2	U	5	U	2	U	5	U	5	U	5	U	3.2	J	5	U	5	U	2	U	2	U	2	U	3	U
Tetrachloroethene	5	85		150		62		160		95		79		88		85		2	U	81.2		25.4		60.3		26	
Trichloroethene	5	3.4		6.4		4.6		9.7		7.4		6.8		6		9.4		2	U	9.21		3.17		5.6		1.1	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-106					
Date	(µg/L)	12/7/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)							
1,1,1-Trichloroethane	200	2.7		0.5	U	0.6	
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	5.7		6.1		6.2	
1,1-Dichloroethene	7	3.3		3.6		5.4	
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U
Acetone	-	5	U	39		15	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	4.9		3.7		3.7	
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U
Tetrachloroethene	5	74		17		52	
Trichloroethene	5	7.1		21		10	

Well ID	MCL [1]	MW-107A																									
Date	(µg/L)	9/27/2005		9/27/2005-DP		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	3.3		3.8		2	U	2	U	2	U	2	U	2	U	5	U	21		2	U	5	U	13.6		4.09	
Acetone	-	5.4		6.4		5	U	22		34		37		16	B	25		16		14.9		29.3		68.2		22.8	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	5.1		5.1		2.4		16		2	U	2	U	2	U	2	U	1.1	J	2	U	2	U	2	U	1.03	J
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	2	U
Tetrachloroethene	5	150		140		72		320		30		28		36		18		23		15.7		13.6		16.2		30.7	
Trichloroethene	5	5.4		5.3		4		19		2	U	1	J	1.3	J	2	U	1.4	J	2	U	2	U	2	U	1.33	J

Well ID	MCL [1]	MW-107A							
Date	(µg/L)	12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)									
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U	5	U
Acetone	-	12		25		77		18	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	1.9		0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U
Tetrachloroethene	5	9.2		26		11		6.7	
Trichloroethene	5	0.7		1.6		0.5	U	0.5	U

Well ID	MCL [1]	MW-107B																									
Date	(µg/L)	9/27/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		12/5/2007-DP		2/4/2008		2/4/2008-DP		3/26/2008		9/4/2008	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	10	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	10	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	10	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	10	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	4	U	2	U	2	U	2	U	4	U	5	U	6.2		23		5	U	2	U	5	U	14.1	
Acetone	-	10	U	10	U	22		31		32		14	B	28		26		16		38.2		56.6		29.2		71.3	
Chlorobenzene	100	10	U	4	U	2	U	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	26		8.4		11		4.5		14		13		13		7.8		10		3.24		3.72		4.38		8.82	
Dichloromethane (Methylene Chloride)	5	10	U	10	U	5	U	5	U	5	U	4.4	JB	5	U	5	U	5	U	5	U	5	U	2	U	2	U
Tetrachloroethene	5	340		200		200		110		180		140		170		85		99		54		54.8		50		90.1	
Trichloroethene	5	22		12		11		6.6		10		10		11		6.8		7.7		4.87		4.87		5.62		7.44	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-107B																									
Date	(µg/L)	9/4/2008		9/4/2008-DP		12/11/2008		12/11/2008-DP		6/30/2009		6/30/2009-DP		12/2/2009		12/2/2009-DP		6/28/2010		6/28/2010-DP		12/8/2010		6/22/2011		6/22/2011-DP	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	0.5	U	0.5	U	1.2	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	0.75	U	0.75	U	1.9	U	1.5	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	0.75	U	0.75	U	1.9	U	1.5	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	0.5	U	0.5	U	1.2	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	13.8		13.5		8.27		3.66		5.7		5.6		12	U	10	U	5		5		5	U	5.8		6	
Acetone	-	73.6		67.9		24.3		23.1		14		15		12	U	10	U	26		28		5	U	15		16	
Chlorobenzene	100	2	U	2	U	2	U	2	U	0.5	U	0.5	U	1.2	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	3.98		3.47		2.01		2.38		2.7		4.1		5.2		5		1.9		2.3		2.9		1.4		1.1	
Dichloromethane (Methylene Chloride)	5	1.09	J	2	U	2	U	2	U	3	U	3	U	7.5	U	6	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	45.4		42.7		19		23.3		36		50		73		73		33		36		51		23		19	
Trichloroethene	5	3.97		3.69		2.09		2.39		2.6		3.7		4.5		4.4		3.8		4		3		1.9		1.7	

replicate lab analysis

Well ID	MCL [1]	MW-107B											
Date	(µg/L)	3/7/2012		3/7/2012-DP		6/25/2012		6/25/2012-DP		1/17/2013		1/17/2013-DP	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	-	62		59		14		12		18		17	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	1.2		1.1		1.5		1.5		0.91		0.93	
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	27		28		24		21		17		19	
Trichloroethene	5	1.7		1.8		2.1		2		1.6		1.6	

Well ID	MCL [1]	MW-107C																									
Date	(µg/L)	9/27/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	10	U	10	U	2	U	2	U	2	U	4	U	2	U	4	U	2	U	4	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	10	U	10	U	2	U	2	U	2	U	4	U	2	U	4	U	2	U	4	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	10	U	10	U	2	U	2	U	2	U	4	U	2	U	4	U	2	U	4	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	10	U	10	U	2	U	2	U	2	U	4	U	2	U	4	U	2	U	4	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	2	U	2	U	2	U	4	U	5	U	25		4.64	J	10	U	10.6		7.55		6	
Acetone	-	7.2	J	25	U	22		30		32		36	B	27		19		18.2		35.1		70		25.7		14	
Chlorobenzene	100	10	U	10	U	2	U	2	U	2	U	4	U	2	U	4	U	2	U	4	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	17		24		1	J	14		8.2		9.3		7.7		14		12.4		12.4		6.49		6.06		4.5	
Dichloromethane (Methylene Chloride)	5	5.2	J	25	U	5	U	5	U	5	U	4.8	JB	1.2	J	10	U	5	U	4	U	2	U	2	U	3	U
Tetrachloroethene	5	420		550		50		290		170		170		140		250		279		295		145		129		96	
Trichloroethene	5	21		28		1.9	J	18		10		11		10		17		15.4		17.7		8.33		7.62		5.8	

Well ID	MCL [1]	MW-107C													
Date	(µg/L)	12/2/2009		6/28/2010		12/8/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	5	U	1.2	U	1.2	U	1	U	0.5	U
1,1,2-Trichloroethane	5	3	U	3	U	7.5	U	1.9	U	1.9	U	1.5	U	0.75	U
1,1-Dichloroethane	-	3	U	3	U	7.5	U	1.9	U	1.9	U	1.5	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	5	U	1.2	U	1.2	U	1	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	20	U	20	U	50	U	12	U	12	U	10	U	5	U
Acetone	-	20	U	31		50	U	19		31		14		22	
Chlorobenzene	100	2	U	2	U	5	U	1.2	U	1.2	U	1	U	0.5	U
cis-1,2-Dichloroethene	70	3.1		3.4		8.2		2.8		2.4		2.3		2.4	
Dichloromethane (Methylene Chloride)	5	12	U	12	U	30	U	7.5	U	7.5	U	6	U	3	U
Tetrachloroethene	5	90		79		260		78		81		60		82	
Trichloroethene	5	4.5		12		12		4		4.1		3.7		4.4	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-108A																									
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	1.4	J	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	4	U	2	U	2	U	2	U	5	U	5	U	16.4		7.03		5	U	5	U	5	U
Acetone	-	3.9	J	5	U	21		32		35		16	B	27		11.4		66.6		23.8		13		20		40	
Chlorobenzene	100	2	U	2	U	4	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	39		2	U	18		9.9		7		2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	10	U	5	U	5	U	5	U	3.9	J	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	460		65		190		120		90		14		16		3.92		1.37	J	3.25		2.5		0.93		0.5	U
Trichloroethene	5	33		7.2		16		10		7.6		1.5	J	1.8	J	2	U	2	U	2	U	0.5	U	0.5	U	0.55	

Well ID	MCL [1]	MW-108A	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	20	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	0.5	U
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-109A																									
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		6/30/2009		12/1/2009		6/28/2010		12/7/2010	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2.4	J	2.5	J	3.7	J	4.6		2.1		2.8		2.74		2.24	J	2.03		1.6		1.5		1.4		1.6	
1,1,2-Trichloroethane	5	4	U	4	U	4	U	2	U	2	U	2	U	2	U	4	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	4	U	4	U	2.3	J	2.3		1.3	J	1.6	J	1.73	J	4	U	1.4	J	1		1		0.85		0.85	
1,1-Dichloroethene	7	4	U	4	U	4	U	1.2	J	2	U	2	U	2	U	4	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	4	U	4	U	4	U	2	U	2	U	5	U	5	U	16.8		9.13		5.8		5	U	6.1		5	U
Acetone	-	10	U	22		43		40		15		19		24.2		70.2		23.9		15		5	U	38		5	U
Chlorobenzene	100	4	U	4	U	4	U	2	U	2	U	2	U	2	U	4	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	13		16		12		9.8		5.2		6.8		8.09		8.02		4.72		2.2		2.7		3.4		2.2	
Dichloromethane (Methylene Chloride)	5	10	U	10	U	10	U	5	U	5	U	2.6	JB	5	U	4	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	220		270		280		170		82		140		145		156		85.5		26		51		65		42	
Trichloroethene	5	16		17		17		14		11		11		12.4		11.6		8.51		4.2		4.4		5.5		3.3	

Well ID	MCL [1]	MW-109A							
Date	(µg/L)	6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)									
1,1,1-Trichloroethane	200	0.52		1.1		0.8		0.71	
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	14		5	U	5	U	5	U
Acetone	-	48		51		16		19	
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.74		1.4		1.2		2	
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U
Tetrachloroethene	5	3.2		30		22		38	
Trichloroethene	5	1.1		3		2.4		3.7	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-109B																									
Date	(µg/L)	12/20/2005		4/12/2006		7/27/2006		11/8/2006		4/26/2007		8/15/2007		1/30/2008		9/2/2008		12/10/2008		6/29/2009		6/29/2009		12/1/2009		6/28/2010	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	7.8		5.6	J	5	J	5	J	20	U	5	J	6.1	J	10	U	4.54		4.2		4		3.9		3.5	
1,1,2-Trichloroethane	5	2	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	2	U	1.5	U	1.5	U	3.8	U	3.8	U
1,1-Dichloroethane	-	5.7		10	U	10	U	10	U	10	J	10	U	10	U	10	U	2.45		2.6		2.7		3.8	U	3.8	U
1,1-Dichloroethene	7	3.2		10	U	10	U	10	U	20	U	10	U	10	U	10	U	1.54	J	1.8		1.8		2.5	U	2.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	10	U	10	U	10	U	20	U	10	U	25	U	10	U	2	U	10	U	10	U	25	U	25	U
Acetone	-	5	U	25	U	25	U	25	U	20	JB	25	U	25	U	25	U	2	U	10	U	10	U	25	U	25	U
Chlorobenzene	100	2	U	10	U	10	U	10	U	20	U	10	U	10	U	10	U	2	U	1	U	1	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	70	35		24		21		19		49		16		19.6		11.7		10.8		10		9.9		8.2		6.4	
Dichloromethane (Methylene Chloride)	5	2	U	10	U	25	U	10	U	11	J	25	U	25	U	10	U	2	U	6	U	6	U	15	U	15	U
Tetrachloroethene	5	460		470		450		440		910		390		510		246		185		260		240		220		190	
Trichloroethene	5	39		28		24		24		53		21		27		16.2		14.6		14		13		13		11	

replicate lab analysis

Well ID	MCL [1]	MW-109B									
Date	(µg/L)	12/7/2010		6/21/2011		3/6/2012		6/25/2012		1/15/2013	
Volatile Organic Compounds (µg/L)											
1,1,1-Trichloroethane	200	5.6		2.5	U	2.1		2.5		1.8	
1,1,2-Trichloroethane	5	3.8	U	3.8	U	1.5	U	0.75	U	1.9	U
1,1-Dichloroethane	-	3.8	U	3.8	U	1.5	U	1.9		1.9	U
1,1-Dichloroethene	7	2.5	U	2.5	U	1	U	1		1.2	U
2-Butanone (Methyl Ethyl Ketone)	-	25	U	25	U	10	U	5	U	12	U
Acetone	-	25	U	25	U	10	U	5	U	12	U
Chlorobenzene	100	2.5	U	2.5	U	1	U	0.5	U	1.2	U
cis-1,2-Dichloroethene	70	6.2		6.6		3.5		4.8		3.9	
Dichloromethane (Methylene Chloride)	5	15	U	15	U	6	U	3	U	7.5	U
Tetrachloroethene	5	180		190		98		130		120	
Trichloroethene	5	9.6		10		5.4		7.8		6.8	

Well ID	MCL [1]	MW-110A																									
Date	(µg/L)	9/7/2005		12/21/2005		4/12/2006		7/25/2006		11/7/2006		4/25/2007		8/15/2007		1/30/2008		9/2/2008		12/9/2008		12/1/2009		12/7/2010		3/5/2012	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	1	J	2	U	2	U	1.4	J	2	U	2	U	2	U	2	U	2	U	1		1.6		0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U	2	U	2	U	5	U	5	U	5	U
Acetone	-	5	U	5	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	5.2		19		2.1		1.9	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	2	U	5	U	2	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	130		160		30		32		24		22		23		18		11.5		11.3		5.9		4		5	
Trichloroethene	5	35		16		2.8		1.8	J	2	U	1	J	1.1	J	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-110A	
Date	(µg/L)	1/16/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.59	
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	5	U
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	3.9	
Trichloroethene	5	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-110B																									
Date	(µg/L)	9/6/2005		12/22/2005		4/12/2006		7/26/2006		11/8/2006		4/25/2007		8/15/2007		1/30/2008		9/2/2008		12/9/2008		6/30/2009		12/1/2009		6/28/2010	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	20	U	20	U	20	U	20	U	20	U	10	U	20	U	10	U	10	U	10	U	2.5	U	5	U	5	U
1,1,2-Trichloroethane	5	20	U	20	U	20	U	20	U	20	U	10	U	20	U	10	U	10	U	10	U	3.8	U	7.5	U	7.5	U
1,1-Dichloroethane	-	20	U	20	U	20	U	20	U	20	U	10	U	20	U	10	U	10	U	10	U	3.8	U	7.5	U	7.5	U
1,1-Dichloroethene	7	20	U	20	U	20	U	20	U	20	U	10	U	20	U	10	U	10	U	10	U	2.5	U	5	U	5	U
2-Butanone (Methyl Ethyl Ketone)	-	20	U	20	U	20	U	20	U	20	U	10	U	20	U	25	U	10	U	10	U	25	U	50	U	50	U
Acetone	-	50	U	50	U	50	U	50	U	50	U	13	JB	50	U	25	U	25	U	10	U	25	U	50	U	50	U
Chlorobenzene	100	20	U	20	U	20	U	20	U	20	U	10	U	20	U	10	U	10	U	10	U	2.5	U	5	U	5	U
cis-1,2-Dichloroethene	70	120		98		80		56		66		24		65		22.7		72.9		44.1		16		18		16	
Dichloromethane (Methylene Chloride)	5	20	U	20	U	20	U	50	U	20	U	25	U	50	U	25	U	10	U	10	U	15	U	30	U	30	U
Tetrachloroethene	5	1400		1000		1000		860		1100		410		1100		411		963		613		310		340		250	
Trichloroethene	5	100		84		70		50		63		24		60		22.9		74.2		42.6		16		18		15	

Well ID	MCL [1]	MW-110B									
Date	(µg/L)	12/8/2010		6/21/2011		3/5/2012		6/25/2012		1/16/2013	
Volatile Organic Compounds (µg/L)											
1,1,1-Trichloroethane	200	0.5	U	1	U	5	U	0.5	U	5	U
1,1,2-Trichloroethane	5	0.75	U	1.5	U	7.5	U	0.75	U	7.5	U
1,1-Dichloroethane	-	0.75	U	1.5	U	7.5	U	0.75	U	7.5	U
1,1-Dichloroethene	7	0.5	U	1	U	5	U	0.55		5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	10	U	50	U	5	U	50	U
Acetone	-	5	U	10	U	50	U	5	U	50	U
Chlorobenzene	100	0.5	U	1	U	5	U	0.5	U	5	U
cis-1,2-Dichloroethene	70	5.2		30		25		48		23	
Dichloromethane (Methylene Chloride)	5	3	U	6	U	30	U	3	U	30	U
Tetrachloroethene	5	89		480		490		570		420	
Trichloroethene	5	5		28		30		57		31	

Well ID	MCL [1]	MW-111A																									
Date	(µg/L)	9/7/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	7.3		18		6.3		8.9		3.5		9.2		7		3.19		6.07		6.09		2.9		1.4		1	
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	1	J	1.1	J	2	U	2	U	2	U	1	J	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	1.9	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5.47		14.2		2	U	5	U	5	U	5	U
Acetone	-	5	U	5	U	20		30		48		16	B	22		17.6		68.2		26.1		12		26		49	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	9		17		6		6.5		2.3		10		3.2		2.02		10.1		6.07		2		2.1		2.7	
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-111A	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	2.2	
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	19	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	1.5	
Trichloroethene	5	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-111B																											
Date	(µg/L)	9/7/2005		12/20/2005		12/20/2005-DP		4/12/2006		4/12/2006-DP		7/26/2006		7/26/2006-DP		11/8/2006		11/8/2006-DP		4/26/2007		4/26/2007-DP		8/14/2007		8/14/2007-DP	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	6.5		9.6		11		9.4		9.6		11		11		10		9.9		12		12		9.1		8.5			
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	1.8	J	2.1		2.4		1.7	J	1.8	J	1.9	J	2	J	2	U	2	U	2.3		2.1		1.1	J	1.1	J		
1,1-Dichloroethene	7	2	U	1.6	J	1.8	J	1.5	J	1.5	J	1.9	J	2		1.8	J	1.6	J	2.6		2.6		1.6	J	1.6	J		
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Acetone	-	5	U	5	U	5	U	2	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2.1		2.1		1.3	J	1.3	J	1.6	J	1.5	J	1.4	J	1.3	J	2.6		2.4		2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	2	U	2	U	2	U	2	U	2	U	5	U	5	U	2	U	2	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	22		90		96		70		72		75		76		85		82		120		120		53		53			
Trichloroethene	5	2	U	4		4.1		2.8		2.8		2.8		2.9		3.3		3.3		5.2		5		2.4		2.1			

Well ID	MCL [1]	MW-111B																											
Date	(µg/L)	12/4/2007		12/4/2007-DP		1/31/2008		1/31/2008-DP		3/25/2008		3/25/2008-DP		9/3/2008		9/3/2008-DP		12/10/2008		12/10/2008-DP		12/2/2009		12/2/2009-DP		12/6/2010	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	7.3		7.6		6.29		6.38		6.75		6.59		4.05		4.04		2.48		2.48		1.3		1.2		1.5			
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U		
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	1.35	J	1.29	J	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U		
1,1-Dichloroethene	7	1.5	J	1.5	J	1.11	J	1.17	J	1.7	J	1.69	J	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U		
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	5	U	5	U	5	U	5	U	2	U	5	U	2	U	2	U	5	U	5	U	5	U		
Acetone	-	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	5	U	5	U	5	U		
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U		
cis-1,2-Dichloroethene	70	1.1	J	1.2	J	2	U	2	U	1.41	J	1.23	J	1.27	J	1.28	J	1.06	J	2	U	0.62		0.51		0.5	U		
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	2	U	2	U	2	U	5	U	2	U	2	U	3	U	3	U	3	U		
Tetrachloroethene	5	61		61		56.7		54.8		82.5		79.5		76.9		72.4		60.8		60.5		41		36		39			
Trichloroethene	5	2.8		2.7		2.3		2.32		3.64		3.19		3.41		3.15		2.97		2.92		1.7		1.5		1.4			

Well ID	MCL [1]	MW-111B							
Date	(µg/L)	12/6/2010-DP		3/6/2012		3/6/2012-DP		1/16/2013	
Volatile Organic Compounds (µg/L)									
1,1,1-Trichloroethane	200	1.4		0.89		0.91		0.5	U
1,1,2-Trichloroethane	5	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U	5	U	5	U	5	U
Acetone	-	5	U	5	U	5	U	5	U
Chlorobenzene	100	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U	3	U	3	U	3	U
Tetrachloroethene	5	39		14		15		7.7	
Trichloroethene	5	1.5		0.51		0.51		0.5	U

Well ID	MCL [1]	MW-111C																											
Date	(µg/L)	9/7/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		3/26/2008-DP		9/4/2008		12/11/2008	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	10	U	5.6	J	10	U	6.8		7.1		4.2		5.2		4.1		4.11		2.6		2.59		2.59		1.9	J		
1,1,2-Trichloroethane	5	10	U	10	U	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U		
1,1-Dichloroethane	-	8.8	J	5.2	J	7	J	3.1		2.2		2.1		2.6		4		2.04		2	U	2	U	1.3	J	1.13	J		
1,1-Dichloroethene	7	6.2	J	10	U	7.4	J	3.9		2.8		2.4		3.3		5		2.82		2	U	2	U	1.41	J	1.08	J		
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	10	U	2	U	6.3		2	U	5	U	17		5	U	5	U	5	U	15.3		6.17			
Acetone	-	25	U	25	U	28		34		35		16	B	23		16		19.2		28.6		28.4		70.9		25.9			
Chlorobenzene	100	10	U	10	U	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U		
cis-1,2-Dichloroethene	70	28		18		26		9.1		5.1		4.7		4.8		6.9		2.8		2	U	2	U	2.21		1.89	J		
Dichloromethane (Methylene Chloride)	5	10	U	25	U	25	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	2	U	2	U		
Tetrachloroethene	5	760		740		510		190		130		100		140		140		75.4		11.7		12		42.3		49.4			
Trichloroethene	5	46		41		46		18		9.7		8.6		10		12		5.49		1.79	J	1.67	J	4.18		4.09			

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-111C															
Date	(µg/L)	6/30/2009		12/2/2009		6/28/2010		12/7/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																	
1,1,1-Trichloroethane	200	0.98		0.54		1	U	3.9		1.5		0.97		1.2		0.68	
1,1,2-Trichloroethane	5	0.75	U	0.75	U	1.5	U	1.5	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	1		6.1		1.8		3.9		1.1		0.81		1.2		0.75	U
1,1-Dichloroethene	7	0.93		4.5		1.7		2.5		1.3		0.98		1.3		0.93	
2-Butanone (Methyl Ethyl Ketone)	-	6.1		5	U	10	U	10	U	15		5	U	5	U	5	U
Acetone	-	14		5	U	30		10	U	55		65		12		18	
Chlorobenzene	100	0.5	U	0.5	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	1.9		11		18		8.7		2.5		2		2		1.5	
Dichloromethane (Methylene Chloride)	5	3	U	3	U	6	U	6	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	34		330		44		190		42		31		42		27	
Trichloroethene	5	3.5		23		10		24		6.4		4.8		6		4.6	

Well ID	MCL [1]	MW-112A															
Date	(µg/L)	9/9/2005		1/9/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)																	
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	3.68	J	5	U
Acetone	-	5	U	5	U	23		30		29		33	B	18.7		42	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-113A													
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/9/2010	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	8.6		2	U	2	U	14.2		5	U
Acetone	-	5	U	19		40		29		16	B	16.6		14	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	J	2	U	1.53	J	1.8	
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	5	U	5	U	3	U
Tetrachloroethene	5	2	U	1.3	J	1.1	J	3.3		2	U	2	U	5.8	
Trichloroethene	5	1.2	J	1.4	J	2		4.2		1.1	J	2.62		4	

Well ID	MCL [1]	MW-114																									
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		11/30/2009		12/6/2010		3/7/2012		1/31/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2.2		1.1	J	2	U	2.3		2	U	1.4	J	1.16	J	2	U	2	U	0.75	U	0.75	U	0.75	U	0.94	
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	6.25		10.2		2	U	5	U	5	U	5	U	5	U
Acetone	-	5	U	22		29		29		14	B	28		24.4		69.9		24		5	U	5	U	24		19	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	1	J	2	U	2	U	1.2	J	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.66		1.1	
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	11		5.8		5.3		17		5.9		8		6.56		3.45		2.44		2.5		2.2		3.3		5.6	
Trichloroethene	5	5.7		3.8		4.2		7.8		3.8		6		4.09		3.47		2.83		2.5		2.9		3.8		6.2	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-115A																			
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		2/4/2008-DP		9/4/2008		12/6/2010	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U	2	U	13.6		5	U
Acetone	-	5	U	18		49		34		16	B	36		16.7		17.2		72.4		5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	7.5		5	U	5	U	2	U	3	U
Tetrachloroethene	5	3.7		2.7		2.3		2.4		1.9	J	2.1		1.38	J	1.57	J	2	U	0.98	
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U

Well ID	MCL [1]	MW-115B																							
Date	(µg/L)	12/21/2005		4/11/2006		7/25/2006		11/7/2006		4/25/2007		8/14/2007		1/29/2008		9/2/2008		12/9/2008		12/6/2010		3/5/2012		1/14/2013	
Volatile Organic Compounds (µg/L)																									
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	1.1	J	1	J	1.3	J	2	U	1.2	J	1.2	J	1.19	J	1.02	J	2	U	0.75	U	0.77		0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	2	U	2	U	5	U	5	U	5	U
Acetone	-	5	U	2	U	5	U	5	U	5	U	2.5	J	5	U	5	U	2	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.7		2		2	
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	2	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	13		9.3		10		12		9.6		11		12.3		9.82		8.72		4		5.9		3.9	
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	1.9		0.96		0.97	

Well ID	MCL [1]	MW-116A																							
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009		12/2/2009	
Volatile Organic Compounds (µg/L)																									
1,1,1-Trichloroethane	200	10	U	10	U	4	U	1.6	J	1.2	J	4	U	4	U	1.78	J	2	U	2	U	2	U	0.5	U	2.5	U
1,1,2-Trichloroethane	5	10	U	10	U	4	U	2	U	2	U	4	U	4	U	2	U	2	U	2	U	2	U	0.75	U	3.8	U
1,1-Dichloroethane	-	97		72		71		44		28		43		44		30.1		27.4		31.4		28.3		21		15	
1,1-Dichloroethene	7	54		40		51		34		17		31		36		23.6		18.9		23.6		19.1		20		9.1	
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	4	U	2	U	2	U	10	U	17		2	U	5	U	17.3		3.82		6.7		25	U
Acetone	-	25	U	24	J	39		38		19	B	22		16		22.6		31		70.5		23.1		13		25	U
Chlorobenzene	100	10	U	10	U	4	U	2	U	2	U	4	U	4	U	2	U	2	U	2	U	2	U	0.5	U	2.5	U
cis-1,2-Dichloroethene	70	21		20		16		11		7.2		12		12		9.12		6.86		8.69		7.13		5.7		3.5	
Dichloromethane (Methylene Chloride)	5	25	U	10	U	10	U	5	U	5	U	8.3	JB	10	U	5	U	2	U	2	U	2	U	3	U	15	U
Tetrachloroethene	5	660		380		270		170		180		200		190		169		191		138		128		110		120	
Trichloroethene	5	46		34		31		20		14		21		23		16.7		14.1		15.1		13.2		10		7.5	

Well ID	MCL [1]	MW-116A											
Date	(µg/L)	6/28/2010		12/6/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	1	U	1	U	1	U	1.2	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	1.5	U	1.5	U	1.5	U	1.9	U	0.75	U	0.75	U
1,1-Dichloroethane	-	19		12		24		12		20		10	
1,1-Dichloroethene	7	14		6.8		16		10		14		7.5	
2-Butanone (Methyl Ethyl Ketone)	-	10	U	10	U	14		12	U	5	U	5	U
Acetone	-	31		10	U	43		49		10		19	
Chlorobenzene	100	1	U	1	U	1	U	1.2	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	5		2.3		5.6		3.2		4.2		2.2	
Dichloromethane (Methylene Chloride)	5	6	U	6	U	6	U	7.5	U	3	U	3	U
Tetrachloroethene	5	60		86		86		56		71		34	
Trichloroethene	5	12		5		12		7.3		10		5.8	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-116R																									
Date	(µg/L)	1/10/2006		1/10/2006-DP		4/13/2006		4/13/2006-DP		7/27/2006		7/27/2006-DP		11/9/2006		11/9/2006-DP		4/27/2007		4/27/2007-DP		8/16/2007		8/16/2007-DP		2/4/2008	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	5	U	5	U	2	U
Acetone	-	5	U	5	U	21		20		34		36		39		36		15	B	14	B	24		24		20.3	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	5	U	5	U	5	U	2	U	5	U	5	U	5	U	5	U	5	U	5	U	1.5	J	2.1	J	5	U
Tetrachloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MW-117															
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008	
Volatile Organic Compounds (µg/L)																	
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	7.1		2	U	5	U	2	U	16.8	
Acetone	-	5	U	17		36		41		13	B	26		22.7		68	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	4.9	J	5	U	2	U
Tetrachloroethene	5	3.1		1.2	J	1.7	J	1.4	J	1.4	J	1	J	2	U	2	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MW-118A											
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008	
Volatile Organic Compounds (µg/L)													
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U
Acetone	-	5	U	19		41		36		16	B	21.1	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	2	U	2	U	2	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	1.1	J	2	U	2	U	2	U	2	U	2	U
Trichloroethene	5	2	U	2	U	2	U	2	U	2	U	2	U

Well ID	MCL [1]	MW-118B																			
Date	(µg/L)	12/21/2005		4/11/2006		7/25/2006		11/7/2006		4/25/2007		1/29/2008		12/9/2008		12/6/2010		3/5/2012		1/14/2013	
Volatile Organic Compounds (µg/L)																					
1,1,1-Trichloroethane	200	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	1.4	J	2	U	1.2	J	2	U	1.2	J	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U	5	U	5	U	5	U
Acetone	-	5	U	2	U	5	U	5	U	5	U	5	U	2	U	5	U	5	U	5	U
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	2	U	2	U	2	U	1	J	2.1		2.06		1.34	J	1.5		1.7		1.8	
Dichloromethane (Methylene Chloride)	5	2	U	2	U	5	U	2	U	5	U	5	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	11		4.2		7.6		7		7.8		7.11		4.79		4.3		4.8		1.8	
Trichloroethene	5	1.5	J	1.6	J	1.7	J	2.6		2.6		2.32		1.93	J	2		1.9		1.8	

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-120A																											
Date	(µg/L)	9/7/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	10	U	1.8	J	1.5	J	2.8		3.4		3.4		3.7		3.73		2.15		1.99	J	1.6		2.2		1.1	
1,1,2-Trichloroethane	5	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	10	U	2	U	2	U	2	U	2	U	2	U	5	U	5.29		14.5		7.1		5	U	5	U	5	U
Acetone	-	25	U	5	U	22		31		32		15		24		38.7		71.8		23.2		12		22		64	
Chlorobenzene	100	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	48		3.8		6.4		2.5		1.7	J	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	10	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U
Tetrachloroethene	5	610		98		130		61		49		18		20		14.8		18.5		14.1		13		5.8		11	
Trichloroethene	5	71		4.8		6.4		2.5		1.9	J	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-120A	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.52	
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	16	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	10	
Trichloroethene	5	0.5	U

Well ID	MCL [1]	MW-120B																											
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		9/4/2008		12/11/2008		12/3/2009		12/3/2009-DP		12/9/2010		3/7/2012	
Volatile Organic Compounds (µg/L)																													
1,1,1-Trichloroethane	200	1.7	J	1.9	J	2	J	2.6		4.4		4.6		3.8		2.75		1.78	J	1.1		1.3		0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	5	U	12.2		5.95		5	U	5	U	5	U	5	U
Acetone	-	5	U	5	U	22		32		32		15	B	23		68.9		23.5		12		12		24		26	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	39		2	U	1.7	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.52	
Dichloromethane (Methylene Chloride)	5	2	U	5	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	560		21		35		12		10		20		18		18.3		16.6		9		10		3.2		0.65	
Trichloroethene	5	50		2	U	1.9	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	MW-120B	
Date	(µg/L)	1/17/2013	
Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	200	0.5	U
1,1,2-Trichloroethane	5	0.75	U
1,1-Dichloroethane	-	0.75	U
1,1-Dichloroethene	7	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	5	U
Acetone	-	19	
Chlorobenzene	100	0.5	U
cis-1,2-Dichloroethene	70	0.5	U
Dichloromethane (Methylene Chloride)	5	3	U
Tetrachloroethene	5	1.4	
Trichloroethene	5	0.5	U

Appendix C Historical Groundwater Quality Data at OU-2 Monitoring Wells, Savage Well Superfund Site, Milford, NH

Well ID	MCL [1]	MW-120C																									
Date	(µg/L)	9/9/2005		1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		12/5/2007		2/4/2008		3/26/2008		9/4/2008		12/11/2008		6/30/2009	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2	U	40	U	40	U	2	U	2	U	20	U	2	U	20	U	2	U	20	U	20	U	20	U	2.5	U
1,1,2-Trichloroethane	5	2	U	40	U	40	U	2	U	2	U	20	U	34		20	U	2	U	20	U	20	U	20	U	3.8	U
1,1-Dichloroethane	-	2	U	40	U	40	U	2	U	2	U	20	U	2	U	20	U	2	U	20	U	20	U	20	U	3.8	U
1,1-Dichloroethene	7	2.4		40	U	40	U	2.1		1.8	J	20	U	1.9	J	20	U	1.74	J	20	U	20	U	20	U	2.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	40	U	40	U	2	U	2	U	20	U	120		20	U	5	U	50	U	20	U	20	U	25	U
Acetone	-	5	U	100	U	100	U	35		31		37	J	26		50	U	16.9		42.6	J	78.2		20	U	25	U
Chlorobenzene	100	2	U	40	U	40	U	2	U	2	U	20	U	2	U	20	U	2	U	20	U	20	U	20	U	2.5	U
cis-1,2-Dichloroethene	70	140		100		96		100		89		49		68		70		59.7		59		35.4		32.1		30	
Dichloromethane (Methylene Chloride)	5	2	U	100	U	100	U	5	U	5	U	23	J	5	U	50	U	5	U	20	U	20	U	20	U	15	U
Tetrachloroethene	5	2400		2200		1700		1500		1300		690		940		990		1100		969		672		604		700	
Trichloroethene	5	140		120		96		110		100		56		80		78		70.5		74.8		46.6		37.9		40	

Well ID	MCL [1]	MW-120C													
Date	(µg/L)	12/3/2009		6/28/2010		12/9/2010		6/22/2011		3/7/2012		6/25/2012		1/17/2013	
Volatile Organic Compounds (µg/L)															
1,1,1-Trichloroethane	200	5	U	5	U	5	U	5	U	5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	0.75	U	0.75	U
1,1-Dichloroethane	-	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	0.75	U	0.75	U
1,1-Dichloroethene	7	5	U	5	U	5	U	5	U	5	U	0.63		0.5	
2-Butanone (Methyl Ethyl Ketone)	-	50	U	50	U	50	U	50	U	50	U	5	U	5	U
Acetone	-	50	U	50	U	50	U	50	U	50	U	11		25	
Chlorobenzene	100	5	U	5	U	5	U	5	U	5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	26		19		28		16		14		15		13	
Dichloromethane (Methylene Chloride)	5	30	U	30	U	30	U	30	U	30	U	3	U	3	U
Tetrachloroethene	5	450		390		410		360		370		330		300	
Trichloroethene	5	35		43		44		25		24		26		22	

Well ID	MCL [1]	PZ-B3																									
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		8/16/2007		2/4/2008		9/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013	
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	2.8		1.5	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	-	2.7		1.3	J	2	U	2	U	2	U	2	U	1.18	J	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	7	1.5	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	5	U	2	U	13.2		9.58		5	U	5	U	5	U	5	U
Acetone	-	5	U	16		41		35		16	B	29		40.7		69.4		23.6		13		9.6		67		22	
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	70	1.3	J	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	5	U	2	U	2	U	3	U	3	U	3	U	3	U
Tetrachloroethene	5	38		13		2.1		4.8		8.3		1.9	J	13.5		1.63	J	3.81		1.7		0.97		2.1		0.9	
Trichloroethene	5	2.2		1.6	J	2	U	2	U	2	U	2	U	1.23	J	2	U	2	U	0.66		0.5	U	0.5	U	0.5	U

Well ID	MCL [1]	PZ-B4																									
Date	(µg/L)	1/10/2006		4/13/2006		7/27/2006		11/9/2006		4/27/2007		2/4/2008		12/11/2008		12/3/2009		12/9/2010		3/7/2012		1/17/2013					
Volatile Organic Compounds (µg/L)																											
1,1,1-Trichloroethane	200	1.2	J	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2-Trichloroethane	5	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U				
1,1-Dichloroethane	-	1.7	J	1.6	J	2	U	1.1	J	2	U	2	U	2	U	0.75	U	0.75	U	0.75	U	0.75	U				
1,1-Dichloroethene	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U				
2-Butanone (Methyl Ethyl Ketone)	-	2	U	2	U	2	U	2	U	2	U	2	U	7.07		5	U	5	U	5	U	5	U				
Acetone	-	5	U	16		46		32		15	B	67.6		22.5		12		7.2		57		24					
Chlorobenzene	100	2	U	2	U	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U				
cis-1,2-Dichloroethene	70	1.4	J	1	J	2	U	2	U	2	U	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U				
Dichloromethane (Methylene Chloride)	5	5	U	2	U	5	U	5	U	5	U	5	U	2	U	3	U	3	U	3	U	3	U				
Tetrachloroethene	5	19		3.9		1.2	J	3.5		2.9		1.3	J	1.14	J	0.78		0.5	U	0.5	U	0.5	U				
Trichloroethene	5	2.4		1.2	J	2	U	2	U	1	J	2	U	2	U	0.5	U	0.5	U	0.5	U	0.5	U				

Notes:
1. Maximum Contaminant Levels (US EPA, 2009)
2. Sampling date with abbreviation 'DP' shown indicates analytical results for a duplicate sample.
3. J = Compound detected below method quantitation limit, estimated value provided.
   U = Compound not detected above method quantitation limit, quantitation limit provided.
   B = Compound also detected in method blank.

Appendix D

Laboratory Reports
(Provided in CD)

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Appendices A, B, and D are contained in a separate file (SDMS# 560843) due to size considerations.

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Appendix E

PCE Mass Remaining at OU-2 – Calculations for January 2013

Appendix E
PCE Mass Remaining at OU-2 – Calculations for January 2013
Savage Well Superfund Site, Milford, NH

Layer	PCE Conc. (ug/L) Range	PCE Conc. (ug/L) Average	Average Area (ft2)	Thickness (ft)	Volume (ft3)	Volume (L)	PCE Mass (ug)	PCE Mass (kg)	PCE Mass Total (kg)
1	250-500	375	0.0	15	0.0	0.0	0	0.0	21
	50-250	150	225,075		3,376,124	95,598,339	8603850487	8.6	
	5-50	27.5	1,759,043		26,385,643	747,135,861	12327741702	12.3	
2	250-500	375	0.0	20	0.0	0.0	0	0.0	35
	50-250	150	225,075		4,501,499	127,464,452	14339750812	14.3	
	5-50	27.5	1,759,043		35,180,857	996,181,148	20546236170	20.5	
3	250-500	375	0.0	20	0.0	0.0	0	0.0	74
	50-250	150	1,148,202		22,964,038	650,249,707	58522473626	58.5	
	5-50	27.5	1,631,192		32,623,840	923,776,645	15242314637	15.2	
4	250-500	375	19,742	20	394,840	11,180,285	3144455053	3.1	81
	50-250	150	1,125,750		22,514,996	637,534,638	71722646721	71.7	
	5-50	27.5	453,502		9,070,041	256,827,283	5297062704	5.3	
5	250-500	375	49,300	7.5	369,750	10,469,854	2355717087	2.4	20
	50-250	150	860,114		6,450,854	182,662,383	16439614438	16.4	
	5-50	27.5	282,679		2,120,095	60,032,598	990537866.8	1.0	
							Total PCE Mass Remaining (kg):		**231**

Notes:

*1. Total PCE Mass = PCE Groundwater Concentration * Retardation Factor (R) * Porosity (n) * Subsurface Volume*

2. Porosity (n) = 0.3

3. Retardation Factor (R) = 2 (Layers 1,3, and 5) and 2.5 (Layers 2 and 4); based on Remedial Design Investigation Report (US EPA, 2002).