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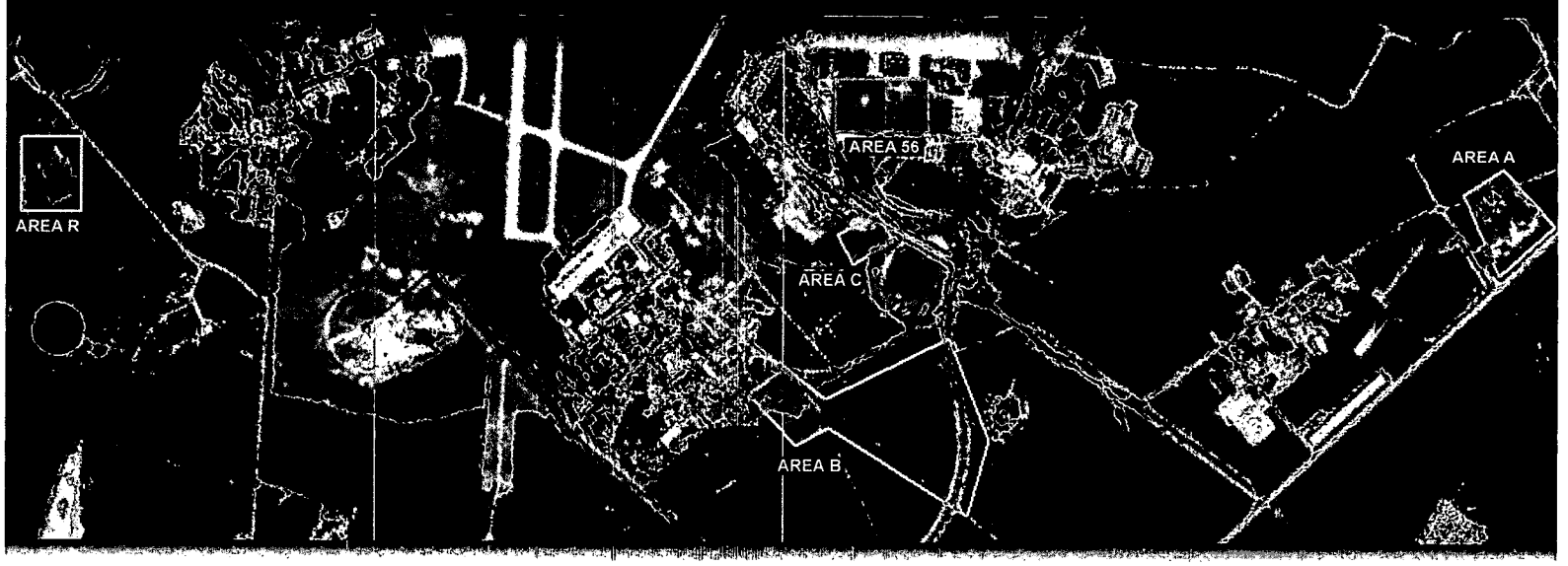
REPORT

Annual Groundwater and Surface Water Sampling Results

March 2013, June 2013, September 2013, & December 2013

AREA A - R&D Navy Landfill
AREA B - Former Navy Fire Test Facility
AREA C - Butler Aviation Fuel Spill
AREA R - Trash Dump
AREA 56 - Abandoned Navy Landfill



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Section I

1.0 INTRODUCTION

TRC Environmental Corporation (TRC) was contracted by the Federal Aviation Administration (FAA) to conduct an Environmental Investigative/Feasibility Study (EI/FS) at the FAA William J. Hughes Technical Center (Technical Center) in Atlantic County, New Jersey. Subsequent to the completion of the EI/FS, the United States Environmental Protection Agency (USEPA) indicated in a letter dated November 30, 1990 that, for all areas where contamination above Applicable or Relevant and Appropriate Requirements or To-Be-Considered Requirements (ARARs/TBCs) and/or risk-based levels was identified, investigations could proceed to the Record of Decision/remediation stage. Pursuant to this directive, a program of quarterly groundwater and/or surface water sampling was instituted for Areas A, B, C, R and 56 at the Technical Center. This report presents the results of quarterly groundwater monitoring conducted in 2013.

As of July 2000, TRC's quarterly sampling of Area 29 was discontinued due to the commencement of the soil and groundwater remedial construction activities at the site. In addition, quarterly groundwater sampling results from previous sampling events indicated that there had been little or no change in contaminant distribution throughout the perched water table aquifer within this area. During February 2002 and May 2003, additional rounds of groundwater sampling were conducted in order to establish baseline conditions. Resampling of upgradient Area 29 monitoring wells occurred during May 2003 to determine background groundwater conditions to be used to help establish treatment system effluent discharge limits. With the treatment system fully operational, the designated on-site operations and maintenance (O & M) contractor performs quarterly groundwater monitoring in accordance with New Jersey Pollution Discharge Elimination System – Discharge to Groundwater (NJPDES-DGW) permitting.

Quarterly sampling at Area 41 has also been terminated as a result of the initiation of soil and groundwater remedial activities during spring 2002. The two contaminant plumes within this area had exhibited little or no change throughout the course of several years of monitoring prior to the termination of sampling at Area 41. Furthermore, an unexploded ordnance (UXO) survey was performed in and around the ponded area at Area 41 (known as Area V) from July 2001 through September 2001, restricting all other field activities from occurring.

The purpose of the quarterly sampling program is to monitor the migration of groundwater contamination present at and/or in the vicinity of the above-referenced areas. The

results of the quarterly groundwater sampling will be used to recommend corrective action as necessary (e.g., install additional monitoring wells, initiate interim remedial measures, etc.), to incorporate up-to-date data into future pre-remedial plans (i.e., Feasibility Study, Proposed Plan, Record of Decision, Conceptual Design) and Final Remedial Plans and Specifications, and/or to meet requirements of area-specific Records of Decision.

1.1 Area A

Area A, the R & D Navy Landfill, is located south of the Upper Atlantic City Reservoir in an area originally developed as a borrow pit prior to 1940. The Navy reportedly used the pit as a dumping area during the 1940s and 1950s. The area is separated into northern and southern portions by a paved access road (Card Road), with part of the southern portion presently occupied and operated by the U.S. Air Marshal as a firing range and training facility. Portions of the area south of the access road have also been more recently used for the disposal of construction debris. In 2003, the Federal Air Marshal training facility was expanded throughout a large portion of the area, including the installation of several indoor firing range facilities and additional paved access roads and parking facilities.

1.2 Area B

Area B, the Former Navy Fire Test Facility, was used during the late 1950s and early 1960s for aircraft fire training, and later for a GSA motor pool parking area. The area is currently grass-covered with no visible evidence of previous activities involving potentially hazardous materials.

1.3 Area C

Area C, the Butler Aviation Fuel Spill site, is located on FAA property south of a fence that separates the Technical Center from land owned by the South Jersey Transportation Authority (SJTA). The adjacent land was used by Butler Aviation, a fixed base operator, as an underground storage facility for jet fuel and aviation gasoline. In 1984 and 1986, surface fuel spills occurred onto the soil at the fill stand at the Butler fuel farm.

1.4 Area R

Area R is a former trash dump located west of Tilton Road, approximately 1,500 feet south of Building 169. The area was probably used as a borrow pit prior to about 1958, when the

landfill near Area 56 was closed. At that time, the Technical Center began to use Area R as a landfill for wood, brush, paper, and construction debris. In 1978 or 1979, a fire at the area prompted FAA to close the dump and use local landfills for trash disposal.

Area R consists of a cleared area surrounded by low trees. A portion of the eastern part of the area that did not undergo significant filling is considerably lower than the rest of the area and occasionally contains ponded water. The higher elevations in the western part of the area are covered with broken concrete. The area is accessed by a dirt road off of Wrangleboro Road.

1.5 Area 56

Area 56, the Abandoned Navy Landfill, is located near the current Technical Center's hangar south of the airport's major east-west runway. The landfill was reportedly operated by the Navy between 1943 and 1958. The area has been filled and graded and is now the site of a parking lot and softball field.

Section 2

2.0 RESULTS OF PREVIOUS INVESTIGATIONS

2.1 Area A

TRC has conducted three separate phases of field investigations at Area A. During the Phase I Environmental Investigation, total metal levels exceeded the Federal and State ARARs in groundwater samples collected from monitoring wells A-MW2S, A-MW3S and A-MW5S. In addition, chloroform was detected in monitoring well A-MW4S at a level of 7 parts per billion (ppb). Furthermore, elevated concentrations of PCBs at a level of 160 parts per million (ppm) were detected in a soil sample collected from a depth of 10 to 12 feet in soil boring A-B4 in the southwest corner of the northern half of the landfill.

During the Phase II investigation, filtered and unfiltered groundwater samples were collected from the wells that exhibited elevated metals levels during the Phase I and a confirmation soil sample was collected from the same location and depth interval that exhibited elevated PCBs during the Phase I. The results of the Phase II sampling indicated that the elevated metals levels detected during the Phase I were due to the siltiness of the samples, rather than the presence of dissolved metals. The presence of PCBs in the subsurface soil at soil boring location A-B4 was not confirmed during the Phase II.

The third phase of investigations at Area A included sampling conducted in association with the No Action Area Investigation. Resampling of the Phase I surface and subsurface soil locations was conducted, with the samples analyzed for volatile organic compounds (VOCs), and each of the five monitoring wells were resampled and analyzed for VOCs and filtered and unfiltered metals. The results of the No Action Area Investigation confirmed the absence of VOCs in the surface and subsurface soils at Area A. The only VOC identified in the groundwater samples was chloroform in monitoring wells A-MW3S (2 ppb) and A-MW4S (5 ppb), slightly above the New Jersey Practical Quantitation Level (NJ PQL) of 1 ppb. Total metals were detected in the groundwater samples; however, due to data quality problems with the results, each well was resampled for filtered and unfiltered metals on February 22, 1994. The resampling event indicated that only one well (A-MW4S) exhibited an unfiltered metal (zinc) above ARARs; however this was not perceived to be a problem since this well is located upgradient of past site activities. Furthermore, the concentration of zinc detected (52 ppb) was within the average of naturally occurring zinc identified from historical (1987 - 1994) groundwater results at the Technical Center (i.e., site-wide average of zinc in all FAA

monitoring wells - 102 ppb, site-wide average of zinc in area-specific background monitoring wells - 83.2 ppb) and comparable with the range of filtered zinc levels (5 ppb - 86 ppb) of regional United States Geological Survey (USGS) wells in the Cohansey aquifer. Due to a laboratory detection level that exceeded the Federal Maximum Contaminant Level (MCL) for antimony, each monitoring well at Area A was again resampled and analyzed for antimony, with a laboratory detection level below the Federal MCL of 6 ppb. The antimony resampling was performed on July 10 - 11, 1995. The results of the antimony resampling were included in the Draft Final Technical Report of Investigations at Proposed "No Action" Areas A, J and N (dated November 13, 1995) and indicated that no exceedance of the Federal MCL or other ARARs/TBCs were exhibited in the groundwater samples collected at Area A.

In addition to the individual phases of field investigation at Area A, in August 2006 monitoring wells A-MW3S and A-MW4S were analyzed for explosives using SW846 method 8330. These monitoring wells were selected for analysis due to the former use of Area A as the R&D Navy Landfill in the 1940s and 1950s, creating the potential for past disposal of explosives at Area A. Explosive compounds were not detected in either of the Area A groundwater samples.

As a result of the chloroform findings, it was recommended that monitoring wells A-MW3S and A-MW4S be included in a quarterly groundwater sampling program (beginning with the May 1994 sampling round) to assess concentration trends of chloroform in these wells. The presence of low levels of chloroform have been confirmed in these wells in nearly every quarterly sampling round at levels ranging from 0.3 ppb to 13 ppb in A-MW3S and from 0.7 ppb to 13 ppb in A-MW4S. A limited Human Health Risk Assessment (HHRA) for chloroform in groundwater was performed and included as an attachment to the May 1994 Quarterly Groundwater Sampling Results report. The results of the limited HHRA indicated that chloroform in groundwater was not considered to pose a significant human health concern at Area A.

The USEPA-approved final Record of Decision (ROD) for Area A (July 1997) included no further action with continued groundwater monitoring, due to the low concentrations of chloroform identified, the lack of evidence of an area of concentrated "hot spot" contamination and the lack of potential risks to human health and the environment. In order to meet the requirements of the ROD and to track concentration trends of chloroform, monitoring wells A-MW3S and A-MW4S continue to be sampled and analyzed for VOCs on a quarterly basis.

2.2 Area B

TRC previously conducted six separate phases of field investigations at Area B. Monitoring wells installed at Area B during the Phase I and Phase II Environmental Investigations identified the presence of floating product, a mixture of kerosene and gasoline, in monitoring well B-MW3S. Soil boring activities were conducted during the Supplemental Investigation to delineate the product plume, which appeared to be limited in extent (approximately 30 feet by 50 feet). A HydroPunch® groundwater investigation conducted in August 1992 did not indicate a contaminant source area upgradient of B-MW3S.

To better delineate dissolved groundwater contamination downgradient of B-MW3S, two additional monitoring wells, B-MW4S and B-MW5S, were installed (January 1993) downgradient of the floating product area and immediately upgradient of the South Branch of Absecon Creek (South Branch). The results of the groundwater samples collected from these wells indicated the presence of low levels of chlorinated VOCs. Chlorinated hydrocarbons had not been previously identified in groundwater or soil samples collected upgradient of wells B-MW4S and B-MW5S. Resampling and analysis of these wells during May 1993 indicated similar results. In addition, three surface water samples were collected from the South Branch in May 1993, with no VOCs detected above laboratory detection limits. Although VOCs were not detected in the surface water samples, it was considered possible that dissolved chlorinated compounds could enter the stream in the future due to the proximity of the contamination to the South Branch.

To further define the nature and delineate the extent of dissolved groundwater contamination in the vicinity of the South Branch and monitoring well B-MW3S, a Geoprobe® groundwater investigation was conducted during July 1993. A total of 26 Geoprobe® locations were sampled and the subsequent installation of four monitoring wells and sampling and analysis of soil, groundwater, and surface water samples were also conducted. The results from the Geoprobe® groundwater samples indicated that VOC "hits" appeared to be sporadic and isolated, with no widespread or well-defined contamination detected. The analytical results of the groundwater samples collected from the four newly-installed monitoring wells indicated that the dissolved groundwater contamination appeared to be limited to the area immediately downgradient of B-MW3S, with no apparent upgradient or sidegradient sources. However, as a result of the presence of chlorinated hydrocarbons in samples from monitoring wells located

adjacent to the South Branch, it was recommended that monitoring wells B-MW5S and B-MW6S be incorporated into the on-going quarterly groundwater sampling program and that quarterly surface water samples be collected at three locations from the South Branch adjacent to Area B. As a result of the New Jersey Department of Environmental Protection (NJDEP) comment letter (February 2, 1994) of the Geoprobe® Sampling report, monitoring well B-MW7S has been included in the on-going quarterly groundwater sampling at Area B since May 1994, due to the presence of tetrachloroethene (PCE) at or above the NJ PQL, at levels ranging as high as 45 ppb. Since 2003, however, the NJ PQL for PCE has been exceeded in well B-MW7S during only five quarterly sampling events (August 2003, August 2004, August 2005, August 2007, and November 2007).

Prior to June 1997, there did not appear to be any significant changes in trends of contaminants exhibited in the sampled monitoring wells and VOCs continued to be absent at the three surface water locations from the South Branch. However, from June 1997 through April 1999, a notable increase in the level of PCE was exhibited in the samples from monitoring well B-MW6S (from 8 ppb to 100 ppb). This resulted in additional investigations on the south side of the South Branch during 1999 and early 2000 (see further discussion in Section 5.2). These additional investigations identified a much more extensive chlorinated VOC plume at greater depths in the aquifer, on both the south and north sides of the South Branch. Additional downgradient monitoring wells were installed, including wells B-MW22I/D and B-MW23I/D, which are sampled on a semi-annual basis. The Area B remedial design incorporated the remediation of this larger chlorinated VOC plume.

Groundwater extraction and treatment activities at Area B began on a limited scale in October 2008 during Central Treatment Plant (CTP) shakedown and startup activities, with full-scale automated remedial operations of the CTP beginning in early March 2009. The Area B remedial system includes seven shallow extraction wells, two intermediate extraction wells and four deep extraction wells (one of which, B-EW3D is not currently being used), at the locations shown in Figure 2. The total extraction rate at Area B is typically approximately 285 gallons per minute (gpm), with approximately 35 gpm extracted from the shallow aquifer, 100 gpm extracted from the intermediate aquifer and the remainder extracted from the deep aquifer.

2.3 Area C

An investigation performed for Butler Aviation by Groundwater Technology, Inc. in 1987 demonstrated that spilled fuel had contaminated both soil and groundwater at the Butler Aviation fuel farm and that floating hydrocarbons existed above the water table in the vicinity of the fill stand. The direction of groundwater flow at the fill stand is roughly southeast, which creates the potential for transport of dissolved constituents in the groundwater onto Technical Center property. Groundwater samples have been collected from the two Area C monitoring wells during a total of 84 sampling rounds (from December 1988 to December 2013). To date, only acetone, a common laboratory contaminant, has been detected above established NJ PQLs in the Area C monitoring wells, and only from monitoring well C-MW2S. Concentrations of acetone exceeding the NJ PQL of 10 ppb were detected in August 1994 (17 ppb) and February 1995 (35 ppb). Furthermore, sampling results from Butler Aviation monitoring wells (January 1992) indicated that contaminated groundwater had not migrated off-site, based on a review of historical groundwater quality data. As outlined in the final ROD for Area C (September 30, 1994), quarterly groundwater sampling of monitoring wells C-MW1S and C-MW2S should continue until it is determined that the adjacent Butler Aviation facility is no longer a potential source of contamination.

In August 2006, in addition to the regular quarterly monitoring of Area C monitoring wells for potential VOC contaminants, each of the Area C monitoring wells was analyzed for explosives using SW846 Method 8330. The Area C monitoring wells were selected based on previous site activities adjacent to Area C that created the potential for past disposal of explosives in this area. Neither of the Area C monitoring wells exhibited the presence of any explosive compounds.

2.4 Area R

Analytical results of groundwater samples collected during the Phase II field investigation at Area R exhibited chlorobenzene in monitoring wells R-MW1S and R-MW2S at concentrations that exceeded the updated (i.e., as of November 2005 – see discussion in Section 5.0) New Jersey MCL of 1 ppb. Since the number of monitoring wells installed during the initial Phase II investigation was not sufficient to determine the downgradient extent of dissolved volatile organic compounds or the upgradient groundwater quality, a Supplemental Investigation was conducted.

During the Supplemental Investigation, one upgradient well (R-MW4S) and two downgradient wells (R-MW5S and R-MW6S) were installed and sampled for priority pollutants. At the time, none of the constituents detected in the samples exceeded state or federal standards, indicating that the contamination was limited to the boundaries of the filled area, not having an upgradient source.

A third round of groundwater sampling was conducted at Area R during the No Action Area resampling program in November 1992. The groundwater analytical results from this round indicated a trace level of chlorobenzene (1 ppb) in downgradient well R-MW5S, which was a possible indication that the leading edge of the groundwater contaminant plume could have migrated beyond the limits of the fill. The presence of downgradient contamination seemed to be confirmed during the August 1993 quarterly sampling round, with low levels of chloroform and trace levels of chlorobenzene and 1,4-dichlorobenzene detected in R-MW5S. However, between November 1993 and November 2001, chlorobenzene was only detected in R-MW5S two times: once in October 1995 (1 ppb) and a second time in January 2000 (40 ppb). Starting in 2002, chlorobenzene was once again detected during four consecutive sampling rounds, during February 2002 (1 ppb), May 2002 (160 ppb), August 2002 (29 ppb), and November 2002 (40 ppb), indicating that the contaminant plume had migrated beyond the limits of the fill. However, no chlorobenzene has been detected in R-MW5S since February 2003, which contradicts this theory. Chloroform has been consistently detected at low levels in well R-MW3S (upgradient) and wells R-MW5S and R-MW6S (downgradient) since the May 1993 sampling round, at levels ranging between 1 ppb and 25 ppb.

As discussed in the USEPA-approved Final Technical Report of Investigations at Proposed No Action Areas C, H, M, P, R, S and 56 (TRC, December 1995), the groundwater at Area R does not appear to present an immediate health risk outside of the boundaries of the fill area. As outlined in the final ROD (September 28, 1999), institutional controls including residential site use and groundwater use restrictions with continued quarterly groundwater monitoring should be implemented for Area R. Further action may need to be taken if future sampling rounds confirm that the contaminant plume has migrated beyond the fill area.

2.5 Area 56

TRC conducted three separate phases of field investigations at Area 56. During the Phase I Environmental Investigation, low levels of the VOCs 1,1,1-trichloroethane (27 ppb) and

1,1-dichloroethane (29 ppb) were identified in intermediate aquifer monitoring well 56-MW4D. In addition, concentrations of several total metals (unfiltered) from the sample collected from well 56-MW4S exceeded Federal and State ARARs.

During the Phase II investigation, filtered and unfiltered groundwater samples were collected from well 56-MW4S and each of the shallow aquifer monitoring wells were sampled and analyzed for five general water quality parameters, including chemical oxygen demand (COD), total organic carbon (TOC), ammonia nitrogen, nitrate, and total suspended solids (TSS). The Phase II sampling results indicated that the only dissolved metals identified in 56-MW4S were nickel and zinc, with a majority of the metals identified in the unfiltered sample. This finding corresponded well to the elevated TSS value of 248 ppm from 56-MW4S and indicated that the elevated metals detected in the sample were a result of the siltiness of the sample, not from being dissolved in the groundwater. The level of dissolved nickel, however, did exceed the Federal ARAR for nickel. In addition, an elevated level of nitrate was detected in well 56-MW4S (4.6 ppm).

The third phase of investigations at Area 56 included sampling conducted in association with the No Action Area Investigation. Resampling of the Phase I subsurface soil locations and each of the seven monitoring wells was conducted, with the samples analyzed for VOCs. The results of the No Action Area Investigation confirmed that no VOCs were present in the subsurface soils at Area 56. Low levels of VOCs were identified in the groundwater samples collected from 56-MW2S and 56-MW4D.

As a result of the VOCs, metals, and nitrate findings from the Phase I, Phase II and No Action Area investigations, it was recommended that select monitoring wells at Area 56 be incorporated into the on-going quarterly groundwater sampling program. Specifically, wells 56-MW2S and 56-MW4D would be sampled and tested for VOCs and well 56-MW4S would be sampled and analyzed for unfiltered and filtered metals and nitrate in order to determine concentration trends of these constituents. The initial quarterly sampling round occurred in May 1994, with the findings confirming the presence of VOCs in well 56-MW4D and elevated levels of metals and nitrate in well 56-MW4S. However, the presence of VOCs was not confirmed in the sample from well 56-MW2S. As a result of these findings and concern expressed by USEPA that adequate shallow aquifer downgradient coverage had not been provided (comment letter from USEPA Region II dated July 14, 1994 pertaining to the Technical Report of Investigations

at Proposed No Action Areas C, H, M, P, R, S and 56), TRC recommended to discontinue sampling monitoring well 56-MW2S and incorporate well 56-MW4S into the quarterly groundwater sampling for VOC analysis beginning in November 1994. Based on sample results from well 56-MW4S since the November 1994 sampling round, no VOCs have been detected above the current NJ PQLs.

In August 2006, in addition to the regular quarterly monitoring of wells 56-MW4S and 56-MW4D, each of these wells was analyzed for explosives using SW846 Method 8330. The Area 56 monitoring wells were selected for analysis to confirm or deny the potential disposal of explosives during the period when Area 56 was used as a Navy Landfill (i.e., the period from approximately 1943 to 1958). No explosives were detected in either monitoring well 56-MW4S (including the duplicate sample 56-MW6S) or 56-MW4D.

As discussed in the USEPA-approved Final Technical Report of Investigations at Proposed No Action Areas C, H, M, P, R, S and 56 (TRC, December 1995), due to the low concentrations of constituents found, and the lack of evidence of an area of concentrated "hot spot" contamination, further action for Area 56 does not seem warranted. The ROD for Area 56 (September 28, 1999) requires the implementation of institutional controls, including residential site use restrictions, and continued quarterly sampling to determine concentration trends for VOCs, metals and nitrate as nitrogen.

Section 3

3.0 SCOPE OF WORK – MARCH 2013, JUNE 2013, SEPTEMBER 2013, AND DECEMBER 2013 QUARTERLY GROUNDWATER AND SURFACE WATER SAMPLING

3.1 Area A

Groundwater samples were collected from two shallow monitoring wells (A-MW3S and A-MW4S) at Area A on March 26, 2013, June 11, 2013, September 12, 2013, and December 9, 2013. Each sample was analyzed using a modified USEPA Low Concentration Water Volatile Organic Analysis (LCW+3 - CLP SOW OLC02.1 methodology plus 3 compounds). This modified methodology includes the 3 priority pollutant compounds acrolein, acrylonitrile and 2-chloroethylvinylether, which are not normally included in the LCW methodology. The LCW method is similar to USEPA CLP 3/90 SOW (OLM03.2) method in terms of the number and type of constituents analyzed, but differs in providing lower laboratory detection limits. Area A monitoring well locations are shown in Figure 1.

Field blanks (FB032613, FB061113, FB091213, and FB120913) were collected in association with sampling at Area A and trip blanks (TB032613, TB061113, TB091213, and TB120913) accompanied the sample shipments on March 26, 2013, June 11, 2013, September 12, 2013, and December 9, 2013, respectively. The field blanks and trip blanks were analyzed for VOCs during each sampling event using the USEPA LCW+3 methodology.

A complete round of water levels was measured in each of the five shallow groundwater monitoring wells at Area A (A-MW1S through A-MW5S) on March 26, 2013, June 11, 2013, September 12, 2013, and December 9, 2013. The purpose of these measurements is to update shallow groundwater flow direction(s), and assess changes in water level elevations and the horizontal hydraulic gradient at and in the vicinity of Area A.

3.2 Area B

Three shallow, two intermediate and two deep groundwater monitoring wells were sampled during the March 2013 and September 2013 sampling events at Area B, while the June 2013 and December 2013 sampling events were limited to the three shallow monitoring wells. Monitoring wells B-MW5S, B-MW6S and B-MW7S were sampled during each event due to the presence of chlorinated hydrocarbons identified in these wells during previous sampling rounds. The shallow monitoring wells were purged using the three well volume purge method and sampled with Teflon bailers. Monitoring wells B-MW22I, B-MW22D, B-MW23I and B-

MW23D were sampled during the March 2013 and September 2013 sampling events to monitor potential contaminant plume migration during the operation of the groundwater treatment system at Area B. Monitoring wells B-MW22I, B-MW22D, B-MW23I and B-MW23D were installed in May 2007 and first sampled during the November 2007 sampling event. In 2008, the wells were sampled on a quarterly basis, but subsequently, the wells have been sampled semi-annually. These wells were sampled using USEPA low-flow purging and sampling protocols for groundwater sampling. All of the Area B groundwater samples were analyzed using USEPA LCW methodology. Area B monitoring well locations are indicated in Figure 2.

In addition to groundwater sampling, three surface water samples were collected during each of the four 2013 quarterly sampling events to characterize surface water quality of the South Branch in the vicinity of Area B. The first surface water sample (B-SW1) was collected approximately 200 feet downstream of monitoring wells B-MW4S and B-MW5S. The second surface water sample (B-SW2) was collected from the South Branch at a location adjacent to wells B-MW4S and B-MW5S. The third sample (B-SW3) was collected approximately 200 feet upstream from B-SW2. The surface water samples were analyzed for VOCs using USEPA Priority Pollutant Volatile Organic Analysis (PPVOA) CLP SOW OLM04.2 methodology. Surface water sample locations are shown in Figure 2.

At Area B, a blind duplicate sample of B-MW6S, identified as B-MW15S, was collected during the March 2013, June 2013, September 2013, and December 2013 sampling events. The blind duplicate groundwater sample was analyzed for VOCs using the USEPA LCW methodology. In addition, a blind duplicate sample of B-SW1 was collected during each 2013 sampling event and identified as B-SW4. This sample was analyzed for VOCs using the USEPA PPVOA methodology. One field blank was associated with each day of sampling (FB032613, FB061213, FB091113, FB120913, and FB121013) at Area B and a trip blank (TB032613, TB061213, TB091113, TB120913, and TB121013) accompanied each sample shipment on March 26, 2013, June 11, 2013, September 11, 2013, December 9, 2013, and December 10, 2013, respectively. The field blanks and trip blanks were analyzed for VOCs using USEPA's modified LCW+3 methodology. For laboratory QA/QC purposes, matrix spike and matrix spike duplicate (MS/MSD) sample volumes were obtained from B-MW7S and B-SW3 during each 2013 sampling event and analyzed using the USEPA LCW methodology.

Water levels were measured in a number of Area B wells, including select monitoring wells, observation wells and piezometers, on March 26, 2013, June 11, 2013, September 11, 2013, and December 9 and 10, 2013. Also, an interface probe was used to measure liquid levels in well B-MW3S, which has historically exhibited a thin layer of floating product; a 0.01-foot thick layer of floating product was measured during the March 2013 sampling event. Floating product was not detected with the interface probe during the June 2013, September 2013, or December 2013 sampling events. In addition, surface water levels were measured from each of five stream staff gauges installed in the channelized portion of the South Branch in the vicinity of Area B and from two staff gauges installed in the elongated ponds southeast of Area B. The purpose of the groundwater and product measurements is to update shallow, intermediate, and deep groundwater flow direction(s) and product thickness (if applicable), and determine changes in water level elevations and horizontal and vertical hydraulic gradients at and in the vicinity of Area B. The staff gauge measurements are used to determine the hydraulic relationship between the surface water in the South Branch and the adjoining water table aquifer measured at nearby monitoring wells B-MW2S, B-MW4S, B-MW5S and B-MW6S (i.e., classification of the South Branch as a "gaining" or "losing" stream).

3.3 Area C

Area C monitoring well C-MW1S was sampled on March 25, 2013, June 11, 2013, September 13, 2013, and December 12, 2013. Monitoring well C-MW2S was sampled on April 15, 2013, June 11, 2013, September 13, 2013, and December 12, 2013. The original March 2013 groundwater sample from C-MW2S was deemed by TRC to have been potentially compromised, hence, the well was re-sampled on April 15, 2013. The Area C groundwater samples were analyzed using the USEPA LCW methodology during each sampling event. Area C monitoring well locations are indicated in Figure 3.

Field blanks associated with the Area C groundwater sampling (FB032513, FB041513, FB061113, FB20130913, and FB121213) were obtained and trip blanks (TB032513, TB041513, TB061113, TB20130913, and TB121213) accompanied each respective sample shipment on March 25, 2013, April 15, 2013, June 11, 2013, September 13, 2013, December 12, 2013. All of the field blanks and trip blanks were analyzed for VOCs using the USEPA LCW+3 methodology.

Water levels were measured in Area C wells on March 25, 2013, June 11, 2013, September 13, 2013, and December 12, 2013. The purpose of these measurements is to update shallow groundwater flow direction(s) and determine changes in water level elevations at and in the vicinity of Area C.

3.4 Area R

Groundwater samples were collected from the six Area R shallow monitoring wells (R-MW1S through R-MW6S) on March 27, 2013, June 12, 2013, September 12, 2013, and December 11, 2013. All of the Area R groundwater samples collected during each 2013 sampling event were analyzed for VOCs using the modified USEPA LCW+3 methodology. Area R monitoring well locations are shown in Figure 4.

Field blanks FB032713, FB061213, FB091213, and FB121013 were collected and associated with sampling at Area R and trip blanks TB032713, TB061213, TB091213, and TB121113 accompanied each respective sample shipment on March 27, 2013, June 12, 2013, September 12, 2013, and December 11, 2013. The field blanks and trip blanks were analyzed for VOCs using the modified USEPA LCW+3 methodology. A blind duplicate sample was collected from monitoring well R-MW5S during each 2013 sampling event and identified as R-MW7S. This sample was also analyzed for VOCs using the modified USEPA LCW+3 methodology.

Water levels were measured in each monitoring well on March 27, 2013, June 12, 2013, September 12, 2013, and December 11, 2013. The purpose of these measurements is to update shallow groundwater flow direction(s), and determine changes in water level elevations and the horizontal hydraulic gradient at and in the vicinity of Area R.

3.5 Area 56

TRC collected groundwater samples from shallow monitoring well 56-MW4S on March 25, 2013, June 11, 2013, September 12, 2013, and December 9, 2013. Deep monitoring well 56-MW4D was sampled on March 26, 2013, June 11, 2013, September 12, 2013, and December 9, 2013. The groundwater samples were analyzed for VOCs using the modified USEPA LCW+3 methodology. Samples from well 56-MW4S were also collected and analyzed for priority pollutant (PP) metals (filtered and unfiltered aliquots) using USEPA CLP ISM01.2 methodology

and for nitrate/nitrite using Standard Method 4500. Area 56 monitoring well locations are indicated in Figure 5.

Field blanks FB032513, FB032613, FB061113, FB091213, and FB120913, were collected at Area 56 during each quarterly sampling event and analyzed for VOCs using the modified USEPA LCW+3 methodology, PP Metals using USEPA CLP ISM01.2 methodology, and nitrate/nitrite using Standard Method SM4500. Filtered field blanks FB032513(F), FB061113(F), FB091213(F), and FB120913(F) were collected at Area 56 during each quarterly sampling event and analyzed for PP Metals using USEPA CLP ISM01.2 methodology. Trip blanks TB032513, TB032613, TB061113, TB091213, and TB120913 accompanied each respective sample shipment on March 25 and 26, 2013, June 11, 2013, September 12, 2013, and December 9, 2013 and were analyzed for VOCs using the modified USEPA LCW+3 methodology. A blind duplicate sample was collected from well 56-MW4S and identified as 56-MW6S during each 2013 quarterly sampling event. The blind duplicate samples were analyzed for PP Metals (filtered and unfiltered) using USEPA CLP ISM01.2 methodology, and nitrate/nitrite using Standard Method 4500.

For laboratory QA/QC purposes, MS/MSD sample volumes were collected from well 56-MW4S during each 2013 sampling event and analyzed for PP metals (filtered and unfiltered) using USEPA CLP ISM01.2 methodology, and nitrate/nitrite using Standard Method 4500.

On March 25, 2013, June 11, 2013, September 12, 2013, and December 9, 2013, a complete round of water levels was measured in the Area 56 monitoring wells. The purpose of these measurements is to update shallow and deep groundwater flow direction(s), and determine changes in water level elevations and horizontal and vertical hydraulic gradients at and in the vicinity of Area 56.

Section 4

4.0 ANALYTICAL AND WATER LEVEL RESULTS

Consistent with previous reports, groundwater, surface water, and QA/QC samples collected and their respective analyses performed during the 2013 quarterly sampling events are summarized in Table 1. TRC Environmental Corporation personnel performed sample collection. TestAmerica Laboratories, Inc. of Edison, New Jersey conducted sample quantitative analyses in accordance with previous quarterly sampling events (CLP Tier I).

Analytical results for the March 2013, June 2013, September 2013, and December 2013 rounds of sampling are summarized in individual tables for each area. The analytical results for Areas A, B, C, R and 56 are provided on Tables 2, 3, 4, 5, and 6, respectively. Depth to water and the associated groundwater elevation levels for the March 2013, June 2013, September 2013, and December 2013 sampling events are summarized on Tables 7 through 11 for each of the five areas subject to quarterly monitoring. Laboratory analytical data sheets (Form Is) for the samples collected in March 2013, April 2013, June 2013, September 2013, and December 2013, including QA/QC information, are provided as Appendix A. A brief summary of analytical results for the March 2013, June 2013, September 2013, and December 2013 sampling events is provided below.

4.1 Field Blank, Trip Blank, and Method Blank Sample Results

March/April 2013

Field blanks collected during the March/April 2013 sampling event were identified as FB032513, FB032513(F), FB032613, FB032713, and FB041513. No VOCs, VOC TICs, metals, or nitrate were detected in any of the March/April 2013 field blanks.

Trip blanks collected during the March/April 2013 sampling event were identified as TB032513, TB032613, TB032713, and TB041513. No VOC or VOC TICs were detected in any of the March /April 2013 trip blanks.

No VOCs, VOC TICs, metals, or nitrate were detected in any of the laboratory method blanks associated with the March/April 2013 sampling event.

June 2013

Field blanks collected during the June 2013 sampling event were identified as FB061113, FB061113(F), and FB061213.

No VOCs or VOC TICs were detected in either field blank FB061113 or FB061213; Field blank FB061113(F) was not analyzed for VOCs and VOC TICs.

Total copper was detected in the total metals field blank associated with Area 56 (FB061113) at an estimated concentration of 4.9 ppb. Dissolved beryllium, chromium, copper, nickel, thallium, and zinc were detected in filtered field blank FB061113(F) at estimated concentrations of 1.5 ppb, 0.81 ppb, 7.6 ppb, 3.4 ppb, 2.9 pb, and 4.8 ppb, respectively.

Nitrite was detected in field blank FB061113 at an estimated concentration of 0.017 ppm.

Laboratory method blank contamination was reported for the method blank associated with analysis of the metals samples obtained during the June 2013 sampling event. Specifically, copper and thallium were detected in method blank MB 200-57079/1-A at estimated concentrations of 4.97 ppb and 2.56 ppb, respectively.

September 2013

Field blanks collected during the September 2013 sampling event were identified as FB091113, FB091213, FB091213(F), and FB20130913. Acetone was detected at a concentration of 26 ppb in field blank FB091113. No other target VOCs or VOC TICs were detected in field blank FB091113. No VOC or VOC TICs were detected in any of the other field blanks collected during September 2013.

Metals were not detected in either field blank FB091213 or FB091213(F).

Nitrate was not detected in field blank FB091213.

Trip blanks collected during the September 2013 sampling event were identified as TB091113, TB091213, and TB20130913. No target VOCs or VOC TICs were detected in any of the September 2013 trip blanks.

No method blank contamination was reported for the method blanks associated with analysis of the samples obtained during the September 2013 sampling event.

December 2013

Field blanks collected during the December 2013 sampling event were identified as FB120913, FB120913(F), FB121013, and FB121213. No target VOCs or VOC TICs were detected in any of the December 2013 field blanks.

No total metals were detected in field blank FB120913.

Dissolved nickel was detected in filtered field blank FB120913(F) at an estimated concentration of 1.8 ppb. Dissolved thallium and dissolved zinc were also detected in filtered field blank FB120913(F), at concentrations of 2.7 ppb and 3.3 ppb, respectively. However, these two metals were also detected in the associated laboratory method blank, so the detections were qualified "B" by the laboratory. The method blank detections are discussed in more detail below in this subsection. No other dissolved metals were detected in field blank FB120913(F).

Nitrate was not detected in FB120913.

Trip blanks collected during the December 2013 sampling event were identified as TB121013, TB121113, and TB121213. No target VOCs or VOC TICs were detected in any of the September 2013 trip blanks.

Laboratory method blank contamination was reported for two method blanks associated with analysis of the metals samples obtained during the December 2013 sampling event. Specifically, mercury was detected in method blank MB 200-66193/1-A at an estimated concentration of 0.110 ppb. In addition, thallium and zinc were detected in method blank MB 200-66249/1-A at estimated concentrations of 2.95 ppb and 1.82 ppb, respectively.

4.2 Blank Sample Results Evaluation Guidance

The USEPA considers the following to be common laboratory contaminants: acetone, 2-butanone, methylene chloride, toluene, and phthalate esters. The USEPA has established guidance for common laboratory contaminants which states:

> "If the blank contains detectable levels of common laboratory contaminants, then the sample results should be considered positive results only if the concentrations in the sample exceed ten times the maximum amount detected in any blank." (EPA/540/189/002)

For chemicals that are not common laboratory contaminants:

> "...if the blank contains detectable levels of one or more organic or inorganic chemicals that are not considered by EPA to be common laboratory contaminants (e.g., all other chemicals on the TCL), then consider site sample results as positive only if the concentration of the chemical in the site sample exceeds five times the maximum amount detected in any blank." (ibid.)

Based on the USEPA guidance cited above, discussions of groundwater and/ or surface water sample results affected by the detection of constituents in blank samples, if applicable, are presented below in the analytical results sections (Section 4.3 through Section 4.7).

4.3 Area A

4.3.1 Analytical Results

As indicated in Table 2, chloroform was detected in the March 2013, June 2013, and December 2013 samples collected from well A-MW4S at concentrations of 13 ppb, 8.1 ppb, and 1.2 ppb, respectively. Chloroform was not detected in the sample collected from well A-MW4S during the September 2013 event. No other VOCs or VOC TICs were detected in any of the samples collected from well A-MW4S in 2013.

No VOCs or VOC TICs were detected in any of the samples collected from well A-MW3S in 2013.

4.3.2 Water Level Results

As indicated in Table 7, water level measurements were conducted on March 26, 2013, June 11, 2013, September 12, 2013, and December 9, 2013 in each of the five Area A shallow monitoring wells. Updated water table contour and groundwater flow direction maps are presented in Figure 6 (3/26/13, 6/11/13, 9/12/13, and 12/9/13). A brief summary of the groundwater flow direction, horizontal hydraulic gradient, and water level elevation is provided below.

Area A - Shallow Groundwater				
	Criteria			
Monitoring Event	**Groundwater Flow Direction**	**Horizontal Hydraulic Gradient (MW5S to MW3S)**	**Water Level Elevation**	**Comments**
December 2012	East-Northeast, shifting towards the Northeast	0.0070 ft/ft	0.12 ft (A-MW5S) to 0.76 ft (A-MW3S) increase in the water table from prior event	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 10% decrease in flow velocity. Overall increase in the water table.
March 2013	East-Northeast,	0.0032 ft/ft	3.18 ft (A-MW5S)	Flow direction consistent with

Area A - Shallow Groundwater				
Monitoring Event	Criteria			
	Groundwater Flow Direction	Horizontal Hydraulic Gradient (MW5S to MW3S)	Water Level Elevation	Comments
	shifting towards the Northeast		to 8.20 ft (A-MW1S) increase in the water table from prior event	previous event. Decrease in hydraulic gradient. Approximate 54% decrease in flow velocity. Overall increase in the water table.
June 2013	Northeast, shifting towards the North-Northeast	0.0033 ft/ft	0.24 ft (A-MW2S) decrease to 0.74 ft (A-MW5S) increase in the water table from prior event	Generally consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 3% increase in flow velocity. Water level elevation decreased in 2 wells and increased in 3 wells.
September 2013	Northeast, shifting towards the North-northeast	0.0032 ft/ft	1.02 ft (A-MW1S) to 2.47 ft (A-MW2S) decrease in the water table from prior event	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 3% decrease in flow velocity. Overall decrease in the water table.
December 2013	East-Northeast, shifting towards the Northeast	0.0066 ft/ft	2.04 ft (A-MW4S) to 6.73 ft (A-MW1S) decrease in the water table from prior event	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 106% increase in flow velocity. Overall decrease in the water table.

4.4 Area B

4.4.1 Analytical Results

Historically, a variety of volatile organic constituents has been detected in the groundwater samples at Area B. As indicated in Table 3, and as detailed below in this section, a number of target VOCs were detected in the Area B samples during 2013.

March 2013

In March 2013, PCE and 1,1,1-trichloroethane (TCA) were detected in the groundwater sample from monitoring well B-MW5S at concentrations of 1.5 ppb and 1.0 ppb, respectively. Chloroform was detected in the groundwater samples from B-MW5S and B-MW6S, as well as

the B-MW6S duplicate sample B-MW15S, at concentrations of 1.1 ppb, 1.4 ppb, and 1.5 ppb, respectively. No other VOCs or VOC TICs were detected in wells B-MW5S or B-MW6S. The groundwater sample from monitoring well B-MW7S exhibited no VOCs or VOC TICs.

The March 2013 sampling event also included the semi-annual sampling of downgradient wells B-MW22I/D and B-MW23I/D, which were installed within the intermediate and deep portions of the aquifer in May 2007 near the toe of the VOC plume. Chloroform was detected in all four downgradient wells: B-MW22I (19 ppb), B-MW22D (2.2 ppb), B-MW23I (2.0 ppb), and B-MW23D (1.6 ppb). No other target VOCs or VOC TICs were detected in the March 2013 Area B groundwater samples.

No target VOCs or VOC TICs were detected in the March 2013 surface water samples.

June 2013

In June 2013, PCE was detected in the groundwater samples from monitoring wells B-MW5S, B-MW6S, and the blind duplicate sample from B-MW6S (B-MW15S) at concentrations of 2.5 ppb, 1.1 ppb, and 1.1 ppb, respectively. Chloroform was also detected in the samples from monitoring wells B-MW5S, B-MW6S, and the blind duplicate sample from B-MW6S (B-MW15S) at concentrations of 1.2 ppb, 1.0 ppb, and 1.0 ppb, respectively. Two VOCs, 1,1-dichloroethane (1,1-DCA) and TCA were detected in the groundwater sample from B-MW5S only at concentrations of 1.0 ppb and 1.1 ppb, respectively. No VOCs or VOC TICs were detected in well B-MW7S.

Chloroform was detected in three of the four June 2013 surface water samples, all at a concentration of 1.0 ppb: B-SW4 (the blind duplicate sample of B-SW1), B-SW2, and B-SW3.

No VOCs were detected in the June 2013 QA/QC blanks associated with the analysis of groundwater or surface water samples from Area B. Therefore, no data qualification is needed for the June 2013 Area B analytical results.

September 2013

In September 2013, PCE was detected in the groundwater samples from wells B-MW5S, B-MW6S, and the blind duplicate sample from B-MW6S (B-MW15S) at concentrations of 3.9 ppb, 1.6 ppb, and 1.5 ppb, respectively. No other VOCs or VOC TICs were detected in the

samples from wells B-MW5S and B-MW6S. The sample from B-MW7S exhibited no VOCs or VOC TICs above laboratory detection limits.

Monitoring wells B-MW22I, B-MW22D, B-MW23I and B-MW23D each exhibited low levels of chloroform at concentrations of 21 ppb, 1.9 ppb, 1.7 ppb, and 1.2 ppb, respectively. No other VOCs or VOC TICs were detected in the Area B downgradient well groundwater samples.

Chloroform was detected in surface water sample B-SW1 at a concentration of 1.1 ppb. No other VOCs or VOC TICs were detected in the September 2013 surface water samples.

No constituents were detected in the September 2013 QA/QC blanks associated with the groundwater or surface water samples from Area B that were also detected in the monitoring well or surface water samples. Therefore, no data qualification is needed for the September 2013 Area B analytical results.

December 2013

In December 2013, 1,1-DCA and PCE were detected in the groundwater sample from B-MW5S at concentrations of 1.0 ppb and 4.1 ppb, respectively. PCE was detected in the groundwater sample from B-MW6S, and the B-MW6S blind duplicate B-MW15S, at concentrations of 1.7 ppb and 1.7 ppb. No other VOCs or VOC TICs were detected in the samples from wells B-MW5S and B-MW6S. The groundwater sample from B-MW7S exhibited no VOCs or VOC TICs above the laboratory detection limits.

No VOCs or VOC TICs were detected in the December 2013 surface water samples.

No constituents were detected in the December 2013 QA/QC blanks associated with the groundwater or surface water samples from Area B. Therefore, no data qualification is needed for the December 2013 Area B analytical results.

4.4.2 Product/Water Level Results

Product and water levels were measured in Area B monitoring wells, observation wells, piezometers, and stream gauges on March 26, 2013, June 11, 2013, September 11, 2013, and December 9 and 10, 2013. Water level contour and groundwater flow direction maps for the shallow, intermediate and deep portions of the aquifer are presented in Figures 7A, 7B and 7C (3/26/13, 6/11/13, 9/11/13, and 12/9/13), respectively. A summary of the March 2013, June 2013, September 2013, and December 2013 water levels is presented on Table 8.

During June 1997, TRC installed and surveyed a stream level staff gauge (B-SG5) in the South Branch immediately downgradient of monitoring well B-MW5S at surface water sample location B-SW2. In July 2000, TRC installed an additional four stream gauges (B-SG1, B-SG2, B-SG3, and B-SG4) in the stream in the vicinity of Area B and one gauge each (B-SG6 and B-SG7) in the two elongated ponds to the southeast of Area B. The purpose of the stream gauges is to measure the surface water elevations of the South Branch and compare them to the water table elevations in monitoring wells adjacent to the stream (B-MW2S, B-MW4S, B-MW5S and B-MW6S). This data is used to provide an ongoing, year-round evaluation of the hydraulic nature of the South Branch (e.g., "gaining", "losing", or "neutral") in the vicinity of Area B.

March 2013

Water levels measured in fifteen of 21 shallow wells and piezometers during March 2013 increased in comparison to the December 2012 water levels. The water levels in the remaining six shallow wells and piezometers exhibited decreased water levels. The average increase in the shallow groundwater level elevation observed when comparing the March 2013 and December 2012 events is 0.30 feet over 21 shallow monitoring well and piezometer points. Furthermore, the piezometric head increased in intermediate and deep monitoring wells by an average of 0.12 feet and 0.16 feet, respectively. On average, the stream elevation increased slightly (0.05 feet) over the South Branch stream gauge locations measured between the December 2012 and March 2013 events.

A stream elevation of 29.60 feet (North American Vertical Datum of 1988 (NAVD88)) was recorded at B-SG5 during March 2013, which is 1.71 to 2.14 feet lower than the water table elevations measured in the nearby monitoring wells (B-MW4S, B-MW5S, and B-MW6S).

June 2013

Water levels measured in shallow wells and piezometers during June 2013 generally decreased in comparison the March 2013 water levels. Three exceptions to this statement are noted: the first exception was an increase in the June 2013 water level compared to the March 2013 water level, which was observed at monitoring well B-MW19D (0.02 feet). The second and third exceptions were no change in the June 2013 water levels compared to the March 2013 water levels, observed at monitoring well B-MW19I and observation well B-OW2. The average

decrease in the shallow groundwater level elevation observed during the June 2013 event is 0.36 feet over 15 shallow monitoring wells and 6 piezometer well points at Area B. The piezometric head decreased in intermediate and deep monitoring wells by an average of 0.10 feet and 0.13 feet, respectively. On average, the stream elevation decreased (0.18 feet) over the stream gauge locations between the June 2013 and March 2013 events.

A stream elevation of 29.42 ftmsl was recorded at B-SG5 during June 2013, which is 1.74 to 2.17 feet lower than the water table elevations measured in nearby monitoring wells B-MW4S, B-MW5S, and B-MW6S.

September 2013

Water levels measured in shallow wells during September 2013 decreased in comparison to the June 2013 water levels. In comparing the June 2013 and September 2013 events, the average decrease in the shallow groundwater level elevations observed is 0.81 feet over 15 shallow monitoring wells and 6 piezometer well points at Area B. The piezometric head also decreased in intermediate and deep monitoring wells, by averages of 0.93 feet and 0.88 feet, respectively. The average stream elevation decreased (0.21 feet) between the June 2013 and September 2013 events.

A stream elevation of 29.15 ftmsl was recorded at B-SG5 during September 2013, which is 1.49 to 1.79 feet lower than the water table elevations measured in the nearby monitoring wells.

December 2013

Water levels measured in shallow wells during December 2013 increased in comparison to the September 2013 water levels. The average increase in the shallow groundwater level elevation observed during the December 2013 event is 0.77 feet over 15 shallow monitoring wells and 6 piezometer well points at Area B. Furthermore, the piezometric head increased in intermediate and deep monitoring wells by averages of 0.76 feet and 0.61 feet, respectively. The average stream elevation increased slightly (0.27 feet) over the stream gauge locations measured between the September 2013 and December 2013 events.

A stream elevation of 29.40 ftmsl was recorded at B-SG5 during December 2013, which is 1.72 to 2.05 feet lower than the water table elevations measured in the nearby monitoring wells.

Data from the four monitoring events suggest a "gaining" hydraulic relationship between the stream and the water table. A brief summary of the Area B surface water hydrologic conditions based on the elevation measurements at B-SG5 is provided below.

Area B – Surface Water			
Sampling Event	**Elevation (B-SG5)**	**Stream Status**	**Comments**
March 2013	29.60	Gaining Stream	Elevation increase from prior event, stream status consistent with previous event
June 2013	29.42	Gaining Stream	Elevation decrease from prior event, stream status consistent with previous event
September 2013	29.15	Gaining Stream	Elevation decrease from prior event, stream status consistent with previous event
December 2013	29.40	Gaining Stream	Elevation increase from prior event, stream status consistent with previous event

Product thickness in monitoring well B-MW3S has been variable since the well was installed in June 1987. The greatest thickness of product measured in B-MW3S was 0.67 feet during September 1988. Subsequently, the product thickness decreased steadily during the course of quarterly monitoring until no product was observed during July 1995. After the reappearance of product (0.12 feet) during October 1995, the product thickness again steadily decreased with no measurable product identified from December 1996 through October 1998. During January 1999, however, a thin layer of product (0.02 feet) reappeared in the well, and since then, has been sporadically detected in the well during July 1999 (0.01 feet), November 2002 (0.03 ft), February 2003 (0.07 feet), August 2006 (0.10 feet), and once again in March 2013 (0.01 ft). Immeasurable sheens were detected during the May 2003, November 2003, August 2004 and May 2005 sampling events. The presence of product in B-MW3S will continue to be closely monitored during future sampling events.

A brief summary of the groundwater flow direction, horizontal hydraulic gradient, and water level elevation is provided below for the Area B shallow groundwater flow regime.

Area B - Shallow Groundwater				
	Criteria			
Sampling Event	**Groundwater Flow Direction**	**Horizontal Hydraulic Gradient (MW14S to MW11S)**	**Water Level Elevation**	**Comments**
December 2012	Southeast in upgradient area, then east to a cone of depression in the vicinity of B-PZ10 and B-PZ11	0.0021 ft/ft	0.67 ft (B-PZ3) to 1.74 ft (B-MW11S) increase in water table from prior event	Generally consistent flow direction with previous event. Decrease in hydraulic gradient with previous event. Approximate 25% decrease in flow velocity. Overall increase in the shallow water table. One STDEV over 21-point shallow well data set is 0.29 ft.
March 2013	Southeast in upgradient area, then east-southeast to a cone of depression in the vicinity of B-PZ10	0.0032 ft/ft	0.64 ft decrease (B-PZ12) to 2.16 ft increase (B-MW8S) in water table from prior event	Generally consistent flow direction with previous event. Cone of depression observed during previous event. Increase in hydraulic gradient. Approximate 52% increase in flow velocity. Decrease in water table in 6 wells and piezometers, increase in water table in 15 wells and piezometers.
June 2013	Southeast in upgradient area, then northeast to a cone of depression in the vicinity of B-PZ10	0.0032 ft/ft	0.10 ft (B-PZ11) to 1.24 ft (B-MW8S) decrease in water table from prior event	Generally consistent flow direction with previous event. No change in hydraulic gradient. No change in flow velocity. Overall decrease in the shallow water table. One STDEV over 21-point shallow well data set is 0.30 ft.
September 2013	Southeast in upgradient area, then east	0.0030 ft/ft	0.34 ft (B-PZ10) to 2.10 ft (B-MW8S) decrease in water table from prior event	Consistent flow direction with previous event, with the noted lack of a cone-of-depression. Decrease in hydraulic gradient. Approximate 6% decrease in flow velocity. Overall decrease in the shallow water table. One STDEV over 21-point shallow well data set is 0.42 ft.
December 2013	South and southeast in upgradient area, then east to a cone of depression in the vicinity of B-PZ10 and B-PZ11	0.0021 ft/ft	0.23 ft (B-MW14S) to 1.80 ft (B-MW9S) increase in water table from prior event	Generally consistent flow direction with previous event, with the exception of a pronounced groundwater dome around B-MW9S. Decrease in hydraulic gradient with previous event. Approximate 30% decrease in flow velocity. Overall increase in the shallow water table. One STDEV over 21-point shallow well data set is 0.53 ft.

The water level contour maps for the intermediate and deep wells generated using the March 2013, June 2013, September 2013, and December 2013 groundwater measurements indicate a groundwater flow direction shifting from a southeast direction in the upgradient portion of Area B to the east in the downgradient portion of the site, consistent with that observed in previous sampling events. Due to potential impacts on the groundwater flow direction associated with the groundwater extraction at Area B, horizontal gradients are evaluated between wells B-MW14I/D and B-MW17I/D. A brief summary of the groundwater flow direction, horizontal hydraulic gradient and piezometric surface elevation is provided below for the Area B intermediate and deep groundwater flow regimes.

Area B - Intermediate Groundwater				
	Criteria			
Sampling Event	**Groundwater Flow Direction**	**Horizontal Hydraulic Gradient (MW14I to MW17I)**	**Water Level Elevation**	**Comments**
December 2012	Southeast in upgradient area, then east paralleling South Branch	0.0026 ft/ft	0.86 ft (B-MW15I) to 2.25 ft (B-MW17I) increase in the piezometric surface from prior event.	Flow direction consistent with previous event. Decrease in hydraulic gradient. Approximate 23.5% decrease in flow velocity. Increase in piezometric surface elevation a reversal from previous event. STDEV over 15-point data set is 0.36 ft.
March 2013	Southeast in upgradient area, then east paralleling South Branch	0.0029 ft/ft	0.73 ft decrease (B-OW5) to 0.64 ft increase (B-MW19I) in the piezometric surface from prior event.	Flow direction consistent with previous event. Increase in hydraulic gradient. Approximate 11.5% increase in flow velocity. STDEV over 15-point data set is 0.42 ft.
June 2013	Southeast in upgradient area, then east	0.0029 ft/ft	No change (B-MW19I) to 0.16 ft decrease (B-MW15I) in the piezometric surface from prior event.	Flow direction consistent with previous event. No change in hydraulic gradient. No change in flow velocity. Overall decrease in piezometric surface. STDEV over 15-point data set is 0.04 ft.
September 2013	Southeast, then trending east	0.0032 ft/ft	0.49 ft (B-MW12I) to 1.52 ft (B-MW19I) decrease in the piezometric surface from prior event.	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 10% increase in flow velocity. Decrease in piezometric surface elevation consistent with previous event. STDEV over 15-point data set is 0.32 ft.

Area B - Intermediate Groundwater				
Sampling Event	Criteria			
	Groundwater Flow Direction	Horizontal Hydraulic Gradient (MW14I to MW17I)	Water Level Elevation	Comments
December 2013	Southeast in upgradient area, then east towards a cone-of-depression	0.0027 ft/ft	0.14 ft (B-MW14I) to 1.59 ft (B-OW5) increase in the piezometric surface from prior event.	Flow direction consistent with previous event, with exception of presence of cone of depression in vicinity of B-MW21I. Decrease in hydraulic gradient. Approximate 16% decrease in flow velocity. Increase in piezometric surface elevation a reversal from previous event. STDEV over 15-point data set is 0.43 ft.

Area B - Deep Groundwater				
Sampling Event	Criteria			
	Groundwater Flow Direction	Horizontal Hydraulic Gradient (MW14D to MW17D)	Water Level Elevation	Comments
December 2012	Southeast in upgradient area, then east paralleling South Branch	0.0026 ft/ft	0.74 ft (B-MW15D) to 2.10 ft (B-OW4) increase in the piezometric surface from prior event.	Consistent flow direction with previous event. Slight decrease in hydraulic gradient. Approximate 7% decrease in flow velocity. Increase in deep piezometric surface elevations a reversal from previous event. STDEV over 15-point data is 0.40 ft.
March 2013	Southeast in upgradient area, then east paralleling South Branch	0.0029 ft/ft	0.93 ft decrease (B-OW4) to 0.75 ft increase (B-OW2) in the piezometric surface from prior event.	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 11.5% increase in flow velocity. Increase in piezometric surface elevation is consistent with prior event. Standard deviation (STDEV) over 15-point data set is 0.16 ft.
June 2013	Southeast in upgradient area, then east	0.0029 ft/ft	0.67 ft decrease (B-MW11D) to 0.02 ft increase (B-MW19D) in the piezometric surface from prior event.	Consistent flow direction with previous event. No change in hydraulic gradient. No change in flow velocity. General decrease in piezometric surface is a reversal from prior event. STDEV over 15-point data set is 0.05 ft.

Area B - Deep Groundwater				
	Criteria			
Sampling Event	**Groundwater Flow Direction**	**Horizontal Hydraulic Gradient (MW14D to MW17D)**	**Water Level Elevation**	**Comments**
September 2013	Southeast in upgradient area, then east	0.0027 ft/ft	0.21 ft (B-MW11D) to 1.64 ft (B-OW2) decrease in the piezometric surface from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 7% decrease in flow velocity. Decrease in piezometric surface consistent with previous event. STDEV over 15-point data set is 0.39 ft.
December 2013	Southeast in upgradient area, then east towards a cone-of-depression	0.0027 ft/ft	0.08 ft (B-MW14D) decrease to 1.89 increase ft (B-22D) in the piezometric surface from prior event.	Consistent flow direction with previous event, with the exception of the cone-of-depression around B-MW21D. No change in hydraulic gradient or flow velocity. Overall increase in deep piezometric surface elevations a reversal from previous event. STDEV over 15-point data set is 0.55 ft.

4.5 Area C

4.5.1 Analytical Results

As indicated in Table 4, toluene was detected in the September 2013 groundwater sample from monitoring well C-MW1S at a concentration of 4.7 ppb. No other VOCs or VOC TICs were detected in 2013 samples from monitoring well C-MW1S.

No VOCs or VOC TICs were detected in any 2013 groundwater samples collected from monitoring well C-MW2S.

No constituents were detected in the 2013 QA/QC blanks associated with the groundwater samples from Area C. Therefore, no data qualification is needed for the 2013 Area C analytical results.

4.5.2 Water Level Results

As indicated in Table 9, water level measurements were performed on March 25, 2013, June 11, 2013, September 13, 2013, and December 12, 2013 in both of the Area C monitoring wells. Updated water table contour and groundwater flow direction maps are presented in Figure 8 (3/25/13, 6/11/13, 9/13/13, and 12/12/13). Given that there are only two wells, a general

groundwater flow direction is described. It should be noted that a reversal in the flow direction that was observed in November 2006 as a result of an anomalous water level measured in C-MW1S has not been confirmed during any of the quarterly sampling events since November 2006. A brief summary of the groundwater flow direction, horizontal hydraulic gradient, and water level elevation for each quarterly sampling event is provided below.

Area C - Shallow Groundwater				
	Criteria			
Sampling Event	**Groundwater Flow Direction**	**Horizontal Hydraulic Gradient (C-MW1S to C-MW2S)**	**Water Level Elevation**	**Comments**
December 2012	East-northeast	0.0063 ft/ft	1.94 ft (C-MW1S) to 2.67 ft (C-MW2S) increase in the water table from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 34% decrease in flow velocity. Increase in water table is a reversal of water elevation changes observed in previous event.
March 2013	East-northeast	0.0053 ft/ft	0.82 ft (C-MW1S) to 1.05 ft (C-MW2S) increase in the water table from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 16% decrease in flow velocity. Increase in water table is a consistent with previous event.
June 2013	East-northeast	0.0073 ft/ft	0.57 ft (C-MW1S) to 1.01ft (C-MW2S) decrease in the water table from prior event.	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 38% increase in flow velocity. Decrease in water table is a reversal from previous event.
September 2013	East-northeast	0.0083 ft/ft	2.06 ft (C-MW1S) to 2.27 ft (C-MW2S) decrease in the water table from prior event.	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 14% increase in flow velocity. Decrease in water table is consistent with previous event.
December 2013	East-northeast	0.0050 ft/ft	1.48 ft (C-MW1S) to 2.19 ft (C-MW2S) increase in the water table from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 40% decrease in flow velocity. Increase in water table is a reversal of water elevation changes observed in previous event.

4.6 Area R

Area R groundwater sample results are summarized in Table 5 and are discussed by sampling event below.

4.6.1 Analytical Results

March 2013

Two target VOCs were detected in the groundwater sample collected from R-MW1S during the March 2013 sampling event: chlorobenzene (6.4 ppb) and 1,4-dichlorobenzene (2.2 ppb). No other VOCs or VOC TICs were detected in the R-MW1S groundwater sample. Chlorobenzene and 1,4-dichlorobenzene were detected in the R-MW2S groundwater sample at concentrations of 2.3 ppb and 1.7 ppb, respectively. No other VOCs or VOC TICs were detected in the R-MW2S groundwater sample. Chloroform was detected in the samples from R-MW1S, R-MW3S, R-MW4S, R-MW5S and R-MW6S at concentrations of 1.9 ppb, 13 ppb, 1.9 ppb, 9.0 ppb, and 13 ppb, respectively. The blind duplicate sample of R-MW5S (R-MW7S) exhibited a chloroform concentration of 8.7 ppb. No other target VOCs or VOC TICs were detected in the groundwater samples obtained from Area R during the March 2013 event.

No constituents were detected in the March 2013 QA/QC blanks associated with the groundwater samples from Area R. Therefore, no data qualification is needed for the March 2013 Area R analytical results.

June 2013

Two target VOCs were detected in the groundwater sample collected from R-MW1S during the June 2013 sampling event: chlorobenzene (8.0 ppb) and 1,4-dichlorobenzene (3.0 ppb). No other VOCs or VOC TICs were detected in the R-MW1S groundwater sample. No target VOCs or VOC TICs were detected in the groundwater sample collected from R-MW2S. Chloroform was detected in the samples from R-MW3S, R-MW4S, R-MW5S, the R-MW5S blind duplicate sample R-MW7S, and R-MW6S at concentrations of 17 ppb, 1.4 ppb, 7.8 ppb, 8.6 ppb, and 15 ppb, respectively. No other target VOCs or VOC TICs were detected in the groundwater samples obtained from Area R during the June 2013 event.

No VOC constituents were detected in the June 2013 QA/QC blanks associated with the groundwater samples from Area R. Therefore, no data qualification is needed for the June 2013 Area R analytical results.

September 2013

Two target VOCs were detected in the groundwater sample collected from R-MW1S during the September 2013 sampling event: chlorobenzene (10 ppb) and 1,4-dichlorobenzene (3.1 ppb). No other VOCs or VOC TICs were detected in the R-MW1S groundwater sample. No target VOCs or VOC TICs were detected in the September 2013 groundwater sample from R-MW2S. Chloroform was detected in the samples from R-MW3S, R-MW4S, R-MW5S, the R-MW5S blind duplicate sample R-MW7S, and R-MW6S at concentrations of 17 ppb, 1.5 ppb, 6.6 ppb, 6.7 ppb, and 12 ppb, respectively. No other target VOCs or VOC TICs were detected in the groundwater samples obtained from Area R during the September 2013 event.

No constituents were detected in the September 2013 QA/QC blanks associated with the groundwater samples from Area R. Therefore, no data qualification is needed for the September 2013 Area R analytical results.

December 2013

Three target VOCs were detected in the groundwater sample collected from R-MW1S during the December 2013 sampling event: chlorobenzene (34 ppb), 1,2-dichlorobenzene (1.4 ppb), and 1,4-dichlorobenzene (7.3 ppb). No other VOCs or VOC TICs were detected in the R-MW1S groundwater sample. Two target VOCs were detected in the groundwater sample from R-MW2S: chlorobenzene (3.1 ppb) and 1,4-dichlorobenzene (2.1 ppb). No other VOCs or VOC TICs were detected in the R-MW2S groundwater sample. Chloroform was detected in the samples from R-MW3S, R-MW5S, the R-MW5S blind duplicate sample R-MW7S, and R-MW6S at concentrations of 21 ppb, 6.5 ppb, 6.5 ppb, and 9.9 ppb, respectively. No other target VOCs or VOC TICs were detected in the groundwater samples obtained from Area R during the December 2013 event.

No constituents were detected in the December 2013 QA/QC blanks associated with the groundwater samples from Area R. Therefore, no data qualification is needed for the December 2013 Area R analytical results.

4.6.2 Water Level Results

Water levels were measured in the six Area R monitoring wells on March 27, 2013, June 12, 2013, September 12, 2013, and December 11, 2013. A summary of the water levels is

presented on Table 10. Updated water table contour and groundwater flow direction maps are presented in Figure 9 (3/27/13, 6/12/13, 9/12/13, and 12/11/13). A brief summary of the groundwater flow direction, horizontal hydraulic gradient, and water level elevation for each quarterly sampling event is provided below.

Area R - Shallow Groundwater				
	Criteria			
Sampling Event	**Groundwater Flow Direction**	**Horizontal Hydraulic Gradient (R-MW4S to R-MW5S)**	**Water Level Elevation**	**Comments**
December 2012	Southeast	0.0010 ft/ft	0.65 ft (R-MW3S) to 0.70 ft (R-MW5S) increase in water levels from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 9% decrease in flow velocity. Increase in water elevation is a reversal from prior event.
March 2013	Southeast	0.0013 ft/ft	3.29 ft (R-MW5S) to 3.51 ft (R-MW4S) increase in the water level from prior event.	Consistent flow direction compared to previous event. Increase in hydraulic gradient. Approximate 30% increase in flow velocity. Increase in water elevation is consistent with prior event.
June 2013	Southeast	0.0016 ft/ft	0.16 ft (R-MW3S) to 0.35 ft (R-MW5S) decrease in water levels from prior event.	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 23% increase in flow velocity. Decrease in water elevation is a reversal from the prior event.
September 2013	Southeast	0.0015 ft/ft	1.67 ft (R-MW2S) to 1.75 ft (R-MW4S) decrease in water levels from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 6% decrease in flow velocity. Decrease in water elevation is consistent with prior event.
December 2013	Southeast	0.0012 ft/ft	1.92 ft (R-MW5S) to 2.14 ft (R-MW3S) decrease in water levels from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 20% decrease in flow velocity. Decrease in water elevation is a reversal from prior event.

4.7 Area 56

Area 56 groundwater sample results are summarized in Table 6. As indicated in Section 3.5, groundwater samples from wells 56-MW4S and 56-MW4D were analyzed for VOCs. Priority pollutant metals analysis was conducted for unfiltered and filtered aliquots of groundwater samples collected from well 56-MW4S and its blind duplicate sample 56-MW6S. In addition, an unfiltered aliquot from 56-MW4S and its duplicate sample were analyzed for nitrate/nitrite each quarter. VOC and inorganic results are discussed separately below by quarterly sampling event.

4.7.1 VOC Analytical Results

Neither monitoring well 56-MW4S nor monitoring well 56-MW4D exhibited the presence of any VOCs or VOC TICs during 2013.

4.7.2 Inorganic Analytical Results

March 2013

The measured turbidity in 56-MW4S in March 2013 was 9.79 Nephelometric Turbidity Units (NTU). The analytical results of the unfiltered (total metals) aliquot of 56-MW4S indicated the presence of chromium (74.7 ppb), copper (2.3 ppb, estimated), and nickel (520 ppb). The filtered (dissolved) aliquot of this sample exhibited chromium (37.5 ppb), copper (1.4 ppb, estimated), nickel (477 ppb), and zinc (3.8 ppb, estimated).

The analytical results of the unfiltered aliquot of 56-MW4S' blind duplicate sample, 56-MW6S, indicated the presence of chromium (93.5 ppb), copper (2.6 ppb, estimated), nickel (468 ppb), and zinc (3.9 ppb, estimated). The filtered (dissolved) aliquot of 56-MW6S exhibited chromium (39.8 ppb), copper (1.1 ppb, estimated), nickel (5058 ppb), and zinc (3.9 ppb, estimated).

Nitrate was detected in 56-MW4S and the blind duplicate sample 56-MW6S, at concentrations of 2.5 ppm and 3.7 ppm, respectively.

June 2013

The measured turbidity in 56-MW4S in June 2013 was 8.56 NTU. The analytical results of the unfiltered (total metals) aliquot of 56-MW4S indicated the presence of beryllium (0.16 ppb, estimated), chromium (36.8 ppb), copper (5.9 ppb, estimated), nickel (265 ppb), and

thallium (3.1 ppb, estimated). However, based on the reported estimated concentrations of copper (4.9 ppb) and thallium (2.9 ppb) in the associated field blank (FB061113), the copper and thallium results for 56-MW4S are considered invalid. As such, "B" qualifiers have been added to the copper and thallium results for well 56-MW4S for June 2013. The filtered (dissolved) aliquot of this sample exhibited beryllium (0.18 ppb, estimated), chromium (26.1 ppb), copper (7.7 ppb, estimated), nickel (261 ppb), and zinc (6.2 ppb, estimated). However, based on the reported estimated concentrations of beryllium (1.5 ppb), copper (7.6 ppb), and zinc (4.8 ppb) in the associated field blank (FB061113(F)), the beryllium, copper, and zinc results for 56-MW4S(F) are considered invalid. As such, "B" qualifiers have been added to the dissolved beryllium, copper, and zinc results for well 56-MW4S for June 2013.

The results of the unfiltered aliquot of blind duplicate sample 56-MW6S indicated the presence of beryllium (0.15 ppb, estimated), chromium (34.7 ppb), copper (7.7 ppb, estimated), nickel (252 ppb), thallium (3.2 ppb, estimated), and zinc (6.4 ppb, estimated). As discussed in the paragraph above, the copper detection in the associated field blank invalidates the copper result reported for the sample. As such, a "B" qualifier has been added to the copper result for this sample. The filtered (dissolved) aliquot of the blind duplicate sample exhibited beryllium (0.24 ppb, estimated), chromium (26.6 ppb), copper (6.5 ppb, estimated), nickel (254 ppb), thallium (3.1 ppb, estimated), and zinc (8.6 ppb, estimated). Also as discussed in the paragraph above, because of the field blank detects of the specified metals, and because of a detect of thallium (2.9 ppb, estimated) in the filtered field blank, the beryllium, copper, thallium, and zinc detects in groundwater sample 56-MW6S(F) are considered invalidated. As such, "B" qualifiers have been added to the beryllium, copper, thallium, and zinc results.

Nitrate was detected in 56-MW4S and its duplicate sample (56-MW6S) at concentrations of 3.8 ppm and 3.7 ppm, respectively.

September 2013

The measured turbidity in 56-MW4S in September 2013 was 3.9 NTU. The analytical results of the unfiltered (total metals) aliquot of 56-MW4S indicated the presence of chromium (70.3 ppb), copper (7.1 ppb, estimated), lead (2.6 ppb, estimated), nickel (119 ppb), and zinc (13.3 ppb, estimated). The filtered (dissolved) aliquot of this sample exhibited chromium (22.0 ppb), copper (2.7 ppb, estimated), nickel (119 ppb), and zinc (11.9 ppb, estimated). No metals

were detected in the associated field blank, therefore, no qualification of the metals analytical results with regards to blank contamination is warranted.

The analytical results of the unfiltered aliquot of blind duplicate sample 56-MW6S indicated the presence of chromium (96.0 ppb), copper (6.7 ppb, estimated), lead (2.8 ppb, estimated), nickel (123 ppb), thallium (2.2 ppb, estimated), and zinc (16.9 ppb, estimated). The analytical results of the filtered (dissolved) aliquot of the blind duplicate sample exhibited chromium (21.8 ppb), copper (4.3 ppb, estimated), nickel (119 ppb), and zinc (14.5 ppb, estimated). No metals were detected in the associated field blank, therefore, no qualification of the metals analytical results with regards to blank contamination is warranted.

Nitrate was detected in 56-MW4S and its blind duplicate sample (56-MW6S) at concentrations of 3.9 ppm and 3.9 ppm.

December 2013

The measured turbidity in 56-MW4S in December 2013 was 2.96 NTU. The analytical results of the unfiltered (total metals) aliquot of 56-MW4S indicated the presence of beryllium (0.35 ppb, estimated), chromium (56.9 ppb), nickel (142 ppb), and zinc (6.4 ppb, estimated). However, based on the reported estimated concentration of zinc (2.0 ppb) in the associated field blank (FB120913), the zinc result for 56-MW4S is considered invalid. As such, a "B" qualifier has been added to the zinc result for well 56-MW4S for December 2013. The filtered (dissolved) aliquot of this sample exhibited arsenic (2.1 ppb, estimated), beryllium (0.33 ppb, estimated), chromium (28.8 ppb), nickel (152 ppb), thallium (2.6 ppb, estimated), and zinc (6.9 ppb, estimated). However, because of the detects of thallium (2.7 ppb, estimated) and zinc (3.3 ppb, estimated) described above for filtered field blank FB120913(F), the dissolved thallium and zinc results for 56-MW4S(F) are considered invalid. As such, "B" qualifiers have been added to the results for thallium and zinc.

The analytical results of the unfiltered aliquot of blind duplicate sample 56-MW6S indicated the presence of beryllium (0.40 ppb, estimated), cadmium (0.32 ppb, estimated), chromium (57.2 ppb), copper (2.9 ppb, estimated), nickel (154 ppb), thallium (1.9 ppb, estimated), and zinc (6.4 ppb, estimated). However, based on the reported estimated concentration of zinc (2.0 ppb) in the associated field blank (FB120913), the zinc result for 56-MW6S is considered invalid. As such, a "B" qualifier has been added to the zinc result for well

56-MW6S for December 2013. The filtered (dissolved) aliquot of the blind duplicate sample exhibited beryllium (0.33 ppb, estimated), chromium (26.1 ppb), nickel (150 ppb), thallium (2.2 ppb, estimated), and zinc (7.8 ppb, estimated). However, because of the detects of thallium (2.7 ppb, estimated) and zinc (3.3 ppb, estimated) described above for filtered field blank FB120913(F), the dissolved thallium and zinc results for 56-MW4S(F) are considered invalid. As such, "B" qualifiers have been added to the results for thallium and zinc.

Nitrate was detected in 56-MW4S and the blind duplicate sample (56-MW6S) at concentrations of 2.9 ppm and 3.3 ppm, respectively.

The anomalously high total metals results in sample 56-MW4S and duplicate sample 56-MW6S detected during November 2006 were not confirmed during any of the 2013 sampling events, marking 28 consecutive sampling events in which the elevated metals results have not been confirmed and providing further support for the theory that, similar to anomalously high results detected during the November 2002 sampling event, the elevated metals results of November 2006 were a result of high turbidity. The turbidity in 56-MW4S will continue to be closely monitored during future events and care will be taken to avoid the collection of samples with elevated turbidity.

4.7.3 Water Level Results

On March 25, 2013, June 11, 2013, September 12, 2013, and December 9, 2013, water levels were measured in Area 56 monitoring wells. An updated shallow water table contour map for each quarter is presented in Figure 10A (3/25/13, 6/11/13, 9/12/13, 12/9/13) and a deep well piezometric surface contour map for each quarter is provided as Figure 10B (3/25/13, 6/11/13, 9/12/13, 12/9/13). A summary of the monitoring well water levels from the March 2013, June 2013, September 2013, and December 2013 events is presented on Table 11. A brief summary of the groundwater flow direction, horizontal hydraulic gradient, and water level and piezometric surface elevations is provided below.

Area 56 - Shallow Groundwater				
Sampling Event	Criteria			
	Groundwater Flow Direction	Horizontal Hydraulic Gradient (56-MW1S to 56-MW4S)	Water Level Elevation	Comments
December 2012	Northeast along an apparent groundwater divide	0.0042 ft/ft	0.60 ft (56-MW3S) to 1.32 ft (56-MW4S) increase in the water table from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 9% decrease in flow velocity. Increase in water level elevation is a reversal from prior event.
March 2013	Northeast along an apparent groundwater divide	0.0049 ft/ft	0.88 ft (56-MW4S) to 1.94 ft increase (56-MW2S) increase in the water table from prior event	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 17% increase in flow velocity. Increase in water level elevations is consistent with prior event.
June 2013	Northeast along an apparent groundwater divide	0.0048 ft/ft	0.42 ft decrease (56-MW2S) to 0.21 ft increase (56-MW4S) in the water table from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 2% decrease in flow velocity. Decrease in water table in 3 wells and increase in 2 wells is inconsistent with the prior event.
September 2013	Northeast along an apparent groundwater divide	0.0050 ft/ft	0.89 ft (56-MW1S) to 1.15 ft (56-MW4S and 56-MW5S) decrease in the water table from prior event.	Consistent flow direction with previous event. Increase in hydraulic gradient. Approximate 4% increase in flow velocity. Overall decrease in water table is a reversal from the prior event.
December 2013	Northeast along an apparent groundwater divide	0.0048 ft/ft	0.21 ft (56-MW3S) to 1.33 ft (56-MW1S) decrease in the water table from prior event.	Consistent flow direction with previous event. Decrease in hydraulic gradient. Approximate 4% decrease in flow velocity. Decrease in water level elevation is consistent with prior event.

Between December 2012 and March 2013, the water level in the deep monitoring well 56-MW2D increased by 1.05 feet and the water level in 56-MW4D increased by 0.62 feet. During the March 2013 sampling event, the piezometric surface elevations in deep wells 56-MW2D and 56-MW4D were 2.33 feet and 0.51 feet lower, respectively, than the water level

elevations measured in the adjacent shallow wells (56-MW2S and 56-MW4S). The downward vertical gradients increased in both monitoring well couplets (56-MW2S/D and 56-MW4S/D) relative to observations made during the previous quarterly sampling event (December 2012).

Between March 2013 and June 2013, the water level in the deep monitoring wells 56-MW2D and 56-MW4D increased by 0.15 feet and 0.34 feet, respectively. During the June 2013 sampling event, the piezometric surface elevations in deep wells 56-MW2D and 56-MW4D were 1.76 feet and 0.38 feet lower, respectively, than the water level elevations measured in the adjacent shallow wells (56-MW2S and 56-MW4S). The downward vertical gradients decreased at both the 56-MW2 monitoring well couplet and the 56-MW4 monitoring well couplet when compared to observations made during the previous quarterly sampling event (March 2013).

Between June 2013 and September 2013, the water levels in deep monitoring wells 56-MW2D and 56-MW4D decreased by 1.20 feet and 1.24 feet, respectively. The overall decrease in piezometric surface elevations is a reversal of the water level results observed when comparing the March 2013 and June 2013 sampling events. The piezometric surface elevations in deep wells 56-MW2D and 56-MW4D were 1.94 feet and 0.47 feet lower, respectively, than the water level elevations measured in the adjacent shallow wells (56-MW2S and 56-MW4S). The downward vertical gradient increased at both the 56-MW2 monitoring well couplet and 56-MW4 monitoring well couplet when compared to observations made during the previous quarterly sampling event (June 2013).

Between September 2013 and December 2013, the water level in deep monitoring wells 56-MW2D and 56-MW4D decreased by 0.92 feet and 1.01 feet, respectively. The decrease in water level elevations is consistent with the decreasing potentiometric surfaces observed when comparing the June 2013 and September 2013 results. The piezometric surface elevations in deep wells 56-MW2D and 56-MW4D were 1.75 feet and 0.37 feet lower, respectively, than the water level elevations measured in the adjacent shallow wells (56-MW2S and 56-MW4S). The downward vertical gradients decreased at both the 56-MW2 and 56-MW4 monitoring well couplets when compared to observations made during the previous quarterly sampling event (September 2013).

5.0 DISCUSSION OF RESULTS

Comparisons of all previous groundwater sampling analytical results to the results for the 2013 quarterly sampling rounds for Areas A, B, C, R and 56 are provided in Tables 12, 13 and 13A, 14, 15, and 16, respectively. In addition, a series of charts has been developed for Areas A, B, C, R and 56 in which key contaminants of concern associated with select monitoring wells and Area B surface water have been graphed and are illustrated in Figures 11 through 15, respectively. A summary discussion of the laboratory analyses and contaminant trends for each area is presented below. In order to achieve lower laboratory detection limits for VOCs than the USEPA CLP SOW 3/90 method can provide, the USEPA LCW methodology (CLP SOW OLC02.1) was utilized during the March 2013, June 2013, September 2013, and December 2013 groundwater sampling events for select monitoring wells. In addition, a modified USEPA LCW methodology which included the 3 priority pollutant compounds acrolein, acrylonitrile and 2-chloroethylvinylether was used for groundwater samples collected at Areas A, R and 56 in accordance with a USEPA request (USEPA comment letter - November 1, 1994).

The New Jersey Groundwater Quality Standards (NJAC 7:9C) were last amended on July 22, 2010 and were adopted without change on March 4, 2014; however, the NJ PQLs for organic and inorganic constituents did not change from the November 7, 2005 amendments. Therefore, the NJ PQL concentrations reported in the tables have not changed from previous quarterly monitoring reports. The NJ PQL concentrations are used to evaluate the analytical results reported above for Area A, Area C, Area R, and Area 56.

Historically, groundwater monitoring at active remediation areas at the Technical Center has reflected the requirements of New Jersey Pollutant Discharge Elimination System (NJPDES) permit equivalents issued by the New Jersey Department of Environmental Protection (NJDEP). However, under CERCLA, permits are not required for on-site remedial actions at Superfund sites; instead, remedial actions must meet the substantive requirements of the Applicable or Relevant and Appropriate Requirements (ARARs) identified in the Records of Decision (RODs) issued for the various remedial areas. In a letter to USEPA and NJDEP dated February 14, 2013, the FAA documented that State-issued permit equivalencies for on-site CERCLA response actions would no longer be obtained by the FAA, in accordance with the permit exemption provisions of CERCLA. On November 27, 2013, the FAA transmitted to the USEPA and NJDEP a CERCLA Substantive Requirements Assessment that identified the chemical-specific,

location-specific, and action-specific ARARs called out in the RODs for the active groundwater remediation areas (Areas B, D, E, 20A, 29, and 41). The document also included an identification of the substantive requirements that are applicable to the remedial systems, as well as the ROD-based Cleanup Levels established for each active groundwater remediation area, including Area B. Therefore, the analytical results for Area B for the four 2013 quarterly monitoring events are discussed below in the context of the Area B ROD-based Cleanup Levels, as defined in Table 7 of the November 27, 2013 letter described above. The ROD-based Cleanup Levels are also presented on the tables documenting Area B analytical results, Table 3 and Table 13.

5.1 Area A

Low levels of chloroform have historically been detected in monitoring wells A-MW3S and A-MW4S. However, chloroform has not been detected in well A-MW3S since February 2009 and it has been intermittently detected in well A-MW4S since June 2010. Chloroform levels have ranged between non-detect and 13 ppb in A-MW3S and between non-detect and 13 ppb in A-MW4S.

As indicated on the charts provided in Figure 11, prior to April 1999, the one-year running average chloroform concentration in A-MW3S exhibited large fluctuations, with a peak (11 ppb) in 1997 and a trough (4 ppb) in 1996. Between April 1999 and February 2002, the one-year running average ranged from 3 ppb to 7.5 ppb. However, from May 2006 through December 2009, the one-year running average concentration has steadily decreased from 4.5 ppb to less than 0.1 ppb. This decrease was due to steadily decreasing concentrations of chloroform over that time period. Because chloroform was not detected in well A-MW3S from September 2009 through December 2013, the one-year running average currently plots as a horizontal line along the X-axis. Chloroform has been detected below the associated NJ PQL of 1.0 ppb during 28 consecutive sampling events (February 2007 through December 2012).

From 1995 through February 2006, well A-MW4S exhibited a fairly consistent one-year running average trend with the average chloroform concentration ranging between 2.5 and 6 ppb. Since May 2006 to the present, the one-year running average for chloroform has exhibited cycles of peaks and valleys, with an increasing trend through the first half of 2013. This trend was reversed, however, with the non-detect chloroform result from September 2013 and the relatively low chloroform result of 1.2 ppb from December 2013.

Past reviews of the historical land use at Area A and shallow groundwater flow direction maps have indicated that well A-MW4S is located hydraulically upgradient of A-MW3S with no apparent past site activities at or upgradient of A-MW4S that would be contributing to the presence of chloroform in the groundwater. Furthermore, a low level of chloroform (2 ppb) was detected in a nearby monitoring well located adjacent to Building 224, which historically has been hydraulically upgradient of well A-MW4S, during a separate Underground Storage Tank (UST) investigation conducted during November 1992. However, during the May 2003 and August 2003 sampling events, the shallow groundwater flow direction shifted from an east-northeasterly direction to a northerly direction. As a result, monitoring well A-MW4S was temporarily hydraulically side-gradient to well A-MW3S. The change in flow direction may have been related to the heavy construction that took place throughout Area A to expand the Federal Air Marshal training facility. In November 2003, the shallow groundwater flow direction shifted back to the historically evident northeasterly direction, where it remained until November 2005 when the shift in the flow direction to the north was again present. Since November 2005 the flow direction has generally remained in a north-northeasterly to east-northeasterly direction, indicating that the construction at Area A may have more permanently altered the shallow groundwater flow direction. As a result, monitoring well A-MW4S has generally remained hydraulically side-gradient to A-MW3S rather than the historically present downgradient orientation. This trend continued through September 2010. In December 2010, a hydraulic gradient of approximately 2.8 feet was measured between monitoring wells A-MW3S and A-MW4S, although a flow line drawn from A-MW4S in a downgradient direction would not pass near A-MW3S. From 2011 to 2013, the hydraulic gradient between the two wells continued to fluctuate between 1.5 to 2 feet. The shallow groundwater flow direction will continue to be closely monitored during future sampling events to evaluate any change in flow direction or contaminant trends, specifically with respect to chloroform.

Bromodichloromethane was detected during five consecutive sampling rounds prior to February 2005 (November 2003 through November 2004) in well A-MW3S at concentrations of 0.8 ppb to 3 ppb. In addition, dibromochloromethane was detected for the first time in A-MW3S in February 2004 at a concentration of 1 ppb and again in August 2004 at a concentration of 3 ppb. Bromoform was also detected for the first time in A-MW3S in August 2004 at a concentration of 1 ppb. After November 2004, these compounds were sporadically detected in

monitoring well A-MW3S in May 2005 and November 2005. However, none of these compounds have been detected during 32 consecutive sampling events (February 2006 through December 2013). Bromodichloromethane, dibromochloromethane and bromoform are VOCs commonly associated with the chlorination process at water treatment facilities. It is possible that construction at Area A associated with the Federal Air Marshal facility, including expansion of potable and fire suppression water piping, was linked to the sudden appearance of these compounds in A-MW3S. The presence/absence of these compounds will continue to be monitored.

Other constituents detected inconsistently in well A-MW3S include toluene (February 1995), carbon disulfide (February 1996), and 2-butanone (November 2003). The low levels at which these compounds were detected and their infrequency of detection indicate that their detections are not cause for concern. Furthermore, toluene and 2-butanone are considered to be common laboratory contaminants by the USEPA. For similar reasons, the presence of a low level of total xylenes in A-MW4S during October 1998 and the presence of estimated low levels of chloromethane in both A-MW3S and A-MW4S, along with bromomethane and chlorobenzene in A-MW4S during the February 2002 sampling round, should not be cause for concern. However, the presence/absence of these compounds will continue to be closely evaluated during future sampling events.

5.2 Area B

5.2.1 Groundwater

5.2.1.1 Organics

Previous investigations at Area B indicated that an area of groundwater contamination existed between monitoring well B-MW3S and the South Branch. The contamination included a thin film of floating product identified over a relatively small area (approximately 30 feet by 50 feet) in the immediate vicinity of monitoring well B-MW3S. Immediately downgradient of the floating product plume, dissolved aromatic hydrocarbons (groundwater contamination) were detected in monitoring well B-MW4S at levels that slightly exceeded groundwater standards.

In addition to the dissolved aromatic hydrocarbons detected in groundwater at Area B, chlorinated hydrocarbons have been detected in wells B-MW5S, B-MW6S and B-MW7S. In well B-MW7S, located downgradient of B-MW3S but upgradient of B-MW5S, PCE was

consistently detected from August 1993 through November 2002 at levels ranging between 1 and 45 ppb (see Figure 12). Since February 2003, the concentration of PCE in B-MW7S has fluctuated between non-detect levels and 3 ppb, which slightly exceeds the ROD-based Cleanup Levels. No exceedance of the ROD-based Cleanup Levels has occurred in well B-MW7S since November 2007 and PCE has not been detected in well B-MW7S since February 2009, coinciding with the initiation of groundwater remediation at Area B.

In well B-MW5S, located downgradient of B-MW3S, low levels of chlorinated hydrocarbons at or exceeding the ROD-based Cleanup Levels have been detected since the well was installed in February 1993. Prior to May 2001, total VOC levels were variable, ranging between 1.6 and 68.7 ppb. From November 2001 through November 2002, consistently elevated total VOC levels, ranging from 47.7 to 72.2 ppb, were observed. This was due in part to 1,1-dichloroethane levels increasing, reaching as high as 29 ppb in May 2002. The total VOC concentrations then fluctuated for a time, and peaked to 73 ppb in May 2004. From February 2005 through June 2011, the total VOC concentrations were less than 15 ppb. From September 2011 to March 2012, the PCE levels peaked again, causing the total VOC concentrations to rise as high as 19 ppb. PCE has not been detected at levels as high as the September 2011 through March 2012 levels since November 2002. PCE levels reported for B-MW5S decreased from June 2012 to March 2013, with modestly increasing concentrations reported for the June 2013 through December 2013 sampling rounds. Even the lowest of recent reported PCE detects from the March 2013 sampling round (1.5 ppb) still exceeds the ROD-based Cleanup Level. 1,1-DCA was detected in the December 2011 B-MW5S groundwater sample; it had not been detected in that well since February 2009. 1,1-DCA, as well as 1,1-DCE and TCA, were also detected in the December 2012 B-MW5S sample. From the 2013 dataset for B-MW5S, TCA was detected during the March and June events and 1,1-DCA was detected during the June and December events. Chloroform is also a commonly detected constituent in well B-MW5S and was detected in two of the four 2013 sampling rounds. Total VOC concentrations will continue to be closely evaluated in well B-MW5S during future sampling events. Charts of individual VOC concentrations in well B-MW5S are provided in Figure 12.

In well B-MW6S, which is located south of the South Branch of Absecon Creek, trace levels of several chlorinated compounds were detected from August 1993, when the well was initially installed, through March 1997. A majority of the VOC constituents detected in this well

during this period were at or below their associated ROD-based Cleanup Levels. However, starting in June 1997, the PCE level began increasing in well B-MW6S, with a maximum concentration of 100 ppb detected in April 1999. Since July 1999, the PCE concentration in B-MW6S has steadily decreased, dropping below the ROD-based Cleanup Level for PCE of 1 ppb in August 2004 for the first time since March 1997 and remaining below 1 ppb from August 2004 through June 2011. From 2006 through 2009, PCE was detected in B-MW6S for only one or two of the quarterly sampling events each year. Starting with the June 2009 sampling event, PCE was not detected until the September 2011 sampling event. PCE was then detected above the ROD-based Cleanup Level in B-MW6S in the September 2011 through June 2012 sampling events. These detections generally mimicked PCE's reappearance in well B-MW5S. PCE was not detected in B-MW6S from September 2012 to March 2013, with a modest uptick in detected concentrations observed from June 2013 to December 2013.

TCE levels consistently were detected above the ROD-based Cleanup Level in B-MW6S starting in October 1998, with a maximum of 8 ppb (February 2004) detected in several sampling rounds. Between January 2001 and August 2002, the ratio of the concentration of TCE to PCE in well B-MW6S increased from 0.17 to 1.2, suggesting that PCE was degrading into its first-order byproduct TCE. Following a small decrease, this ratio again increased from 0.33 to 8.0 between February 2003 and February 2004. Since then the ratio has been variable or cannot be calculated, due to the lack of detection of either PCE or TCE. TCE levels dropped back below the ROD-based Cleanup Level in well B-MW6S starting in August 2006 and were below detection limits from 2009 through December 2013. These data seemed to indicate that a "slug" of dissolved VOC contaminants had migrated through the shallow groundwater in the vicinity of B-MW6S. The detections of PCE at elevated levels in four consecutive quarters from September 2011 through June 2012, followed by non-detect levels of PCE in September 2012, December 2012, and March 2013, in conjunction with the elevated PCE detects reported above for B-MW5S, suggest that another "slug" of dissolved VOC contaminants may have migrated through this area. It is possible that the slug of dissolved VOC contaminants could have been mobilized from the vadose zone from an upgradient area (e.g. B-MW3S) by the very high rainfall amounts recorded in August 2011, when just over 11 inches of rainfall were recorded for the month. It is noted that Hurricane Irene impacted the greater Atlantic City area in August 2011. Charts of PCE and TCE levels in B-MW6S are provided in Figure 12.

The total VOC concentration in B-MW6S also dropped from a high of 111.2 ppb in April 1999 to a low of non-detect in May 2007. Until September 2011, there had been 21 consecutive sampling events in which no VOCs were present in B-MW6S at concentrations in excess of their associated ROD-based Cleanup Levels. From May 2007 through June 2011, the total concentration of VOCs ranged between non-detect and 1.17 ppb, with no VOCs detected beginning in June 2009, following the initiation of groundwater remediation at Area B. Since September 2011, PCE has been present in B-MW6S at concentrations exceeding the ROD-based Cleanup Level.

Other contaminants detected in B-MW6S since August 2006 include chloroform, chloromethane, and/or trichlorofluoromethane (Freon 11). Chloromethane and trichlorofluoromethane have only been detected at concentrations at or below 1 ppb, so they should not be cause for concern. Up until September 2012, chloroform had only been detected at a concentration up to 1 ppb. The September 2012 and December 2012 concentrations were 1.3 ppb and 11 ppb, respectively. The detections of chloroform at low concentrations continued for all four quarterly sampling events during 2013, with concentrations of 1.5 ppb, 1.0 ppb, 1.6 ppb, and 1.7 ppb. At this time, because of the ubiquitous nature of chloroform in groundwater at the Technical Center, the latest detections of chloroform are not cause for concern.

A review of historical aerial photographs and USEPA's EPIC study of the Technical Center indicates that the South Branch adjacent to Area B was originally located approximately 300 feet south of its present course. Between May 1957 and December 1959, this portion of the South Branch was channelized and its stream flow diverted to the north, to its present location. Monitoring well B-MW6S is located upgradient of the former South Branch stream channel. It was previously hypothesized that the low levels of VOCs detected in B-MW6S from August 1993 through March 1997 reflected the remnants of "residual" dissolved groundwater contamination that may have migrated to this location prior to the diversion of the stream flow. However, the subsequent presence of levels of VOCs at or exceeding their associated ROD-based Cleanup Levels in B-MW6S during numerous sampling rounds suggested that further evaluation of the source and extent of the plume was necessary, prompting further investigation, as described below.

Additional field activities were conducted at Area B for pre-design purposes in 1999 and 2000. The 1999 field work included the collection of shallow groundwater samples using direct-

push methods on the south side of the South Branch and the installation and sampling of monitoring wells, including well clusters installed at shallow, intermediate and deep intervals relative to the Middle Cohansey Clay (B-MW7I/D, B-MW10S/I/D, B-MW-11S/I/D, B-MW12S/I/D, and B-MW13S, see Figure 2), to gain information on the vertical extent of contamination. Based on this work, extensive TCE and PCE plumes were delineated in the shallow aquifer and it was concluded that the old abandoned South Branch stream channel appears to have more of a hydraulic influence (and thus an influence on contaminant migration) than the present day channelized streambed. TCE contamination was also identified at depth on both sides of the South Branch stream channel. The source(s) of the contamination remain unknown.

A second phase of pre-design field activities was conducted at Area B in January and February 2000. This work involved the installation of additional upgradient and downgradient monitoring well clusters, including B-MW14I/D, B-MW16I/D, B-MW17I/D, B-MW18I/D and B-MW19I/D (Figure 2). Groundwater samples collected from the upgradient well cluster (B-MW14) did not indicate the presence of any target VOCs. Concentrations of TCE and PCE detected in other intermediate and deep wells throughout Area B allowed for the TCE and PCE plume at depth to be better defined. In particular, the western, southern and southeastern reaches of the plume were defined, with further definition needed for the eastern and northern-most reaches of the plume.

A third phase of pre-design work commenced in June 2000. This work entailed drilling several pilot holes for the subsequent design and installation of an injection well and two extraction wells. Observation wells associated with the injection and extraction wells were also installed, along with several piezometers throughout Area B in preparation for a pumping test and an injection test. During the same time period, temporary wells were installed throughout Area B and the vicinity. Results from groundwater samples collected from these temporary wells provided information on the eastern-most portion (downgradient edge) of the plume.

In February 2003, five wells (B-MW13S, B-MW16I/D, and B-MW18I/D) were sampled to monitor contaminant migration during the phased construction of the Area B groundwater treatment system. As of the February 2003 sampling event, the groundwater contamination plume had not migrated to these downgradient locations. However, in February 2004, low levels of several chlorinated VOCs were detected in wells B-MW16I/D and B-MW18I/D for the first

time, suggesting that the leading edge of the VOC-contaminant plume had reached these well nest locations. As a result, additional groundwater sampling was conducted in March 2004 and confirmed the presence of low levels of several chlorinated VOCs in wells B-MW16I/D and B-MW18I/D. The five wells were sampled again in August 2004, with low levels of chlorinated VOCs detected.

In October 2004, two additional well clusters, B-MW20I/D and B-MW21I/D (Figure 2), were installed downgradient of B-MW18I/D to better delineate the extent and determine the rate of the VOC plume migration. When sampled in November 2004, each exhibited low levels of chlorinated VOCs. These wells were sampled quarterly for a two-year period (November 2004 through November 2006), and during each sampling round, the presence of VOCs (chloroform and TCE in B-MW20I/D and chloroform in B-MW21I/D) was confirmed. In November 2005, TCE and chloromethane were first detected in B-MW21D (0.2 ppb and 0.2 ppb, respectively), providing an indication that the leading edge of the TCE contaminant plume had reached this downgradient well cluster. During February 2006, the presence of TCE was confirmed in B-MW21D and TCE was detected for the first time in B-MW21I (8 ppb). Chloroform and TCE continued to be detected in B-MW21I and/or B-MW21D through August 2007.

Monitoring wells B-MW17I/D and B-MW18I/D were also sampled quarterly from November 2004 through November 2006, while B-MW13S and B-MW16I/D were sampled biannually during this period, with the results confirming the presence of VOCs, including chloroform, cis-1,2-dichloroethene and/or TCE. During the February 2007 and August 2007 sampling events, chloroform was the only VOC detected in wells B-MW13S, B-MW16I, B-MW16D and B-MW18I, while TCE was the only VOC detected in B-MW18D. Total xylenes and toluene were also detected in single monitoring events at select monitoring wells at levels not considered cause for concern.

The rate of TCE migration through the aquifer was estimated based on the initial detection of TCE in the B-MW18I/D well nest during February 2004 and its subsequent detection in the B-MW20I/D well nest in November 2004. Since the well nests are approximately 135 feet apart and the leading edge of the TCE plume moved this distance over a nine-month period, the average linear TCE velocity was estimated to be approximately 0.49 feet per day or 180 feet per year. The subsequent presence of TCE in downgradient well B-MW21D in November 2005 and well B-MW21I in February 2006 suggests the average linear velocity of

the TCE plume in the deep portion of the aquifer may be slightly slower than this original estimate, more on the order of 0.41 feet per day or 150 feet per year. Based on this updated migration rate, the leading edge of the plume was estimated to be approximately 785 feet beyond the capture zone of the furthest downgradient extraction well (B-EW2M) by early 2007.

In order to address this downgradient migration of the TCE plume, an additional extraction well (B-EW4D), screened in the deep portion of the aquifer at the leading edge of the plume, was installed in May 2007. In addition, two monitoring well clusters were installed adjacent to (i.e., B-MW22I/D) and downgradient (i.e., B-MW23I/D) of extraction well B-EW4D. These well clusters were sampled on a quarterly basis from November 2007 through November 2008 and biannually since then. With the exception of February 2009 (when the chloroform results were not considered analytically valid due to blank contamination), each of the four monitoring wells has consistently exhibited chloroform at concentrations ranging from 0.3 ppb to 23 ppb. Historical evidence indicates that chloroform is ubiquitous throughout the Technical Center and is therefore not a cause for concern.

The November 2007 results from the B-MW22I/D and B-MW23I/D well clusters indicated that the contaminant plume had not yet reached these wells. TCE was first detected in B-MW22D in February 2008 at 0.18 ppb. No VOCs other than chloroform were detected in any of the four wells in May 2008. In sampling rounds conducted in August and November 2008 and February 2009, numerous VOCs were detected in wells B-MW22I/D and/or B-MW23I/D, typically at concentrations below their respective ROD-based Cleanup Levels although TCE exceeded the ROD-based Cleanup Level in well B-MW22D in February 2009. From September 2009 through December 2013, with the exception of September 2010, no chlorinated VOCs other than chloroform and additional VOC TICs were detected in wells B-MW22I/D or B-MW23I/D.

While chlorinated VOCs were not detected, well B-MW23D did exhibit ethylbenzene, toluene and total xylene detects September 2009, with the reported concentrations of toluene and xylenes exceeding the ROD-based Cleanup Levels. Due to these anomalous results, wells B-MW19I, B-MW19D, B-MW22I, B-MW22D, B-MW23I, and B-MW23D were resampled in December 2009. TCE was detected in the sample from well B-MW22I at a level of 1.5 ppb, slightly exceeding the ROD-based Cleanup Level of 1 ppb. Chloroform was detected in all of the sampled wells. The results did not confirm the presence of petroleum-related compounds in

the well. In addition, URS sampled B-MW23I/D in early September 2009 and in November 2009. No BTEX compounds were detected above laboratory detection limits in the URS samples from these events. It was hypothesized that airborne BTEX compounds from vehicular traffic on Amelia Earhart Boulevard may have contaminated the September 2009 sample from monitoring well B-MW23D, and measures were identified and have subsequently been implemented to minimize the potential for this to occur again in the future. No BTEX compounds have been detected in well B-MW23D since the September 2009 sampling event. Due to the fact that the B-MW22I/D well cluster is located adjacent to the downgradient extraction well (B-EW4D), the most downgradient extraction point for the updated remedial system, and the B-MW23I/D well cluster is located just downgradient of B-EW4D, these wells will be carefully monitored to ensure that the contaminant plume does not migrate beyond the B-EW4D capture zone.

In addition to the VOCs listed above, trichlorofluoromethane (0.15 ppb) was detected in B-MW22D in November 2007 at a low level and has not been detected in subsequent sampling of B-MW22D. The presence or absence of trichlorofluoromethane will continue to be monitored closely during future sampling events.

5.2.1.2 Inorganics

The results of historic groundwater metals sampling at Area B are summarized on Table 13A. Samples were collected using traditional sampling techniques (i.e., purge 3 well volumes and collect sample with a bailer) at Area B from select monitoring wells during June 1987, November 1988, February 1993, August 1996, September 1996 and January 1999. Low-flow purge and sampling techniques were utilized on wells B-MW5S and B-MW6S during April 1999.

Using the traditional sampling techniques, three of the nine monitoring wells exhibited at least one unfiltered (total) metal that exceeded its associated ROD-based Cleanup Level. Of those wells sampled in more than one sampling round (e.g., B-MW1S, B-MW2S, B-MW3S and B-MW5S), wells B- B-MW2S and B-MW5S exhibited at least one metal that exceeded its associated ROD-based Cleanup Levels during at least two sampling rounds. Monitoring well B-MW1S exhibited total lead equaling its ROD-based Cleanup Level (25 ppb) in one out of four sampling rounds. The average concentration of total lead in this well for the four sampling

rounds was 13.8 ppb. Two metals (lead and mercury) were detected in B-MW2S above their respective ROD-based Cleanup Levels in two out of three sampling rounds. The average concentrations of each total metal in B-MW2S for the three sampling rounds were as follows: chromium - 22 ppb, lead - 18 ppb, and zinc - 42 ppb. Total lead was detected in B-MW5S above its ROD-based Cleanup Level in two out of four sampling rounds. In addition, total mercury is the only metal that consistently (four out of four sampling rounds) exceeded its ROD-based Cleanup Level in B-MW5S. The average concentrations of total lead and total mercury in B-MW5S for the four sampling rounds were 13.7 ppb and 16 ppb, respectively.

Based on the presence of lead in the upgradient (background) monitoring well B-MW1S at concentrations similar to or greater than those found in downgradient wells, lead in the downgradient wells is attributed to background site conditions. Mercury, on the other hand, has only been consistently detected in B-MW5S. Groundwater samples collected from upgradient monitoring wells (B-MW3S, B-MW7S, B-MW8S and B-MW9S) have not exhibited the presence of mercury. Furthermore, B-MW6S, located immediately south of the South Branch, also exhibited total mercury at 2.1 ppb in January 1999. Both wells B-MW5S and B-MW6S are located within close proximity (approximately 35 feet) of the South Branch. This data, combined with the fact that the South Branch sediments (upstream and downstream of Area B) are known to be impacted by mercury (USFWS and TRC studies), suggests that the mercury detected in the groundwater is associated with the mercury-impacted sediments and soils of the South Branch, not from a source area associated with Area B.

Groundwater samples were collected from B-MW5S and B-MW6S using the low-flow purge and sampling technique to evaluate if the elevated mercury levels in the samples collected using traditional methods were due to the presence of suspended solids. Significantly lower levels of mercury were detected in the low-flow unfiltered samples from both wells (mercury concentrations fell from 51.6 ppb to 0.38 ppb in B-MW5S and from 2.1 ppb to 0.13 ppb in B-MW6S). These data suggested that the elevated mercury concentrations are attributable to the presence of suspended solids (colloids), which may be directly related to the mercury-contaminated sediments within the adjacent South Branch stream channel. To further support this theory, microwells, consisting of four sets of wells, with each set containing two microwells, were installed and sampled upstream of Area B in July 1999. In each set, the wells were located within 25 feet and 75 feet of the north side of the stream and in close proximity to locations of

elevated mercury concentrations in the South Branch sediment, identified during the USFWS study. Groundwater samples collected from the microwells were submitted for total and dissolved mercury analysis. Total (unfiltered) mercury was detected in 3 of the 4 samples collected in microwells adjacent to the stream. No detectable concentrations of mercury were detected from the filtered aliquots of these samples. Samples collected from the microwells located further away from the stream exhibited total mercury in only 1 of 4 samples. Again, no mercury was detectable in the filtered aliquots. These results further support the theory that mercury detected in the shallow groundwater is associated with the mercury-impacted South Branch sediments and is therefore not attributable to a source area associated with Area B.

Subsequent groundwater sampling conducted in conjunction with the operation of the CTP also identified increasing concentrations of mercury in Area B groundwater samples, especially in samples collected from the intermediate and deep monitoring wells, following the initiation of groundwater extraction at Area B. Originally, the downward migration of colloidal particles from the sediments to the Area B extraction wells was thought to be the source of the mercury detected in the monitoring wells. However, based on an extensive groundwater modeling effort conducted by TRC, it was theorized the source of the mercury being detected in the monitoring wells may be local dense non-aqueous phase liquid (DNAPL) mercury that migrated down through the saturated zone long before remediation was initiated. This DNAPL mercury may occur at residual saturation in the sediment pores, deep within the aquifer beneath shallow sediment hot spots. While it is immobile as a separate-phase liquid, the residual DNAPL, if present, was expected to be the source of dissolved and colloidal mercury within the intermediate and deep monitoring wells. The model indicated that mercury concentrations in the influent to the CTP were expected to stabilize due to steady-state mass transport between the mercury DNAPL sources and the extraction wells and, therefore, it was unnecessary to modify the groundwater extraction rates and locations for VOC remediation. Influent mercury levels at the CTP have, in fact, stabilized since early 2012.

Based on the groundwater modeling described above, a mercury DNAPL study was conducted by TRC in November 2013 within Area B. The drilling locations were chosen based on the results of TRC's groundwater modeling which indicated the potential locations of mercury "hotspots" or mercury DNAPL in the subsurface. The sample locations were placed at areas of the SBAC stream system where sediment traps (and corresponding mercury deposition

areas) were located (i.e., abandoned SBAC meanders and SBAC main channel just upstream of the water culvert under the Area B dirt road crossing). Three Geoprobe® soil borings were advanced continuously from ground surface to 49 feet below grade using the Macrocore Directpush method. Each Macrocore was evaluated by a TRC project geologist who measured the sample recovery, geologically logged the sample, visually examined the soil sample for mercury DNAPL or other suspect material that warranted further evaluation, examined subsamples from six-inch intervals on a binocular microscope, and collected two samples from each Macrocore for mercury analysis using the FAA's Ohio-Lumex RA-915+RP91C mercury analyzer. During soil sample evaluation, no free-phase mercury (DNAPL) was observed and only low levels of mercury were detected by the FAA's Ohio-Lumex RA-915+RP91C mercury analyzer. The low levels of mercury detected did not suggest the presence of mercury DNAPL. TRC concluded from the November 2013 mercury DNAPL study that given the nature of DNAPL mercury contamination, which exists in the subsurface in isolated pockets within pore spaces on the micron to sub-micron scale, combined with the nature of the sampling program (i.e., 1.5-inch diameter cores pushed to depths of 49 feet below ground surface), it is possible that mercury DNAPL exists at Area B, but it was not detected by the investigation. At other sites (e.g., Alcoa/Lavaca Bay Superfund site in Texas, Oak Ridge National Laboratory in Tennessee), mercury DNAPL has been identified in subsurface soils in areas where large volumes of mercury were handled/processed. In contrast, there are no known areas at the FAA Technical Center where large volumes of mercury were managed. Therefore, it was not surprising that mercury DNAPL was not identified during the mercury DNAPL study of Area B. Given the cost of additional drilling and sampling and the lack of any additional information upon which to site DNAPL investigation locations, further sampling at Area B was not recommended by the study report.

5.2.2 Surface Water

Water table elevations measured in monitoring wells and surface water elevations measured in the South Branch continue to indicate that the stream appears to be a "gaining" stream in the vicinity of Area B, which means that shallow groundwater flow discharges into the South Branch. The range of water table elevations measured in wells B-MW2S, B-MW4S, B-MW5S and B-MW6S during December 1993 and quarterly since June 1997 has consistently

been higher than the surface water elevation of the South Branch adjacent to these wells. This trend has continued with the initiation of groundwater remediation activities at Area B.

Until April 1999, no analytically valid VOC contaminants (e.g., other than common laboratory contaminants) were detected in South Branch surface water samples that could have been attributable to Area B. During April 1999, low levels of PCE (0.2 ppb) were detected in the samples collected downstream of Area B (B-SW1) and immediately adjacent to Area B (B-SW2), but not upstream of Area B. Low levels of PCE were again detected at the same stream sample locations in November 2001 and in B-SW1 in August 2002. In May 2003, a low level of PCE was detected in the duplicate of B-SW1 (B-SW4) and in August 2003, a trace level of PCE (0.1 ppb) was detected in B-SW1. The concentrations of PCE detected in the South Branch have been below the New Jersey Surface Water Quality Criteria (NJSWQC) (N.J.A.C. 7:9B) of 0.34 ppb and the National Recommended Water Quality Criteria (NRWQC) (EPA-822-R-02-047) of 0.69 ppb. The 1999 through 2003 period of PCE detections within the South Branch samples coincides with a period when PCE was detected in well B-MW5S at levels commonly exceeding the NJ PQL.

Chloroform was detected in select surface water samples in 1995 and 1996, but was not detected again until April 1999, when it was detected in all three surface water samples, indicating that its presence was not related to Area B site conditions. From August 2001 through August 2003 and from February 2004 through November 2008, chloroform was detected in each of the surface water samples at levels ranging from 0.2 to 2 ppb. In 2009, the chloroform detections were sporadic (see Figure 12A). From 2010 to 2013, chloroform was detected at least one surface water sampling location from eleven of sixteen sampling events. While chloroform has been detected in surface water samples at levels exceeding the NJ PQL, it has not been detected in the South Branch at levels exceeding the NJSWQC of 68 ppb and the NRWQC of 5.7 ppb.

Toluene was detected in a surface water sample and its duplicate collected in September 2011 but its maximum detected level (2.9 ppb) is well below the NRWQC of 1,300 ppb. This detection appears to be an anomaly, as toluene has not historically been a common contaminant in SBAC surface water samples. Furthermore, following its detection in September 2011, it has not been detected since.

5.3 Area C

No constituents were detected in the 2012 quarterly sampling events at Area C and only one VOC, toluene, was detected in one well (C-MW1S) during 2013: the September 2013 quarterly sampling round. This detection marks the first time toluene has been detected in a sample from C-MW1S since September 1996.

Historically, acetone has been detected rather sporadically in wells C-MW1S and/or C-MW2S. It has been detected at analytically valid concentrations, ranging from 5 ppb to 10 ppb, during only seven sampling events at C-MW1S. Similarly, acetone has only been detected five times in well C-MW2S at levels ranging from 2 ppb to 35 ppb. The August 1994, July 2000 and May 2001 sampling events are the only times that acetone was detected in both C-MW1S and C-MW2S. Since acetone is considered to be a common laboratory contaminant by the USEPA, the presence of acetone in the aforementioned samples could be due to laboratory contamination, although it is also possible that it could be from an environmental source.

Toluene, TCE, PCE, benzene, carbon disulfide, 2-butanone (MEK) and VOC TICs have sporadically been detected, typically at estimated trace levels, in samples from C-MW1S and/or C-MW2S. The low levels of these constituents and the sporadic nature of their detections indicate that they are not cause for concern.

Prior to April 1998, no apparent impacts to the groundwater quality at Area C from past site activities at the adjacent Butler Aviation Fuel Farm were identified. However, the total VOC histograms (including VOC TICs) for wells C-MW1S and C-MW2S provided in Figure 13 indicate a somewhat erratic periodicity in total VOC levels. The periodicity appears to span periods greater than a calendar year, indicating no obvious seasonal trends. Future analytical results will be carefully reviewed to determine if any impacts to groundwater quality at Area C are occurring, especially in the context of the toluene that was detected in C-MW1S in September 2013. It is important to note that, with the exception of the toluene detected in C-MW1S in September 2013, there have not been any target VOCs detected during any sampling round that have exceeded their respective NJ PQLs at the time of sampling and no target VOCs have been detected in quarterly groundwater samples since May 2003.

5.4 Area R

The fill area wells (R-MW1S and R-MW2S) have historically reflected impacts from the Area R fill area. At well R-MW1S, chlorobenzene has consistently been detected in groundwater samples since January 1989. Other VOCs detected at concentrations exceeding their respective NJ PQLs in R-MW1S include ethylbenzene, benzene, total xylenes, chloroform, 1,4-dichlorobenzene, 1,3-dichlorobenzene, cis-1,2-dichloroethene, acetone, and MEK. Histograms of select VOCs detected in R-MW1S are presented in Figure 14. VOC TICs, including a $C_{12}H_{16}$ aromatic, coeluting aromatics, 1,2,3,4-tetrahydro-2-methyl naphthalene, several benzene-containing compounds, and indane, were also detected in the March 2011 quarterly sampling event, but have not been detected in any sampling event since March 2011. Benzene was consistently detected at concentrations ranging from 0.2 ppb to 3 ppb in well R-MW1S from May 1993 through February 2009 (with the exception of November 2003), but has not been detected in subsequent quarterly sampling events, including in 2013. Ethylbenzene was consistently detected in well R-MW1S from January 1989 through May 2001, but has been detected only three times since May 2001. Similarly, total xylenes were consistently detected in R-MW1S from November 1993 through July 1998, but have not been detected above the NJ PQL since the April 1998 sampling event. In general, the frequency at which NJ PQLs for VOCs have been exceeded has decreased over time, with chloroform, chlorobenzene and 1,4-dichlorobenzene the only VOCs detected at levels exceeding NJ PQLs during at least one of the 2013 quarterly sampling events.

At well R-MW2S, groundwater samples collected from March 1989 to May 2003 (excluding the May 1994 and February 1996 sampling rounds) consistently exhibited chlorobenzene. From May 2003 through June 2010, chlorobenzene was detected more sporadically, at concentrations ranging from 0.2 ppb to 32 ppb. However, from September 2010 through March 2013, chlorobenzene was detected in every sampling round at levels ranging from 1.8 to 71 ppb. Chlorobenzene was not detected in samples from R-MW2S during the June 2013 and September 2013 events, and returned as a detect during the December 2013 event. The 71 ppb chlorobenzene detected in December 2011 is the highest level that has ever been detected in this well. The previous maximum concentration, 51 ppb, was detected in August 1994. During 2013, however, the concentrations of chlorobenzene have decreased significantly, ranging from 2.3 ppb to 3.1 ppb. Other VOCs that have historically been detected in R-MW2S samples at

concentrations exceeding their respective NJ PQLs include ethylbenzene, benzene, total xylenes, carbon disulfide, chloroform, 1,4-dichlorobenzene, cis-1,2-dichloroethene, vinyl chloride, and 1,2-dichloropropane. The 27 ppb 1,4-dichlorobenzene level detected in December 2011 ties the previous maximum level detected in January 1999, and remains the highest 1,4-dichlorobenzene concentration detected in the context of the 2012 sampling. Graphs of select VOCs detected in well R-MW2S are presented in Figure 14. After regular detections of five or more target VOCs per sampling round in R-MW2S, the number of detections dropped to three or less target VOCs from February 2003 through August 2007, with the exception of November 2004 (seven target VOCs detected). In November 2007, February 2008, August 2008 and November 2008, four or more target VOCs were detected; in the remaining quarters, three or fewer VOCs have been detected. The frequency of NJ PQL exceedances at R-MW2S has also dropped significantly, with six compounds (chlorobenzene, 1,4-dichlorobenzene, 1,2-dichloropropane, chloroform, carbon disulfide and cis-1,2-dichloroethene) detected at levels exceeding NJ PQLs since May 2005. Low levels of chloromethane, bromomethane and 1,2-dichloropropane have sporadically been detected in R-MW2S, but are not considered cause for concern.

In general, the groundwater sampling results confirm the presence of contaminants in the fill area (R-MW1S and R-MW2S). Total VOC concentration trends in R-MW1S and R-MW2S have shown somewhat comparable increases and decreases, indicating physical factors such as water level, precipitation, and other conditions are acting in a similar fashion on the contaminant concentrations in both wells. This trending may be indicative of a nearby source of contamination (i.e., fill material) that is still present and continues to be the source of the dissolved contamination plume. With the reduction in concentration of both chlorobenzene and 1,4-dichlorobenzene throughout 2012 and a modest rebound of the levels of those compounds in 2013, the levels of chlorobenzene and 1,4-dichlorobenzene in well R-MW2S observed in September and December 2011 appear to represent a peak in near-term concentrations.

Wells R-MW3S and R-MW4S are located upgradient of the fill area, while wells R-MW5S and R-MW6S are located downgradient of the fill. In upgradient well R-MW4S, chloroform has been the main target VOC detected, as described in more detail at the end of this section. Chloromethane, bromomethane and acetone have also been detected infrequently. The detection of these compounds should not be cause for concern, as they have not been regularly detected at Area R and the levels of detection were low. In well R-MW3S, toluene and xylenes

were detected sporadically prior to October 1998, but have not been detected since then. Similarly, acetone, total xylenes, PCE and 1,4-dichlorobenzene were detected infrequently in well R-MW6S prior to August 2001. Acetone, a common laboratory contaminant, was also detected in September 2011. The only VOC consistently detected in each well is chloroform, which is discussed in more detail later in this section.

In downgradient well R-MW5S, a number of BTEX, chlorinated benzene, chlorinated organic and/or other compounds were detected during the October 1995, February 1996, January 2000, and all four 2002 sampling rounds (Figure 14). However, since February 2003, the only target VOC detected in R-MW5S was chloroform, as discussed later in this section. It is possible that the sudden and consistent presence of VOCs in R-MW5S between February and November 2002 resulted from unusually low water levels at Area R, associated with a prolonged drought in southern New Jersey during 2001 and most of 2002. Toward the end of 2002 and in early 2003, precipitation actually exceeded average monthly totals, with water levels at Area R rebounding dramatically, as observed during the February 2003 sampling event. Two theories can be considered to associate low water levels with increased VOCs in R-MW5S. The first theory is related to the lower water level in the well resulting in a much more discrete portion of the aquifer being sampled. During periods with normal precipitation, approximately 10 to 12 feet of water has been observed to be present within the R-MW5S well screen. However, during the end of the drought period in November 2002, the water height in the well dropped to between 4 and 5 feet. Therefore, it is possible that the lower water levels in the well during 2002 resulted in a more concentrated (less diluted) groundwater sample (i.e., the water samples collected toward the end of the drought were from a 4- to 5-foot portion of the aquifer versus a 10- to 12-foot portion of the aquifer during normal times). The other possible theory is that the direction of shallow groundwater flow was slightly altered due to the low water levels and as a result, may have shifted the downgradient edge of the VOC plume in the direction of R-MW5S.

Monitoring well R-MW5S will be monitored closely during future rounds of sampling to determine whether or not the leading edge of the contaminant plume has migrated to its location. It should be noted, however, that chloroform has been the only target VOC detected in the last 40 sampling rounds (although no constituents, chloroform included, were detected in the February 2009 sampling event).

Chloroform has commonly been detected in groundwater throughout Area R. In upgradient well R-MW4S, chloroform has been detected above, at, or near its NJ PQL of 1 ppb during 51 of the last 56 sampling rounds (Figure 14). Chloroform has also been regularly detected in wells R-MW3S and R-MW6S, with each well consistently exhibiting exceedances of the NJ PQL. Since late 2004, well R-MW3S has exhibited a slight overall decreasing trend in chloroform concentrations. With the 2013 dataset, it appears as though the overall trend of chloroform concentrations R-MW6S is back on the upswing. Chloroform has been detected more sporadically in the wells located within the fill area (R-MW1S and R-MW2S). In downgradient well R-MW5S, chloroform has been detected above the NJ PQL but generally below 10 ppb, with the exception of a period from November 2001 through November 2002. Based on the presence of chloroform in upgradient wells R-MW3S and R-MW4S and its general absence in the fill area monitoring wells R-MW1S and R-MW2S, chloroform may originate from outside of the fill area.

5.5 Area 56

5.5.1 Organics

From May 1994 through February 2004, chlorinated hydrocarbons were present in the quarterly samples collected from 56-MW4D. Since then, with the exception of chloroform, low levels of chlorinated hydrocarbons (mostly PCE) have been detected in only nine of 39 sampling rounds. The only VOCs detected during February 2006, May 2006, and August 2007 sampling rounds were VOC TICs and no VOCs were detected during the May 2004, May 2005, June 2009, September 2009 and December 2009 sampling rounds. The overall levels of chlorinated VOCs in 56-MW4D exhibited a downward trend between October 1995 and October 1999, increased slightly from January 1999 to April 2000, then reversed, with a general decrease in VOCs detected from July 2000 through February 2003. From May 2003 through February 2009, the total concentration of VOCs in 56-MW4D remained relatively consistent, ranging between non-detect and 6 ppb. No VOCs were detected in the quarterly sampling rounds conducted at 56-MW4D between June 2009 and December 2013. These results will continue to be monitored throughout subsequent sampling rounds.

The biotransformation of TCA into 1,1-DCA and 1,1-DCE, as evidenced by the ratio of TCA to 1,1-DCE and 1,1-DCA (TCA/DCE+DCA), has been monitored. The average

TCA/DCE+DCA ratio for May 1994 through December 1997 was calculated to be 0.93. The average TCA/DCE+DCA ratio for February 1998 through May 2001 dropped to 0.58, and the average ratio from August 2001 through August 2004 (excluding May 2004 in which these VOCs were not present), increased slightly to 0.79, due in large part to elevated ratios observed during the four sampling events prior to May 2003. However, TCA, 1,1-DCA and 1,1-DCE were not detected in 56-MW4D during 36 sampling rounds from November 2004 through December 2013, with the exception of February 2009. In February 2009, the TCA/DCE+DCA ratio was 0.33. The presence of these compounds and the ratio of TCA to 1,1-DCE and 1,1-DCA will continue to be monitored closely during future sampling events.

The presence of low levels of 1,4-dichlorobenzene and chlorobenzene in well 56-MW2S during the November 1992 sampling round were not confirmed during May and August 1994. As a result of these findings and concern expressed by USEPA that adequate downgradient coverage of the shallow aquifer had not been provided, USEPA agreed that TRC would discontinue sampling monitoring well 56-MW2S and incorporate well 56-MW4S into the quarterly groundwater sampling for VOC analysis beginning in November 1994. Since then, VOCs, including toluene, 2-butanone, TCA, total xylenes, chlorobenzene, or acetone, have been detected on an infrequent and inconsistent basis in well 56-MW4S. No target VOCs have been detected in well 56-MW4S since August 2003. Therefore, the previous detections of these contaminants have not been confirmed by subsequent sampling rounds and should not be cause for concern.

5.5.2 Inorganics

Historically, only two metals, chromium and nickel, were consistently detected at 56-MW4S in excess of the previously established NJ PQL for both constituents of 10 ppb. When the NJ PQLs were modified in 2005, the chromium and nickel NJ PQLs were lowered to 1 ppb and 4 ppb, respectively[1]. The revised NJ PQLs will be a source of comparison for future sampling rounds. In addition, background groundwater concentrations for several inorganics have been established for the FAA facility using the 95% upper confidence limit concentrations from several background monitoring wells. The details of how these concentrations were calculated are presented in TRC's Draft Remedial Investigation – Area U SBAC/NBAC

[1] Subsequent amendments to the New Jersey Groundwater Quality Standards (through July 2010) have not resulted in changes to the NJ PQLs.

Watersheds report dated May, 2003. These background concentrations will also be a source of comparison for future groundwater analytical results at Area 56.

The presence of total and dissolved metals in well 56-MW4S and its duplicate sample (56-MW6S) was again confirmed during 2013. Nickel and chromium were detected at levels exceeding site-specific background levels, consistent with previous sampling rounds. Selenium, which was detected in the March 2011 filtered sample at a level exceeding the site-specific background level appears to have been an anomaly, as selenium was not detected in any of the 2012 or 2013 56-MW4S samples. Historic sampling results (pre-2011) also support the statement that the March 2011 selenium detect was an anomaly.

Total (unfiltered) nickel in well 56-MW4S continues to exceed its NJ PQL of 4 ppb, as well as the site-specific background concentration of 48 ppb. The dissolved (filtered) nickel in well 56-MW4S also continues to exceed the NJ PQL and background concentration. In general, total and dissolved nickel concentrations in well 56-MW4S seemed fairly steady from May 1994 through April 2000, at which point the levels increased. From August 2008 through December 2010, the levels appeared to be dropping. A slight increase in nickel levels was observed in the 2011 sampling rounds, with an overall increasing trend exhibited in the 2012 through March 2013 samples. Reported concentrations of nickel decreased in June 2013 and September 2013, with a modest increase in levels reported for December 2013. It should be noted that the November 2006 total nickel concentration (594 ppb) was likely influenced by the elevated turbidity measured during sampling (292 NTU) and should be considered anomalous, as subsequent sampling events have not confirmed the elevated concentration.

Total chromium has never been detected in well 56-MW4S below the updated NJ PQL of 1 ppb. Furthermore, total chromium typically has not been detected below its site-specific background concentration (30 ppb). Total chromium was detected at anomalously high concentrations due to high turbidity during the November 2002 (1,970 ppb) and November 2006 (15,400 ppb) sampling events. The filtered chromium results indicate that the majority of the chromium detected is present as suspended solids, although the filtered chromium levels still typically exceed the NJ PQL. The observations for longterm chromium results that exceed the NJ PQLs continue to be supported with the 2013 results.

Other metals detected at levels exceeding NJ PQLs in the 2013 56-MW4S quarterly samples include thallium and zinc. Zinc concentrations did not exceed site-specific background levels. No background levels have been established for thallium.

Since the establishment of an updated NJ PQL (4 ppb) for copper in November 2005, both total and dissolved copper concentrations have commonly been detected in exceedance of the NJ PQL. Total copper has been detected at levels exceeding the NJ PQL in 18 of 32 sampling rounds and dissolved copper has been detected at levels exceeding the NJ PQL in 12 of 32 sampling rounds. The November 2006 total copper result (91.0 ppb) was likely due to the high turbidity of the 56-MW4S sample and should be considered anomalous, as the concentration of dissolved copper was only 3.7 ppb, which is consistent with historical results. While total and dissolved copper levels commonly exceed the NJ PQLs, the detected concentrations (excluding the anomalous November 2006 results) have been below the site-specific background concentration for copper of 32 ppb.

Since November 2005, arsenic, lead, and zinc have also been detected occasionally at levels exceeding the revised NJ PQLs in well 56-MW4S. Total arsenic and total lead were detected above their NJ PQLs in eight and seven sampling rounds, respectively, since November 2005, while dissolved arsenic and lead each exceeded the NJ PQL in one and two sampling rounds, respectively. Total or dissolved zinc has been detected above its NJ PQL in fourteen sampling rounds since November 2005. The zinc levels have been below site-specific background levels, however (no background level has been established for arsenic).

Antimony, cadmium, mercury, selenium, silver and thallium have been detected more sporadically in excess of the updated NJ PQLs in monitoring well 56-MW4S. For the 2013 quarterly groundwater samples from 56-MW4S, total thallium was detected at a level exceeding the NJ PQLs.

Nitrate in well 56-MW4S has been detected above the NJ PQL (currently 0.1 ppm) during each sampling round except July 1999 and October 1999. A comparison of the yearly average nitrate concentration between 1994 and 1999 did not indicate any consistent upward or downward trend, although yearly average levels were above 4.5 ppm over that period. From 2000 to 2011, the yearly average levels were 4.1 ppm or less in 56-MW4S (see Figure 15). The yearly average concentration for 2012 (4.5 ppm) marked the first time in 11 years that the yearly average concentration increased to levels above 4.1 ppm. The 2013 yearly nitrate average (3.68

ppm) again exhibited a decreasing value, indicating that the nitrate levels continue to fluctuate in 56-MW4S. Future sampling rounds will be evaluated to determine the trend in nitrate levels.

Section 6

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Area A

Due to the confirmation of low levels of chloroform in the groundwater at Area A, a limited Risk Assessment for chloroform in groundwater was performed and included as Attachment B in the May 1994 Quarterly Groundwater and Surface Water Sampling Results Report (TRC, July 1994). This limited Risk Assessment report supplemented the original Area A Baseline Risk Assessment (October 26, 1990) that concluded that the potential risks to human health and the environment were not expected to be significant. The results of the limited Risk Assessment indicated that ingestion of groundwater at Area A would not likely pose a significant human health concern.

Due to the low concentrations of chloroform identified, the lack of evidence of an area of concentrated "hot spot" contamination and the lack of potential risks to human health and the environment, further field investigations at Area A do not seem warranted at this time. However, to track concentration trends of chloroform, bromoform, and the bromochloromethanes, monitoring wells A-MW3S and A-MW4S should continue to be sampled and analyzed for VOCs on a quarterly basis which meets the requirements of the EPA-approved Final "No Action with Continued Groundwater Monitoring" ROD for Area A (July 1997).

6.2 Area B

As of March 1997, the nature and extent of groundwater contamination in the vicinity of the South Branch appeared to have been accurately delineated and had remained fairly consistent over time. Additionally, prior to April 1999, the water quality of the South Branch in the vicinity of Area B appeared to be free of any VOC constituents attributable to Area B. However, the results from June 1997 to October 2000 had indicated a notable increase in the level of PCE in well B-MW6S. The concentration of PCE was then observed to be declining in B-MW6S over 19 of the 31 quarterly events between July 1999 and August 2006. It was not detected during 15 of the 19 sampling events from November 2006 through June 2011, with the exceptions being low concentrations (0.2 ppb or less) detected during four sampling rounds. In September and December 2011, however, the PCE levels increased, with 4.8 and 7.0 ppb detected (above ROD-based Cleanup Level of 1 ppb), with decreasing levels of 4.4 ppb and 1.1 ppb in March and June 2012, respectively. PCE was also detected in well B-MW5S from September 2011 to December 2013, with the March 2012 result marking its highest concentration since 2002. It is

recommended that the quarterly groundwater sampling of wells B-MW5S, B-MW6S and B-MW7S continue in order to track the level and extent of groundwater contamination adjacent to the South Branch. Furthermore, while no VOCs have ever been detected above the associated NJ SWQC and NRWQC in the surface water samples collected within the South Branch, the presence of low levels of PCE in five surface water samples collected during April 1999, November 2001, August 2002, May 2003 and August 2003, the detection of toluene in September 2011, and the fairly regular detection of chloroform in surface water samples indicates additional quarterly monitoring would be prudent. Furthermore, monitoring of the surface water will allow the continued collection of hydrogeologic data to assess temporal trends in the surface water/groundwater interaction.

Further delineation of the PCE/TCE source(s) and the horizontal and vertical extent of the PCE/TCE plume were necessary as part of the pre-remedial design field investigation activities. As indicated in Section 5.2, the PCE/TCE plume was delineated during additional investigations in 1999, 2000, 2003 and 2004. During the phased construction of the Area B groundwater treatment system, five additional wells (i.e., B-MW13S, B-MW16I, B-MW16D, B-MW18I, and B-MW18D) screened within the shallow, intermediate and deep portions of the aquifer were sampled to monitor contaminant migration. Wells B-MW18I and B-MW18D were also sampled in November 2006. The analytical results from these wells indicated that the groundwater contamination plume had not migrated to these downgradient locations as of the February 2003 sampling event. However, during the February 2004 sampling event, low levels of several chlorinated VOCs were detected in B-MW16I/D and B-MW18I/D for the first time, suggesting that the leading edge of the VOC-contaminant plume had reached these well nest locations. Re-sampling of these wells during March 2004 and August 2004 confirmed these results.

In response to these findings, two additional nested pairs (screened in the intermediate and deep portions of the aquifer) of monitoring wells were installed in October 2004 downgradient of wells B-MW18I/D to track the movement of the leading edge of the plume. Quarterly sampling of these new wells (B-MW20I/D and B-MW21I/D) confirmed that the leading edge of the TCE plume had migrated to the B-MW20I/D well nest location and beyond. The November 2005 sampling event marked the first time TCE was present in B-MW21D. The February 2006 sampling event confirmed the presence of TCE in B-MW21D and marked the

first event in which TCE was detected in well B-MW21I. The May 2006 sampling event confirmed the presence of both chloroform and TCE in B-MW21I and B-MW21D. Although not sampled during both February and May 2007, both well nests were sampled during August 2007. Low levels of TCE were confirmed in B-MW20I, B-MW20D and B-MW21I.

An additional groundwater extraction well (B-EW4D) was installed to capture the leading edge of the plume. In addition, two new monitoring well clusters (B-MW22I/D and B-MW23I/D) were installed adjacent to and downgradient of extraction well B-MW4D to monitor plume migration. These wells were sampled for the first time during November 2007. Although chloroform was detected at low levels in each of the wells and a low level of trichlorofluoromethane was detected in monitoring well B-MW22D, the results indicated that the contaminant plume had not migrated to either well cluster as of November 2007. However, a low level of TCE (0.18 ppb) was detected in B-MW22D during the February 2008 sampling event, indicating that the leading edge of the contaminant plume had reached this well cluster. TCE was not detected during the May 2008 sampling event. However, carbon disulfide, cis-1,2-dichloroethene, 1,1-dichloroethane, 1,1-dichloroethene, TCE, toluene, total xylenes, TCA, and/or PCE were detected in well clusters B-MW22I/D and B-MW23I/D during the August 2008, November 2008 and February 2009 sampling events. This marked the first detections of carbon disulfide, cis-1,2-dichloroethene, 1,1-dichloroethane, 1,1-dichloroethene, toluene, total xylenes, TCA, and PCE in these monitoring wells. In September 2009, the next time these wells were sampled, chloroform, ethylbenzene, toluene and total xylenes were the only VOCs detected. However, because the B-MW23 monitoring well cluster is on the shoulder of Amelia Earhart Boulevard, it was hypothesized that the ethylbenzene, toluene, and total xylenes could be attributed to airborne contamination from automobile or truck traffic. Based on this hypothesis, and on the fact that ethylbenzene had never before been detected in samples from the B-MW23 cluster, the B-MW19, B-MW22, and B-MW23 clusters were resampled during the December 2009 quarterly sampling event. Resampling of these wells in December 2009 identified the presence of TCE in well B-MW22I at a concentration of 1.5 ppb. No other VOCs other than chloroform were detected in these wells, and the detection of the petroleum-related compounds in the September samples was considered to be attributable to the vehicular traffic along the adjacent Amelia Earhart Boulevard during the sampling effort. No BTEX compounds or chlorinated VOCs (other than chloroform) were detected in well clusters B-MW22I/D and B-

MW23I/D in any of the 2010, 2011, 2012, 2013 sampling rounds. The reduction in the number of chlorinated VOCs and their concentrations detected in these wells since February 2009 can be attributed to the initiation of full-scale groundwater extraction at Area B in February 2009. Due to the fact that the B-MW22I/D well cluster is located adjacent to the downgradient extraction well (B-EW4D), the most downgradient extraction point for the updated remedial system, and the B-MW23I/D well cluster is located just downgradient of B-EW4D, these wells will continue to be carefully monitored to ensure the effectiveness of the remedial system.

As specified in the Area B ROD (July 1996), two rounds of groundwater sampling for metals analysis were conducted at Area B during 1996. The metals results were used to supplement the inorganic groundwater database and thereby provide a means of determining whether treatment of metals in the groundwater would be required. TRC also performed metals analysis (total and dissolved and mercury speciation) on select Area B monitoring wells during January 1999 and April 1999. The results of the metals analyses indicated that mercury was limited to monitoring wells adjacent to the South Branch (B-MW5S and B-MW6S) and appeared to be in its inorganic form. Subsequent groundwater sampling conducted in conjunction with the operation of the CTP also identified increasing concentrations of mercury in Area B groundwater samples, especially in samples collected from the intermediate and deep monitoring wells, following the initiation of groundwater extraction at Area B.

It is theorized that the mercury detected in these wells does not originate from a source area associated with Area B, but is related to the mercury-impacted sediments within the South Branch. Originally, the downward migration of colloidal particles from the sediments to the Area B extraction wells was thought to be the source of the mercury detected in the monitoring wells. An alternative hypothesis to explain the detections of mercury in the Area B monitoring wells, developed on the basis of an extensive groundwater modeling effort, was that the source of dissolved and colloidal mercury within the intermediate and deep monitoring wells was mercury DNAPL in the subsurface. The modeling indicated that mercury concentrations in the influent to the CTP would be expected to stabilize, due to steady-state mass transport between the mercury DNAPL sources and the extraction wells, which in fact has happened. A limited mercury DNAPL study was conducted by TRC in November 2013 involving soil borings located in suspected DNAPL source areas, identified on the basis of the groundwater modeling, but was unsuccessful in identifying the presence of mercury DNAPL in the subsurface. However, given

the nature of DNAPL mercury contamination, which exists in the subsurface in isolated pockets within pore spaces on the micron to sub-micron scale, combined with the nature of the sampling program (i.e., 1.5-inch diameter cores pushed to depths of 49 feet below ground surface), it is possible that mercury DNAPL exists at Area B, but it was not detected by the investigation. Given the cost of additional drilling and sampling and the lack of any additional information upon which to site additional DNAPL investigation locations, further sampling at Area B was not recommended by the study report.

6.3 Area C

Based on the analytical results of the sampling rounds prior to April 1998, it appeared that there had not been any apparent impact to the groundwater quality at Area C from past site activities at the adjacent Butler Aviation Fuel Farm. However, with the detection of low concentrations of toluene in September 2013 at C-MW1S, and acetone at C-MW1S during July and October 2000, January and May 2001, and May 2003 as well as the detection of acetone at C-MW2S during April and July 2000 and May 2001, it is difficult to discern whether these results reflect site conditions and potential pollutant migration or represent artifacts of the laboratory analysis process. Future sampling rounds will be carefully reviewed to determine if these findings are valid.

Dissolved constituents reportedly remain in the groundwater at the Butler Fuel Farm and can be assumed to be moving slowly downgradient. A portion of the Technical Center property designated as Area C could be downgradient of the Butler Fuel Farm. Consequently, the wells at Area C should continue to be sampled on a quarterly basis until it is determined that the adjacent Butler Aviation facility is no longer a potential source of contamination. This future groundwater monitoring strategy has been outlined in the signed ROD for Area C (September 30, 1994).

6.4 Area R

The groundwater sampling results for 2013 confirm the presence of groundwater contaminants in the fill area, with a modestly increasing trend for chlorobenzene and 1,4-dichlorobenzene in well R-MW1S and slightly decreasing levels of chlorobenzene and 1,4-dichlorobenzene in well R-MW2S. Previously, it had been suggested that the leading edge of groundwater contamination might have migrated near the R-MW5S well location, with low

levels of chlorobenzene detected during past sampling rounds. However, since February 2003, the only target VOC detected in well R-MW5S has been chloroform, suggesting that the leading edge may not have reached R-MW5S. Therefore, this well will be monitored closely during future rounds of sampling to determine if the leading edge of contamination has migrated to the R-MW5S location. As discussed in Section 5.4, it is possible that the sudden and consistent presence of VOCs in this well over four consecutive quarters in 2002 was due to the unusually low water levels at Area R during this timeframe.

Chloroform seems to originate from outside of the fill area due to its consistent presence in upgradient wells R-MW3S and R-MW4S and downgradient wells R-MW5S and R-MW6S and its general absence in the fill area monitoring wells R-MW1S and R-MW2S.

It is recommended that the long-term quarterly groundwater monitoring program continue to track contaminant concentrations both within and downgradient of the fill area. The presence of volatile organics above action levels in downgradient wells, specifically chlorobenzene in R-MW5S, during future rounds of groundwater sampling may warrant consideration of further delineation of the dissolved contaminant plume through the installation and sampling of additional monitoring wells and/or remedial measures.

A summary of Area R quarterly groundwater results (from May 1993 to February 1995) was incorporated into the USEPA-approved Final Technical Report of Investigations at Proposed No Action Areas C, H, M, P, R, S and 56 (TRC, December 1995). In the Final Proposed Plan (February 1999), Area R was recommended for institutional controls including residential site use and groundwater use restrictions with continued quarterly groundwater monitoring. The USEPA signed the final ROD on September 28, 1999.

6.5 Area 56

From May 1994 through February 2004, chlorinated hydrocarbons were present in the quarterly samples collected from 56-MW4D. Since then, low levels of chlorinated hydrocarbons (excluding chloroform) have been detected in only 9 of 39 sampling rounds, with no VOCs or VOC TICs detected since February 2009. The presence of low levels of VOCs in well 56-MW2S during the November 1992 sampling round was not confirmed during May and August 1994. Due to USEPA concern that the potential exists for VOCs to migrate within the shallow aquifer downgradient of the landfill area, future quarterly groundwater sampling rounds will

include VOC analysis of well 56-MW4S using the modified USEPA LCW+3 methodology. Sporadic low levels of VOCs have been detected in 56-MW4S, with the last detection occurring in February 2007. Due to the lack of exceedances of NJ PQLs and infrequent detections, VOCs are not cause for concern in well 56-MW4S.

The presence of total and dissolved metals in well 56-MW4S was confirmed during the 2013 quarterly sampling events. Chromium and nickel have exceeded their respective site-specific background concentrations and NJ PQLs. Total copper has commonly been detected at levels exceeding its NJ PQL. Several other total metals, including antimony, cadmium, lead, mercury, selenium, silver, thallium and zinc, have been detected in well 56-MW4S more sporadically in excess of their associated NJ PQLs. During November 2002, the metals results were anomalously high due to elevated sample turbidity. The issue of elevated turbidity was remedied during the February 2003 sampling event and elevated turbidity did not appear to influence total metals concentrations for 15 consecutive sampling events (February 2003 through August 2006). However, in November 2006 a high turbidity level (292 NTU) appeared to once again skew the total metals results. The turbidity levels will continue to be closely monitored in the future and care will be taken to avoid the collection of samples with elevated turbidity.

Some of the highest concentrations of chromium and nickel have been detected during the last ten years. Monitoring well 56-MW4S was constructed in May 1984 using stainless steel well casing and screen material. Chromium and nickel are the primary components of stainless steel. Therefore, it is possible that the elevated levels of chromium and nickel are a result of the deterioration of the stainless steel casing and/or screen. Future sampling rounds will be carefully reviewed to determine if the levels of these metals continue to remain elevated and if the breakdown of the well casing/screen is influencing the detected concentrations.

Between 1994 and 1999, the yearly average nitrate concentrations were consistently above 4.5 ppm. Between 2003 and 2011, the yearly average nitrate concentration in 56-MW4S was 4.1 ppm or less. With a yearly average nitrate concentration of 4.48 ppm, 2012 marked the first year since 2000 that the yearly average nitrate concentration exceeded 4.1 ppm. The 2013 yearly average fell below the 2012 yearly average high of 4.48 ppm, to 3.68 ppm. Future sampling rounds will be evaluated for a trend in the nitrate levels.

Due to the low concentrations of constituents found, and the lack of evidence of an area of concentrated "hot spot" contamination, further action for Area 56 does not seem warranted at

this time. A summary of Area 56 quarterly groundwater results (from May 1994 to February 1995) was incorporated into the USEPA-approved Final Technical Report of Investigations at Proposed No Action Areas C, H, M, P, R, S and 56 (TRC, December 1995). In this document, it was recommended that quarterly groundwater sampling at Area 56 continue in order to determine concentration trends of VOCs, metals and nitrate as nitrogen. In the Final Proposed Plan (February 1999), Area 56 was recommended for institutional controls including residential site use restrictions with continued quarterly groundwater monitoring. The USEPA signed the final ROD for Area 56 on September 28, 1999.

Tables

TABLE 1

GROUNDWATER AND SURFACE WATER VOC AND INORGANIC SAMPLE SUMMARY
AREAS A, B, C, R, and 56
March 25, 26, and 27; April 15; June 11 and 12; September 11, 12, and 13; December 9, 10, 11, and 12, 2013

SAMPLE IDENTIFICATION	SAMPLING DATES	NJ STATE PLANE COORDINATES NORTH(1)	EAST(1)	DEPTH(2)	ANALYSIS(3)	NOTES
AREA A						
A-MW3S	3/26/13: 6/11/13; 9/12/13; 12/9/13	219,749	480,090	18.0 - 38.0	LCW + 3	
A-MW4S	3/26/13: 6/11/13; 9/12/13; 12/9/13	219,792	479,610	20.0 - 40.0	LCW + 3	
AREA B						
MONITORING WELLS						
B-MW5S	3/26/13: 6/12/13; 9/11/13; 12/9/13	221,010	470,376	4.0 - 24.0	LCW	
B-MW6S	3/26/13: 6/12/13; 9/11/13; 12/9/13	220,934	470,377	3.0 - 13.0	LCW	
B-MW7S	3/26/13: 6/12/13; 9/11/13; 12/9/13	221,071	470,368	4.0 - 14.0	LCW	MATRIX SPIKE / MATRIX SPIKE DUPLICATE SAMPLE VOLUME OBTAINED
B-MW15S	3/26/13: 6/12/13; 9/11/13; 12/9/13	220,934	470,377	3.0 - 13.0	LCW	DUPLICATE OF B-MW6S
B-MW22I	3/26/13; 9/11/13	220,865	472,408	45.5 - 55.5	LCW	
B-MW22D	3/26/13; 9/11/13	220,839	472,401	80.5 - 90.5	LCW	
B-MW23I	3/26/13; 9/11/13	220,850	472,519	45.0 - 55.0	LCW	
B-MW23D	3/26/13; 9/11/13	220,835	472,515	80.0 - 90.0	LCW	
SOUTH BRANCH of ABSECON CREEK (SURFACE WATER SAMPLES)						
B-SW1	3/26/13: 6/12/13; 9/11/13; 12/10/13	--	--	--	PPVOA	
B-SW2	3/26/13: 6/12/13; 9/11/13; 12/10/13	--	--	--	PPVOA	
B-SW3	3/26/13: 6/12/13; 9/11/13; 12/10/13	--	--	--	PPVOA	MATRIX SPIKE / MATRIX SPIKE DUPLICATE SAMPLE VOLUME OBTAINED
B-SW4	3/26/13: 6/12/13; 9/11/13; 12/10/13	--	--	--	PPVOA	DUPLICATE OF B-SW1
AREA C						
C-MW1S	3/25/13; 6/11/13; 9/13/13; 12/12/13	222,570	472,136	3.0 - 23.0	LCW	
C-MW2S	4/15/13; 6/11/13; 9/13/13; 12/12/13	222,590	472,349	3.0 - 23.0	LCW	
AREA R						
R-MW1S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,527	463,046	17.0 - 37.0	LCW + 3	
R-MW2S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,308	463,270	15.0 - 35.0	LCW + 3	
R-MW3S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,935	463,376	17.0 - 37.0	LCW + 3	
R-MW4S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,657	462,858	12.0 - 32.0	LCW + 3	
R-MW5S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,135	463,372	8.0 - 28.0	LCW + 3	
R-MW6S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,580	463,502	5.0 - 25.0	LCW + 3	
R-MW7S	3/27/13; 6/12/13; 9/12/13; 12/11/13	227,135	463,372	8.0 - 28.0	LCW + 3	DUPLICATE OF R-MW5S
AREA 56						
56-MW4S	3/25/13; 6/11/13; 9/12/13; 12/9/13	223,879	473,542	18.9 - 39.2	LCW+3; PPMET (U/F); NO_3	MATRIX SPIKE / MATRIX SPIKE DUPLICATE SAMPLE VOLUME OBTAINED FOR LCW+3, PPMET, and NO_3
56-MW4D	3/25/13; 6/11/13; 9/12/13; 12/9/13	223,865	473,550	80.0 - 100.0	LCW + 3	
56-MW6S	3/25/13; 6/11/13; 9/12/13; 12/9/13	223,879	473,542	18.9 - 39.2	PPMET (F/U); NO_3	DUPLICATE OF 56-MW4S
QA/QC BLANKS						
TB032513	3/25/13	--	--	--	LCW+3	TRIP BLANK
FB032513 and FB032513(F)	3/25/13	--	--	--	LCW+3; PPMET (F/U); NO_3	FIELD BLANK
TB032613	3/26/13	--	--	--	LCW+3	TRIP BLANK
FB032613	3/26/13	--	--	--	LCW+3	FIELD BLANK
TB032713	3/27/13	--	--	--	LCW+3	TRIP BLANK
FB032713	3/27/13	--	--	--	LCW+3	FIELD BLANK
TB041513	4/15/13	--	--	--	LCW+3	TRIP BLANK
FB041513	4/15/13	--	--	--	LCW+3	FIELD BLANK
TB061113	6/11/13	--	--	--	LCW+3	TRIP BLANK
FB061113 and FB061113(F)	6/11/13	--	--	--	LCW+3; PPMET (F/U); NO_3	FIELD BLANK
TB061213	6/12/13	--	--	--	LCW+3	TRIP BLANK
FB061213	6/12/13	--	--	--	LCW+3	FIELD BLANK
TB091113	9/11/13	--	--	--	LCW+3	TRIP BLANK
FB091113	9/11/13	--	--	--	LCW+3	FIELD BLANK
TB091213	9/12/13	--	--	--	LCW+3	TRIP BLANK
FB091213 and FB091213(F)	9/12/13	--	--	--	LCW+3; PPMET (F/U); NO_3	FIELD BLANK
TB20130913	9/13/13	--	--	--	LCW+3	TRIP BLANK
FB20130913	9/13/13	--	--	--	LCW+3	FIELD BLANK
TB120913	12/09/13	--	--	--	LCW+3	TRIP BLANK
FB120913 and FB120913(F)	12/09/13	--	--	--	LCW+3; PPMET (F/U); NO_3	FIELD BLANK
TB121013	12/10/13	--	--	--	LCW+3	TRIP BLANK
FB121013	12/10/13	--	--	--	LCW+3	FIELD BLANK
TB121113	12/11/13	--	--	--	LCW+3	TRIP BLANK
TB121213	12/12/13	--	--	--	LCW+3	TRIP BLANK
FB121213	12/12/13	--	--	--	LCW+3	FIELD BLANK

NOTES: (1) - HORIZONTAL DATUM: NJ State Plane NAD 83 (feet)
(2) - Depth: Screen depth measured from ground surface (in feet)
(3) - ANALYSIS CODES:
PPVOA - Priority Pollutant Volatile Organic Analysis (CLP SOW OLM04.2)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW + 3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLC02.1)
PPMET (F/U) - Priority Pollutant Metals Analyses, Filtered and Unfiltered (CLP SOW ISM01.2)
NO_3 - Nitrate / Nitrite Analysis, EPA Method 353.2

TABLE 2

GROUNDWATER SAMPLE VOC ANALYTICAL RESULTS - AREA A

March 26, June 11, September 12, and December 9, 2013

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	A-MW3S 18-38 LCW+3 3/26/2013	A-MW4S 20-40 LCW+3 3/26/2013	FB032613 LCW+3 3/26/2013	TB032613 LCW+3 3/26/2013	NJ PQLs[1] (ppb)
VOLATILE ORGANICS (ppb)					
CHLOROFORM		13			1
TOTAL VOCs		13			NA

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	A-MW3S 18-38 LCW+3 6/11/2013	A-MW4S 20-40 LCW+3 6/11/2013	FB061113 LCW+3 6/11/2013	TB061113 LCW+3 6/11/2013	NJ PQLs (ppb)
VOLATILE ORGANICS (ppb)					
CHLOROFORM		8.1			1
TOTAL VOCs		8.1			NA

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	A-MW3S 18-38 LCW+3 9/12/2013	A-MW4S 20-40 LCW+3 9/12/2013	FB091213 LCW+3 9/12/2013	TB091213 LCW+3 9/12/2013	NJ PQLs (ppb)
VOLATILE ORGANICS (ppb)					
CHLOROFORM					1
TOTAL VOCs					NA

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	A-MW3S 18-38 LCW+3 12/9/2013	A-MW4S 20-40 LCW+3 12/9/2013	FB120913 LCW+3 12/9/2013	TB120913 LCW+3 12/9/2013	NJ PQLs (ppb)
VOLATILE ORGANICS (ppb)					
CHLOROFORM		1.2			1
TOTAL VOCs		1.2			NA

NOTES: 1) - NJ PQLs: NEW JERSEY PRACTICAL QUANTITATION LEVELS, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)

Blank spaces indicate no detection of the constituent above laboratory detection limits.

NA - PQL not available for this constituent.

SAMPLE ANALYSIS:

LCW +3 - Low Concentration Water plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 3

GROUNDWATER AND SURFACE WATER SAMPLE VOC ANALYTICAL RESULTS - AREA B
March 26, 2013

	GROUNDWATER								
SAMPLE IDENTIFICATION:	B-MW5S	B-MW6S	B-MW15S	B-MW7S	B-MW22I	B-MW22D	B-MW23I	B-MW23D	ROD[1] Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	4-24	3-13	3-13	4-14	45.5-55.5	80.5-90.5	45-55	80-90	
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
			DUP[2] B-MW6S						
SAMPLE DATE:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
VOLATILE ORGANICS (ppb)									
ACETONE									NE
CHLOROFORM	1.1	1.4	1.5		19	2.2	2.0	1.6	NE
1,1-DICHLOROETHANE									NE
1,1-DICHLOROETHENE									2
TETRACHLOROETHENE	1.5								1
1,1,1-TRICHLOROETHANE	1.0								1
TRICHLOROETHENE									1
TOTAL VOCs	3.6	1.4	1.5		19	2.2	2.0	1.6	

	SURFACE WATER				QA/QC BLANKS		
SAMPLE IDENTIFICATION:	B-SW1	B-SW4	B-SW2	B-SW3	FB032613	TB032613	ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	N/A	N/A	N/A	N/A	N/A	N/A	
SAMPLE ANALYSIS:	PPVOA	PPVOA	PPVOA	PPVOA	LCW+3	LCW+3	
		DUP[2] B-SW1					
SAMPLE DATE:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
VOLATILE ORGANICS (ppb)							
ACETONE							NE
CHLOROFORM							NE
1,1-DICHLOROETHANE							NE
1,1-DICHLOROETHENE							2
TETRACHLOROETHENE							1
1,1,1-TRICHLOROETHANE							1
TRICHLOROETHENE							1
METHYLENE CHLORIDE							2
TOTAL VOCs							

NOTES: 1) ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
2) Duplicate (DUP) samples B-MW15S and B-SW4 are blind duplicates of B-MW6S and B-SW1, respectively
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NE - ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS:
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPVOA - Priority Pollutant Volatile Organic Analysis (CLP SOW OLM04.2)

TABLE 3

GROUNDWATER AND SURFACE WATER SAMPLE VOC ANALYTICAL RESULTS - AREA B
June 12, 2013

SAMPLE IDENTIFICATION:	GROUNDWATER				ROD[1] Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	B-MW5S	B-MW6S	B-MW15S	B-MW7S	
SAMPLE ANALYSIS:	4-24	3-13	3-13	4-14	
	LCW	LCW	LCW	LCW	
			DUP[2] B-MW6S		
SAMPLE DATE:	6/12/2013	6/12/2013	6/12/2013	6/12/2013	
VOLATILE ORGANICS (ppb)					
2-BUTANONE (MEK)					NE
ACETONE					NE
CHLOROFORM	1.2	1.0	1.0		NE
1,1-DICHLOROETHANE	1.0				NE
1,1-DICHLOROETHENE					2
TETRACHLOROETHENE	2.5	1.1	1.1		1
1,1,1-TRICHLOROETHANE	1.1				1
TRICHLOROETHENE					1
TOTAL VOCs	5.8	2.1	2.1		

SAMPLE IDENTIFICATION:	SURFACE WATER				QA/QC BLANKS		ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	B-SW1	B-SW4	B-SW2	B-SW3	FB061213	TB061213	
SAMPLE ANALYSIS:	N/A	N/A	N/A	N/A	N/A	N/A	
	PPVOA	PPVOA	PPVOA	PPVOA	LCW+3	LCW+3	
		DUP[2] B-SW1					
SAMPLE DATE:	6/12/2013	6/12/2013	6/12/2013	6/12/2013	6/12/2013	6/12/2013	
VOLATILE ORGANICS (ppb)							
2-BUTANONE (MEK)							NE
ACETONE							NE
CHLOROFORM		1.0	1.0	1.0			NE
1,1-DICHLOROETHANE							NE
1,1-DICHLOROETHENE							2
TETRACHLOROETHENE							1
1,1,1-TRICHLOROETHANE							1
TRICHLOROETHENE							1
METHYLENE CHLORIDE							2
TOTAL VOCs		1.0	1.0	1.0			

NOTES: 1) ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
2) Duplicate (DUP) samples B-MW15S and B-SW4 are blind duplicates of B-MW6S and B-SW1, respectively
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NE - ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS:
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPVOA - Priority Pollutant Volatile Organic Analysis (CLP SOW OLM04.2)

TABLE 3

GROUNDWATER AND SURFACE WATER SAMPLE VOC ANALYTICAL RESULTS - AREA B
September 11, 2013

	GROUNDWATER								
SAMPLE IDENTIFICATION:	B-MW5S	B-MW6S	B-MW15S	B-MW7S	B-MW22I	B-MW22D	B-MW23I	B-MW23D	ROD[1] Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	4-24	3-13	3-13	4-14	45.5-55.5	80.5-90.5	45-55	80-90	
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
			DUP[2] B-MW6S						
SAMPLE DATE:	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	
VOLATILE ORGANICS (ppb)									
ACETONE									NE
CHLOROFORM					21	1.9	1.7	1.2	NE
1,1-DICHLOROETHANE									NE
1,1-DICHLOROETHENE									2
TETRACHLOROETHENE	3.9	1.6	1.5						1
1,1,1-TRICHLOROETHANE									1
TRICHLOROETHENE									1
TOTAL VOCs	3.9	1.6	1.5		21	1.9	1.7	1.2	

	SURFACE WATER				QA/QC BLANKS		
SAMPLE IDENTIFICATION:	B-SW1	B-SW4	B-SW2	B-SW3	FB091113	TB091113	ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	N/A	N/A	N/A	N/A	N/A	N/A	
SAMPLE ANALYSIS:	PPVOA	PPVOA	PPVOA	PPVOA	LCW+3	LCW+3	
		DUP[2] B-SW1					
SAMPLE DATE:	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	
VOLATILE ORGANICS (ppb)							
ACETONE					26		NE
CHLOROFORM	1.1						NE
1,1-DICHLOROETHANE							NE
1,1-DICHLOROETHENE							2
TETRACHLOROETHENE							1
1,1,1-TRICHLOROETHANE							1
TRICHLOROETHENE							1
METHYLENE CHLORIDE							2
TOLUENE							5
TOTAL VOCs	1.1				26		

NOTES: 1) ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
2) Duplicate (DUP) samples B-MW15S and B-SW4 are blind duplicates of B-MW6S and B-SW1, respectively
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NE - ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS:
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPVOA - Priority Pollutant Volatile Organic Analysis (CLP SOW OLM04.2)

TABLE 3

GROUNDWATER AND SURFACE WATER SAMPLE VOC ANALYTICAL RESULTS - AREA B
December 9, 2013

SAMPLE IDENTIFICATION:	GROUNDWATER				ROD[1] Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	B-MW5S	B-MW6S	B-MW15S	B-MW7S	
SAMPLE ANALYSIS:	4-24	3-13	3-13	4-14	
	LCW	LCW	LCW	LCW	
			DUP[2] B-MW6S		
SAMPLE DATE:	12/9/2013	12/9/2013	12/9/2013	12/9/2013	
VOLATILE ORGANICS (ppb)					
CHLOROFORM					NE
1,1-DICHLOROETHANE	1.0				NE
1,1-DICHLOROETHENE					2
TETRACHLOROETHENE	4.1	1.7	1.7		1
1,1,1-TRICHLOROETHANE					1
TRICHLOROETHENE					1
TOTAL VOCs	5.1	1.7	1.7		

SAMPLE IDENTIFICATION:	SURFACE WATER				QA/QC BLANKS		ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	B-SW1	B-SW4	B-SW2	B-SW3	FB120913	TB120913	
SAMPLE ANALYSIS:	N/A	N/A	N/A	N/A	N/A	N/A	
	PPVOA	PPVOA	PPVOA	PPVOA	LCW+3	LCW+3	
		DUP[2] B-SW1					
SAMPLE DATE:	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013	
VOLATILE ORGANICS (ppb)							
CHLOROFORM							NE
1,1-DICHLOROETHANE							NE
1,1-DICHLOROETHENE							2
TETRACHLOROETHENE							1
1,1,1-TRICHLOROETHANE							1
TRICHLOROETHENE							1
METHYLENE CHLORIDE							2
TOLUENE							5
TOTAL VOCs							

NOTES: 1) ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - "AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
2) Duplicate (DUP) samples B-MW15S and B-SW4 are blind duplicates of B-MW6S and B-SW1, respectively
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NE - ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS:
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPVOA - Priority Pollutant Volatile Organic Analysis (CLP SOW OLM04.2)

TABLE 4
GROUNDWATER SAMPLE VOC ANALYTICAL RESULTS - AREA C
March 25, April 15, June 11, September 13, and December 12, 2013

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	C-MW1S 3-23 LCW 3/25/2013	C-MW2S 3-23 LCW 4/15/2013	FB032513 LCW +3 3/25/2013	TB032513 LCW +3 3/25/2013	FB041513 LCW +3 4/15/2013	TB041513 LCW +3 4/15/2013	NJ PQLs[1] (ppb)
VOLATILE ORGANICS (ppb)							
CHLOROFORM							1
TOTAL VOCs							NA

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	C-MW1S 3-23 LCW 6/11/2013	C-MW2S 3-23 LCW 6/11/2013	FB061113 LCW +3 6/11/2013	TB061113 LCW +3 6/11/2013	NJ PQLs (ppb)
VOLATILE ORGANICS (ppb)					
CHLOROFORM					1
TOTAL VOCs					NA

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	C-MW1S 3-23 LCW 9/13/2013	C-MW2S 3-23 LCW 9/13/2013	FB20130913 LCW +3 9/13/2013	TB20130913 LCW +3 9/13/2013	NJ PQLs (ppb)
VOLATILE ORGANICS (ppb)					
CHLOROFORM					1
TOLUENE	4.7				1
TOTAL VOCs	4.7				NA

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	C-MW1S 3-23 LCW 12/12/2013	C-MW2S 3-23 LCW 12/12/2013	FB121213 LCW +3 12/12/2013	TB121213 LCW +3 12/12/2013	NJ PQLs (ppb)
VOLATILE ORGANICS (ppb)					
ACETONE					10
CHLOROFORM					1
TOTAL VOCs					NA

NOTES: 1) NJ PQLs: NEW JERSEY PRACTICAL QUANTITATION LEVELS, N.J.A.C. 7:9c Appendix - Table 1 (22 July '10)

Blank spaces indicate no detection of the constituent above laboratory detection limits.

NA - PQL not available for this constituent.

SAMPLE ANALYSIS:

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)

LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)

TABLE 5

GROUNDWATER SAMPLE VOC ANALYTICAL RESULTS - AREA R

March 27, 2013

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS:	R-MW1S 17-37 LCW +3	R-MW2S 15-35 LCW +3	R-MW3S 17-37 LCW +3	R-MW4S 12-32 LCW +3	R-MW5S 8-28 LCW +3	R-MW7S 8-28 LCW +3 R-MW5S DUP[2]	R-MW6S 5-25 LCW +3	FB032713 LCW +3	TB032713 LCW +3	NJ PQLs[1] (ppb)
VOLATILE ORGANICS (ppb)										
1,2-DICHLOROBENZENE										5
1,4-DICHLOROBENZENE	2.2	1.7								5
CHLOROBENZENE	6.4	2.3								1
CHLOROFORM	1.9		13	1.9	9.0	8.7	13			1
TOTAL VOCs	10.5	4.0	13	1.9	9.0	8.7	13			NA

NOTES: 1) NJ PQLs: NEW JERSEY PRACTICAL QUANTITATION LEVELS, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)

2) Duplicate (DUP) sample R-MW7S is a blind duplicate of R-MW5S

Blank spaces indicate no detection of the constituent above laboratory detection limits.

NA - PQL not established

SAMPLE ANALYSIS:

LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)

TABLE 5 (continued)

GROUNDWATER SAMPLE VOC ANALYTICAL RESULTS - AREA R

June 12, 2013

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS: SAMPLE DATE:	R-MW1S 17-37 LCW +3 6/12/2013	R-MW2S 15-35 LCW +3 6/12/2013	R-MW3S 17-37 LCW +3 6/12/2013	R-MW4S 12-32 LCW +3 6/12/2013	R-MW5S 8-28 LCW +3 6/12/2013	R-MW7S 8-28 LCW +3 R-MW5S DUP[2] 6/12/2013	R-MW6S 5-25 LCW +3 6/12/2013	FB061213 LCW +3 6/12/2013	TB061213 LCW +3 6/12/2013	NJ PQLs[1] (ppb)
VOLATILE ORGANICS (ppb)										
1,2-DICHLOROBENZENE										5
1,4-DICHLOROBENZENE	3.0									5
CHLOROBENZENE	8.0									1
CHLOROFORM			17	1.4	7.8	8.6	15			1
TOTAL VOCs	11.0		17	1.4	7.8	8.6	15			NA

NOTES: 1) NJ PQLs: NEW JERSEY PRACTICAL QUANTITATION LEVELS, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)

2) Duplicate (DUP) sample R-MW7S is a blind duplicate of R-MW5S

Blank spaces indicate no detection of the constituent above laboratory detection limits.

NA - PQL not established

SAMPLE ANALYSIS:

LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)

TABLE 5 (continued)

GROUNDWATER SAMPLE VOC ANALYTICAL RESULTS - AREA R

September 12, 2013

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS:	R-MW1S 17-37 LCW +3	R-MW2S 15-35 LCW +3	R-MW3S 17-37 LCW +3	R-MW4S 12-32 LCW +3	R-MW5S 8-28 LCW +3	R-MW7S 8-28 LCW +3 R-MW5S DUP[2]	R-MW6S 5-25 LCW +3	FB091213 LCW +3	TB091213 LCW +3	NJ PQLs[1] (ppb)
VOLATILE ORGANICS (ppb)										
1,2-DICHLOROBENZENE										5
1,4-DICHLOROBENZENE	3.1									5
CHLOROBENZENE	10									1
CHLOROFORM			17	1.5	6.6	6.7	12			1
TOTAL VOCs	13.1		17	1.5	6.6	6.7	12			NA

NOTES: 1) NJ PQLs: NEW JERSEY PRACTICAL QUANTITATION LEVELS, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)

2) Duplicate (DUP) sample R-MW7S is a blind duplicate of R-MW5S

Blank spaces indicate no detection of the constituent above laboratory detection limits.

NA - PQL not established

SAMPLE ANALYSIS:

LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)

TABLE 5 (continued)

GROUNDWATER SAMPLE VOC ANALYTICAL RESULTS - AREA R

December 11, 2013

SAMPLE IDENTIFICATION: SAMPLE DEPTH (FT): SAMPLE ANALYSIS:	R-MW1S 17-37 LCW +3	R-MW2S 15-35 LCW +3	R-MW3S 17-37 LCW +3	R-MW4S 12-32 LCW +3	R-MW5S 8-28 LCW +3	R-MW7S 8-28 LCW +3 R-MW5S DUP[2]	R-MW6S 5-25 LCW +3	FB121113 LCW +3	TB121113 LCW +3	NJ PQLs[1] (ppb)
VOLATILE ORGANICS (ppb)										
1,2-DICHLOROBENZENE	1.4									5
1,4-DICHLOROBENZENE	7.3	2.1								5
CHLOROBENZENE	34 E	3.1								1
CHLOROFORM			21		6.5	6.5	9.9			1
TOTAL VOCs	42.7	5.2	21		6.5	6.5	9.9			NA

NOTES: 1) NJ PQLs: NEW JERSEY PRACTICAL QUANTITATION LEVELS, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)

2) Duplicate (DUP) sample R-MW7S is a blind duplicate of R-MW5S

Blank spaces indicate no detection of the constituent above laboratory detection limits.

"E" Qualifier: Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis

NA - PQL not established

SAMPLE ANALYSIS:

LCW +3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)

TABLE 6

GROUNDWATER SAMPLE VOC and INORGANICS ANALYTICAL RESULTS - AREA 56
March 25 and 26, 2013

SAMPLE IDENTIFICATION:	56-MW4S		56-MW6S		56-MW4D	FB032513		TB032513	FB032613	TB032613	NJ	Background[3]
SAMPLE DATE:	3/25/2013		3/25/2013		3/26/2013	3/25/2013		3/25/2013	3/26/2013	3/26/2013	PQLs[2]	(ppb)
SAMPLE DEPTH:	18.9-39.2		(DUP[1] of 56-MW4S)		80-100						(ppb)	
SAMPLE ANALYSIS:	LCW+3 PPMET, U NO_3	PPMET, F	PPMET, U NO_3	PPMET, F	LCW+3	LCW+3 PPMET, U NO_3	PPMET, F	LCW +3	LCW +3	LCW +3		
VOLATILE ORGANICS (ppb)		NA	NA	NA								
Total VOCs											NA	NA
INORGANICS												
Priority Pollutant Metals (ppb)					NA			NA				
ANTIMONY											3	NA
ARSENIC											3	NA
SILVER											1	6
BERYLLIUM											1	NA
CADMIUM											0.5	7
CHROMIUM	74.7	37.5	93.5	39.8							1	30
COPPER	2.3 J	1.4 J	2.6 J	1.1 J							4	32
LEAD											5	NA
MERCURY											0.05	NA
NICKEL	520	477	468	505							4	48
SELENIUM											4	5.9
THALLIUM											2	NA
ZINC		3.8 J	3.9 J	3.9 J							10	168
NITRATE / NITRITE (ppm)		NA		NA	NA			NA			0.1 ppm	NA
NITRATE as N	2.5		3.7									
NITRITE as N	0.020 J		0.024 J									
PARAMETERS												
TURBIDITY (NTU)	9.79		9.79		10.78						NA	NA

VOCs
NOTES: 1) Duplicate (DUP) sample 56-MW6S is a blind duplicate of 56-MW4S
2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NA - Sample not analyzed for VOCs.
ppb - parts per billion or micrograms per Liter

INORGANICS
NOTES: 2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
3) Background concentrations based on historic upgradient monitoring well results (see Appendix G of TRC's Draft Remedial Investigation - Area U dated May 2003).
"J" Qualifier: "Sample result is greater than the Method Detection Limit, but below the Contract-Required Detection Limit."
NA - Sample not analzed for inorganics
ppm - parts per million or milligrams per Liter

SAMPLE ANALYSIS
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPMET, U - Priority Pollutant List Metals, CLP/ILM04.1, Unfiltered (total) Metals
PPMET, F - Priority Pollutant List Metals, CLP/ILM04.1, Filtered (dissolved) Metals
NO_3 - Nitrate / Nitrite Analysis, EPA Method 353.2
NTU - Nephelometric Turbidity Unit

TABLE 6 (Continued)

GROUNDWATER SAMPLE VOC and INORGANICS ANALYTICAL RESULTS - AREA 56
June 11, 2013

SAMPLE IDENTIFICATION:	56-MW4S		56-MW6S (DUP[1] of 56-MW4S)		56-MW4D	FB061113		TB061113	NJ PQLs[2] (ppb)	Background[3] (ppb)
SAMPLE DEPTH:	18.9-39.2				80-100					
SAMPLE ANALYSIS:	LCW+3 PPMET, U NO_3	PPMET, F	PPMET, U NO_3	PPMET, F	LCW+3	LCW+3 PPMET, U NO_3	PPMET, F	LCW +3		
VOLATILE ORGANICS (ppb)		NA	NA	NA						
Total VOCs									NA	NA
INORGANICS										
Priority Pollutant Metals (ppb)					NA			NA		
ANTIMONY									3	NA
ARSENIC									3	NA
SILVER									1	6
BERYLLIUM	0.16 J	0.18 JB	0.15 J	0.24 JB			1.5 J		1	NA
CADMIUM									0.5	7
CHROMIUM	36.8	26.1	34.7	26.6			0.81 J		1	30
COPPER	5.9 JB	7.7 JB	6.9 JB	6.5 JB		4.9 JB	7.6 JB		4	32
LEAD									5	NA
MERCURY									0.05	NA
NICKEL	265	261	252	254			3.4 J		4	48
SELENIUM									4	5.9
THALLIUM	3.1 JB		3.2 JB	3.1 JB			2.9 JB		2	NA
ZINC		6.2 JB	6.4 J	8.6 JB			4.8 J		10	168
NITRATE / NITRITE (ppm)		NA		NA	NA			NA	0.1 ppm	NA
NITRATE as N	3.8		3.7							
NITRITE as N	0.030 JB		0.035 JB			0.017 J				
PARAMETERS										
TURBIDITY (NTU)	8.56		8.56		0.34				NA	NA

VOCs

NOTES: 1) Duplicate (DUP) sample 56-MW6S is a blind duplicate of 56-MW4S
2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NA - Sample not analyzed for VOCs.
ppb - parts per billion or micrograms per Liter

INORGANICS

NOTES: 2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
3) Background concentrations based on historic upgradient monitoring well results (see Appendix G of TRC's Draft Remedial Investigation - Area U dated May 2003).
"J" Qualifier: "Sample result is greater than the Method Detection Limit, but below the Contract-Required Detection Limit."
"B" Qualifier: Sample result is invalid because it is less than five times the amount detected in the associated field blank and/or laboratory method blank
NA - Sample not analzed for inorganics
ppm - parts per million or milligrams per Liter

SAMPLE ANALYSIS

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPMET, U - Priority Pollutant List Metals, CLP/ILM04.1, Unfiltered (total) Metals
PPMET, F - Priority Pollutant List Metals, CLP/ILM04.1, Filtered (dissolved) Metals
NO_3 - Nitrate / Nitrite Analysis, Standard Method 4500
NTU - Nephelometric Turbidity Unit

TABLE 6 (Continued)

GROUNDWATER SAMPLE VOC and INORGANICS ANALYTICAL RESULTS - AREA 56
September 12, 2013

SAMPLE IDENTIFICATION:	56-MW4S		56-MW6S (DUP[1] of 56-MW4S)		56-MW4D	FB091213		TB091213	NJ PQLs[2] (ppb)	Background[3] (ppb)
SAMPLE DEPTH:	18.9-39.2				80-100					
SAMPLE ANALYSIS:	LCW+3 PPMET, U NO_3	PPMET, F	PPMET, U NO_3	PPMET, F	LCW+3	LCW+3 PPMET, U NO_3	PPMET, F	LCW +3		
VOLATILE ORGANICS (ppb)		NA	NA	NA						
ACETONE									10	NA
CHLOROFORM										
Total VOCs									NA	NA
INORGANICS										
Priority Pollutant Metals (ppb)					NA			NA		
ANTIMONY									3	NA
ARSENIC									3	NA
SILVER									1	6
BERYLLIUM									1	NA
CADMIUM									0.5	7
CHROMIUM	70.3	22.0	96.0	21.8					1	30
COPPER	7.1 J	2.7 J	6.7 J	4.3 J					4	32
LEAD	2.6 J		2.8 J						5	NA
MERCURY									0.05	NA
NICKEL	119	119	123	119					4	48
SELENIUM									4	5.9
THALLIUM			2.2 J						2	NA
ZINC	13.3 J	11.9 J	16.9 J	14.5 J					10	168
NITRATE / NITRITE (ppm)		NA		NA					0.1 ppm	NA
NITRATE as N	3.9		3.9							
NITRITE as N										
PARAMETERS										
TURBIDITY (NTU)	19.3		19.3		7.27				NA	NA

VOCs

NOTES: 1) Duplicate (DUP) sample 56-MW6S is a blind duplicate of 56-MW4S
2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NA - Sample not analyzed for VOCs.
ppb - parts per billion or micrograms per Liter

INORGANICS

NOTES: 2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
3) Background concentrations based on historic upgradient monitoring well results (see Appendix G of TRC's Draft Remedial Investigation - Area U dated May 2003).
"J" Qualifier: "Sample result is greater than the Method Detection Limit, but below the Contract-Required Detection Limit."
NA - Sample not analzed for inorganics
ppm - parts per million or milligrams per Liter

SAMPLE ANALYSIS

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPMET, U - Priority Pollutant List Metals, CLP/ILM04.1, Unfiltered (total) Metals
PPMET, F - Priority Pollutant List Metals, CLP/ILM04.1, Filtered (dissolved) Metals
NO_3 - Nitrate / Nitrite Analysis, Standard Method 4500
NTU - Nephelometric Turbidity Unit

TABLE 6 (Continued)

GROUNDWATER SAMPLE VOC and INORGANICS ANALYTICAL RESULTS - AREA 56
December 9, 2013

SAMPLE IDENTIFICATION:	56-MW4S		56-MW6S (DUP[1] of 56-MW4S)		56-MW4D	FB120913		TB120913	NJ PQLs[2] (ppb)	Background[3] (ppb)
SAMPLE DEPTH:	18.9-39.2				80-100					
SAMPLE ANALYSIS:	LCW+3 PPMET, U NO_3	PPMET, F	PPMET, U NO_3	PPMET, F	LCW+3	LCW+3 PPMET, U NO_3	PPMET, F	LCW +3		
VOLATILE ORGANICS (ppb)		NA	NA	NA						
Total VOCs									NA	NA
INORGANICS										
Priority Pollutant Metals (ppb)					NA					
ANTIMONY									3	NA
ARSENIC		2.1 J							3	NA
SILVER									1	6
BERYLLIUM	0.35 J	0.33 J	0.40 J	0.33 J					1	NA
CADMIUM			0.32 J						0.5	7
CHROMIUM	56.9	28.8	57.2	26.1					1	30
COPPER			2.9 J						4	32
LEAD									5	NA
MERCURY									0.05	NA
NICKEL	142	152	154	150			1.8 J		4	48
SELENIUM									4	5.9
THALLIUM		2.6 JB	1.9 JB	2.2 JB			2.7 JB		2	NA
ZINC	6.4 JB	6.9 JB	6.4 JB	7.8 JB		2.0 JB	3.3 JB		10	168
NITRATE / NITRITE (ppm)		NA		NA	NA				0.1 ppm	NA
NITRATE as N	2.9		3.3							
NITRITE as N										
PARAMETERS										
TURBIDITY (NTU)	2.96		2.96		0.53				NA	NA

VOCs
NOTES: 1) Duplicate sample 56-MW6S is a blind duplicate of 56-MW4S
2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
Blank spaces indicate no detection of the constituent above laboratory detection limits.
NA - Sample not analyzed for VOCs.
ppb - parts per billion or micrograms per Liter

INORGANICS
NOTES: 2) NJ PQLs: New Jersey Practical Quantitation Levels, N.J.A.C. 7:9C Appendix - Table 1 (22 July '10)
3) Background concentrations based on historic upgradient monitoring well results (see Appendix G of TRC's Draft Remedial Investigation - Area U dated May 2003).
"J" Qualifier: "Sample result is greater than the Method Detection Limit, but below the Contract-Required Detection Limit."
"B" Qualifier: Sample result is invalid because it is less than five times the amount detected in the associated field blank and/or laboratory method blank
NA - Sample not analzed for inorganics
ppm - parts per million or milligrams per Liter

SAMPLE ANALYSIS
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether (CLP SOW OLM04.2)
PPMET, U - Priority Pollutant List Metals, CLP/ILM04.1, Unfiltered (total) Metals
PPMET, F - Priority Pollutant List Metals, CLP/ILM04.1, Filtered (dissolved) Metals
NO_3 - Nitrate / Nitrite Analysis, Standard Method 4500
NTU - Nephelometric Turbidity Unit

TABLE 7

WATER LEVELS - AREA A
March 26, June 11, September 12, and December 9, 2013

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Mar-13 DEPTH TO WATER (FEET[2])	Dec-12 DEPTH TO WATER (FEET[2])	Mar-13 WATER LEVEL ELEVATION (FEET[1])	Dec-12 WATER LEVEL ELEVATION (FEET[1])	Dec-12 TO Mar-13 ELEVATION CHANGE
A-MW1S	50.58	18.98	27.18	31.60	23.40	8.20
A-MW2S	50.52	20.90	26.02	29.62	24.50	5.12
A-MW3S	55.17	24.89	30.98	30.28	24.19	6.09
A-MW4S	57.76	25.86	28.87	31.90	28.89	3.01
A-MW5S	54.99	22.24	25.42	32.75	29.57	3.18

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	June-13 DEPTH TO WATER (FEET[2])	Mar-13 DEPTH TO WATER (FEET[2])	June-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 TO June-13 ELEVATION CHANGE
A-MW1S	50.58	19.21	18.98	31.37	31.60	-0.23
A-MW2S	50.52	21.14	20.90	29.38	29.62	-0.24
A-MW3S	55.17	24.25	24.89	30.92	30.28	0.64
A-MW4S	57.76	25.50	25.86	32.26	31.90	0.36
A-MW5S	54.99	21.50	22.24	33.49	32.75	0.74

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Sep-13 DEPTH TO WATER (FEET[2])	June-13 DEPTH TO WATER (FEET[2])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	June-13 WATER LEVEL ELEVATION (FEET[1])	June-13 TO Sep-13 ELEVATION CHANGE
A-MW1S	50.58	20.23	19.21	30.35	31.37	-1.02
A-MW2S	50.52	23.61	21.14	26.91	29.38	-2.47
A-MW3S	55.17	25.68	24.25	29.49	30.92	-1.43
A-MW4S	57.76	26.92	25.50	30.84	32.26	-1.42
A-MW5S	54.99	23.03	21.50	31.96	33.49	-1.53

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Dec-13 DEPTH TO WATER (FEET[2])	Sep-13 DEPTH TO WATER (FEET[2])	Dec-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 TO Dec-13 ELEVATION CHANGE
A-MW1S	50.58	26.96	20.23	23.62	30.35	-6.73
A-MW2S	50.52	26.07	23.61	24.45	26.91	-2.46
A-MW3S	55.17	30.50	25.68	24.67	29.49	-4.82
A-MW4S	57.76	28.96	26.92	28.80	30.84	-2.04
A-MW5S	54.99	25.27	23.03	29.72	31.96	-2.24

NOTES:
(1) - Vertical Datum = NAVD 88
(2) - Depth as measured from top of inner well casing.

TABLE 8

PRODUCT AND WATER LEVELS - AREA B

March 26 , June 11, September 11, and December 9 and 10, 2013

WELL or STREAM GAUGE IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	DECEMBER 2012 WATER LEVEL (FEET[2])	MARCH 2013 WATER LEVEL (FEET[2])	JUNE 2013 WATER LEVEL (FEET[2])	SEPTEMBER 2013 WATER LEVEL (FEET[2])	DECEMBER 2013 WATER LEVEL (FEET[2])	DECEMBER 2012 WATER LEVEL ELEVATION (FEET[1])	MARCH 2013 WATER LEVEL ELEVATION (FEET[1])	JUNE 2013 WATER LEVEL ELEVATION (FEET[1])	SEPTEMBER 2013 WATER LEVEL ELEVATION (FEET[1])	DECEMBER 2013 WATER LEVEL ELEVATION (FEET[1])	DEC. 2012-MAR. 2013 ELEVATION CHANGE	MAR. 2013-JUNE 2013 ELEVATION CHANGE	JUNE 2013-SEPT. 2013 ELEVATION CHANGE	SEPT. 2013-DEC. 2013 ELEVATION CHANGE
Monitoring Wells															
B-MW1S	44.82	11.78	11.12	11.26	12.35	12.35	33.04	33.70	33.56	32.47	32.47	0.66	-0.14	-1.09	0.00
B-MW2S	37.53	6.04	6.19	6.38	7.27	5.74	31.49	31.34	31.15	30.26	31.79	-0.15	-0.19	-0.89	1.53
B-MW3S	41.90	N/P[3]; 9.96	8.86; 8.87	N/P; 9.66	N/P; 10.64	N/P; 10.29	31.94	33.03	32.24	31.26	31.61	1.09	-0.79	-0.98	0.35
B-MW4S	39.22	7.63	7.48	7.63	8.28	7.77	31.59	31.74	31.59	30.94	31.45	0.15	-0.15	-0.65	0.51
B-MW5S	38.57	7.13	6.92	7.08	7.70	7.27	31.44	31.65	31.49	30.87	31.30	0.21	-0.16	-0.62	0.43
B-MW6S	35.10	3.88	3.79	3.94	4.46	3.98	31.22	31.31	31.16	30.64	31.12	0.09	-0.15	-0.52	0.48
B-MW7S	40.85	8.84	8.25	8.72	9.92	8.32	32.01	32.60	32.13	30.93	32.53	0.59	-0.47	-1.20	1.60
B-MW7I	40.38	8.71	8.51	8.65	9.31	8.89	31.67	31.87	31.73	31.07	31.49	0.20	-0.14	-0.66	0.42
B-MW7D	40.63	8.85	8.60	8.72	9.41	9.05	31.78	32.03	31.91	31.22	31.58	0.25	-0.12	-0.69	0.36
B-MW8S	43.10	10.69	8.53	9.77	11.87	11.23	32.41	34.57	33.33	31.23	31.87	2.16	-1.24	-2.10	0.64
B-MW9S	42.07	9.40	8.51	9.14	10.67	8.87	32.67	33.56	32.93	31.40	33.20	0.89	-0.63	-1.53	1.80
B-MW10S	35.90	5.16	5.20	5.36	5.90	5.31	30.74	30.70	30.54	30.00	30.59	-0.04	-0.16	-0.54	0.59
B-MW10I	35.94	5.06	5.15	5.28	5.87	5.34	30.88	30.79	30.66	30.07	30.60	-0.09	-0.13	-0.59	0.53
B-MW10D	35.82	4.92	5.01	5.13	5.76	5.21	30.90	30.81	30.69	30.06	30.61	-0.09	-0.12	-0.63	0.55
B-MW11S	35.93	5.30	5.78	6.21	6.98	5.51	30.63	30.15	29.72	28.95	30.42	-0.48	-0.43	-0.77	1.47
B-MW11I	36.20	5.70	6.20	6.32	7.07	6.28	30.50	30.00	29.88	29.13	29.92	-0.50	-0.12	-0.75	0.79
B-MW11D	36.25	5.62	6.21	6.88	7.09	6.23	30.63	30.04	29.37	29.16	30.02	-0.59	-0.67	-0.21	0.86
B-MW12S	36.57	5.48	5.32	5.43	5.88	5.45	31.09	31.25	31.14	30.69	31.12	0.16	-0.11	-0.45	0.43
B-MW12I	36.71	5.03	5.34	5.44	5.93	5.51	31.68	31.37	31.27	30.78	31.20	-0.31	-0.10	-0.49	0.42
B-MW12D	36.59	5.33	5.13	5.21	5.71	5.32	31.26	31.46	31.38	30.88	31.27	0.20	-0.08	-0.50	0.39
B-MW13S	35.04	4.26	4.22	4.36	4.91	4.32	30.78	30.82	30.68	30.13	30.72	0.04	-0.14	-0.55	0.59
B-MW14S	49.74	16.11	15.14	15.48	16.61	16.38	33.63	34.60	34.26	33.13	33.36	0.97	-0.34	-1.13	0.23
B-MW14I	50.03	16.26	15.63	15.77	16.63	16.49	33.77	34.40	34.26	33.40	33.54	0.63	-0.14	-0.86	0.14
B-MW14D	50.05	16.24	15.60	15.75	16.40	16.48	33.81	34.45	34.30	33.65	33.57	0.64	-0.15	-0.65	-0.08
B-MW15S	42.65	10.07	9.67	9.84	10.57	10.32	32.58	32.98	32.81	32.08	32.33	0.40	-0.17	-0.73	0.25
B-MW15I	42.58	10.09	9.68	9.84	10.53	N/M[4]	32.49	32.90	32.74	32.05	N/A[5]	0.41	-0.16	-0.69	N/A
B-MW15D	42.69	10.23	9.63	9.77	10.50	10.33	32.46	33.06	32.92	32.19	32.36	0.60	-0.14	-0.73	0.17
B-MW16I	34.08	3.84	3.74	3.81	4.47	3.97	30.24	30.34	30.27	29.61	30.11	0.10	-0.07	-0.66	0.50
B-MW16D	34.13	3.70	3.53	3.60	4.35	3.83	30.43	30.60	30.53	29.78	30.30	0.17	-0.07	-0.75	0.52
B-MW17I	33.50	4.31	4.15	4.26	5.72	4.60	29.19	29.35	29.24	27.78	28.90	0.16	-0.11	-1.46	1.12
B-MW17D	34.15	4.88	4.73	4.80	5.14	5.21	29.27	29.42	29.35	29.01	28.94	0.15	-0.07	-0.34	-0.07
B-MW18I	32.94	4.22	3.82	3.92	5.18	4.54	28.72	29.12	29.02	27.76	28.40	0.40	-0.10	-1.26	0.64
B-MW18D	33.01	4.34	3.93	4.03	5.20	4.66	28.67	29.08	28.98	27.81	28.35	0.41	-0.10	-1.17	0.54
B-MW19I	38.44	9.32	8.68	8.68	10.20	9.47	29.12	29.76	29.76	28.24	28.97	0.64	0.00	-1.52	0.73
B-MW19D	38.33	9.27	8.66	8.64	10.14	N/M	29.06	29.67	29.69	28.19	N/A[5]	0.61	0.02	-1.50	N/A
B-MW20I	32.95	4.65	4.24	4.34	5.51	4.96	28.30	28.71	28.61	27.44	27.99	0.41	-0.10	-1.17	0.55
B-MW20D	32.96	4.67	4.28	4.38	5.55	4.99	28.29	28.68	28.58	27.41	27.97	0.39	-0.10	-1.17	0.56
B-MW21I	32.25	4.36	3.98	4.05	5.22	4.65	27.89	28.27	28.20	27.03	27.60	0.38	-0.07	-1.17	0.57
B-MW21D	32.40	4.31	3.93	4.02	5.16	4.60	28.09	28.47	28.38	27.24	27.80	0.38	-0.09	-1.14	0.56
B-MW22I	33.90	6.41	6.09	6.18	7.25	5.73	27.49	27.81	27.72	26.65	28.17	0.32	-0.09	-1.07	1.52
B-MW22D	33.53	6.36	6.02	6.13	7.21	5.32	27.17	27.51	27.40	26.32	28.21	0.34	-0.11	-1.08	1.89
B-MW23I	31.58	3.99	3.65	3.74	4.81	4.20	27.59	27.93	27.84	26.77	27.38	0.34	-0.09	-1.07	0.61
B-MW23D	31.33	3.75	3.41	3.49	4.60	3.95	27.58	27.92	27.84	26.73	27.38	0.34	-0.08	-1.11	0.65
B-PZ2	33.08	1.81	1.73	1.91	2.52	2.02	31.27	31.35	31.17	30.56	31.06	0.08	-0.18	-0.61	0.50
B-PZ3	32.60	1.68	1.62	1.76	2.20	1.72	30.92	30.98	30.84	30.40	30.88	0.06	-0.14	-0.44	0.48
B-PZ5	34.11	3.10	3.24	3.81	4.45	2.98	31.01	30.87	30.30	29.66	31.13	-0.14	-0.57	-0.64	1.47
B-PZ10	33.35	4.04	3.70	4.50	4.84	4.00	29.31	29.65	28.85	28.51	29.35	0.34	-0.80	-0.34	0.84
B-PZ11	30.74	0.97	1.03	1.13	1.57	0.90	29.77	29.71	29.61	29.17	29.84	-0.06	-0.10	-0.44	0.67
B-PZ12	33.35	2.83	3.47	3.95	4.64	3.23	30.52	29.88	29.40	28.71	30.12	-0.64	-0.48	-0.69	1.41
B-OW2	40.66	11.13	10.38	10.38	12.02	11.41	29.53	30.28	30.28	28.64	29.25	0.75	0.00	-1.64	0.61
B-OW3	37.04	6.10	6.97	7.11	7.91	6.20	30.94	30.07	29.93	29.13	30.84	-0.87	-0.14	-0.80	1.71
B-OW4	37.15	6.15	7.08	7.22	8.01	16.23[6]	31.00	30.07	29.93	29.14	20.92[6]	-0.93	-0.14	-0.79	-8.22[6]
B-OW5	36.89	5.96	6.69	6.78	7.57	5.98	30.93	30.20	30.11	29.32	30.91	-0.73	-0.09	-0.79	1.59
B-OW6	35.85	5.15	5.66	5.76	6.49	5.15	30.70	30.19	30.09	29.36	30.70	-0.51	-0.10	-0.73	1.34
Stream Gauges															
B-SG1	24.56	1.35	1.28	1.02	0.68	1.29	25.91	25.84	25.58	25.24	25.85	-0.07	-0.26	-0.34	0.61
B-SG2	24.99	0.85	0.89	0.72	0.57	0.78	25.84	25.88	25.71	25.56	25.77	0.04	-0.17	-0.15	0.21
B-SG3	26.06	1.18	1.22	1.08	0.84	1.07	27.24	27.28	27.14	26.90	27.13	0.04	-0.14	-0.24	0.23
B-SG4	27.39	1.89	2.02	1.84	1.58	1.80	29.28	29.41	29.23	28.97	29.19	0.13	-0.18	-0.26	0.22
B-SG5	27.70	1.78	1.90	1.72	1.45	1.70	29.48	29.60	29.42	29.15	29.40	0.12	-0.18	-0.27	0.25
B-SG6	27.34	1.60	1.67	1.45	1.32	1.55	28.94	29.01	28.79	28.66	28.89	0.07	-0.22	-0.13	0.23
B-SG7	28.50	0.59	0.60	0.50	0.41	0.57	29.09	29.10	29.00	28.91	29.07	0.01	-0.10	-0.09	0.16

NOTES:

(1) - Vertical Datum = NAVD 88

(2) - Depth as measured from top of inner well casing for wells OR water level on stream gauge for surface waters, as applicable.

(3) - N/P: No free-phase product detected with oil/ water interface probe

(4) - N/M: Not measured; topcap frozen in-place

(5) - N/A: Data not available (see note 4)

(6) - Errant result; data not used in evaluation of results

Avg. Elevation Change (Dec. 2012-Mar. 2013)		+/- Standard Deviation
shallow	0.30	0.61
intermediate	0.12	0.42
deep	0.16	0.51
stream	0.05	0.07

Avg. Elevation Change (Mar. 2013-June 2013)		+/- Standard Deviation
shallow	-0.36	0.30
intermediate	-0.10	0.04
deep	-0.13	0.15
stream	-0.18	0.05

Avg. Elevation Change (June 2013-Sept. 2013)		+/- Standard Deviation
shallow	-0.81	0.42
intermediate	-0.93	0.32
deep	-0.88	0.39
stream	-0.21	0.09

Avg. Elevation Change (Sept. 2013-Dec. 2013)		+/- Standard Deviation
shallow	0.77	0.53
intermediate	0.76	0.43
deep	0.61	0.55
stream	0.27	0.15

TABLE 9
WATER LEVELS - AREA C

March 25, June 11, September 13, and December 12, 2013

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	March-13 DEPTH TO WATER (FEET[2])	Dec-12 DEPTH TO WATER (FEET[2])	March-13 WATER LEVEL ELEVATION (FEET[1])	Dec-12 WATER LEVEL ELEVATION (FEET[1])	Dec-12 TO March-13 ELEVATION CHANGE
C-MW1S	40.96	5.70	6.52	35.26	34.44	0.82
C-MW2S	40.23	6.10	7.15	34.13	33.08	1.05

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	June-13 DEPTH TO WATER (FEET[2])	March-13 DEPTH TO WATER (FEET[2])	June-13 WATER LEVEL ELEVATION (FEET[1])	March-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 TO June-13 ELEVATION CHANGE
C-MW1S	40.96	6.27	5.70	34.69	35.26	-0.57
C-MW2S	40.23	7.11	6.10	33.12	34.13	-1.01

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET MSL[1])	Sep-13 DEPTH TO WATER (FEET[2])	June-13 DEPTH TO WATER (FEET[2])	Sep-13 WATER LEVEL ELEVATION (FEET MSL[1])	June-13 WATER LEVEL ELEVATION (FEET MSL[1])	June-13 TO Sep-13 ELEVATION CHANGE
C-MW1S	40.96	8.33	6.27	32.63	34.69	-2.06
C-MW2S	40.23	9.38	7.11	30.85	33.12	-2.27

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Dec-13 DEPTH TO WATER (FEET[2])	Sep-13 DEPTH TO WATER (FEET[2])	Dec-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 TO Dec-13 ELEVATION CHANGE
C-MW1S	40.96	6.85	8.33	34.11	32.63	1.48
C-MW2S	40.23	7.19	9.38	33.04	30.85	2.19

NOTES:
(1) - Vertical Datum = NAVD 88
(2) - Depth as measured from top of inner well casing.

TABLE 10

WATER LEVELS - AREA R

March 27, June 12, September 12, and December 11, 2013

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Mar-13 DEPTH TO WATER (FEET[2])	Dec-12 DEPTH TO WATER (FEET[2])	Mar-13 WATER LEVEL ELEVATION (FEET MSL[1])	Dec-12 WATER LEVEL ELEVATION (FEET MSL[1])	Dec-12 TO Mar-13 ELEVATION CHANGE
R-MW1S	73.87	17.74	21.16	56.13	52.71	3.42
R-MW2S	70.48	14.91	18.21	55.57	52.27	3.30
R-MW3S	73.72	17.55	21.00	56.17	52.72	3.45
R-MW4S	74.26	17.99	21.50	56.27	52.76	3.51
R-MW5S	73.03	17.74	21.03	55.29	52.00	3.29
R-MW6S	67.48	11.83	15.31	55.65	52.17	3.48

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	June-13 DEPTH TO WATER (FEET[2])	Mar-13 DEPTH TO WATER (FEET[2])	June-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 TO June-13 ELEVATION CHANGE
R-MW1S	73.87	17.92	17.74	55.95	56.13	-0.18
R-MW2S	70.48	15.15	14.91	55.33	55.57	-0.24
R-MW3S	73.72	17.71	17.55	56.01	56.17	-0.16
R-MW4S	74.26	18.17	17.99	56.09	56.27	-0.18
R-MW5S	73.03	18.09	17.74	54.94	55.29	-0.35
R-MW6S	67.48	12.14	11.83	55.34	55.65	-0.31

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Sep-13 DEPTH TO WATER (FEET[2])	June-13 DEPTH TO WATER (FEET[2])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	June-13 WATER LEVEL ELEVATION (FEET[1])	June-13 TO Sep-13 ELEVATION CHANGE
R-MW1S	73.87	19.63	17.92	54.24	55.95	-1.71
R-MW2S	70.48	16.82	15.15	53.66	55.33	-1.67
R-MW3S	73.72	19.43	17.71	54.29	56.01	-1.72
R-MW4S	74.26	19.92	18.17	54.34	56.09	-1.75
R-MW5S	73.03	19.77	18.09	53.26	54.94	-1.68
R-MW6S	67.48	13.87	12.14	53.61	55.34	-1.73

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Dec-13 DEPTH TO WATER (FEET[2])	Sep-13 DEPTH TO WATER (FEET[2])	Dec-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 TO Dec-13 ELEVATION CHANGE
R-MW1S	73.87	21.65	19.63	52.22	54.24	-2.02
R-MW2S	70.48	18.75	16.82	51.73	53.66	-1.93
R-MW3S	73.72	21.57	19.43	52.15	54.29	-2.14
R-MW4S	74.26	22.03	19.92	52.23	54.34	-2.11
R-MW5S	73.03	21.69	19.77	51.34	53.26	-1.92
R-MW6S	67.48	15.88	13.87	51.60	53.61	-2.01

NOTES:

(1) - Vertical Datum = NAVD 88

(2) - Depth as measured from top of inner well casing.

TABLE 11

WATER LEVELS - AREA 56

March 25, June 11, September 12, December 9, 2013

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Mar-13 DEPTH TO WATER (FEET[2])	Dec-12 DEPTH TO WATER (FEET[2])	Mar-13 WATER LEVEL ELEVATION (FEET[1])	Dec-12 WATER LEVEL ELEVATION (FEET[1])	Dec-12 TO Mar-13 ELEVATION CHANGE
56-MW1S	60.43	21.94	23.73	38.49	36.70	1.79
56-MW2S	53.79	16.89	18.83	36.90	34.96	1.94
56-MW2D	52.35	17.78	18.83	34.57	33.52	1.05
56-MW3S	57.95	21.79	23.63	36.16	34.32	1.84
56-MW4S	62.22	30.10	30.98	32.12	31.24	0.88
56-MW4D	62.11	30.50	31.12	31.61	30.99	0.62
56-MW5S	44.27	8.37	10.13	35.90	34.14	1.76

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	June-13 DEPTH TO WATER (FEET[2])	Mar-13 DEPTH TO WATER (FEET[2])	June-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 WATER LEVEL ELEVATION (FEET[1])	Mar-13 TO June-13 ELEVATION CHANGE
56-MW1S	60.43	21.84	21.94	38.59	38.49	0.10
56-MW2S	53.79	17.31	16.89	36.48	36.90	-0.42
56-MW2D	52.35	17.63	17.78	34.72	34.57	0.15
56-MW3S	57.95	21.88	21.79	36.07	36.16	-0.09
56-MW4S	62.22	29.89	30.10	32.33	32.12	0.21
56-MW4D	62.11	30.16	30.50	31.95	31.61	0.34
56-MW5S	44.27	8.61	8.37	35.66	35.90	-0.24

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Sep-13 DEPTH TO WATER (FEET[2])	June-13 DEPTH TO WATER (FEET[2])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	June-13 WATER LEVEL ELEVATION (FEET[1])	June-13 TO Sep-13 ELEVATION CHANGE
56-MW1S	60.43	22.73	21.84	37.70	38.59	-0.89
56-MW2S	53.79	18.33	17.31	35.46	36.48	-1.02
56-MW2D	52.35	18.83	17.63	33.52	34.72	-1.20
56-MW3S	57.95	22.80	21.88	35.15	36.07	-0.92
56-MW4S	62.22	31.04	29.89	31.18	32.33	-1.15
56-MW4D	62.11	31.40	30.16	30.71	31.95	-1.24
56-MW5S	44.27	9.76	8.61	34.51	35.66	-1.15

WELL IDENTIFICATION	MEASURING POINT ELEVATION (FEET[1])	Dec-13 DEPTH TO WATER (FEET[2])	Sep-13 DEPTH TO WATER (FEET[2])	Dec-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 WATER LEVEL ELEVATION (FEET[1])	Sep-13 TO Dec-13 ELEVATION CHANGE
56-MW1S	60.43	24.06	22.73	36.37	37.70	-1.33
56-MW2S	53.79	19.44	18.33	34.35	35.46	-1.11
56-MW2D	52.35	19.75	18.83	32.60	33.52	-0.92
56-MW3S	57.95	23.01	22.80	34.94	35.15	-0.21
56-MW4S	62.22	32.15	31.04	30.07	31.18	-1.11
56-MW4D	62.11	32.41	31.40	29.70	30.71	-1.01
56-MW5S	44.27	10.66	9.76	33.61	34.51	-0.90

NOTES:
(1) - Vertical Datum = NAVD 88
(2) - Depth as measured from top of inner well casing.
NA - Data not available

TABLE 12

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA A

SAMPLE IDENTIFICATION:	A-MW1S		A-MW2S		A-MW3S																NJ
SAMPLE DEPTH:	13-33		13-33		18-38																PQLs
SAMPLE ANALYSIS:	VOA	VOA	VOA	VOA	VOA	VOA	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	6/87	11/92	6/87	11/92	6/87	11/92	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
CARBON DISULFIDE													0.3 J								1
CHLOROFORM					1J	2 J	7	11	6	5	4	4	3	4	12	12	7	13	12	7	1
ACETONE								2 J													10
TOLUENE										3											1
ADDITIONAL VOA PEAKS																			1J		NA
TOTAL VOCs					1	2	7	13	6	8	4	4	3.3	4	12	12	7	13	13	7	

SAMPLE IDENTIFICATION:	A-MW3S (continued)																				NJ
SAMPLE DEPTH:	18-38																				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																	0.3J				NA
CARBON DISULFIDE																					1
CHLOROFORM	5	8	6	4	4	3	6	5	7	4	4	8	6	5	8	10	7	5	4	3	1
ACETONE													3J	10							10
TOLUENE																					1
ADDITIONAL VOA PEAKS																			34J	29JN	NA
TOTAL VOCs	5	8	6	4	4	3	6	5	7	4	4	8	9	15	8	10	7.3	5	38	32	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA = not available for this constituent.
SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 12 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA A

SAMPLE IDENTIFICATION:	A-MW3S (continued)																				NJ
SAMPLE DEPTH:										18-38											PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
CARBON DISULFIDE																					1
2-BUTANONE (MEK)				63																	2
CHLOROFORM	2	7	1	1	8	4	3	3	3	4	4	4	3	7	2	1	0.9JB	0.65J		0.4J	1
BROMODICHLOROMETHANE				0.8J	3	1	2	0.9J		0.9J		2									1
DIBROMOCHLOROMETHANE					1		3			0.6J		2									1
BROMOFORM							1					0.6J									0.8
TOLUENE																					1
ADDITIONAL VOA PEAKS			3.9 JN																		NA
TOTAL VOCs	2	7	4.9	64.8	12	5	9	3.9	3	5.5	4	8.6	3	7	2	1	0.9	0.65		0.4	

SAMPLE IDENTIFICATION:	A-MW3S (continued)																				NJ
SAMPLE DEPTH:										18-38											PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
CARBON DISULFIDE																					1
2-BUTANONE (MEK)																					2
CHLOROFORM	0.31 J		0.3 J	0.4 J	0.4 J																1
BROMODICHLOROMETHANE																					1
DIBROMOCHLOROMETHANE																					1
BROMOFORM																					0.8
TOLUENE																					1
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	0.31		0.3	0.4	0.4																

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA = not available for this constituent.
SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 12 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA A

SAMPLE IDENTIFICATION:	A-MW3S (continued)				NJ PQLs (ppb)
SAMPLE DEPTH:	18-38				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
CHLOROMETHANE					NA
CARBON DISULFIDE					1
2-BUTANONE (MEK)					2
CHLOROFORM					1
BROMODICHLOROMETHANE					1
DIBROMOCHLOROMETHANE					1
BROMOFORM					0.8
TOLUENE					1
ADDITIONAL VOA PEAKS					NA
TOTAL VOCs					

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA = not available for this constituent.
SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 12 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA A

SAMPLE IDENTIFICATION:	A-MW4S																NJ PQLs (ppb)
SAMPLE DEPTH:	20-40																
SAMPLE ANALYSIS:	VOA	VOA	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	6/87	11/92	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																	
CHLOROMETHANE																	NA
BROMOMETHANE																	NA
CHLOROFORM	7	5 J	5	2	4	3	4	5	6	5	3	4	5	5	4	4	1
ACETONE				7													10
CHLOROBENZENE																	1
TOTAL XYLENE																	2
ADDITIONAL VOA PEAKS																	NA
TOTAL VOCS	7	5	5	9	4	3	4	5	6	5	3	4	5	5	4	4	

SAMPLE IDENTIFICATION:	A-MW4S (continued)																NJ PQLs (ppb)
SAMPLE DEPTH:	20-40																
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	
VOLATILE ORGANICS (ppb)																	
CHLOROMETHANE																	NA
BROMOMETHANE																	NA
CHLOROFORM	5	5	2	3	6	4	5	5	4	5	2	2	1	6	4	5	1
ACETONE																	10
CHLOROBENZENE																	1
TOTAL XYLENE																	2
ADDITIONAL VOA PEAKS				0.2J													NA
TOTAL VOCs	5	5	5	3.2	6	4	5	5	4	5	2	2	1	6	4	5	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA = not available for this constituent.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 12 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA A

SAMPLE IDENTIFICATION:	A-MW4S (continued)																NJ PQLs (ppb)
SAMPLE DEPTH:	20-40																
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/02	5/02	8/02	11/02	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	
VOLATILE ORGANICS (ppb)																	
CHLOROMETHANE	0.8J																NA
BROMOMETHANE	2																NA
2-BUTANONE (MEK)									1J								2
CHLOROFORM	4	5	3	5	3	0.8 J	8	5	5	6	5	0.7J	5	10	4	2	1
ACETONE																	10
CHLOROBENZENE	0.3J																1
TOTAL XYLENE																	2
ADDITIONAL VOA PEAKS		24J				0.35 JN											NA
TOTAL VOCs	7.1	29	3	5	3	1.15	8	5	6	6	5	0.7	5	10	4	2	

SAMPLE IDENTIFICATION:	A-MW4S (continued)																NJ PQLs (ppb)
SAMPLE DEPTH:	20-40																
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	
VOLATILE ORGANICS (ppb)																	
CHLOROMETHANE																	NA
BROMOMETHANE																	NA
2-BUTANONE (MEK)																	2
CHLOROFORM	7	4	1	0.9J	3.4B	5.2	1.7	0.81J	1.8	5.1	5	2	6	6.5	3.3	5.9	1
ACETONE																	10
CHLOROBENZENE																	1
TOTAL XYLENE																	2
ADDITIONAL VOA PEAKS																	NA
TOTAL VOCs	7	4	1	0.9	3.4	5.2	1.7	0.81	1.8	5.1	5	2	6	6.5	3.3	5.9	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA = not available for this constituent.
SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 12 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA A

SAMPLE IDENTIFICATION:	A-MW4S																NJ
SAMPLE DEPTH:	20-40																PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)																	
CHLOROMETHANE																	NA
BROMOMETHANE																	NA
2-BUTANONE (MEK)																	2
CHLOROFORM	10	3.1			1.1	3.4			5.8	3.0	2.5 B	2.0	13	8.1		1.2	1
ACETONE																	10
CHLOROBENZENE																	1
TOTAL XYLENE																	2
ADDITIONAL VOA PEAKS																	NA
TOTAL VOCs	10	3.1			1.1	3.4			5.8	3.0	2.5 B	2.0	13	8.1		1.2	

SAMPLE IDENTIFICATION:	A-MW5S		NJ
SAMPLE DEPTH:	20-40		PQLs
SAMPLE ANALYSIS:	VOA	VOA	(ppb)
SAMPLING ROUND:	6/87	11/92	
VOLATILE ORGANICS (ppb)			
CHLOROMETHANE			NA
BROMOMETHANE			NA
2-BUTANONE (MEK)			2
CHLOROFORM	1		1
ACETONE			10
CHLOROBENZENE			1
TOTAL XYLENE			2
ADDITIONAL VOA PEAKS			NA
TOTAL VOCs	1		

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA = not available for this constituent.
SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

TABLE 13

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW5S															ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-24															
SAMPLE ANALYSIS:	DWA	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/93	5/93	8/93	12/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	
VOLATILE ORGANICS (ppb)																
ACETONE				12												NE
XYLENE (TOTAL)	NA															2
1,1-DICHLOROETHENE	16	7	4	12	11	4	4	4	1	1	1	0.7J	0.9J	3	3	2
1,1-DICHLOROETHANE	22	18	8	19	22	8	8	9	2	2	3	1	2	5	5	NE
cis-1,2-DICHLOROETHENE	2															NE
CHLOROFORM	0.7	0.5J			0.9J	0.8J	0.9J	0.6J	0.9J	0.6J	0.8J	2	1	0.8J	0.9J	NE
1,1,1-TRICHLOROETHANE	6	4	2	6	6	2	1	1		0.6J	0.6J	0.2J	0.2J	1	1	1
TRICHLOROETHENE	4	2	0.8J		1						0.1J			2	0.1J	1
TETRACHLOROETHENE	18	8	6	19	7	2	1	1	1	8	7	0.7J	0.3J	2	2	1
1,2-DICHLOROPROPANE		0.7J														NE
1,2-DICHLOROPROPENE					0.6J											NE
ADDITIONAL VOA PEAKS					12J			5J								NE
TOTAL VOCs	68.7	40.2	20.8	68	60.5	16.8	14.9	20.6	4.9	12.2	12.5	4.6	3.4	13.8	12	

SAMPLE IDENTIFICATION:	B-MW5S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-24																
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	3/97	6/97	9/97	12/97	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	
VOLATILE ORGANICS (ppb)																	
ACETONE																	NE
XYLENE (TOTAL)																	2
1,1-DICHLOROETHENE	2	5	4	6	2	0.4J	0.2J		1	2	2	2	3	3	4	1J	2
1,1-DICHLOROETHANE	4	11	10	15	7	1J	0.4J		4	4	5	4	7	10	10	3	NE
cis-1,2-DICHLOROETHENE		0.3J	0.2J	0.3J	0.1J				0.2J		0.4J						NE
CHLOROFORM	0.5J	0.8J	0.9J	1	1		2		4	3	3	3	2	2	1	2	NE
1,1,1-TRICHLOROETHANE	0.8J	2	2	2	0.8J				0.9J	1	2	1	1	2	2	1J	1
TRICHLOROETHENE		0.2J	0.2J	0.2J					0.3J	0.1J	0.4J						1
TETRACHLOROETHENE	0.7J	2	2	2	0.6J	0.2J	0.2J		4	2	3	2	1	2	3	0.4J	1
1,2-DICHLOROPROPANE																	NE
1,2-DICHLOROPROPENE																	NE
ADDITIONAL VOA PEAKS																7.4	NE
TOTAL VOCs	8.0	21.3	19.3	26.5	11.5	1.6	2.8		14.4	12.1	15.8	12.0	14	19	20	12.4	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW5S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:								4-24									
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	
VOLATILE ORGANICS (ppb)																	
BROMOMETHANE				13													NE
CHLOROMETHANE				1													NE
CHLOROETHANE						0.6J	0.5J										NE
ACETONE																	NE
XYLENE (TOTAL)										0.1 J							2
1,1-DICHLOROETHENE	2	0.7J	4	6	8	7	5	2J	0.9J	2	2	3	1	2	2	3	2
1,1-DICHLOROETHANE	5	2	10	23	28	29	21	5	2	4	4	5	3	4	4	6	NE
cis-1,2-DICHLOROETHENE				0.5J	0.7J	0.7J	0.7J				0.1J			0.1J		0.2J	NE
CHLOROFORM	1J	2	2	2	2	5	2J	2J	1	0.9 J	1	1	2	2	1	2	NE
1,1,1-TRICHLOROETHANE	1	0.7J	2	4	4	4	4	1J	0.7J	2	2	2	1	1	2	3	1
TRICHLOROETHENE			0.4J														1
TETRACHLOROETHENE	1	0.8J	5	4	5	3	4	20	4	3	5	4	1	3	2	2	1
1,2-DICHLOROPROPANE																	NE
1,2-DICHLOROPROPENE																	NE
CARBON TETRACHLORIDE																0.4J	NE
ADDITIONAL VOA PEAKS				7JN			35JN	30JN	23JN	12 JN	36JN	26JN	48JN	57.9JN		18JN	NE
TOTAL VOCs	10	6.2	23.4	60.5	47.7	49.3	72.2	60	31.6	24	50.1	41	56	73	11	34.6	

SAMPLE IDENTIFICATION:	B-MW5S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:								4-24									
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	
VOLATILE ORGANICS (ppb)																	
BROMOMETHANE																	NE
CHLOROMETHANE																	NE
CHLOROETHANE																	NE
ACETONE																	NE
XYLENE (TOTAL)																	2
1,1-DICHLOROETHENE	0.8J	0.5J	0.8J	0.5J		3	1	1	0.89J		1.6	0.77J			0.4 J		2
1,1-DICHLOROETHANE	1	1J	2	0.8J	1	5	2	2	1.4			1.2	0.45J		0.7 J	0.3 J	NE
cis-1,2-DICHLOROETHENE																	NE
CHLOROFORM	2	1	2	2	1	2B	1	1	1.6B	2.4	2.1	1.5	1.4	1.2	1	1	NE
1,1,1-TRICHLOROETHANE	0.6J	0.4J		0.4J		2	1J					0.65J			0.4 J	0.2 J	1
TRICHLOROETHENE																	1
TETRACHLOROETHENE	0.7JH	0.5J	3	2	1	2	4	4	0.49J		0.91J	0.90J	0.27J		2	4	1
1,2-DICHLOROPROPANE																	NE
1,2-DICHLOROPROPENE																	NE
CARBON TETRACHLORIDE																	NE
ADDITIONAL VOA PEAKS	0.66NJ									2.8JN							NE
TOTAL VOCs	5.76	3.4	7.8	5.7	3	14	9	8	4.38	5.2	4.61	5.02	2.12	1.2	4.5	5.5	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW5S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:								4-24									
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																	
BROMOMETHANE																	NE
CHLOROMETHANE																	NE
CHLOROETHANE																	NE
ACETONE																	NE
XYLENE (TOTAL)																	2
1,1-DICHLOROETHENE	0.3 J															1.0	2
1,1-DICHLOROETHANE	0.4 J											1				1.2	NE
cis-1,2-DICHLOROETHENE																	NE
CHLOROFORM	1.0	1.7	1.2	1.4			2.0	1.6	1.8						1.1		NE
1,1,1-TRICHLOROETHANE	0.3 J															1.2	1
TRICHLOROETHENE																	1
TETRACHLOROETHENE	2.0	2.1	2.3							4.2	17	18	19	13	7.8	6.2	1
1,2-DICHLOROPROPANE																	NE
1,2-DICHLOROPROPENE																	NE
CARBON TETRACHLORIDE																	NE
ADDITIONAL VOA PEAKS																	NE
TOTAL VOCs	4.0	3.8	3.5	1.4			2.0	1.6	1.8	4.2	17	19	19	13	8.9	9.6	

SAMPLE IDENTIFICATION:	B-MW5S (continued)				ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:			4-24		
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
BROMOMETHANE					NE
CHLOROMETHANE					NE
CHLOROETHANE					NE
ACETONE					NE
XYLENE (TOTAL)					2
1,1-DICHLOROETHENE					2
1,1-DICHLOROETHANE		1.0		1.0	NE
cis-1,2-DICHLOROETHENE					NE
CHLOROFORM	1.1	1.2			NE
1,1,1-TRICHLOROETHANE	1.0	1.1			1
TRICHLOROETHENE					1
TETRACHLOROETHENE	1.5	2.5	3.9	4.1	1
1,2-DICHLOROPROPANE					NE
1,2-DICHLOROPROPENE					NE
CARBON TETRACHLORIDE					NE
ADDITIONAL VOA PEAKS					NE
TOTAL VOCs	3.6	5.8	3.9	5.1	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
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NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION	B-MW6S													ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH	3-13													
SAMPLE ANALYSIS	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND	8/93	12/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	
VOLATILE ORGANICS (ppb)														
CARBON DISULFIDE										0.2J				NE
CHLOROFORM	0.5J	0.7J	1	0.8J				0.4J	0.2J	0.2J	0.2J	0.3J	0.2J	NE
CIS-1,2-DICHLOROETHENE														NE
1,1- DICHLOROETHENE														2
1,1- DICHLOROETHANE														NE
BROMOCHLOROMETHANE			0.6J											NE
1,1,1-TRICHLOROETHANE	0.8J	0.5J	0.7J											1
TRICHLOROETHENE	2	0.7J	1	0.8J	0.7J	0.8J	1	0.9J	0.5J	1	0.6J	0.3 J	0.3J	1
TETRACHLOROETHENE	0.9J		0.9J	0.8J				0.2J	0.2J	0.1J	0.2J	0.5J	0.3J	1
TOLUENE														5
TRICHLOROFLUOROMETHANE														NE
TOTAL VOCs	4.2	1.9	4.2	2.4	0.7	0.8	1	1.5	0.9	1.5	1	1.1	0.8	

SAMPLE IDENTIFICATION	B-MW6S (continued)												ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH	3-13												
SAMPLE ANALYSIS	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND	3/97	6/97	9/97	12/97	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	
VOLATILE ORGANICS (ppb)													
CARBON DISULFIDE													NE
CHLOROFORM	0.2J	0.4J	0.3J	0.3J				0.2J	0.3J	0.3J	0.3J	0.2J	NE
CIS-1,2-DICHLOROETHENE		0.2J	0.3J	0.3J				0.5J	0.6J	0.7J	0.7J	0.8J	NE
1,1- DICHLOROETHENE						0.9J	1J	1	1J	0.6J		0.4J	2
1,1- DICHLOROETHANE		0.2J				3J	5	5	5	3	3	3	NE
BROMOCHLOROMETHANE													NE
1,1,1-TRICHLOROETHANE		0.2J	0.2J			0.8J		0.8J	0.9J	0.6J	0.7J	0.5J	1
TRICHLOROETHENE	0.2J	0.3J	1	1J	0.9J	2J	1	2J	4	6	7	6	1
TETRACHLOROETHENE	0.5J	8	49	73	72	81	49	43	80	100	97	47	1
TOLUENE		0.1J											5
TRICHLOROFLUOROMETHANE													NE
TOTAL VOCs	0.9	9.4	50.8	74.6	72.9	85.7	56	52.5	91.8	111.2	108.7	57.9	

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NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW6S (continued)												ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	3-13												
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)													
BROMOMETHANE								9					NE
CARBON DISULFIDE													NE
CHLOROFORM					0.2J	0.4J	0.4J	0.5J	0.5J	0.8J	0.9J		NE
CIS-1,2-DICHLOROETHENE	1	2	2	1	0.4J	0.5J	0.5J	0.7J	0.5J	0.5J	0.4J		NE
1,1- DICHLOROETHENE													2
1,1- DICHLOROETHANE	2	2	2	1		0.3J	0.3J	0.3J		0.2J			NE
BROMOCHLOROMETHANE													NE
1,1,1-TRICHLOROETHANE		0.42J						0.1J					1
TRICHLOROETHENE	8	7	6	7	4	5	7	8	6	6	6	2	1
TETRACHLOROETHENE	34	21	23	30E	23	17	20	18	13	8	5	3	1
TOLUENE													5
TRICHLOROFLUOROMETHANE													NE
ADDITIONAL VOA PEAKS										9J	7.5J	13J	NE
TOTAL VOCs	45	32.42	33	39	27.6	23.2	28.2	36.6	20	24.5	19.8	18	

SAMPLE IDENTIFICATION:	B-MW6S (continued)												ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	3-13												
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	
VOLATILE ORGANICS (ppb)													
BROMOMETHANE													NE
CARBON DISULFIDE													NE
METHYLENE CHLORIDE													2
CHLOROFORM	1	0.8 J	0.9J	0.9J	1	0.9J	0.6J	0.4J	0.4J	0.6J	0.6J	0.4J	NE
CIS-1,2-DICHLOROETHENE	0.3J	0.3 J	0.3J		0.6J		0.2JH	0.2JH	0.1JH	0.2J		0.1J	NE
1,1- DICHLOROETHENE													2
1,1- DICHLOROETHANE		0.1 J											NE
BROMOCHLOROMETHANE													NE
1,1,1-TRICHLOROETHANE													1
TRICHLOROETHENE	2	3	4	3	8	6	3	2	1	2	2	1	1
TETRACHLOROETHENE	6	5	5	2	1	4	0.3J	0.5JM	0.3JH	0.6J	0.2	0.4J	1
TOLUENE													5
TRICHLOROFLUOROMETHANE													NE
ADDITIONAL VOA PEAKS	50J												NE
TOTAL VOCs	59.3	9.2	10.2	5.9	10.6	10.9	4.1	3.1	1.8	3.4	2.8	1.9	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
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NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW6S (continued)												ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:					3-13								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	
VOLATILE ORGANICS (ppb)													
BROMOMETHANE													NE
CARBON DISULFIDE													NE
METHYLENE CHLORIDE													2
CHLOROFORM	0.5J	0.5JB		0.5J	0.33JB			0.37J	0.28J	0.31 J	0.4 J	0.4 J	NE
CHLOROMETHANE									0.62J				NE
CIS-1,2-DICHLOROETHENE													NE
1,1- DICHLOROETHENE													2
1,1- DICHLOROETHANE													NE
BROMOCHLOROMETHANE													NE
1,1,1-TRICHLOROETHANE													1
TRICHLOROETHENE	2	1		0.8J	0.37J		0.38JM	0.53J	0.20J		0.1J	0.1 J	1
TETRACHLOROETHENE		0.3JB	0.6J					0.16J			0.2 J	0.2 J	1
TOLUENE													5
TRICHLOROFLUOROMETHANE								0.11J					NE
ADDITIONAL VOA PEAKS					3								NE
TOTAL VOCs	2.5	1.8	0.6	1.3	3.7		0.38	1.17	1.10	0.31	0.7	0.7	

SAMPLE IDENTIFICATION:	B-MW6S (continued)												ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:					3-13								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	
VOLATILE ORGANICS (ppb)													
BROMOMETHANE													NE
CARBON DISULFIDE													NE
METHYLENE CHLORIDE													2
CHLOROFORM	0.3 J											1	NE
CHLOROMETHANE													NE
CIS-1,2-DICHLOROETHENE													NE
1,1- DICHLOROETHENE													2
1,1- DICHLOROETHANE													NE
BROMOCHLOROMETHANE													NE
1,1,1-TRICHLOROETHANE													1
TRICHLOROETHENE													1
TETRACHLOROETHENE	0.2 J										4.8	7.0	1
TOLUENE													5
TRICHLOROFLUOROMETHANE													NE
ADDITIONAL VOA PEAKS													NE
TOTAL VOCs	0.5										4.8	8.0	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW6S (continued)								ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	3-13								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	3/12	6/12	9/12	12/12	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)									
BROMOMETHANE									NE
CARBON DISULFIDE									NE
METHYLENE CHLORIDE									2
CHLOROFORM			1.3	11	1.5	1.0			NE
CHLOROMETHANE									NE
CIS-1,2-DICHLOROETHENE									NE
1,1- DICHLOROETHENE									2
1,1- DICHLOROETHANE									NE
BROMOCHLOROMETHANE									NE
1,1,1-TRICHLOROETHANE									1
TRICHLOROETHENE									1
TETRACHLOROETHENE	4.4	1.1				1.1	1.6	1.7	1
TOLUENE									5
TRICHLOROFLUOROMETHANE									NE
ADDITIONAL VOA PEAKS									NE
TOTAL VOCs	4.4	1.1	1.3	11	1.5	2.1	1.6	1.7	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW7S															ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-14															
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	8/93	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																
ACETONE																NE
CARBON DISULFIDE							0.2J									NE
CHLOROFORM										6						NE
2-HEXANONE																NE
TETRACHLOROETHENE	45	11	32	25	7	34	14	1	10	35	5	4	17	5	7	1
1, 2-DICHLOROBENZENE																NE
ADDITIONAL VOA PEAKS							20J							2 J		NE
TOTAL VOCs	45	11	32	25	7	34	34.2	1	10	41	5	4	17	7	7	

SAMPLE IDENTIFICATION:	B-MW7S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-14																
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	
VOLATILE ORGANICS (ppb)																	
ACETONE														6			NE
CARBON DISULFIDE																	NE
CHLOROFORM																	NE
2-HEXANONE					1J												NE
TETRACHLOROETHENE	2	3	8	7	5	2	11	7	9	1	13	6	3	2	6	6	1
1, 2-DICHLOROBENZENE																0.2J	NE
ADDITIONAL VOA PEAKS				2.7J	10J											10JN	NE
TOTAL VOCs	2	3	8	9.7	16	2	11	7	9	1	13	6	3	8	6	16.2	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW7S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-14																
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/02	5/02	8/02	11/02	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	
VOLATILE ORGANICS (ppb)																	
ACETONE	6																NE
CARBON DISULFIDE																	NE
CHLOROFORM																	NE
2-HEXANONE																	NE
TETRACHLOROETHENE	4	1J	13	1	0.6J	0.7 J	3	1		0.7J	2	1	0.4JH	0.4J	3	0.5J	1
1, 2-DICHLOROBENZENE																	NE
ADDITIONAL VOA PEAKS				49.6JN													NE
TOTAL VOCs	10	1	13	50.6	0.6	0.7	3	1	0	0.7	2	1	0.4	0.4	3	0.5	

SAMPLE IDENTIFICATION:	B-MW7S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-14																
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	
VOLATILE ORGANICS (ppb)																	
ACETONE																	NE
CARBON DISULFIDE				0.5J													NE
CHLOROFORM																	NE
2-HEXANONE																	NE
TETRACHLOROETHENE		1	1		0.77J		1.5M	1.1			0.4 J	0.6 J	0.3 J				1
1, 2-DICHLOROBENZENE																	NE
ADDITIONAL VOA PEAKS					3.6			5.8JN									NE
TOTAL VOCs		1	1	0.5	4.37		1.5	6.9			0.4	0.6	0.3				

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW7S (continued)																ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH:	4-14																
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)																	
ACETONE																	NE
CARBON DISULFIDE																	NE
CHLOROFORM																	NE
2-HEXANONE																	NE
TETRACHLOROETHENE																	1
1, 2-DICHLOROBENZENE																	NE
ADDITIONAL VOA PEAKS																	NE
TOTAL VOCs:																	

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
DWA - Drinking Water Analysis, EPA Method 524.2
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW22I															ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	45.5 - 55.5															
SAMPLE ANALYSIS: SAMPLING ROUND	LCW 1/1/07	LCW 2/08	LCW 5/08	LCW 8/08	LCW 1/1/08	LCW 2/09	LCW 9/09	LCW 3/10	LCW 9/10	LCW 3/11	LCW 9/11	LCW 3/12	LCW 9/12	LCW 3/13	LCW 9/13	
VOLATILE ORGANICS (ppb)																
ACETONE																NE
CARBON DISULFIDE						0.1 J										NE
CHLOROFORM	3.2	5.2	5.7	5	2	0.6 J	3.7	20	20	15	11	23	19	19	21	NE
METHYLENE CHLORIDE																2
TRICHLOROETHENE				0.4 J	5	0.2 J										1
TRICHLOROFLUOROMETHANE																NE
1,1-DICHLOROETHANE				0.2 J												NE
1,1-DICHLOROETHENE																2
cis-1,2-DICHLOROETHENE					0.3 J											NE
TETRACHLOROETHENE																1
TOLUENE				0.1 J	0.1 J											5
TOTAL XYLENES																2
1,1,1-TRICHLOROETHENE				0.1 J												NE
ADDITIONAL VOA PEAKS		0.68 JN							2.1 JN							NE
TOTAL VOCs	3.2	5.88	5.7	5.8	7.4	0.9	3.7	20	22.1	15	11	23	19	19	21	

NOTES:
Blank spaces indicate no detection of the constituent above laboratory detection limits.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMEI
LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.

SAMPLE ANALYSIS:
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2).

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW22D															ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	80.5 - 90.5															
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND	11/07	2/08	5/08	8/08	11/08	2/09	9/09	3/10	9/10	3/11	9/11	3/12	9/12	3/13	9/13	
VOLATILE ORGANICS (ppb)																
ACETONE																NE
CARBON DISULFIDE																NE
CHLOROFORM	1.2	0.61 J	1	0.3 J	0.6 J	1.0	4.7	4.5	3.9	2.8	2.9	2.4	2.6	2.2	1.9	NE
METHYLENE CHLORIDE	0.11 JB															2
TRICHLOROETHENE		0.18 J		0.4 J	0.2 J	5.0										1
TRICHLOROFLUOROMETHANE	0.15 J															NE
1,1-DICHLOROETHANE					0.1 J	0.1 J										NE
1,1-DICHLOROETHENE																2
cis-1,2-DICHLOROETHENE						0.3 J										NE
TETRACHLOROETHENE																1
TOLUENE				0.3 J	0.3 J											5
TOTAL XYLENES				0.2 J	0.1 J											2
1,1,1-TRICHLOROETHENE																NE
ADDITIONAL VOA PEAKS									2.4 JN							NE
TOTAL VOCs	1.46	0.79	1	1.2	1.3	6.4	4.7	4.5	6.3	2.8	2.9	2.4	2.6	2.2	1.9	

NOTES:
Blank spaces indicate no detection of the constituent above laboratory detection limits.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.
B - INDICATES ANALYTE IS FOUND IN ASSOCIATED METHOD BLANK AS WELL AS IN THE SAMPLE.
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMEI
LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.

SAMPLE ANALYSIS:
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2).

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW23I															ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	45 - 55															
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING DATE	11/07	2/08	5/08	8/08	11/08	2/09	9/09	3/10	9/10	3/11	9/11	3/12	9/12	3/13	9/13	
VOLATILE ORGANICS (ppb)																
ACETONE	0.94 JB															NE
CHLOROFORM	4	4.4	5.2	5.0	6	5.0	4.7	4.2	2.4	2.4	3.1	4.2	2.6	2.0	1.7	NE
METHYLENE CHLORIDE	0.14 JB															2
TRICHLOROETHENE				0.3 J	0.1 J											1
TRICHLOROFLUOROMETHANE																NE
1,1-DICHLOROETHANE				0.5 J	0.5 J	0.4 J										NE
1,1-DICHLOROETHENE				0.3 J	0.3 J	0.2 J										2
TETRACHLOROETHENE				0.1 J	0.1 J	0.1 J										1
TOLUENE				0.2 J	0.1 J											5
TOTAL XYLENES																2
1,1,1-TRICHLOROETHENE					0.2 J	0.3 J										NE
ADDITIONAL VOA PEAKS																NE
TOTAL VOCs	5.08	4.4	5.2	6.4	7.3	6.0	4.7	4.2	2.4	2.4	3.1	4.2	2.6	2.0	1.7	

NOTES:

Blank spaces indicate no detection of the constituent above laboratory detection limits.

J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.

B - INDICATES ANALYTE IS FOUND IN ASSOCIATED METHOD BLANK AS WELL AS IN THE SAMPLE.

ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS , LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.

SAMPLE ANALYSIS:

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2).

TABLE 13 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW23D															ROD Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	80 - 90															
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING DATE	11/07	2/08	5/08	8/08	11/08	2/09	9/09	3/10	9/10	3/11	9/11	3/12	9/12	3/13	9/13	
VOLATILE ORGANICS (ppb)																
ACETONE																NE
CHLOROFORM	2.9	1.3	2.9	1	0.9 J	1.0	2.3	2.3	3.2	2.4	2.4	2.1	2.1	1.6	1.2	NE
ETHYLBENZENE							4.3									5
METHYLENE CHLORIDE																2
TRICHLOROETHENE																1
TRICHLOROFLUOROMETHANE																NE
1,1-DICHLOROETHANE				0.2 J	0.2 J	0.2 J										NE
1,1-DICHLOROETHENE																2
TETRACHLOROETHENE																1
TOLUENE				0.2 J	0.1 J		6.3									5
TOTAL XYLENES				0.1 J			25									2
1,1,1-TRICHLOROETHENE																NE
ADDITIONAL VOA PEAKS																NE
TOTAL VOCs	2.9	1.3	2.9	1.5	1.2	1.2	37.9	2.3	3.2	2.4	2.4	2.1	2.1	1.6	1.2	

NOTES:

Blank spaces indicate no detection of the constituent above laboratory detection limits.

J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.

ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS , LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.

SAMPLE ANALYSIS:

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLM04.2).

TABLE 13A

COMPARISON OF HISTORIC GROUNDWATER SAMPLE METALS ANALYTICAL RESULTS - AREA B

SAMPLE IDENTIFICATION:	B-MW1S							B-MW2S					B-MW3S			B-MW4S	ROD-Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	12-32							3-23					3-23			3-23	
SAMPLING ROUND:	6/87	8/96		9/96		1/99		6/87	8/96		9/96		6/87	11/88	2/93	2/93	
UNFILTERED / FILTERED	U	U	F	U	F	U	F	U	U	F	U	F	U	Product	U	U	
PRIORITY POLLUTANT METALS (ppb)																	
Antimony			4.7 B							3.1 B							NE
Arsenic		1.4 B							1.7 B	1.6 B	4.4				3.7	2.3	NE
Beryllium				0.3	0.31				0.32 B		0.97	0.37					NE
Cadmium				0.71													NE
Chromium	21.5			3.7				15	9.8 B		41.4						21.5
Copper	27.4	10.4 B	6.4 B	12.2	10.5	13.0 B	1.8 B		14.5 B		30.1	11.8					NE
Lead	25	13.4	7.4	12.8	8.3	4.0	1.6 B	20.3	6.3	2.6 B	28.1	6.7	5.2				15
Mercury	0.6							0.65	0.11 B		0.16			0.55		0.19	0.6
Nickel						1.4 B					17.0						NE
Selenium		3.7 B	19	3.5					2.7 B	3.1 B	2.9						NE
Silver					1.4							2.6					NE
Zinc	64.5	8.5 B	9.4 B	17.6	13.0			52.5	15.1 B	12.3 B	57.7	9.9	25.1	92.8	11	19.2	64.5

SAMPLE IDENTIFICATION:	B-MW5S									B-MW6S				B-MW7S		B-MW8S		B-MW9S		ROD-Based Cleanup Levels (ppb)
SAMPLE DEPTH (FT):	4-24									3-13				4-14		5-15		4-14		
SAMPLING ROUND	2/93	8/96		9/96		1/99		4/99*		1/99		4/99*		1/99		1/99		1/99		
UNFILTERED / FILTERED	U	U	F	U	F	U	F	U	F	U	F	U	F	U	F	U	F	U	F	
PRIORITY POLLUTANT METALS (ppb)																				
Antimony			4.9 B																	NE
Arsenic		1.7 B	1.1 B													3.7 B		16.5 B		NE
Beryllium		0.28 B	0.29 B	0.54	0.54															NE
Cadmium						0.54 B								0.97 B	0.77 B	3.3	1.6 B	0.85 B		NE
Chromium				1.7						2.0 B					3.0 B	2.9 B	1.5 B	21.7		21.5
Copper		13.7 B	5.6 B	20.3	6.6	12.6 B	2.7 B			8.4 B				1.6	2.7 B	19.0 B	6.8 B	20.5 B		NE
Lead		23.6	8.1	26.7	6.8	2.3 B				3.3						4.4		10.9		15
Mercury	2.2	5.6	0.26	4.8		51.6	0.77	0.38	0.26	2.1		0.13B								0.6
Nickel						1.3 B				0.82 B	2.4 B				0.88 B	3.5 B	3.1 B	4.1 B		NE
Selenium		3.2 B	1.5 B	2.6																NE
Silver																				NE
Thallium											3.5 B							4.5 B		NE
Zinc	15.3	11.3 B	7.9 B	14.9	9.1													17.4 B		64.5

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
SAMPLE ANALYSIS: PRIORITY POLLUTANT METALS (U- UNFILTERED: F - FILTERED) (CLP/ILM 04.0)
ROD-BASED CLEANUP LEVELS ARE BASED ON TABLE 7: "AOC-SPECIFIC GROUNDWATER REMEDIATION GOALS - AREAS 41, B, D, and E" of the CERCLA SUBSTANTIVE REQUIREMENTS ASSESSMENT LETTER FROM FAA TO EPA and NJDEP, dated Nov. 27, 2013.
* - LOW FLOW PURGE AND SAMPLING TECHNIQUE WAS USED DURING THE APRIL 1999 SAMPLING EVENT.
NE: ROD-BASED CLEANUP LEVEL NOT ESTABLISHED FOR THIS METAL

TABLE 14

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA C

SAMPLE IDENTIFICATION:	C-MW1S																								NJ PQLs (ppb)
SAMPLE DEPTH:	3-23																								
SAMPLE ANALYSIS:	VOA	VOA	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	12/88	11/92	5/93	8/93	12/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	2/98	4/98	7/98	10/98	
VOLATILE ORGANICS (ppb)																									
ACETONE								5																	10
TOLUENE			0.6J												0.1J										1
TETRACHLOROETHENE																						0.2J			1
CARBON DISULFIDE																0.5J									1
ADDITIONAL VOA PEAKS	17																						0.7J		NA
TOTAL VOCs	17		0.6					5							0.1	0.5						0.2	0.7		

SAMPLE IDENTIFICATION:	C-MW1S (continued)																								NJ PQLs (ppb)
SAMPLE DEPTH:	3-23																								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	
VOLATILE ORGANICS (ppb)																									
ACETONE							8	7	6	10								5							10
TOLUENE																									1
TETRACHLOROETHENE																									1
CARBON DISULFIDE																		0.3 J							1
ADDITIONAL VOA PEAKS										25J					3JN	21JN									NA
TOTAL VOCs							8	7	6	35					3	21		5.3							

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - INDICATES THAT THE COMPOUND IS NOT AN ANALYTE FOR THE ANALYTICAL METHODOLOGY USED.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 14 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA C

SAMPLE IDENTIFICATION:	C-MW1S (continued)																								NJ PQLs (ppb)
SAMPLE DEPTH:	3 - 23																								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	
VOLATILE ORGANICS (ppb)																									
ACETONE																		5.5							10
2-BUTANONE(MEK)																									2
TOLUENE																									1
TETRACHLOROETHENE																									1
CARBON DISULFIDE																									1
ADDITIONAL VOA PEAKS						3.7JN			2.1																NA
TOTAL VOCs						3.7			2.1									5.5							

SAMPLE IDENTIFICATION:	C-MW1S (continued)												NJ PQLs (ppb)
SAMPLE DEPTH:	3 - 23												
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)													
ACETONE													10
BENZENE													1
TETRACHLOROETHENE													1
TOLUENE										4.7			1
TRICHLOROETHENE													1
ADDITIONAL VOA PEAKS													NA
TOTAL VOCs										4.7			

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - INDICATES THAT THE COMPOUND IS NOT AN ANALYTE FOR THE ANALYTICAL METHODOLOGY USED.

SAMPLE ANALYSIS: LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 14 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA C

SAMPLE IDENTIFICATION:	C-MW2S																								NJ PQLs (ppb)
SAMPLE DEPTH:	3 - 23																								
SAMPLE ANALYSIS:	VOA	VOA	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	12/88	1.1/92	5/93	8/93	12/93	2/94	5/94	8/94	1.1/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	2/98	4/98	7/98	10/98	
VOLATILE ORGANICS (ppb)																									
ACETONE								17		35															10
BENZENE																						0.3J			1
TETRACHLOROETHENE																	0.1J								1
TOLUENE														0.1J											1
TRICHLOROETHENE																						0.1J			1
ADDITIONAL VOA PEAKS	19																				6J	21.4J	3.3J		NA
TOTAL VOCs	19							17		35				0.1			0.1				6	21.8	3.3		

SAMPLE IDENTIFICATION:	C-MW2S (continued)																								NJ PQLs (ppb)
SAMPLE DEPTH:	3 - 23																								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	
VOLATILE ORGANICS (ppb)																									
ACETONE						2J	3J			7															10
BENZENE																									1
TETRACHLOROETHENE																									1
TOLUENE																									1
TRICHLOROETHENE																									1
ADDITIONAL VOA PEAKS				8JN	2JN																				NA
TOTAL VOCs				8	2	2	3			7															

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - INDICATES THAT THE COMPOUND IS NOT AN ANALYTE FOR THE ANALYTICAL METHODOLOGY USED.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 14 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA C

SAMPLE IDENTIFICATION:	C-MW2S (continued)																								NJ PQLs (ppb)
SAMPLE DEPTH:	3 23																								
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	
VOLATILE ORGANICS (ppb)																									
ACETONE																									10
BENZENE																									1
TETRACHLOROETHENE																									1
TOLUENE																									1
TRICHLOROETHENE																									1
ADDITIONAL VOA PEAKS					4.3JN																				NA
TOTAL VOCs					4.3																				

SAMPLE IDENTIFICATION:	C-MW2S (continued)												NJ PQLs (ppb)
SAMPLE DEPTH:	3 23												
SAMPLE ANALYSIS:	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	
SAMPLING ROUND:	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	4/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)													
ACETONE													10
BENZENE													1
TETRACHLOROETHENE													1
TOLUENE													1
TRICHLOROETHENE													1
ADDITIONAL VOA PEAKS													NA
TOTAL VOCs													

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - INDICATES THAT THE COMPOUND IS NOT AN ANALYTE FOR THE ANALYTICAL METHODOLOGY USED.

SAMPLE ANALYSIS: LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

TABLE 15

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW1S																					NJ PQLs (ppb)
SAMPLE DEPTH:											17-37											
SAMPLE ANALYSIS:	VOA	VOA	VOA	LCW	LCW	LCW	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	1/89	3/89	11/92	5/93	8/93	11/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																						
ACETONE				46				23	11			4J										10
BENZENE				2J	3J	3J	2	3	2	3	2	2	1	1J	2J	2J	2J	2J	2J	0.2J	2J	1
ETHYLBENZENE	24	14	9	7	16	52	4	15	18	14	48	20	12	4	14	23	19	23	30	0.8J	16	2
TOLUENE																						1
TOTAL XYLENES						18	1	5	5	12	29	1	0.1J	0.4J	0.9J	6	11	12	28	0.2J	1J	2
1,1-DICHLOROETHANE																				0.2J		1
1,1-DICHLOROETHENE																						1
TETRACHLOROETHENE																						1
CIS-1,2-DICHLOROETHENE				2J	2J		1	2 J	2	2	2	1	0.5J	1J	2J	2J	2J	2J	1J	0.1J	1	1
CHLOROFORM													1							5		1
2-BUTANONE (MEK)				330E										9J								2
CHLOROBENZENE	9	42	35	36	56	110	24	54	41	47	75	59	76	38	73	83	68	65	73	8	64	1
1,3-DICHLOROBENZENE													0.2J					0.3J			0.3J	5
1,2-DICHLOROBENZENE			2	2J	4	5	2	3	3	3	4	3	3	2	3J	4J	4J	3	4J	0.4J	4	5
1,4-DICHLOROBENZENE		13	5	5	8	15	3	7	8	7	13	9	12	6	10	9	11	10	10	2	9	5
ADDITIONAL VOA PEAKS	20	63		82J	68J	56J	44J	29 J	35J	69J	224J	26J	3J		49J	58J	10J	103J	53J		66J	NA
TOTAL VOCs	53	132	51	512	157	259	81	139	125	157	397	125	108.8	61.4	153.9	187	127	220.3	201	16.9	147.3	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

* - CONSTITUENTS DETECTED IN R-MW5S DURING THE 12/93 SAMPLING ROUND WERE NOT REPORTED DUE TO LABORATORY CROSS-CONTAMINATION.

** - REVIEW OF THE HISTORIC GROUNDWATER RESULTS DATA SETS FOR WELLS R-MW2S AND R-MW5S INDICATE THAT DURING THE FEBRUARY 1996 SAMPLING ROUND, THE SAMPLE IDENTIFICATION OF THESE WELLS WAS REVERSED.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW1S (continued)																				NJ
SAMPLE DEPTH:	17-37																				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)																					
ACETONE										18				31							10
BENZENE	2J	1J	0.9J	1	1J	0.5J	1J	0.8J	1	1J	2J	1	0.9J	1	1J	0.5J	0.5J	0.8J	1J	2J	1
ETHYLBENZENE	19	34	22	22	16	4	3	1	1	1J	1	1J	0.2J	0.1J							2
TOLUENE				0.1J										0.1J							1
TOTAL XYLENES	2J	6	0.5J																		2
1,1-DICHLOROETHANE	1J																	1J			1
1,1 DICHLOROETHENE																		0.3J			1
TETRACHLOROETHENE				0.3J																	1
CIS-1,2-DICHLOROETHENE		1J	0.6J	1		0.7J	0.8J			1J	1J	1	0.3J	0.7J	0.6J	0.1J		0.2J	0.4J		1
CHLOROFORM			0.5J			0.3J								0.2J		2	1J	0.5J	0.4J		1
2-BUTANONE (MEK)																					2
CHLOROBENZENE	50	47	58	75	74	48	39	30	54	31	70E	64E	41E	24	38	32	33	32	43	51	1
1,3-DICHLOROBENZENE				0.4J	0.4J	0.3J	0.2J					1J	0.2J	0.4J	0.4J			0.2J	0.3J	8	5
1,2-DICHLOROBENZENE	3J	4	4	5	5	3J	2J	2	2	1J	2	2	2	0.9J	2	1	1J	1J	1J	2J	5
1,4-DICHLOROBENZENE	6	7	12	15	17	12	7	6	8	5	9	9	6	4	5	6	5	5	6	9	5
ADDITIONAL VOA PEAKS		72J	18J	59J				4J	6J		3JN	4JN	6	85J	22JN	2.6JN		4J	6.6JN		NA
TOTAL VOCs	64	138	116.5	178.8	113.4	68.8	53	43.8	72	58	88	83	72.5	147.4	69	44.2	40.5	45	58.7	72	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW1S (continued)																				NJ
SAMPLE DEPTH:									17-37												PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	
VOLATILE ORGANICS (ppb)																					
ACETONE													3JB								10
BENZENE	0.8J	0.5J	0.6J		0.6J	1J	0.9J	1J	0.5J	0.3J	0.4J	2J	0.3JH	0.5J	0.7J	0.5J	0.41J	0.43J	0.52J	1.6J	1
ETHYLBENZENE						0.2J	0.8J													1.6J	2
TOLUENE							0.7JB														1
TOTAL XYLENES																					2
1,1-DICHLOROETHANE																					1
1,1 DICHLOROETHENE																					1
TETRACHLOROETHENE																					1
CIS-1,2-DICHLOROETHENE	0.4J	0.3J	0.4J	0.8J	0.6J	0.6J	0.5J		0.4J	0.2J	0.2J	0.4J	0.2JH	0.5J		0.4JM	0.46J			0.19J	1
CHLOROFORM			0.8J						1J	3	3		4		0.5J	2		2	1.5		1
2-BUTANONE (MEK)																					2
CHLOROBENZENE	24	8	12	19	14	18	30	52	12	9	12	51	7	10	15	9	6.9	11	13	74	1
1,3-DICHLOROBENZENE	0.2J	0.4J	0.4J	0.5J	0.6J	0.6J	0.6J		0.5J	0.2J	0.2JH		0.2JH	0.6J	0.5J	0.5J	0.66J	0.3JM	0.41JM	0.36J	5
1,2-DICHLOROBENZENE	0.9J	0.4J	0.6J	4J	0.7J	1	1J	2JM	0.8J	0.4J	0.5J	2J	0.3JH	0.9J	0.9J	0.7J	0.79J	0.61JM	0.95JM	2.3J	5
1,4-DICHLOROBENZENE	5	2	3	1J	3	4	6	10	3	2	2	8	2	3	4	3	3.4	2.7	3.2	11	5
ADDITIONAL VOA PEAKS	4.1JN	9JN	20JN	19.5	59.7	46.6	14.9JN		8.5NJ	12.5JN	4.2NJ	9.1NJ	1.2JN	6JN	7JN		44	2JN		85.47	NA
TOTAL VOCs	35.4	20.6	37.8	44.8	79.2	72	55.4	65	26.7	27.6	22.5	72.5	18.2	21.5	28.6	16.1	56.62	19.04	19.58	176.5	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION	R-MW1S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH									17-37												
SAMPLE ANALYSIS	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																					
ACETONE						25															10
BENZENE	0.62J	0.45 J	0.7 J	2 J	0.5 J																1
ETHYLBENZENE																					2
TOLUENE																					1
TOTAL XYLENES																					2
1,1-DICHLOROETHANE																					1
1,1 DICHLOROETHENE																					1
TETRACHLOROETHENE																					1
CIS-1,2-DICHLOROETHENE			0.4 J		0.1 J																1
CHLOROFORM			0.2 J		2				1.5			6.8	6.3		3.0	4.8					1
2-BUTANONE (MEK)																					2
CHLOROBENZENE	16	9.7	22	68	12	6.4	9.4	6.9	9.9	12	10	4.1	11	17	7.0	8.3	6.7	19	27	22	1
1,3-DICHLOROBENZENE		0.48J			0.2 J																5
1,2-DICHLOROBENZENE	0.79J	0.7J	0.9 J	2 J	0.6 J						1										5
1,4-DICHLOROBENZENE	4	3.3	5	11	3	3.5	3	2.7	2.9	3.6	3.5	1.1	3.6	6.0	3.1	3.1	3.2	4.6	6.2	5.3	5
INDANE							2 JN				2.5 J										NA
ADDITIONAL VOA PEAKS	7.57JN	1.4 JN		11 JN		28 JN					9.6		36.5 JN								NA
TOTAL VOCs	29.98	16.03	29.2	94	18.4	62.9	14.4	9.6	14.3	15.6	26.6	12.0	57.4	23.0	13.1	16.2	9.9	23.6	33.2	27.3	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO
N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW1S (continued)				NJ
SAMPLE DEPTH:	17-37				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
ACETONE					10
BENZENE					1
ETHYLBENZENE					2
TOLUENE					1
TOTAL XYLENES					2
1,1-DICHLOROETHANE					1
1,1 DICHLOROETHENE					1
TETRACHLOROETHENE					1
CIS-1,2-DICHLOROETHENE					1
CHLOROFORM	1.9				1
2-BUTANONE (MEK)					2
CHLOROBENZENE	6.4	8.0	10	34 E	1
1,3-DICHLOROBENZENE					5
1,2-DICHLOROBENZENE				1.4	5
1,4-DICHLOROBENZENE	2.2	3.0	3.1	7.3	5
INDANE					NA
ADDITIONAL VOA PEAKS					NA
TOTAL VOCs	10.5	11.0	13.1	42.7	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO
N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND
E - COMPOUND CONCENTRATION EXCEEDS UPPER LEVEL OF THE CALIBRATION RANGE OF THE INSTRUMENT FOR THAT SPECIFIC ANALYSIS

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW2S																						NJ PQLs (ppb)
SAMPLE DEPTH:	15-35																						
SAMPLE ANALYSIS:	VOA	VOA	VOA	VOA	LCW	LCW	LCW	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	1/89	1/89 (DUP)	3/89	11/92	5/93	8/93	11/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96 **	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																							
CHLOROMETHANE																							NA
BROMOMETHANE																							NA
VINYL CHLORIDE						2		3			2	2	1	3					2			0.1J	1
CHLOROETHANE														0.4J									NA
CARBON DISULFIDE																		0.5J					1
ACETONE										4J													10
BENZENE						0.7J	1	1			2	1	0.6J	2				0.3J	1	0.1J		0.1J	1
ETHYLBENZENE	24	21												0.3J					0.5J				2
TOLUENE														0.2J									1
1,1-DICHLOROETHANE														0.1J									1
CIS-1,2-DICHLOROETHENE						2	3	3		0.5J	3	2	1	2			0.2J	0.7J	2	0.2J		0.3J	1
CHLOROFORM					0.7J				2						4	1		0.2J	0.1J	1	1		1
CHLOROBENZENE			18	12	0.5J	6	11	21		51	8	13	7	50		2	0.5J	4	22	2	0.4J	2	1
1,3-DICHLOROBENZENE						0.5J	2	1			2	2	2	0.4J			0.3J	0.6J	0.5J			0.4J	5
1,2-DICHLOROBENZENE				2		1	3	3		4	3	3	2	5		0.2J	0.2J	0.7J	3	0.3J		0.4J	5
1,4-DICHLOROBENZENE	5			9		8	20	13		9	18	15	10	21		0.9J	0.7J	7	20	2	0.7J	4	5
TOTAL XYLENES										6													2
ADDITIONAL VOA PEAKS	49	30	95			2J	8 J	13J		84J	37J	20J											NA
TOTAL VOCs	78	51	113	23	1.2	22.2	48	55	2	158.5	75	58	23.6	84.4	4	4.1	1.9	14	51.1	5.6	2.1	7.3	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

* - CONSTITUENTS DETECTED IN R-MW5S DURING THE 12/93 SAMPLING ROUND WERE NOT REPORTED DUE TO LABORATORY CROSS-CONTAMINATION.

** - REVIEW OF THE HISTORIC GROUNDWATER RESULTS DATA SETS FOR WELLS R-MW2S AND R-MW5S INDICATE THAT DURING THE FEBRUARY 1996 SAMPLING ROUND, THE SAMPLE IDENTIFICATION OF THESE WELLS WAS REVERSED.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW2S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	15-35																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																	0.2J				NA
BROMOMETHANE																		0.3J			NA
VINYL CHLORIDE		0.8J		0.5J	2			1	2			1J				0.4J	1				1
CHLOROETHANE																					NA
CARBON DISULFIDE																					1
ACETONE					4J									3J				4J			10
BENZENE	0.3J	0.6J		0.5J	2	0.3J	0.2J	0.8J	1	0.2J	0.3J	1J				0.4J	0.5J	0.7J	0.4J	0.3J	1
ETHYLBENZENE		0.4J		0.4J	0.2J																2
TOLUENE																					1
1,1-DICHLOROETHANE		0.1J			0.4J											0.1J		0.3J			1
CIS-1,2-DICHLOROETHENE	0.3J	0.8J		1	2	0.4J	0.3J	0.8J	1	0.5J		1J				0.6J	0.9J	0.9J	0.5J	0.5J	1
CHLOROFORM	0.6J	4	7	0.1J		0.3J															1
CHLOROBENZENE	4	6	1	6	22	4	3	10	20	6	4	32E	2	0.6J	0.3J	13	14	12	6	7	1
1,3-DICHLOROBENZENE	0.4J	0.3J		1	2	0.7J	0.2J	0.5J	0.4J							0.2J		0.2J	0.2J	0.2J	5
1,2-DICHLOROBENZENE	0.7J	1	0.2J	1	4	2	0.5J	1	2	1J		2	0.2J			0.9J	1	1	0.6J	0.5J	5
1,4-DICHLOROBENZENE	6	5	1	15	27	6	4	14	20	4	3	20	1	0.4J		5	9	7	5	5	5
TOTAL XYLENES			0.2J																		2
ADDITIONAL VOA PEAKS		2J		3J												26JN		17J	7.6JN	2.5J	NA
TOTAL VOCs	12.3	21	9.4	28.5	34.6	13.7	8.2	28.1	46.4	11.7	7.3	56.6	3.2	4	0.3	46.6	26.6	43.4	20.3	16	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE AT LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW2S (continued)																				NJ
SAMPLE DEPTH:	15-35																				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
VINYL CHLORIDE								0.4J												0.86J	1
CHLOROETHANE																					NA
CARBON DISULFIDE																					1
ACETONE																					10
BENZENE								0.5J												1J	1
1,2-DICHLOROPROPANE									4												1
ETHYLBENZENE																				0.25J	2
TOLUENE																				0.13J	1
1,1-DICHLOROETHANE																					1
CIS-1,2-DICHLOROETHENE	0.2J							0.6J												1.3J	1
CHLOROFORM			0.2J															2.1			1
CHLOROBENZENE	2	0.3 J			0.2J			11	2	3		0.3J	0.4J		0.6J	2				32	1
1,3-DICHLOROBENZENE								0.2J													5
1,2-DICHLOROBENZENE								1		0.4J		0.1J								2.6	5
1,4-DICHLOROBENZENE								7	2	3		0.6J			0.5J	2				20	5
TOTAL XYLENES																					2
ADDITIONAL VOA PEAKS								4.7JN						3.1JN			3.1				NA
TOTAL VOCs	2.2	0.3	0.2		0.2			25.4	8	6.4		1	0.4	3.1	1.1	4	3.1	2.1		58.14	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMI LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW2S (Continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	15-35																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
VINYL CHLORIDE																					1
CHLOROETHANE																					NA
CARBON DISULFIDE										10											1
ACETONE																					10
BENZENE	0.22J			0.4 J						1											1
1,2-DICHLOROPROPANE										3.5											1
ETHYLBENZENE																					2
TOLUENE																					1
1,1-DICHLOROETHANE																					1
CIS-1,2-DICHLOROETHENE	0.35J		0.1 J	0.5 J																	1
CHLOROFORM								1.1	8.9	6.6											1
CHLOROBENZENE	7		2	14	0.9 J						9.5	9.2	1.8	21	40	71	1.2	2.1	11	7.7	1
1,3-DICHLOROBENZENE																					5
1,2-DICHLOROBENZENE	0.95J		0.2 J	1 J	0.1 J							1.2		1.9							5
1,4-DICHLOROBENZENE	7.2		2	9	1						3.5	6.3	1.3	12	19	27		1.1	7.4	5.1	5
TOTAL XYLENES																					2
ADDITIONAL VOA PEAKS	0.98JN											4.5 JN									NA
TOTAL VOCs	16.7		4.3	24.9	2			1.1	8.9	6.6		21.2	3.1	34.9	59	98	1.2	3.2	18.4	12.8	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO
N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW2S (Continued)				NJ
SAMPLE DEPTH:	15-35				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
CHLOROMETHANE					NA
BROMOMETHANE					NA
VINYL CHLORIDE					1
CHLOROETHANE					NA
CARBON DISULFIDE					1
ACETONE					10
BENZENE					1
1,2-DICHLOROPROPANE					1
ETHYLBENZENE					2
TOLUENE					1
1,1-DICHLOROETHANE					1
CIS-1,2-DICHLOROETHENE					1
CHLOROFORM					1
CHLOROBENZENE	2.3			3.1	1
1,3-DICHLOROBENZENE					5
1,2-DICHLOROBENZENE					5
1,4-DICHLOROBENZENE	1.7			2.1	5
TOTAL XYLENES					2
ADDITIONAL VOA PEAKS					NA
TOTAL VOCs	4.0	0	0	5.2	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO
N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:												R-MW3S											NJ
SAMPLE DEPTH:												17-37											PQLs
SAMPLE ANALYSIS:	VOA	LCW	LCW	LCW	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	1/89	5/93	8/93	11/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	2/98	4/98	7/98	10/98	
VOLATILE ORGANICS (ppb)																								
CHLOROMETHANE																								NA
BROMOMETHANE																								NA
ACETONE																								10
CARBON DISULFIDE				2																				1
DIBROMOCHLOROMETHANE																					0.1J			1
BROMOFORM																					0.3J			0.8
TOLUENE											0.1J							0.1J						1
CHLOROFORM		13	10	8	11	15	12	14	22	8	9	10	17	18	17	23	18	7	12	15	12	5	11	1
TOTAL XYLENES																		0.1J				0.4J		2
ADDITIONAL VOA PEAKS	13																							NA
TOTAL VOCs	13	13	10	10	11	15	12	14	22	8	9.1	10	17	18	17	23	18	7.2	12	15	12.4	5.4	11	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

* - CONSTITUENTS DETECTED IN R-MW5S DURING THE 12/93 SAMPLING ROUND WERE NOT REPORTED DUE TO LABORATORY CROSS-CONTAMINATION.

** - REVIEW OF THE HISTORIC GROUNDWATER RESULTS DATA SETS FOR WELLS R-MW2S AND R-MW5S INDICATE THAT DURING THE FEBRUARY 1996 SAMPLING ROUND, THE SAMPLE IDENTIFICATION OF THESE WELLS WAS REVERSED.

J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW3S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	17-37																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	2/03	5/03	8/03	11/03	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE													0.5J								NA
BROMOMETHANE													2								NA
ACETONE		3J																			10
CARBON DISULFIDE																					1
DIBROMOCHLOROMETHANE																					1
BROMOFORM																					0.8
TOLUENE																					1
CHLOROFORM	6	5	6	3	4	13	10	13	10	16	18	15	13	12	18	19	13	16	19	24	1
TOTAL XYLENES																					2
ADDITIONAL VOA PEAKS												0.9J				7.1J					NA
TOTAL VOCs	6	8	6	3	4	13	10	13	10	16	18	15.9	15.5	12	18	26.1	13	16	19	24	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW3S (continued)																				NJ
SAMPLE DEPTH:	17-37																				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
ACETONE																					10
CARBON DISULFIDE																					1
DIBROMOCHLOROMETHANE																					1
BROMOFORM																					0.8
TOLUENE																					1
CHLOROFORM	24	24	23	23	25	23	23	21	20	23	22	18	16	22	17	16	16	18	21	15	1
TOTAL XYLENES																					2
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	24	24	23	23	25	23	23	21	20	23	22	18	16	22	17	16	16	18	21	15	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW3S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:									17-37												
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)																					
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
ACETONE											8.2										10
CARBON DISULFIDE																					1
DIBROMOCHLOROMETHANE																					1
BROMOFORM																					0.8
TOLUENE																					1
CHLOROFORM	15	22	18	22	22	7.5	12	17	16	16	20	18	14	13	11	16	13	17	17	21	1
TOTAL XYLENES																					2
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	15	22	18	22	22	7.5	12	17	16	16	28.2	18	14	13	11	16	13	17	17	21	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW4S																				NJ PQLs (ppb)
SAMPLE DEPTH:										12-32											
SAMPLE ANALYSIS:	VOA	VOA	LCW	LCW	LCW	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	10/89	11/92	5/93	8/93	11/93	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																					
ACETONE																					10
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
CHLOROFORM			0.9J				0.9J				0.8J	0.5J	0.6J	2	0.5J	0.7J	0.7J	0.4J	0.4J		1
ADDITIONAL VOA PEAKS									3J												NA
TOTAL VOCs			0.9				0.9		3		0.8	0.5	0.6	2	0.5	0.7	0.7	0.4	0.4		

SAMPLE IDENTIFICATION:	R-MW4S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:										12-32											
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)																					
ACETONE																					10
CHLOROMETHANE																	0.8J				NA
BROMOMETHANE																	4				NA
CHLOROFORM	0.9J		0.3J	0.4J	0.6J	0.8J	0.8J		0.7J	2	1	1	0.5	1	1	1	0.6J	2	2	1	1
ADDITIONAL VOA PEAKS																12JN			6.9J	6.4J	NA
TOTAL VOCs	0.9		0.3	0.4	0.6	0.8	0.8		0.7	2	1	1	0.5	1	1	13	5.4	2	8.9	7.4	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

* - CONSTITUENTS DETECTED IN R-MW5S DURING THE 12/93 SAMPLING ROUND WERE NOT REPORTED DUE TO LABORATORY CROSS-CONTAMINATION.

** - REVIEW OF THE HISTORIC GROUNDWATER RESULTS DATA SETS FOR WELLS R-MW2S AND R-MW5S INDICATE THAT DURING THE FEBRUARY 1996 SAMPLING ROUND, THE SAMPLE IDENTIFICATION OF THESE WELLS WAS REVERSED.

J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO

N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW4S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	12-32																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	
VOLATILE ORGANICS (ppb)																					
ACETONE		2J																			10
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
CHLOROFORM	2	3	1	1	1	2	1	0.6J	1	2	2	1	3	1	3	1J	1.7	2	0.85J	0.7J	1
ADDITIONAL VOA PEAKS		1.6 JN																			NA
TOTAL VOCs	2	6.6	1	1	1	2	1	0.6	1	2	2	1	3	1	3	1	1.7	2	0.85	0.7	

SAMPLE IDENTIFICATION:	R-MW4S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	12-32																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																					
ACETONE																					10
CHLOROMETHANE																					NA
BROMOMETHANE																					NA
CHLOROFORM	0.76J	1	1	2	2	2.4	3.1	2.6				1.3	1.2	1.6	1.7	4.6	1.2	1.7	1.9	1.8	1
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	0.76	1	1	2	2	2.4	3.1	2.6				1.3	1.2	1.6	1.7	4.6	1.2	1.7	1.9	1.8	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW4S (continued)				NJ PQLs (ppb)
SAMPLE DEPTH:	12-32				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
ACETONE					10
CHLOROMETHANE					NA
BROMOMETHANE					NA
CHLOROFORM	1.9	1.4	1.5		1
ADDITIONAL VOA PEAKS					NA
TOTAL VOCs	1.9	1.4	1.5		

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW5S																				NJ PQLs (ppb)
SAMPLE DEPTH:										8-28											
SAMPLE ANALYSIS:	VOA	VOA	VOA	LCW	LCW	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	10/89	11/92	5/93	8/93	12/93 *	2/94	5/94	8/94	11/94	2/95	7/95	10/95	2/96 **	5/96	9/96	12/96	3/97	6/97	9/97	12/97	
VOLATILE ORGANICS (ppb)																					
VINYL CHLORIDE													2								1
ACETONE								4J													10
CHLOROFORM			7	5		4	6	7	4	3	5	2		6	7	3	5	9	3	5	1
2-BUTANONE (MEK)																					2
BENZENE													1								1
TOLUENE													0.1J								1
CHLOROBENZENE		1		0.8J								1	25								1
ETHYLBENZENE													0.2J								2
CIS-1,2-DICHLOROETHENE												0.2J	1								1
1,3-DICHLOROBENZENE												0.2J	0.3J								5
1,2-DICHLOROBENZENE												0.3J	3								5
1,4-DICHLOROBENZENE				0.6J								1	12								5
TOTAL VOCs		1	7	6.4		4	6	11	4	3	5	4.7	44.6	6	7	3	5	9	3	5	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

* - CONSTITUENTS DETECTED IN R-MW5S DURING THE 12/93 SAMPLING ROUND WERE NOT REPORTED DUE TO LABORATORY CROSS-CONTAMINATION.

** - REVIEW OF THE HISTORIC GROUNDWATER RESULTS DATA SETS FOR WELLS R-MW2S AND R-MW5S INDICATE THAT DURING THE FEBRUARY 1996 SAMPLING ROUND, THE SAMPLE IDENTIFICATION OF THESE WELLS WAS REVERSED.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW5S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	8-28																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)																					
VINYL CHLORIDE																					1
ACETONE														5				190			10
CHLOROFORM	4		6	8	4	3	5	2	2	4	6	5	2	6	4	1	1J		0.6J	0.7J	1
2-BUTANONE (MEK)																		20J			2
BENZENE									0.3J									1J		0.3J	1
TOLUENE																					1
CHLOROBENZENE									40								1	160	29	40	1
ETHYLBENZENE																					2
CIS-1,2-DICHLOROETHENE									1								0.2J	3J		0.8J	1
1,3-DICHLOROBENZENE									2								0.2J	3J	3	2	5
1,2-DICHLOROBENZENE									4								0.2J	8J	6	4	5
1,4-DICHLOROBENZENE									9								0.6J	22	11	8	5
ADDITIONAL VOA PEAKS																			31JN	33JN	NA
TOTAL VOCs	4		6	8	4	3	5	2	58.3	4	6	5	2	11	4	1	3.2	407	80.6	88.8	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO
N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW5S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	8-28																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	
VOLATILE ORGANICS (ppb)																					
VINYL CHLORIDE																					1
ACETONE																					10
CHLOROFORM	4	7	9	6	5	6	10	3	4	6	10	6	4	6	7	2	5.7	8.5	7.5	3.5	1
2-BUTANONE (MEK)																					2
BENZENE																					1
TOLUENE																					1
CHLOROBENZENE																					1
ETHYLBENZENE																					2
CIS-1,2-DICHLOROETHENE																					1
1,3-DICHLOROBENZENE																					5
1,2-DICHLOROBENZENE																					5
1,4-DICHLOROBENZENE																					5
ADDITIONAL VOA PEAKS	7.5J			2.1JN												20JN					NA
TOTAL VOCs	11.5	7	9	8.1	5	6	10	3	4	6	10	6	4	6	7	22	5.7	8.5	7.5	3.5	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO
N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW5S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	8-28																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																					
VINYL CHLORIDE																					1
ACETONE															14						10
CHLOROFORM	2.6	11	7	5		8.5	5.3	4.4	4.1	5.2	7.8	3.6	2.8	4.5	5.8	3.7	4.6	5.5	3.9	4.7	1
2-BUTANONE (MEK)																					2
BENZENE																					1
TOLUENE																					1
CHLOROBENZENE																					1
ETHYLBENZENE																					2
CIS-1,2-DICHLOROETHENE																					1
1,3-DICHLOROBENZENE																					5
1,2-DICHLOROBENZENE																					5
1,4-DICHLOROBENZENE																					5
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	2.6	3.8	7	5		8.5	5.3	4.4	4.1	5.2	7.8	3.6	2.8	4.5	19.8	3.7	4.6	5.5	3.9	4.7	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW5S (continued)				NJ
SAMPLE DEPTH:	8-28				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
VINYL CHLORIDE					1
ACETONE					10
CHLOROFORM	9.0	8.6	6.7	6.5	1
2-BUTANONE (MEK)					2
BENZENE					1
TOLUENE					1
CHLOROBENZENE					1
ETHYLBENZENE					2
CIS-1,2-DICHLOROETHENE					1
1,3-DICHLOROBENZENE					5
1,2-DICHLOROBENZENE					5
1,4-DICHLOROBENZENE					5
ADDITIONAL VOA PEAKS					NA
TOTAL VOCs	9.0	8.6	6.7	6.5	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW6S																				NJ PQLs (ppb)
SAMPLE DEPTH:	5-25																				
SAMPLE ANALYSIS:	VOA	VOA	VOA	LCW	LCW	LCW	LCW	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	10/89	5/93	8/93	11/93	2/94	5/94	8/94	11/94	02/95	7/95	10/95	2/96	5/96	9/96	12/96	3/97	6/97	9/97	12/97		
VOLATILE ORGANICS (ppb)																					
ACETONE							5														10
CHLOROFORM	9	6	6	7	3	6	4	7	5	6	8	5	8	9	7	8	11	3	6		1
TOTAL XYLENES									0.9J												2
TETRACHLOROETHENE																					1
1,4-DICHLOROBENZENE																					5
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	9	6	6	7	3	6	9	7	5.9	6	8	5	8	9	7	8	11	3	6		

SAMPLE IDENTIFICATION:	R-MW6S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	5-25																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW 3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/98	4/98	7/98	10/98	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	
VOLATILE ORGANICS (ppb)																					
ACETONE														12							10
CHLOROFORM	4	6	5	5	8	6	7	6	7	10	7	8	5	10	10	8	6	7	8	7	1
TOTAL XYLENES																					2
TETRACHLOROETHENE	0.2J			0.2J																	1
1,4-DICHLOROBENZENE				0.1J																	5
ADDITIONAL VOA PEAKS																				44JN	NA
TOTAL VOCs	4.2	6	5	5.3	8	6	7	6	7	10	7	8	5	22	10	8	6	7	8	51	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

* - CONSTITUENTS DETECTED IN R-MW5S DURING THE 12/93 SAMPLING ROUND WERE NOT REPORTED DUE TO LABORATORY CROSS-CONTAMINATION.

** - REVIEW OF THE HISTORIC GROUNDWATER RESULTS DATA SETS FOR WELLS R-MW2S AND R-MW5S INDICATE THAT DURING THE FEBRUARY 1996 SAMPLING ROUND, THE SAMPLE IDENTIFICATION OF THESE WELLS WAS REVERSED.

J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO

N - INDICATES PRESUMPTIVE EVIDENCE OF A COMPOUND

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW6S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	5-25																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	2/05	5/05	8/05	11/05	2/06	5/06	8/06	11/06	2/07	5/07	8/07	11/07	
VOLATILE ORGANICS (ppb)																					
ACETONE																					10
CHLOROFORM	7	9	10	11	10	10	10	8	9	10	10	9	9	10	9	7	8.4	14	10	7.2	1
TOTAL XYLENES																					2
TETRACHLOROETHENE																					1
1,4-DICHLOROBENZENE																					5
ADDITIONAL VOA PEAKS																	2.4				NA
TOTAL VOCs	7	9	10	11	10	10	10	8	9	10	10	9	9	10	9	7	10.8	14	10	7.2	

SAMPLE IDENTIFICATION:	R-MW6S (continued)																				NJ PQLs (ppb)
SAMPLE DEPTH:	5-25																				
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	LCW +3	
SAMPLING ROUND:	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	
VOLATILE ORGANICS (ppb)																					
ACETONE															7.8						10
CHLOROFORM	6.7	11	12	9	9	13	10	6.9	13	4.2	5.5	6.7	6.2	5.3	6.5	7.1	7.1	7.1	6.7	1.5	1
TOTAL XYLENES																					2
TETRACHLOROETHENE																					1
1,4-DICHLOROBENZENE																					5
ADDITIONAL VOA PEAKS																					NA
TOTAL VOCs	6.7	11	12	9	9	13	10	6.9	13	4.2	5.5	6.7	6.2	5.3	14.3	7.1	7.1	7.1	6.7	1.5	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 15 (Continued)

COMPARISON OF HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS - AREA R

SAMPLE IDENTIFICATION:	R-MW6S (continued)				NJ
SAMPLE DEPTH:	5-25				PQLs
SAMPLE ANALYSIS:	LCW +3	LCW +3	LCW +3	LCW +3	(ppb)
SAMPLING ROUND:	3/13	6/13	9/13	12/13	
VOLATILE ORGANICS (ppb)					
ACETONE					10
CHLOROFORM	13	15	12	9.9	1
TOTAL XYLENES					2
TETRACHLOROETHENE					1
1,4-DICHLOROBENZENE					5
ADDITIONAL VOA PEAKS					NA
TOTAL VOCs	13	15	12	9.9	

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethylvinylether

TABLE 16

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW1S			56-MW2S					56-MW2D		56-MW3S			NJ PQLs (ppb)
SAMPLE DEPTH:	8-28			11.5-31.5					75-95		17-37			
SAMPLE ANALYSIS:	VOA	GWQP	VOA	VOA	GWQP	VOA	LCW	LCW	VOA	VOA	VOA	GWQP	VOA	
SAMPLING ROUND:	6/87	12/88	11/92	6/87	12/88	11/92	5/94	8/94	6/87	11/92	6/87	12/88	11/92	
VOLATILE ORGANICS (ppb)														
1,4-DICHLOROBENZENE						4J								5
CHLOROBENZENE						6J								1
Water Quality Parameters (ppm)														
CHEMICAL OXYGEN DEMAND					13.2							11.2		NA
AMMONIA, AS N					0.47									200
NITRATE, AS N		0.85			0.27							2.2		0.1 (ppm)
TOTAL ORGANIC NITROGEN														NA
TOTAL ORGANIC CARBON		1.3			2.4							1.3		NA
TOTAL SUSPENDED SOLIDS		11.0			45.0							206		NA

NOTE: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
GWQP - General Water Quality Parameters

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:																					NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:											56-MW4D 80-100											
SAMPLE ANALYSIS:	VOA	VOA	LCW	LCW	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW+3 PPM U	PPM F	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3		
SAMPLING ROUND:	6/87	11/92	5/94	8/94	11/94	2/95	7/95	10/95	2/96		5/96	9/96	12/96	3/97	6/97	9/97	12/97	2/98	4/98	7/98	10/98		
VOLATILE ORGANICS (ppb)										NA													
CHLOROFORM																						1	NA
1,1-DICHLOROETHENE		4J	3J	2	2	3	3	4	4		3	2	1	1	1J	0.9 J	1	0.7J	0.7J	0.1J		1	NA
1,1-DICHLOROETHANE	29	19	12	11	12	16	17	27	20		16	17	13	13	12	9	10	6	6	2	2	1	NA
1,1,1-TRICHLOROETHANE	27	28	18	12	22	19	21	36	23		16	13	10	11	9	7	8	4	4	0.9J	1	1	NA
TETRACHLOROETHANE																						1	NA
TOLUENE												0.1J										1	NA
DIBROMOCHLOROMETHANE																					0.1J	1	NA
BROMOFORM																					0.2J	0.8	NA
TOTAL XYLENES												0.1J										2	NA
BROMOCHLOROMETHANE														0.3J								NA	NA
ADDITIONAL VOA PEAKS																						NA	NA
TOTAL VOCs	56	51	33	25	36	38	41	67	47		35	32.2	24	25.3	22	16.9	18	10.7	10.7	3.0	3.3		
INORGANICS																							
Priority Pollutant Metals (ppb)	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Beryllium										0.11												1	NA
Copper										7.2												4	32
Mercury									0.22													0.05	0.6
Nickel										8.7												4	48
Lead									2.0	0.9												5	20
Zinc									10.4	12.5												10	168
Water Quality Parameters (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
CHEMICAL OXYGEN DEMAND																						NA	NA
AMMONIA, AS N																						200	NA
NITRATE, AS N																						0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN																						NA	NA
TOTAL ORGANIC CARBON																						NA	NA
TOTAL SUSPENDED SOLIDS																						NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0)

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4D (continued)																NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	80-100																	
SAMPLE ANALYSIS:	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3		
SAMPLING ROUND:	1/99	4/99	7/99	10/99	1/00	4/00	7/00	10/00	1/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02		
VOLATILE ORGANICS (ppb)																		
CHLOROFORM														0.2J	0.3J	0.3J	1	NA
1,1-DICHLOROETHENE			0.9J	1	2	2	1	1J	0.4J	0.5J	0.5J	0.3J	0.4J	0.4J	0.3J		1	NA
1,1-DICHLOROETHANE	7	2	6	11	12	14	9	6	4	6	6	2	4	3	2	1	1	NA
1,1,1-TRICHLOROETHANE	5	1	5	6	7	9	6	4	3	4	3	2	2	3	2	1	1	NA
TETRACHLOROETHENE								0.3J	2	3	3	0.6J	3	2	2	1	1	NA
TOLUENE																	1	NA
DIBROMOCHLOROMETHANE																	1	NA
BROMOFORM																	0.8	NA
TOTAL XYLENES																	2	NA
BROMOCHLOROMETHANE																	NA	NA
ADDITIONAL VOA PEAKS		3JN														2.6J	NA	NA
TOTAL VOCs	12	6	11.9	18	21	25	16	11.3	9.4	13.5	12.5	4.9	9.4	8.6	6.6	5.9		
INORGANICS																		
Priority Pollutant Metals (ppb)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Antimony																	3	NA
Arsenic																	3	NA
Beryllium																	1	NA
Cadmium																	0.5	7
Chromium																	1	30
Copper																	4	32
Mercury																	0.05	0.6
Lead																	5	20
Nickel																	4	48
Selenium																	4	5
Silver																	1	6
Thallium																	2	NA
Zinc																	10	168
Water Quality Parameters (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
CHEMICAL OXYGEN DEMAND																	NA	NA
AMMONIA, AS N																	200	NA
NITRATE, AS N																	0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN																	NA	NA
TOTAL ORGANIC CARBON																	NA	NA
TOTAL SUSPENDED SOLIDS																	NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration
"N" Qualifier: Indicates the presumptive evidence of compound

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
GWQP - General Water Quality Parameters
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4D (continued)																NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	80-100																	
SAMPLE ANALYSIS:	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3	LCW+3		
SAMPLING ROUND:	2/03	5/03	8/03	11/03	2/04	5/04	8/04	11/04	02/05	05/05	8/05	11/05	2/06	5/06	8/06	11/06		
VOLATILE ORGANICS (ppb)																		
CHLOROFORM	0.5J	0.2J	0.1J		0.2J		0.3J	0.3J	0.5J		0.4J	0.3J			0.4J	0.5J	1	NA
1,1-DICHLOROETHENE		0.1J															1	NA
1,1-DICHLOROETHANE	1	0.9J	0.7J	0.8J	0.7J		0.4J										1	NA
1,1,1-TRICHLOROETHANE	1	0.7J	0.6J	0.6J	0.6J		0.3J										1	NA
TETRACHLOROETHENE	0.4J	0.1J	0.1J		0.1J		0.4J	0.5J	0.3J			0.1J					1	NA
TOLUENE																	1	NA
DIBROMOCHLOROMETHANE																	1	NA
BROMOFORM																	0.8	NA
TOTAL XYLENES																	2	NA
BROMOCHLOROMETHANE																	NA	NA
ADDITIONAL VOA PEAKS	15.3JN	0.95JN	2.7JN	0.65JN			0.63JN				5.5NJ	2.1NJ	3.8JN	6.0JN			NA	NA
TOTAL VOCs	18.2	2.95	4.2	2.05	1.6		2.03	0.8	0.8		5.9	2.5	3.8	6	0.4	0.5		
INORGANICS																		
Priority Pollutant Metals (ppb)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
ANTIMONY																	3	NA
ARSENIC																	3	NA
BERYLLIUM																	1	NA
CADMIUM																	0.5	7
CHROMIUM																	1	30
COPPER																	4	32
LEAD																	0.05	20
MERCURY																	5	0.6
NICKEL																	4	48
SELENIUM																	4	5
SILVER																	1	6
THALLIUM																	2	NA
ZINC																	10	168
Water Quality Parameters (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
CHEMICAL OXYGEN DEMAND																	NA	NA
AMMONIA, AS N																	200	NA
NITRATE, AS N																	0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN																	NA	NA
TOTAL ORGANIC CARBON																	NA	NA
TOTAL SUSPENDED SOLIDS																	NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration
"N" Qualifier: Indicates the presumptive evidence of compound

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
GWQP - General Water Quality Parameters
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4D (continued)																NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	80-100																	
SAMPLE ANALYSIS:	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3		
SAMPLING ROUND:	2/07	5/07	8/07	11/07	2/08	5/08	8/08	11/08	2/09	6/09	9/09	12/09	3/10	6/10	9/10	12/10		
VOLATILE ORGANICS (ppb)																		
CHLOROFORM	0.37J	0.48J		0.38J	0.35 J	0.37 J	0.4 J	0.4 J	0.1 J								1	NA
1,1-DICHLOROETHENE									0.2 J								1	NA
1,1-DICHLOROETHANE																	1	NA
1,1,1-TRICHLOROETHANE									0.1 J								1	NA
TETRACHLOROETHENE				0.54J	0.45 J		0.5 J	0.4 J	0.1 J								1	NA
TOLUENE																	1	NA
DIBROMOCHLOROMETHANE																	1	NA
BROMOFORM																	0.8	NA
TOTAL XYLENES																	2	NA
BROMOCHLOROMETHANE																	NA	NA
ADDITIONAL VOA PEAKS	1.7	1.4JN	0.91JN		1 JN	1.1 JN											NA	NA
TOTAL VOCs	2.07	1.88	0.91	0.92	1.8	1.47	0.9	0.8	0.5									
INORGANICS																		
Priority Pollutant Metals (ppb)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
ANTIMONY																	3	NA
ARSENIC																	3	NA
BERYLLIUM																	1	NA
CADMIUM																	0.5	7
CHROMIUM																	1	30
COPPER																	4	32
LEAD																	0.05	20
MERCURY																	5	0.6
NICKEL																	4	48
SELENIUM																	4	5
SILVER																	1	6
THALLIUM																	2	NA
ZINC																	10	168
Water Quality Parameters (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
CHEMICAL OXYGEN DEMAND																	NA	NA
AMMONIA, AS N																	200	NA
NITRATE, AS N																	0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN																	NA	NA
TOTAL ORGANIC CARBON																	NA	NA
TOTAL SUSPENDED SOLIDS																	NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration
"N" Qualifier: Indicates the presumptive evidence of compound

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
GWQP - General Water Quality Parameters
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4D (continued)												56-MW5S			NJ	Background
SAMPLE DEPTH:	80-100												18.6-38.8			PQLs	(ppb)
SAMPLE ANALYSIS:	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	LCW + 3	VOA	GWQP	VOA	(ppb)	
SAMPLING ROUND:	3/11	6/11	9/11	12/11	3/12	6/12	9/12	12/12	3/13	6/13	9/13	12/13	6/87	12/88	11/92		
VOLATILE ORGANICS (ppb)														NA			
CHLOROFORM																1	NA
1,1-DICHLOROETHENE																1	NA
1,1-DICHLOROETHANE																1	NA
1,1,1-TRICHLOROETHANE																1	NA
TETRACHLOROETHENE																1	NA
TOLUENE																1	NA
DIBROMOCHLOROMETHANE																1	NA
BROMOFORM																0.8	NA
TOTAL XYLENES																2	NA
BROMOCHLOROMETHANE																NA	NA
ADDITIONAL VOA PEAKS																NA	NA
TOTAL VOCs																	
INORGANICS																	
Priority Pollutant Metals (ppb)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
ANTIMONY																3	NA
ARSENIC																3	NA
BERYLLIUM																1	NA
CADMIUM																0.5	7
CHROMIUM																1	30
COPPER																4	32
LEAD																0.05	20
MERCURY																5	0.6
NICKEL																4	48
SELENIUM																4	5
SILVER																1	6
THALLIUM																2	NA
ZINC																10	168
Water Quality Parameters (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA		
CHEMICAL OXYGEN DEMAND																NA	NA
AMMONIA, AS N																200	NA
NITRATE, AS N														1.6		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN														0.13		NA	NA
TOTAL ORGANIC CARBON														1.3		NA	NA
TOTAL SUSPENDED SOLIDS														13.0		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed

SAMPLE ANALYSIS:
VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
GWQP - General Water Quality Parameters
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S																							NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	18.9-39.2																								
SAMPLE ANALYSIS:	VOA PPM U	PPM U GWQP	PPM F	PPM U NO3	PPM F	PPM U NO3	PPM F	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3		
SAMPLING ROUND:	6/87	12/88		5/94		8/94		11/94		2/95		7/95		10/95		2/96		5/96		9/96		12/96			
VOLATILE ORGANICS (ppb)		NA	NA	NA	NA	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA			
ACETONE																								10	NA
1,1,1-TRICHLOROETHANE															0.1J									1	NA
TOLUENE											1													1	NA
TOTAL XYLENES																			0.1J					2	NA
2-BUTANONE																								2	NA
CHLOROBENZENE																								1	NA
ADDITIONAL VOA PEAKS									4J															NA	NA
INORGANICS																									
Priority Pollutant Metals (ppb)																									
Antimony							2.6		3.3		2.1	3.1	5.5											3	NA
Arsenic						18.4	2.6	3.0	3.1		4.9	4.7						2.8					2.9	3	NA
Beryllium	8							0.32		0.24	0.14	0.17	0.27			0.46	0.18	0.4		0.51	0.39		0.2	1	NA
Cadmium	40												1.1											0.5	7
Chromium	281	237		72.5		150	2.6	30.4	3.1	12	2.3	60	19.7	95.9		165		46.3	8.2	55.6	3	12.2	5.9	1	30
Copper	216	32.3		19.4	2.7	24.2	2.6	8.2	1.8	38.2	3.2	12.5	8.6	13.4		25.3		30.5		29.1	10.6	14.2	14	4	32
Mercury	3.1	0.23				0.22								0.15		0.18						0.12	0.1	0.05	0.6
Lead	204			12.5		18.9		3		3.2	2.9	7.6	4.9	1.5		17.5	1.3	13.5	7.2	29.3	18.7	15.1	12.6	5	20
Nickel	117	306	183	56.2	39.7	72.9	49.9	43.5	37.4	29.2	29.4	35.4	33.3	28.8	19.8	41.1	23.4	40	23.1	22.3	15.8	19.8	16	4	48
Selenium	6						6.3				15	3.7								1.9				4	5
Silver																								1	6
Thallium							3.9		3.8	28														2	NA
Zinc	415	114	79.7	37.4	29.9	29.9	16.5	23.2	14	21.2	16.6	23.7	45.9	27.1	13.4	65.4	40.4	47.1	25.5	31.5	31.2	37.2	41	10	168
Water Qlty. Parameters (ppm)	NA																								
CHEMICAL OXYGEN DEMAND		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N		4.6		8.88		6.42		4.6 R		0.149		5.25		4.4		7.3		7.6		7.3		29.9		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON		1.5		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS		248		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0)
NO3 - Nitrate (EPA METHOD 353.2)

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S (continued)																								NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	18.9-39.2																									
SAMPLE ANALYSIS:	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3		
SAMPLING ROUND:	3/97		6/97		9/97		12/97		2/98		4/98		7/98		10/98		1/99		4/99		7/99		10/99			
VOLATILE ORGANICS (ppb)	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
ACETONE																									10	NA
1,1,1-TRICHLOROETHANE																									1	NA
TOLUENE																									1	NA
TOTAL XYLENES																									2	NA
2-BUTANONE										1J															2	NA
CHLOROBENZENE																									1	NA
ADDITIONAL VOA PEAKS										4J															NA	NA
INORGANICS																										
Priority Pollutant Metals (ppb)																										
Antimony				3.3							1.1														3	NA
Arsenic							1.5	1.4					3.4								21.8				3	NA
Beryllium	0.38	0.2	0.99	0.93			0.22	0.21	0.21	0.18	0.53		0.19	0.1					0.11	0.5	0.66		0.36	0.23	1	NA
Cadmium				2.2			1.3	1.3				1.8							0.3				0.68		0.5	7
Chromium	26.8		8	1.6	10.6	1.8	9.5	1.8	13.5		88.1	3.5	34.4	5.6	67.2	2.5	50.1	3.4	20.2	2.6	250	1.3	54.6		1	30
Copper	11.6		1.7		8	7.1	8.3	6.6	3.5		16.3	19.2	8.6				15.8	12.8	4	2.8	23.7	2.7	5.9	4.6	4	32
Mercury											0.13		0.1								0.38		0.37	0.27	0.05	0.6
Lead	6.6	3.4	5.4	1.4	3.9	1.1	7.4	5.4	3.3	1.7	12	2.1			9.9	3	11.3	6.7		5.3	33.4	5.6	18.1	7.8	5	20
Nickel	41.3	31.4	33	32	27.4	26.4	19.3	18.3	27.3	27.3	39	23	13.3	10.2	16.3	14.3	22	15.2	18.8	13.1	39.3	13.6	36.4	22.3	4	48
Selenium			1.8	2.1					1.6						4										4	5
Silver																3.7									1	6
Thallium			1.1	1.2					1.7																2	NA
Zinc	24.8	23.8	17.8	19.8	19.2	13.1	8.7	9	9.2	11.1	22.9	27			36.2	3	17.7				31.2	23.4			10	168
Water Qlty. Parameters (ppm)																										
CHEMICAL OXYGEN DEMAND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N	6.1		0.27		5.9		6		5.8		6.7		4.5		5.4		5.8		6.3		<0.01*		<0.01*		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0)
NO3 - Nitrate (EPA METHOD 353.2)
* - Nitrate analysis was not conducted by the laboratory; nitrite analysis was conducted and reported.

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S (continued)																								NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:									18.9-39.2																	
SAMPLE ANALYSIS:	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3		
SAMPLING ROUND:	1/00		4/00		7/00		10/00		1/01		5/01		8/01		11/01		2/02		5/02		8/02		11/02			
VOLATILE ORGANICS (ppb)	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
ACETONE																			220						10	NA
1,1,1-TRICHLOROETHANE																									1	NA
TOLUENE																									1	NA
TOTAL XYLENES																									2	NA
2-BUTANONE																									2	NA
CHLOROBENZENE																			0.4J						1	NA
ADDITIONAL VOA PEAKS																								33JN	NA	NA
INORGANICS																										
Priority Pollutant Metals (ppb)																										
Antimony																									3	NA
Arsenic			4.9		21.6		7.0B										2.6B						37.6B		3	NA
		0.59	0.67		0.6	0.22	0.41B				0.38	0.34B					0.073B								1	NA
Beryllium																										
Cadmium			0.56	0.32	0.5	0.35		0.44				0.48B													0.5	7
	32.6	22.2	197	8.9	162 /	8.3	310	5.5B	71.2	2.7B	22.6	14.8B	41.4	6.6B	60.1/1	6.0B	70.3	6.1B	36.4	8.5B	42.7	5.7B	1970	17.6B	1	30
Chromium					603 **										12**											
Copper	12.4		10.3		31	2	26.8	2.1B	6.3B		5.0B	4.48B	3.7B	2.6B	8.0B	2.6B	2.5B		5.6B	3.6B			103B		4	32
Mercury			0.13		0.34		0.14B																1.4B		0.05	0.6
Lead	6.3	1.9	12.3		26.6	2.3	10.6		5.1	2.8B	3.6	4			8.6		7.9	1.9B	6.8				90.3		5	20
Nickel	22.5	38.7	52.8	34.6	135	92	246	217	141	139	377	368	200	212	236	225	216	202	206	198	184	174	348	181B	4	48
Selenium																									4	5
Silver				0.59																					1	6
Thallium	4.6								8.9B	7.7B		7.9B						2.4B							2	NA
Zinc	19.8	19.5	17.6	14.2	33.7	12.1	21.6	17.2B	16.4B	15.4B	18.1B	23.1	31.4	45.7	19.6B	15.5B		12.4B			14.1B	10.7B	90.8B		10	168
Water Qlty. Parameters (ppm)																										
CHEMICAL OXYGEN DEMAND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N	4.1		5.7		5.7		5.6		3.9		4.8		3.9		3.3		3		2.8		3.2		3.2		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

NA - Not Analyzed

"J" Qualifier: Indicates an estimated concentration

"N" Qualifier: Indicates the presumptive evidence of compound

"B" Qualifier: Constituent also present in an associated blank

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)

NO3 - Nitrate (EPA METHOD 353.2 / 300.0)

* - Nitrate analysis was not conducted by the laboratory; nitrite analysis was conducted and reported.

** - Original sample and duplicate sample results.

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S (continued)																								NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:									18.9-39.2																	
SAMPLE ANALYSIS:	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3		
SAMPLING ROUND:	2/03		5/03		8/03		11/03		2/04		5/04		8/04		11/04		12/05		5/05		8/05		11/05			
VOLATILE ORGANICS (ppb)	NA		NA				NA		NA		NA		NA		NA		NA		NA		NA		NA			
ACETONE						5M																			10	NA
1,1,1-TRICHLOROETHANE																									1	NA
TOLUENE																									1	NA
TOTAL XYLENES																									2	NA
2-BUTANONE																									2	NA
CHLOROBENZENE																									1	NA
ADDITIONAL VOA PEAKS		2.9JN				3.3JN																			NA	NA
INORGANICS																										
Priority Pollutant Metals (ppb)																										
Antimony																									3	NA
Arsenic	5.9B				11.5																				3	NA
Beryllium																					0.20B	0.18B	0.33B	0.33B	1	NA
Cadmium																									0.5	7
Chromium	358	5.7B	37.9	8.6B	469	81.3	46	6.5B	69.7	8.4B	66.6	7.2B	170	11.3	229	8.8B	122	31.3	764	30.5	139	52.3	1000	430	1	30
Copper	14.7B	3.9B	5.4B	3.0B	20.4B	4.5B	7.2B	4.5B			8.6B	4B	11.1		11.8B	3.6B	12.4	55.6	24.1B	3.6B	4.7B	4.2B	20.1B	15.6B	4	32
Mercury					0.14B														0.44						0.005	0.6
Lead	26.5	9.5	5.1B	4.8B	16.6	4.4	5.4		3.7		8.3	5.3	7.3		10.4		4.9		10.2				4.4		5	20
Nickel	187	154	477	466	475	416	235	239	222	220	239	232	202	188	255	235	474	394	270	212	332	335	956	913	4	48
Selenium					5.7	5.7																			4	5
Silver																									1	6
Thallium																									2	NA
Zinc							5.1B	5.2B	8.6B	12.5B	7.3B	10.4B			14.9		11.3	14	10.1B	6.8B	2.7B	6.3B	13.7B	17.5B	10	168
Water Qlty. Parameters (ppm)																										
CHEMICAL OXYGEN DEMAND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N	4.2		4.4		5		2.8		2.81		2.83		2.34		2.30		2.69		2.73		2.51		2.4		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.

NA - Not Analyzed

"J" Qualifier: Indicates an estimated concentration

"N" Qualifier: Indicates the presumptive evidence of compound

"B" Qualifier: Constituent also present in an associated blank

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)

LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)

LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether

PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)

NO3 - Nitrate (EPA METHOD 353.2 / 300.0)

* - Nitrate analysis was not conducted by the laboratory; nitrite analysis was conducted and reported.

** - Original sample and duplicate sample results.

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S (continued)																								NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	18.9-39.2																									
SAMPLE ANALYSIS:	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3	PPM U NO3	PPM F LCW+3		
SAMPLING ROUND:	2/06		5/06		8/06		1.1/06		2/07		5/07		8/07		1.1/07		2/08		5/08		8/08		1.1/08			
VOLATILE ORGANICS (ppb)	NA		NA		NA		NA				NA		NA		NA		NA		NA		NA		NA			
ACETONE																									10	NA
1,1,1-TRICHLOROETHANE																									1	NA
TOLUENE																									1	NA
TOTAL XYLENES																									2	NA
2-BUTANONE																									2	NA
CHLOROBENZENE																									1	NA
ADDITIONAL VOA PEAKS								2.5JN		4.8															NA	NA
INORGANICS																										
Priority Pollutant Metals (ppb)																										
Antimony																					8.3 J				3	NA
Arsenic							17.6				4.8J				3.4J		2.1B	0.90B	8.1 J		10.5	5.2 J			3	NA
Beryllium	0.25N	0.21N			0.2	0.2N					0.3J										0.30 J	0.30 J		0.44 J	1	NA
Cadmium							0.97												0.47 J	0.60 J					0.5	7
Chromium	225*	102N*	201	78.9	165	57	15,400	54.9	83	17	110	32	38	17	570	460	97.7	47.1	641	46.2	1130	95.3	28.1 E	14.1 E	1	30
Copper	9.1	6.4	6.4	5.2	15.9		91.0	3.7	5.0J	5.6J	7.4J	4.2J	42.J	3.0J	13J	16J		18.4	19.1 J	5.6 J	30.2	18.7 J	4.5 J	3.0 J	4	32
Mercury							0.28																0.058 J	0.033 J	0.05	0.6
Lead	2.2						38.9*N	2.4*N	5.9	2.7J	4.1		5.2		14		1.5		8.0 J	3.8 J	18.2	6.3 J			5	20
Nickel	389	350	265	302	305	318	594	250	180	190	160	160	110	120	410	960	189	199	276	148	334	322	172	139	4	48
Selenium													4.2J												4	5
Silver							0.52																		1	6
Thallium									6.1J	6.4J							0.88B								2	NA
Zinc							24.8		13J	12J		10J			12J	74		12.6BE	9.2 J	10.5 J	22.5 J	21.1 J	6.4 J	7.6 J	10	168
Water Qlty. Parameters (ppm)																										
CHEMICAL OXYGEN DEMAND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N	3.46		2.66		2.37		3.46		3.60		3.70		3.10		2.40		2.60		3.10		2.50		2.40		0.1	NA
TOTAL ORGANIC NITROGEN	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration
"N" Qualifier: Indicates the presumptive evidence of compound
"E" Qualifier: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis

SAMPLE ANALYSIS:
VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)
NO3 - Nitrate (EPA METHOD 353.2 / 300.0)
* - Nitrate analysis was not conducted by the laboratory; nitrite analysis was conducted and reported.
** - Original sample and duplicate sample results.

TABLE 16 (continued)

COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S (continued)																								NJ PQLs (ppb)	Background (ppb)
SAMPLE DEPTH:	18.9-39.2																									
SAMPLE ANALYSIS:	PPM U NO3	PPM F LCW+3	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F	LCW+3 PPM U NO3	PPM F		
SAMPLING ROUND:	2/09		6/09		9/09		12/09		3/10		6/10		9/10		12/10		3/11		6/11		9/11		12/11			
VOLATILE ORGANICS (ppb)	NA																									
ACETONE																									10	NA
1,1,1-TRICHLOROETHANE																									1	NA
TOLUENE																									1	NA
TOTAL XYLENES																									2	NA
2-BUTANONE																									2	NA
CHLOROBENZENE																									1	NA
ADDITIONAL VOA PEAKS																									NA	NA
INORGANICS																										
Priority Pollutant Metals (ppb)																										
Antimony																		11.0 J							3	NA
Arsenic	3.4 J				29.2				7.7 J																3	NA
Beryllium			0.54 J	0.27 J							0.30 J												0.23 J	0.25 J	1	NA
Cadmium					0.84 J				0.77 J									3.8 J							0.5	7
Chromium	21.5	22.9	56.9	13.6	17.8	7.7 J	44	11.7	186	8.9 J	406	30.5	510	60.1	182	20.2	355	16.4	82.3	18.2	69.9 *	16.6*	69.9	19.3	1	30
Copper	2.7 J	4.3 J	5.6 J				3.6 J		4.3 J		8.1 J	4.9 J		6.4 J	5.4 J	4.0 J	7.1 J	3.2 J	3.3 J	3.8 J			5.4 J	3.7 J	4	32
Mercury	2.6 J																0.067 J			0.037 J					0.05	0.6
Lead				4.2 J			5.5 J		4.2 J		4.4 J		3.7 J				4.8 J	15.5					3.0 J		5	20
Nickel	71	116	80.3	71.2	64.5	62.7	79.7	69.8	68.0	67.8	96.0	92.6	56.3	63.3	63.7	79.1	48.9	51.3	119	123	98.6	102	155	148	4	48
Selenium				4.7 J										4.8 J				103							4	5
Silver			1.4 J		2.9 J																				1	6
Thallium											1.8 J							10.2 J							2	NA
Zinc	9.5 J	16	13.1 J	11.4 J	9.9 J	11.7 J	5.4 J	6.2 J			7.8 J	8.3J			19.9 J	8.6 J	6.4 J	9.8 J		7.9 J			50.6 J	60.6	10	168
Water Qlty. Parameters (ppm)																										
CHEMICAL OXYGEN DEMAND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N	2.40	3.5	3.90		3.9		4.4		1.3 H		3.5		4.9		3.7		3.5		3.9		3.2		3.2		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration
"H" Qualifier: Sample was prepared and/or analyzed beyond the specified holding time

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)
NO3 - Nitrate (EPA METHOD 353.2 / 300.0 or Standard Method 4500)
* - Nitrate analysis was not conducted by the laboratory; nitrite analysis was conducted and reported.
** - Original sample and duplicate sample results.

TABLE 16 (continued)

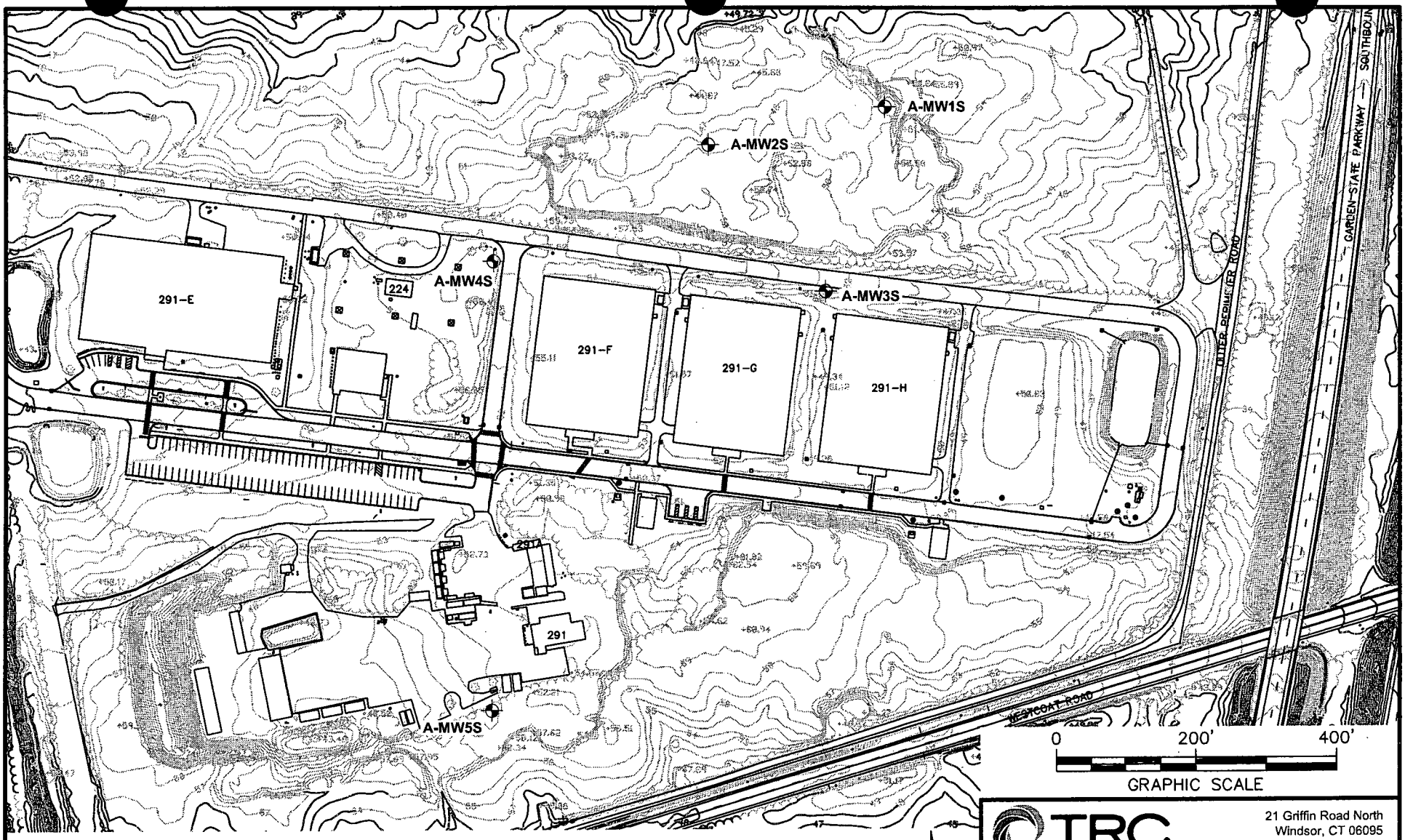
COMPARISON OF HISTORIC GROUNDWATER VOC / INORGANIC ANALYTICAL RESULTS - AREA 56

SAMPLE IDENTIFICATION:	56-MW4S (continued)																NJ PQLs (ppb)	Back-ground (ppb)
SAMPLE DEPTH:	18.9-39.2																	
SAMPLE ANALYSIS:	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F	LCW+3 PPM, U NO3	PPM F		
SAMPLING ROUND:	3/12		6/12		9/12		12/12		3/13		6/13		9/13		12/13			
VOLATILE ORGANICS (ppb)																		
ACETONE																	10	NA
1,1,1-TRICHLOROETHANE																	1	NA
TOLUENE																	1	NA
TOTAL XYLENES																	2	NA
2-BUTANONE																	2	NA
CHLOROBENZENE																	1	NA
ADDITIONAL VOA PEAKS																	NA	NA
INORGANICS																		
Priority Pollutant Metals (ppb)																		
Antimony																	3	NA
Arsenic					3.4											2.1 J	3	NA
Beryllium	0.30 J	0.25 J	0.23 J	0.26 J			0.20 J	0.23 J			0.16 J				0.40 J	0.33 J	1	NA
Cadmium			0.44 J	0.56 J											0.32 J		0.5	7
Chromium	491	38.5	117	18.1	47.2	14.0	49.7	31.5	93.5	39.8	36.8	26.6	96.0	22.0	57.2	28.8	1	30
Copper		3.8 J		1.9 J			2.0 J	1.7 J	2.6 J	1.4 J			7.1 J	4.3 J	2.9 J		4	32
Mercury					0.13 J												0.05	0.6
Lead	3.5 J		3.4 J	2.9 J	3.6 J	2.5 J	3.7 J						2.8 J				5	20
Nickel	277	263	161	155	126	128	309	336	520	505	265	261	123	119	154	152	4	48
Selenium																	4	5
Silver																	1	6
Thallium								3.1 J					2.2 J				2	NA
Zinc	6.4 J	6.8 J	6.5 J	7.6 J			7.4 J	13.0 J	3.9 J	3.9 J			16.9 J	14.5 J			10	168
Water Qlty. Parameters (ppm)																		
CHEMICAL OXYGEN DEMAND	NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
AMMONIA, AS N	NA		NA		NA		NA		NA		NA		NA		NA		200	NA
NITRATE, AS N	4.2		3.9		4.9 H		4.9		3.7		3.8		3.9		2.9		0.1 (ppm)	NA
TOTAL ORGANIC NITROGEN	NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA		NA		NA	NA
TOTAL SUSPENDED SOLIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA	NA

NOTES: ONLY CONCENTRATIONS THAT ARE ANALYTICALLY VALID AND ABOVE THE DETECTION LIMIT ARE SHOWN.
NA - Not Analyzed
"J" Qualifier: Indicates an estimated concentration
"H" Qualifier: Sample was prepared and/or analyzed beyond the specified holding time

SAMPLE ANALYSIS: VOA - Volatile Organic Analysis, EPA CLP (3/90 SOW)
LCW - EPA Low Concentration Water Volatile Organic Analysis (CLP SOW OLC 02.1)
LCW+3 - LCW plus Acrolein, Acrylonitrile, and 2-Chloroethyl vinyl ether
PPM - Priority Pollutant Metals (U - Unfiltered; F - Filtered)(CLP/ILM04.0 / 04.1)
NO3 - Nitrate (EPA METHOD 353.2 / 300.0 or Standard Method 4500)
* - Nitrate analysis was not conducted by the laboratory; nitrite analysis was conducted and reported.
** - Original sample and duplicate sample results.

Figures



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

A-MW1S ⊕ MONITORING WELL

N
W E
S
NJ State Grid 1983

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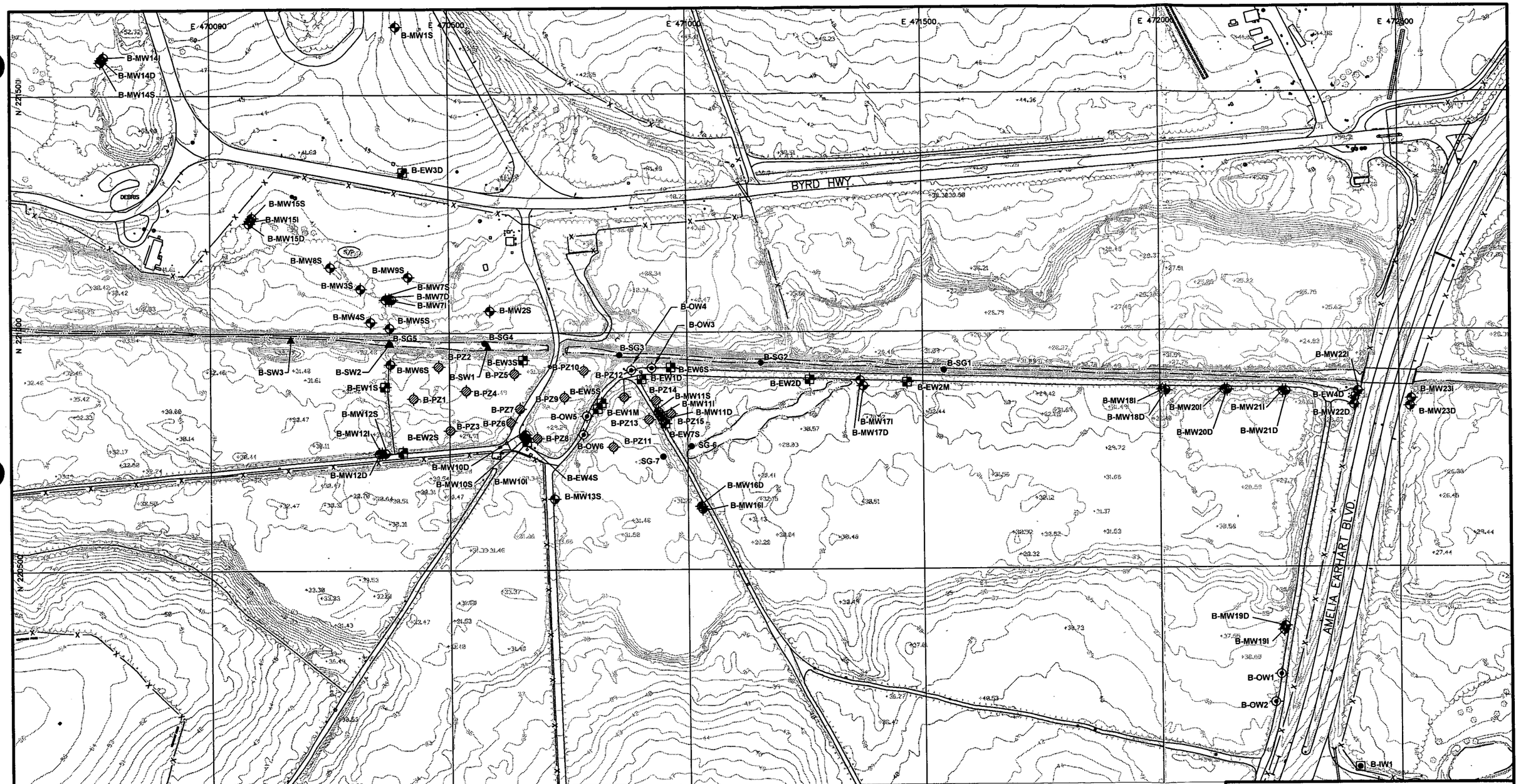
FIGURE 1.
AREA A
LOCATION OF MONITORING WELLS

J:\CAD\162662\000180\000501\Sept 2013\
Figure 1 & 6.dwg Layout:FIGURE 1 October 01, 2013–9:49AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION

0 200' 400'
GRAPHIC SCALE

N W E S
1983 NJ STATE

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Windsor, CT 06095
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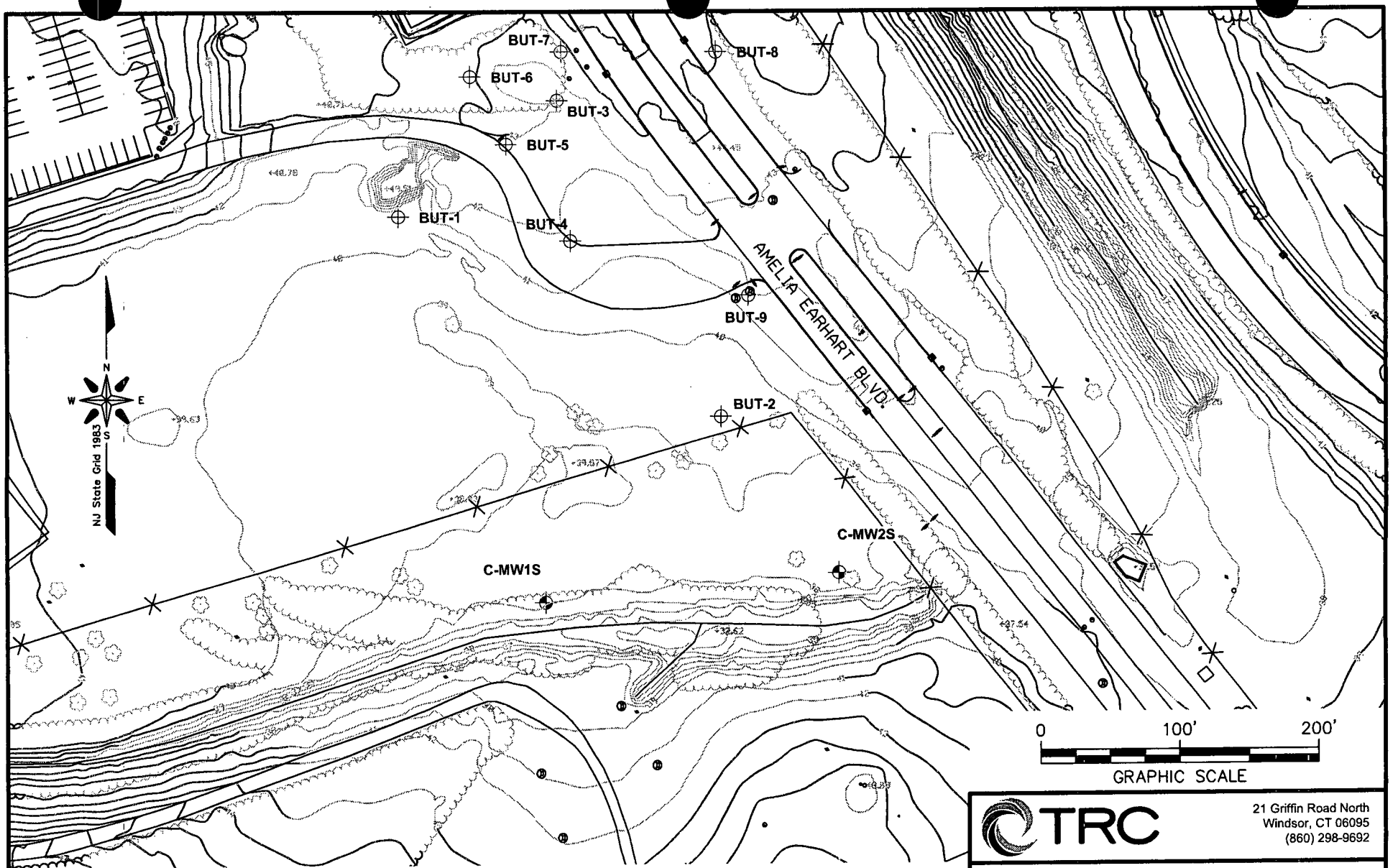
FIGURE 2
AREA B
LOCATIONS OF MONITORING WELLS, SURFACE WATER SAMPLES, STREAM GAUGES, PIEZOMETERS, EXTRACTION WELLS, AND OBSERVATION WELLS

J:\CAD\162662\000180\000450\March 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 2 April 05, 2013–1:31PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

C-MW1S	MONITORING WELL
BUT-1	BUTLER AVIATION MONITORING WELL

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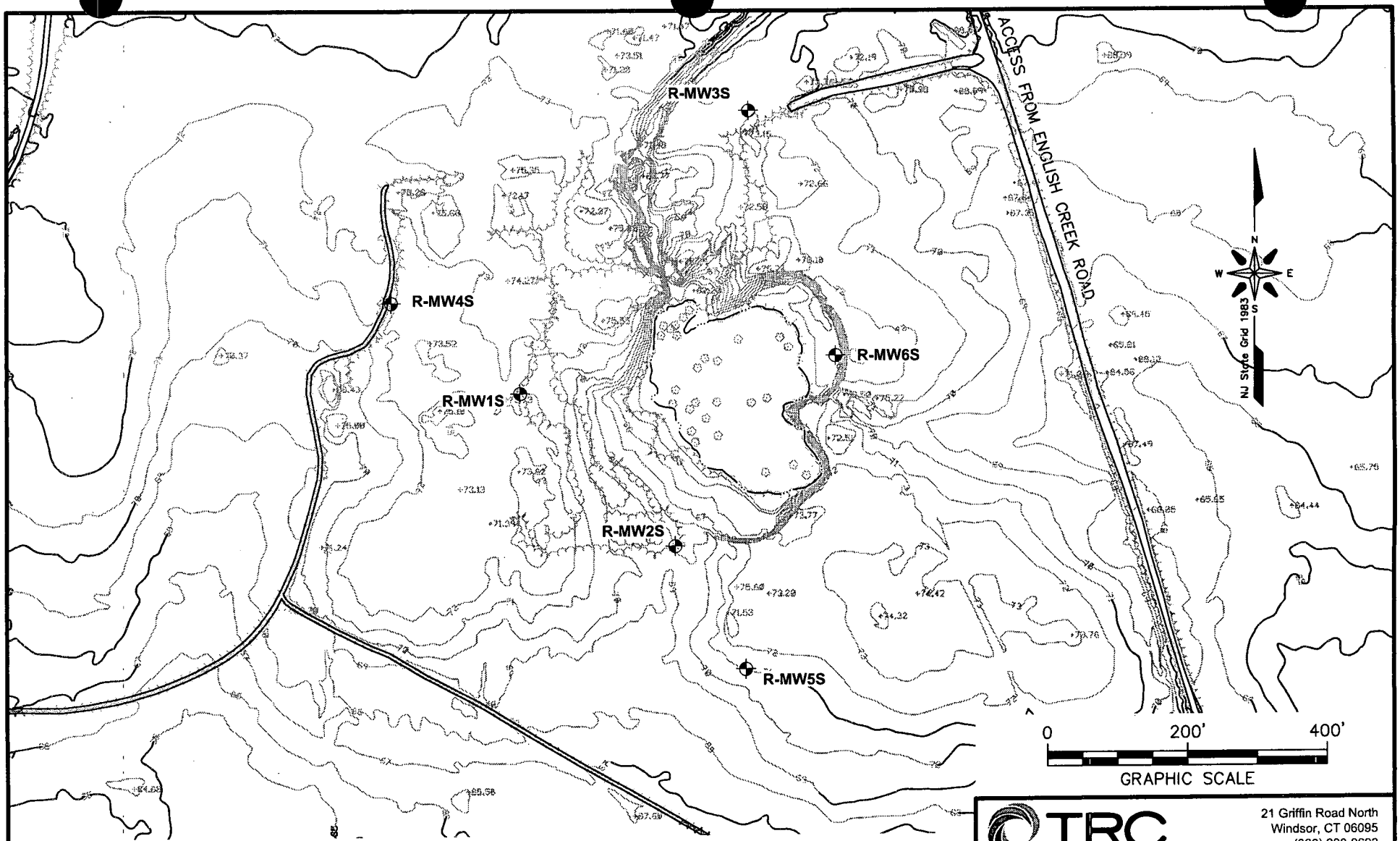
FIGURE 3.
AREA C
LOCATION OF MONITORING WELLS

J:\CAD\162662\000180\000501\Sept 2013\
Figure 3 & 8.dwg Layout:FIGURE 3 October 01, 2013–9:50AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

R-MW1S	MONITORING WELL INSTALLED DURING PHASE II INVESTIGATION
R-MW4S	MONITORING WELL INSTALLED DURING SUPPLEMENTAL INVESTIGATIONS

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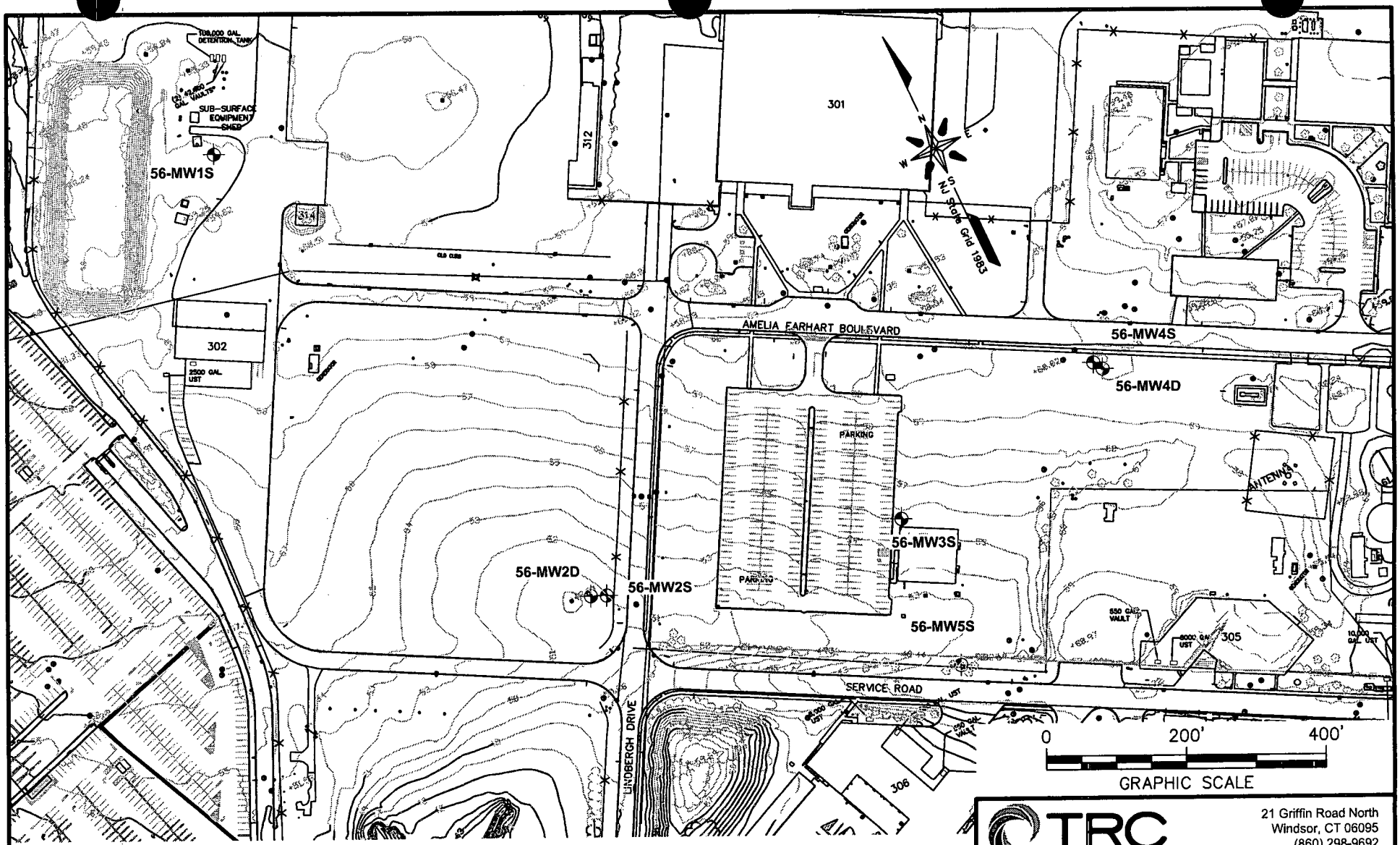
FIGURE 4.
AREA R
LOCATION OF MONITORING WELLS

J:\CAD\162662\000180\000501\Sept 2013\
Figure 4 & 9.dwg Layout:FIGURE 4 October 01, 2013–9:51AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW1S MONITORING WELL

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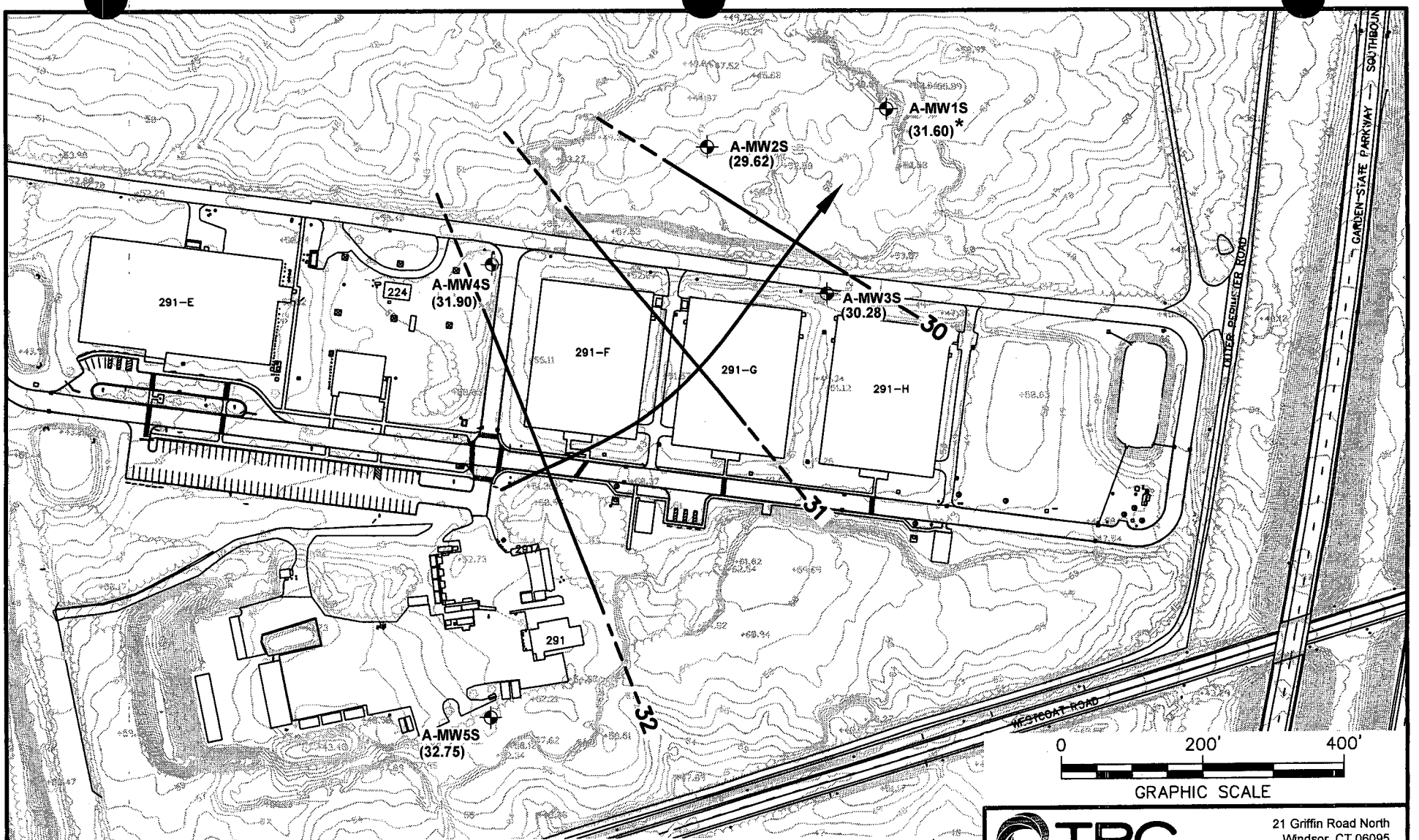
FIGURE 5.
AREA 56
LOCATION OF MONITORING WELLS

J:\CAD\162662\000180\000501\Sept 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 5 September 30, 2013–4:27PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

A-MW1S — MONITORING WELL

(29.62) — WATER LEVEL ELEVATION IN WELL ON 03/26/13 (FT. NAVD88)

29 — TRUE WATER TABLE CONTOUR LINE (FT. NAVD88) (DASHED WHERE INFERRED)

→ PRESUMED DIRECTION OF GROUNDWATER FLOW

* – DUE TO ANOMALOUSLY HIGH WATER LEVEL, THIS VALUE NOT USED IN WATER LEVEL CONTOURING.

N W E S

NJ State Grid 1983

J:\CAD\162662\000180\000450\March 2013\
Figure 1 & 6.dwg Layout:FIGURE 6 April 05, 2013–9:35AM KHollenbeck

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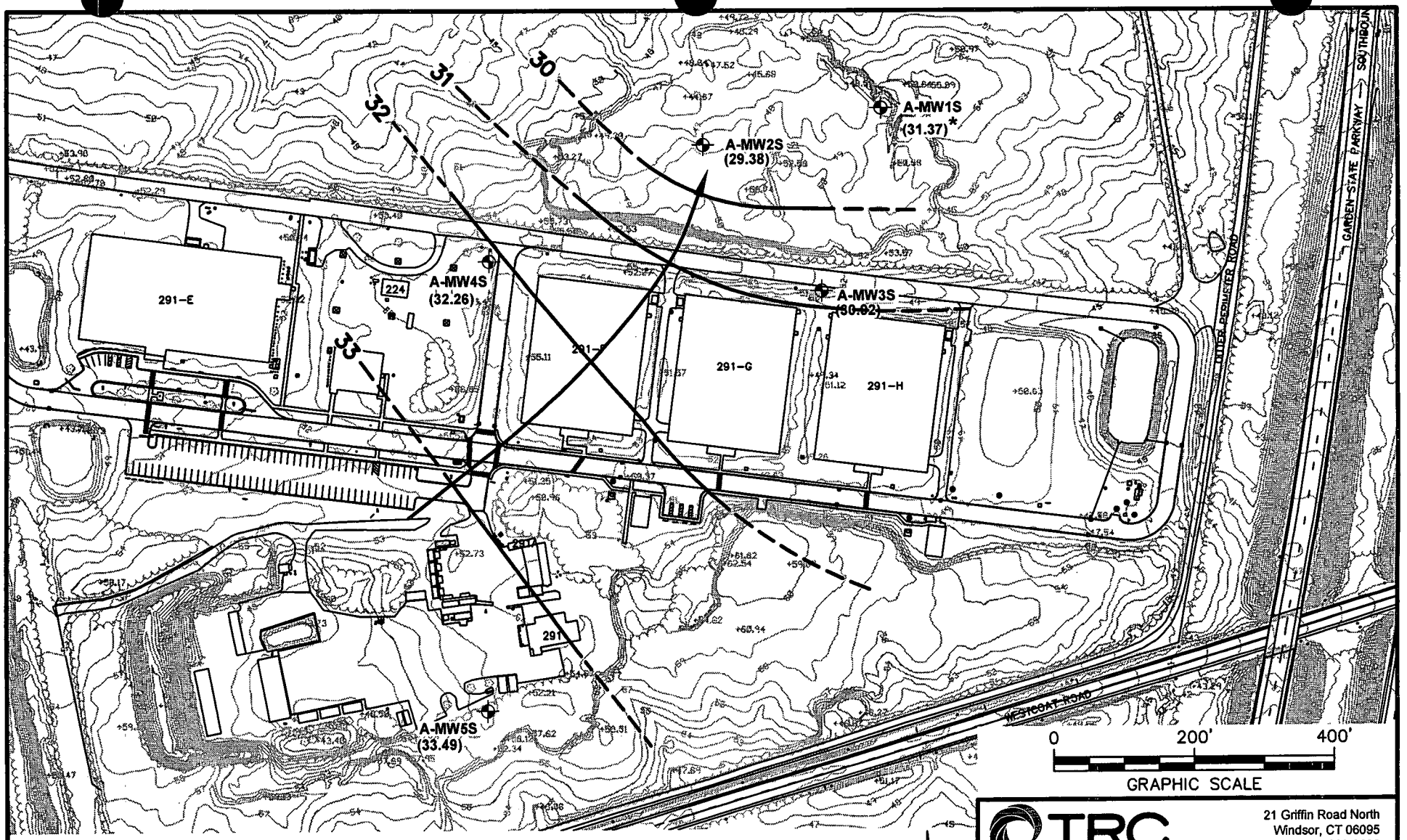
FIGURE 6.
AREA A
CONTOURED WATER LEVEL ELEVATIONS - 03/26/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

A-MW2S	MONITORING WELL
(29.38)	WATER LEVEL ELEVATION IN WELL ON 06/11/13 (FT. NAVD88)
32	TRUE WATER TABLE CONTOUR LINE (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

* – DUE TO ANOMALOUSLY HIGH WATER LEVEL, THIS VALUE NOT USED IN WATER LEVEL CONTOURING.

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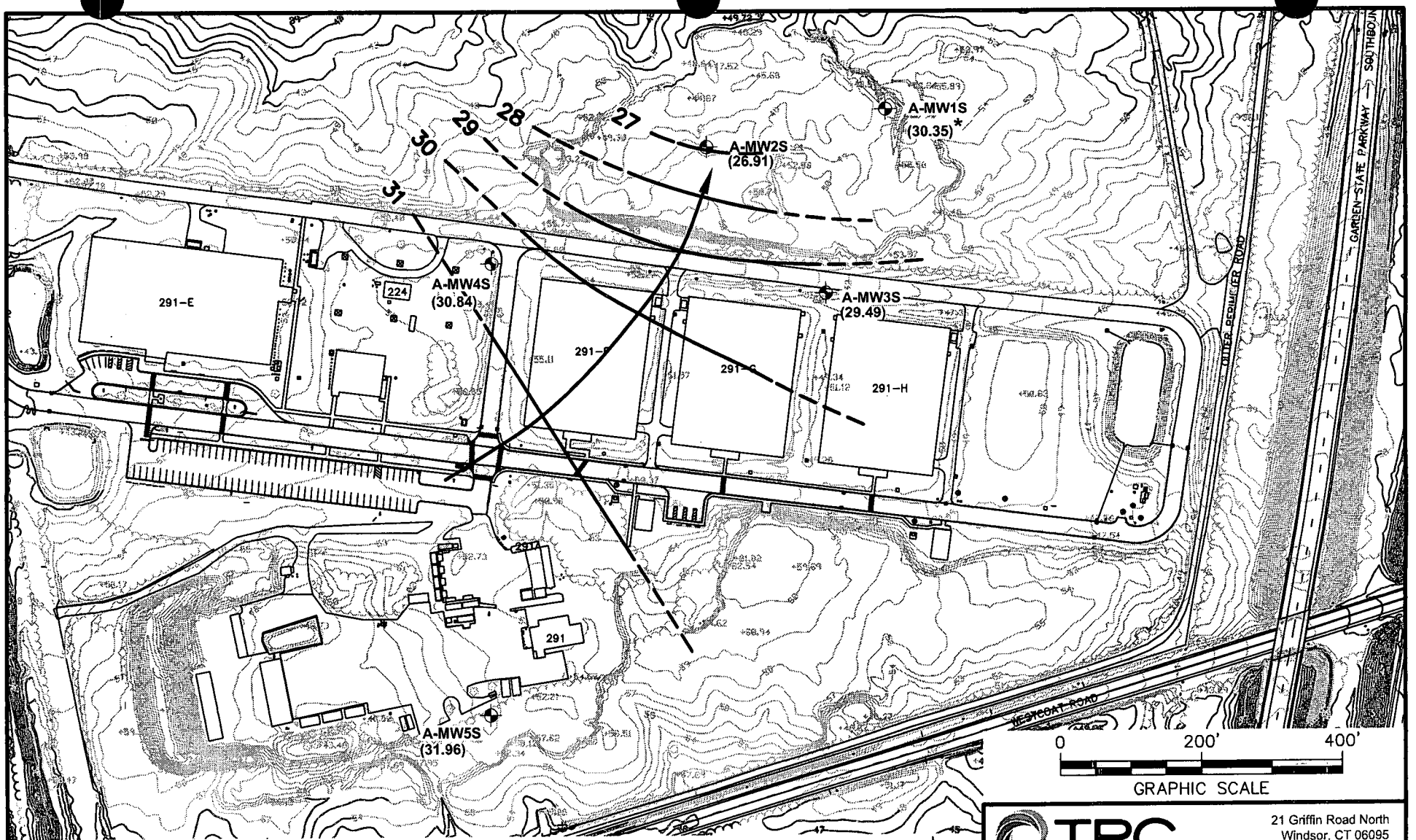
FIGURE 6.
AREA A
CONTOURED WATER LEVEL ELEVATIONS - 06/11/13

J:\CAD\162662\000110\000801\June 2013\
Figure 1 & 6.dwg Layout:FIGURE 6 June 27, 2013–9:17AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

A-MW2S	MONITORING WELL
(26.91)	WATER LEVEL ELEVATION IN WELL ON 09/12/13 (FT. NAVD88)
30	TRUE WATER TABLE CONTOUR LINE (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

* – DUE TO ANOMALOUSLY HIGH WATER LEVEL, THIS VALUE NOT USED IN WATER LEVEL CONTOURING.

NJ State Grid 1983

J:\CAD\162662\000180\000501\Sept 2013\
Figure 1 & 6.dwg Layout:FIGURE 6 September 27, 2013–11:18AM KHollenbeck

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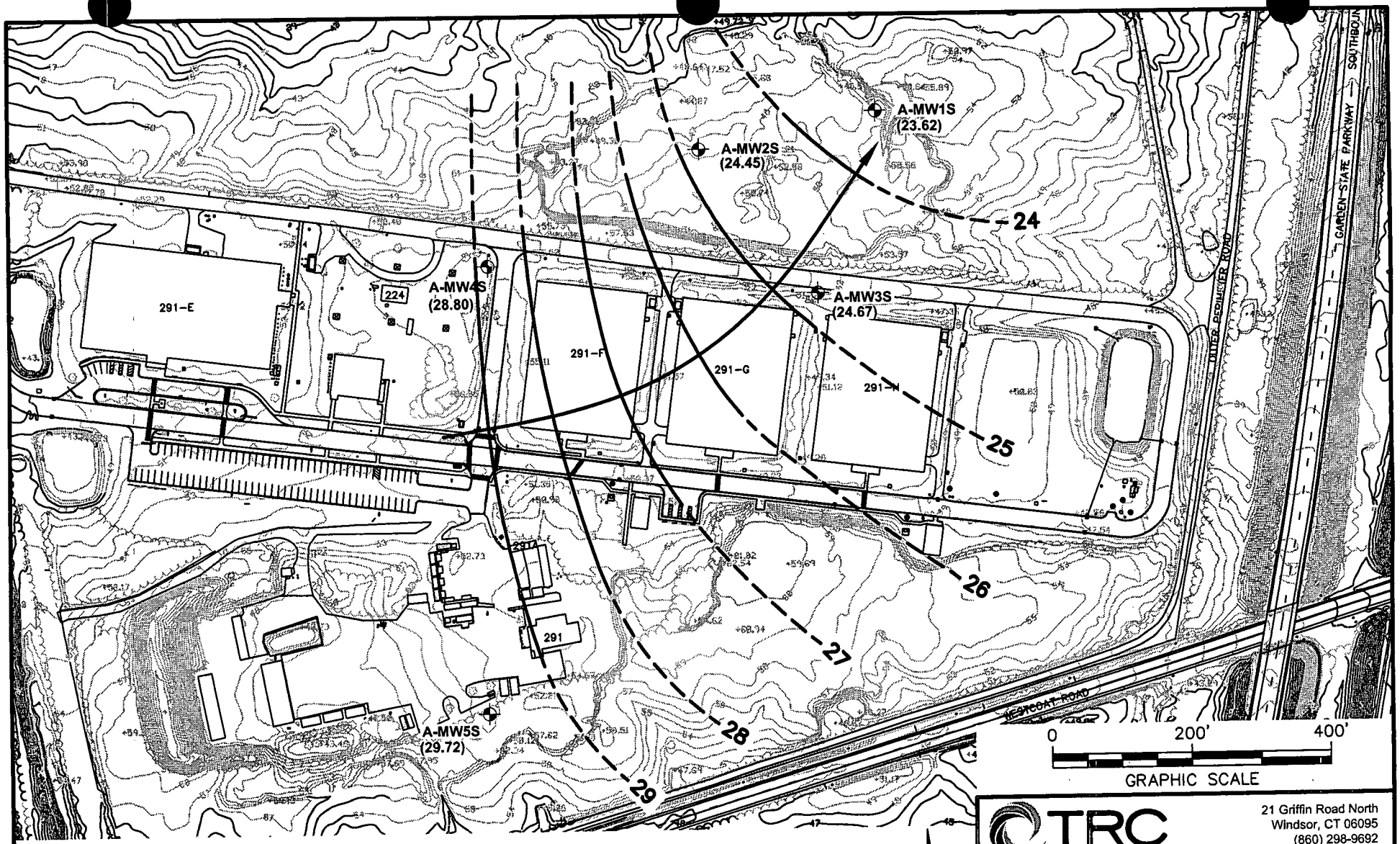
FIGURE 6.
AREA A
CONTOURED WATER LEVEL ELEVATIONS - 09/12/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

A-MW2S	MONITORING WELL
(23.62)	WATER LEVEL ELEVATION IN WELL ON 12/09/13 (FT. NAVD88)
28	TRUE WATER TABLE CONTOUR LINE (FT. NAVD88) (DASHED WHERE INFERRED)
	PRESUMED DIRECTION OF GROUNDWATER FLOW

N
W
E
S
NJ State Grid 1983

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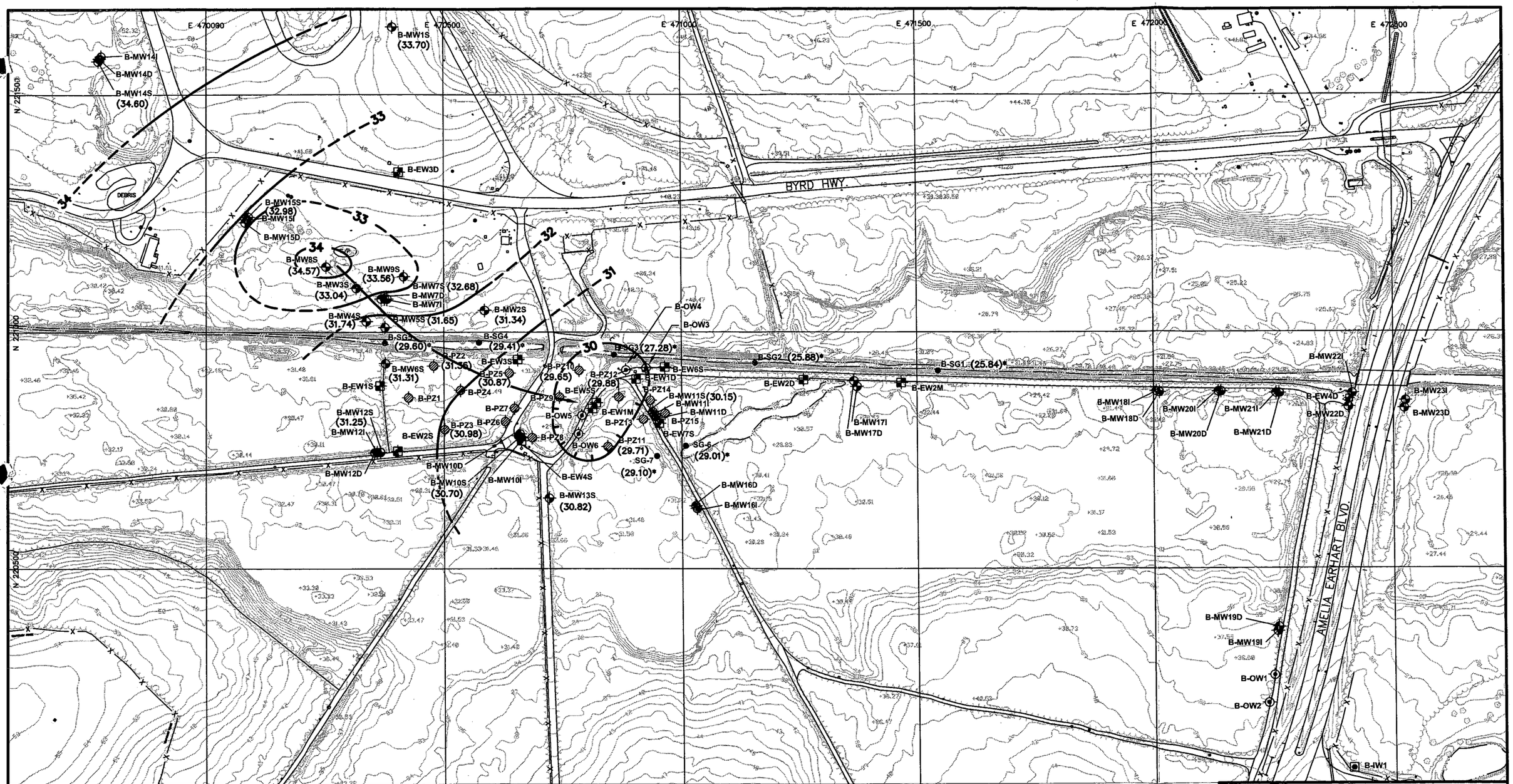
FIGURE 6.
AREA A
CONTOURED WATER LEVEL ELEVATIONS - 12/09/13

J:\CAD\162662\000180\000502\Dec 2013\
Figure 1 & 6.dwg Layout:FIGURE 6 March 10, 2014–4:16PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION	31	GROUNDWATER CONTOUR ON 03/26/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
B-PZ1	PIEZOMETER LOCATION	→	APPROXIMATE SHALLOW GROUNDWATER FLOW DIRECTION
B-EW1	EXTRACTION WELL LOCATION	(33.70)	GROUNDWATER ELEVATION ON 03/26/13 (FT. NAVD88)
B-OW1	OBSERVATION WELL LOCATION	*	STREAM GAUGE READINGS NOT USED IN GROUNDWATER CONTOURS.
B-IW1	INJECTION WELL LOCATION		
B-SG1	STREAM GAUGE LOCATION		
B-SW1	SURFACE WATER LOCATION		

0 200' 400'
GRAPHIC SCALE

N W E S
1983 NJ STATE

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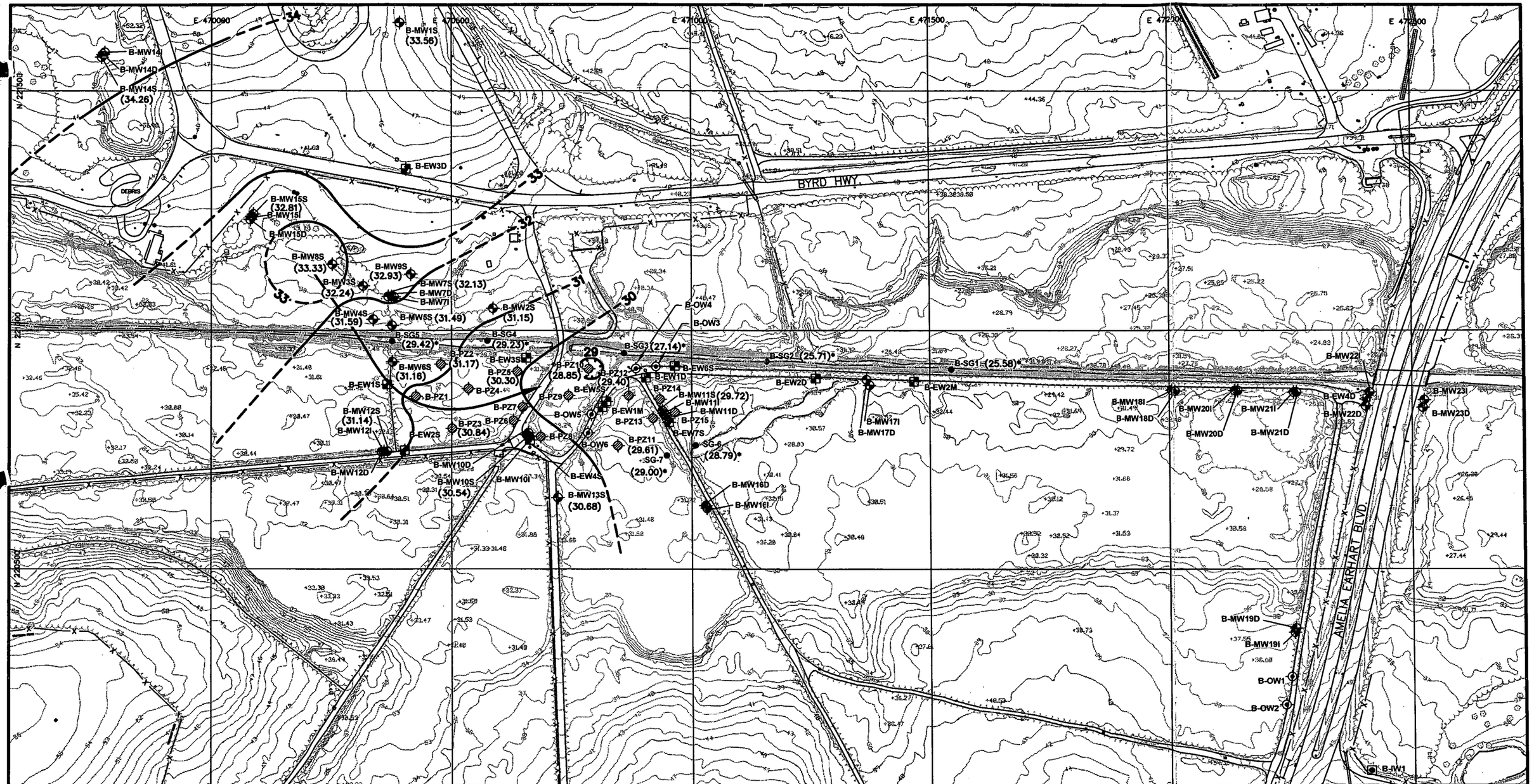
FIGURE 7A
AREA B
CONTOURED WATER LEVEL ELEVATIONS SHALLOW AQUIFER - 03/26/13

J:\CAD\162662\000180\000450\March 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7A October 01, 2013–10:01AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION	30 — — —	GROUNDWATER CONTOUR ON 06/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
B-PZ1	PIEZOMETER LOCATION	→	APPROXIMATE SHALLOW GROUNDWATER FLOW DIRECTION
B-EW1	EXTRACTION WELL LOCATION	(29.61)	GROUNDWATER ELEVATION ON 06/11/13 (FT. NAVD88)
B-OW1	OBSERVATION WELL LOCATION	*	STREAM GAUGE READINGS NOT USED IN GROUNDWATER CONTOURS.
B-IW1	INJECTION WELL LOCATION		
B-SG1	STREAM GAUGE LOCATION		
B-SW1	SURFACE WATER LOCATION		

0 200' 400'
GRAPHIC SCALE

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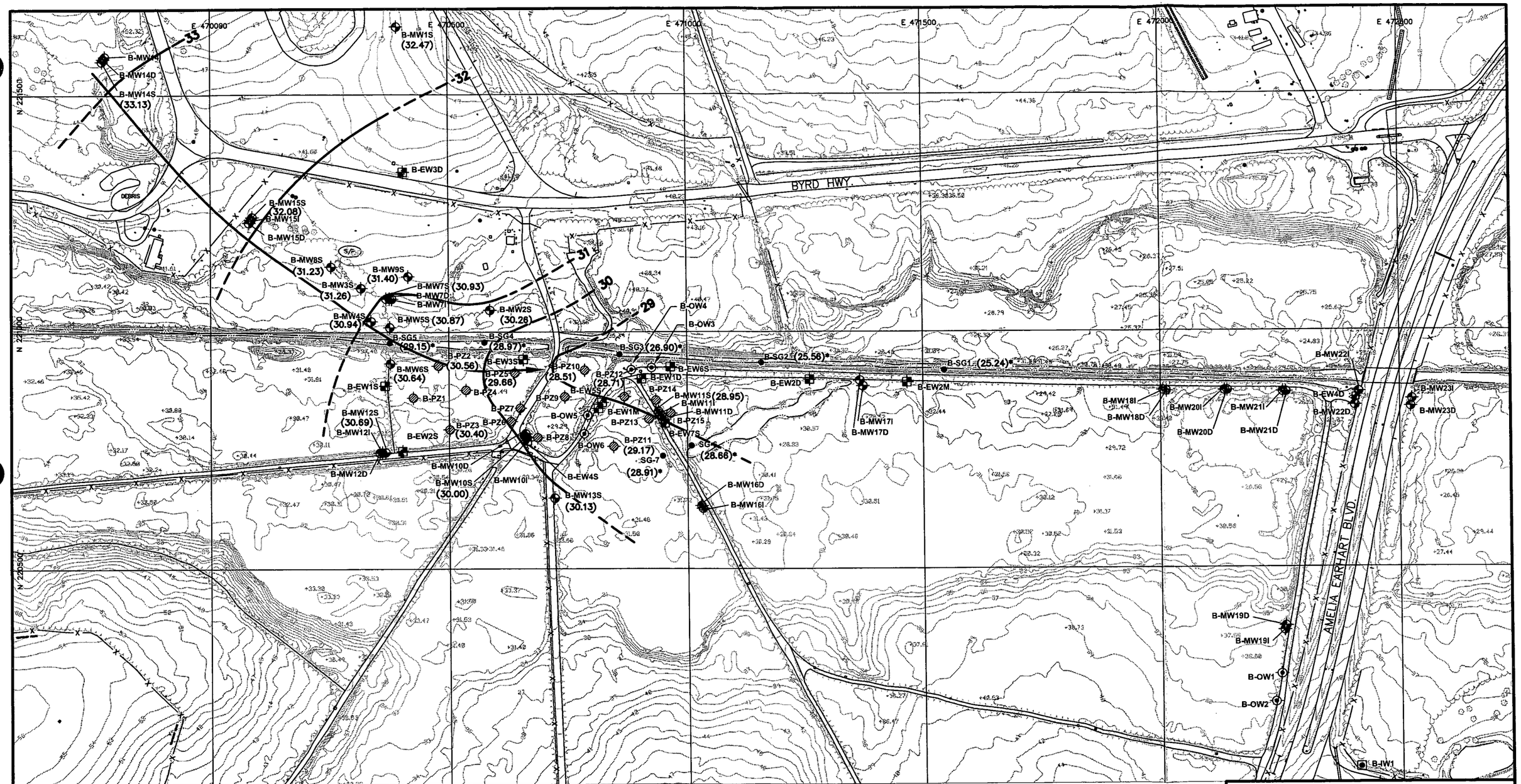
FIGURE 7A
AREA B
CONTOURED WATER LEVEL ELEVATIONS
SHALLOW AQUIFER - 06/11/13

J:\CAD\162662\000110\000801\June 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7A June 27, 2013–8:35AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION	30	GROUNDWATER CONTOUR ON 09/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
B-PZ1	PIEZOMETER LOCATION	→	APPROXIMATE SHALLOW GROUNDWATER FLOW DIRECTION
B-EW1	EXTRACTION WELL LOCATION	(30.64)	GROUNDWATER ELEVATION ON 09/11/13 (FT. NAVD88)
B-OW1	OBSERVATION WELL LOCATION	*	STREAM GAUGE READINGS NOT USED IN GROUNDWATER CONTOURS.
B-IW1	INJECTION WELL LOCATION		
B-SG1	STREAM GAUGE LOCATION		
	SURFACE WATER LOCATION		

0 200' 400'
GRAPHIC SCALE

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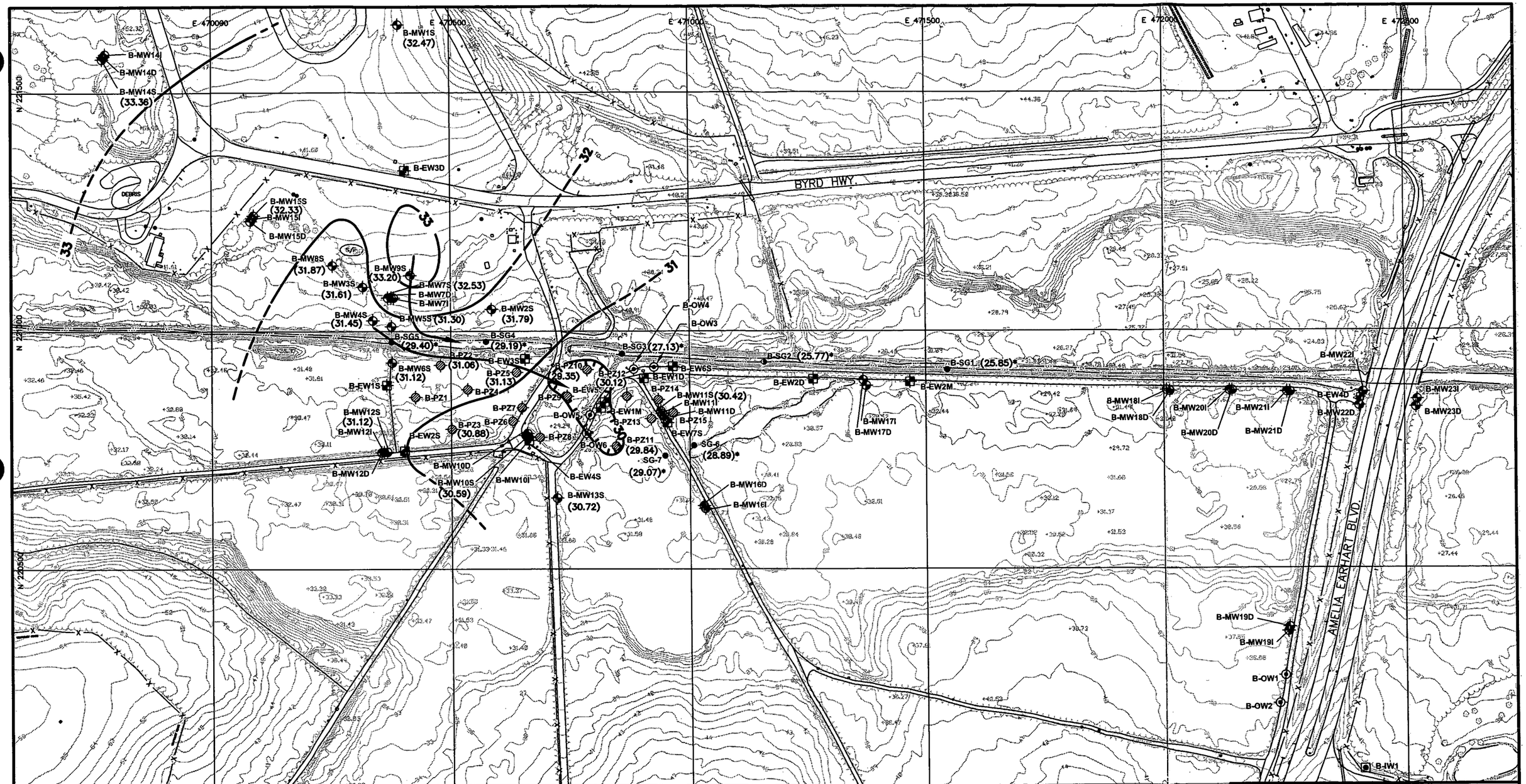
FIGURE 7A
AREA B
CONTOURED WATER LEVEL ELEVATIONS
SHALLOW AQUIFER - 09/11/13

J:\CAD\162662\000180\000501\Sept 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7A September 27, 2013–2:28PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION	32	GROUNDWATER CONTOUR ON 12/09/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
B-PZ1	PIEZOMETER LOCATION		APPROXIMATE SHALLOW GROUNDWATER FLOW DIRECTION
B-EW1	EXTRACTION WELL LOCATION	(32.47)	GROUNDWATER ELEVATION ON 12/09/13 (FT. NAVD88)
B-OW1	OBSERVATION WELL LOCATION	*	STREAM GAUGE READINGS NOT USED IN GROUNDWATER CONTOURS.
B-IW1	INJECTION WELL LOCATION		
B-SG1	STREAM GAUGE LOCATION		
B-SW1	SURFACE WATER LOCATION		

0 200' 400'
GRAPHIC SCALE

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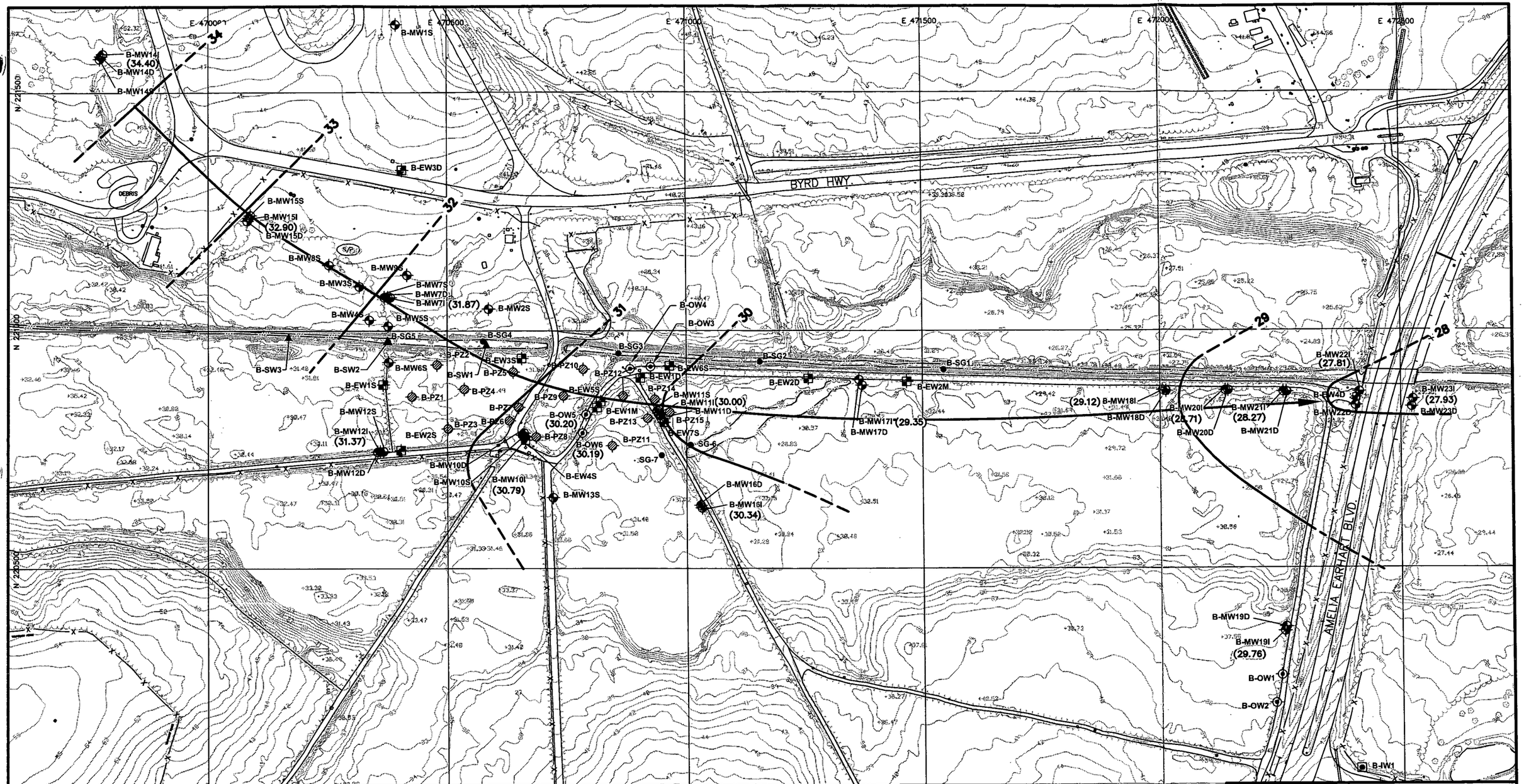
FIGURE 7A
AREA B
CONTOURED WATER LEVEL ELEVATIONS SHALLOW AQUIFER - 12/09/13

J:\CAD\162662\000180\000502\Dec 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7A March 20, 2014–9:00AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
31	GROUNDWATER CONTOUR ON 03/26/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
	APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION
(34.40)	GROUNDWATER ELEVATION ON 03/26/13 (FT. NAVD88)

0 200' 400'
GRAPHIC SCALE

N W E S
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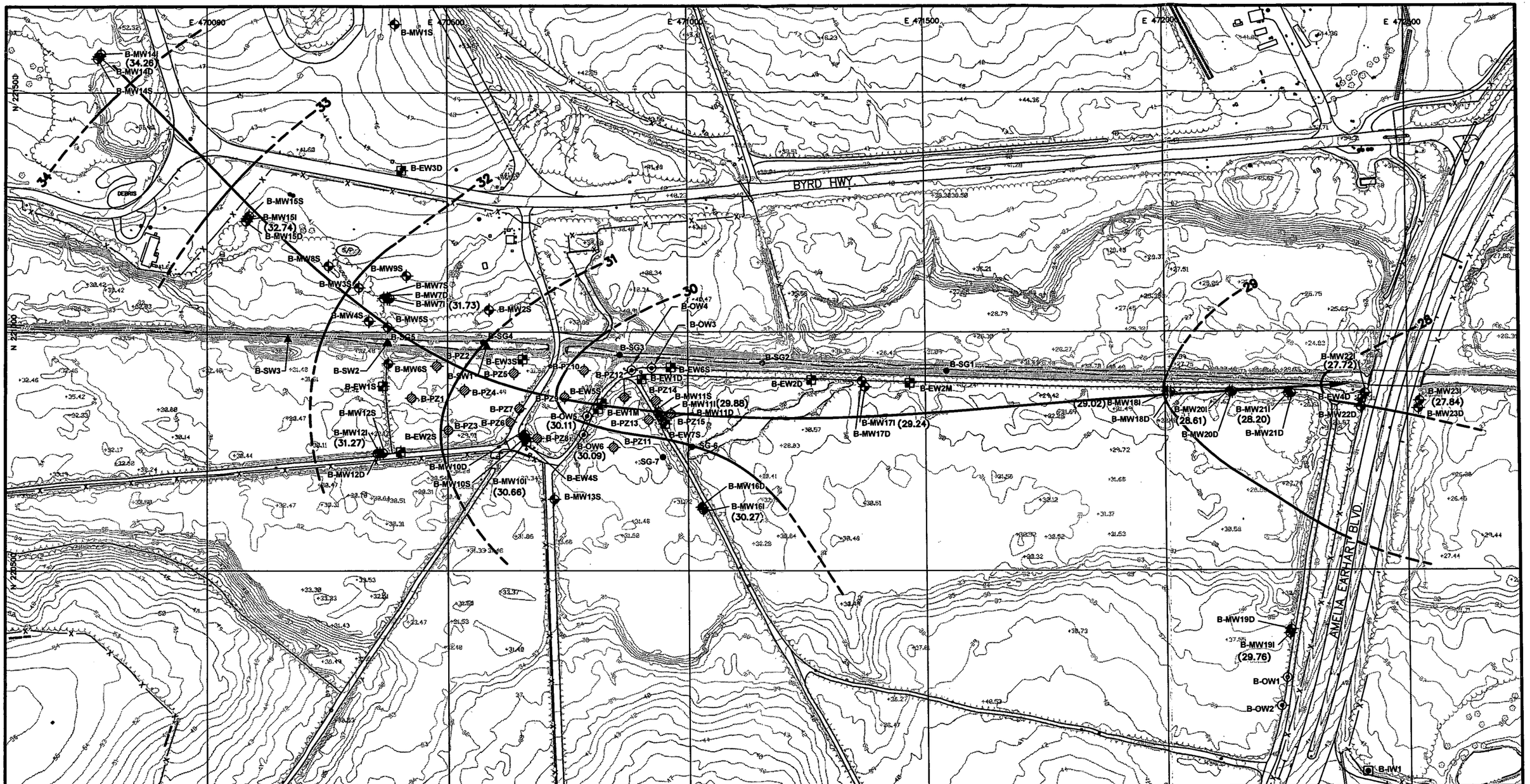
FIGURE 7B
AREA B
CONTOURED WATER LEVEL ELEVATIONS INTERMEDIATE AQUIFER - 03/26/13

J:\CAD\162662\000180\000450\March 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7B October 01, 2013–9:59AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION

30 — — — GROUNDWATER CONTOUR ON 06/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)

→ APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION

(29.02) GROUNDWATER ELEVATION ON 06/11/13 (FT. NAVD88)

0 200' 400'
GRAPHIC SCALE

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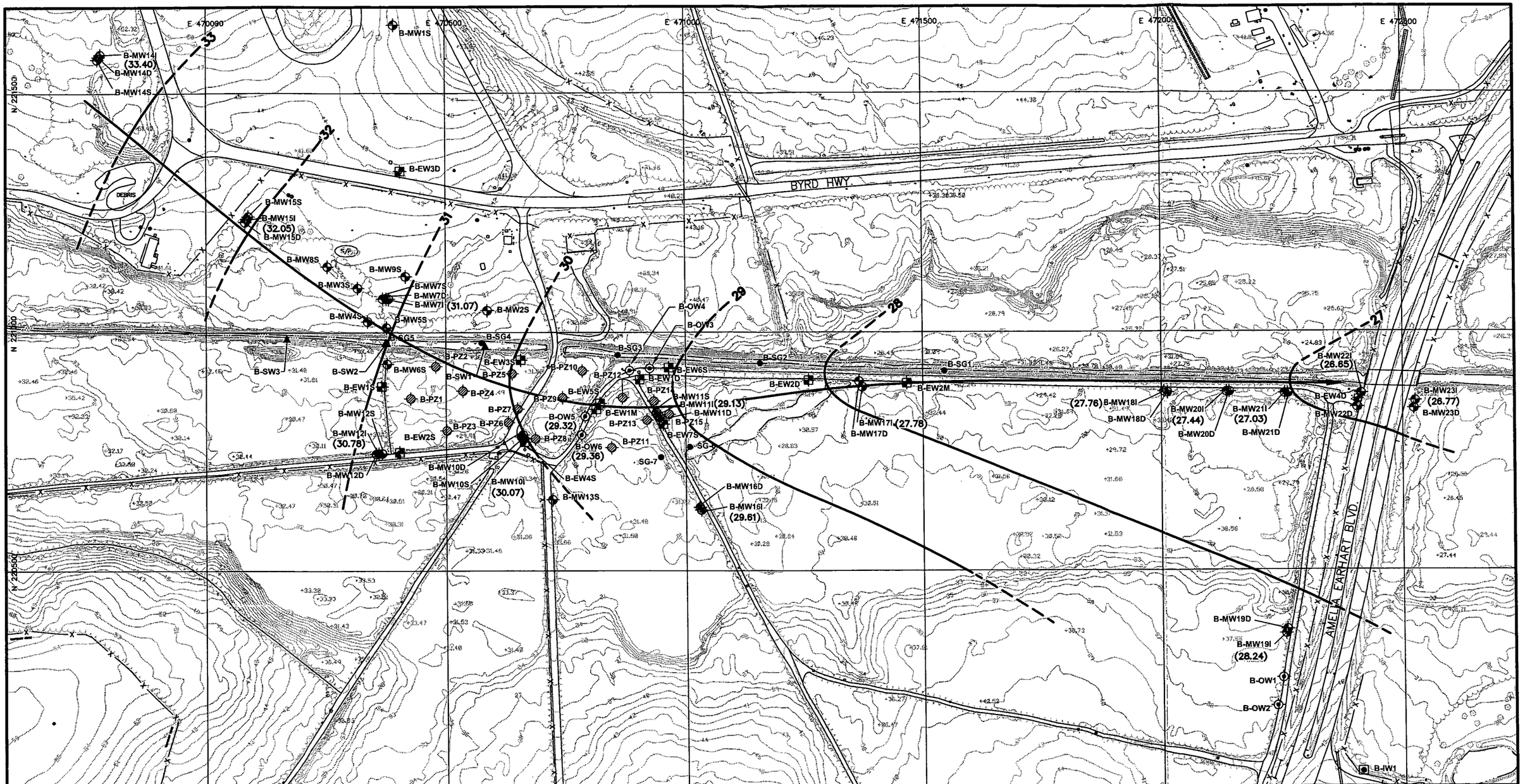
FIGURE 7B
AREA B
CONTOURED WATER LEVEL ELEVATIONS INTERMEDIATE AQUIFER - 06/11/13

J:\CAD\162662\000110\000801\June 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7B June 27, 2013–8:37AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
30	GROUNDWATER CONTOUR ON 09/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
	APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION
(30.78)	GROUNDWATER ELEVATION ON 09/11/13 (FT. NAVD88)

0 200' 400'
GRAPHIC SCALE

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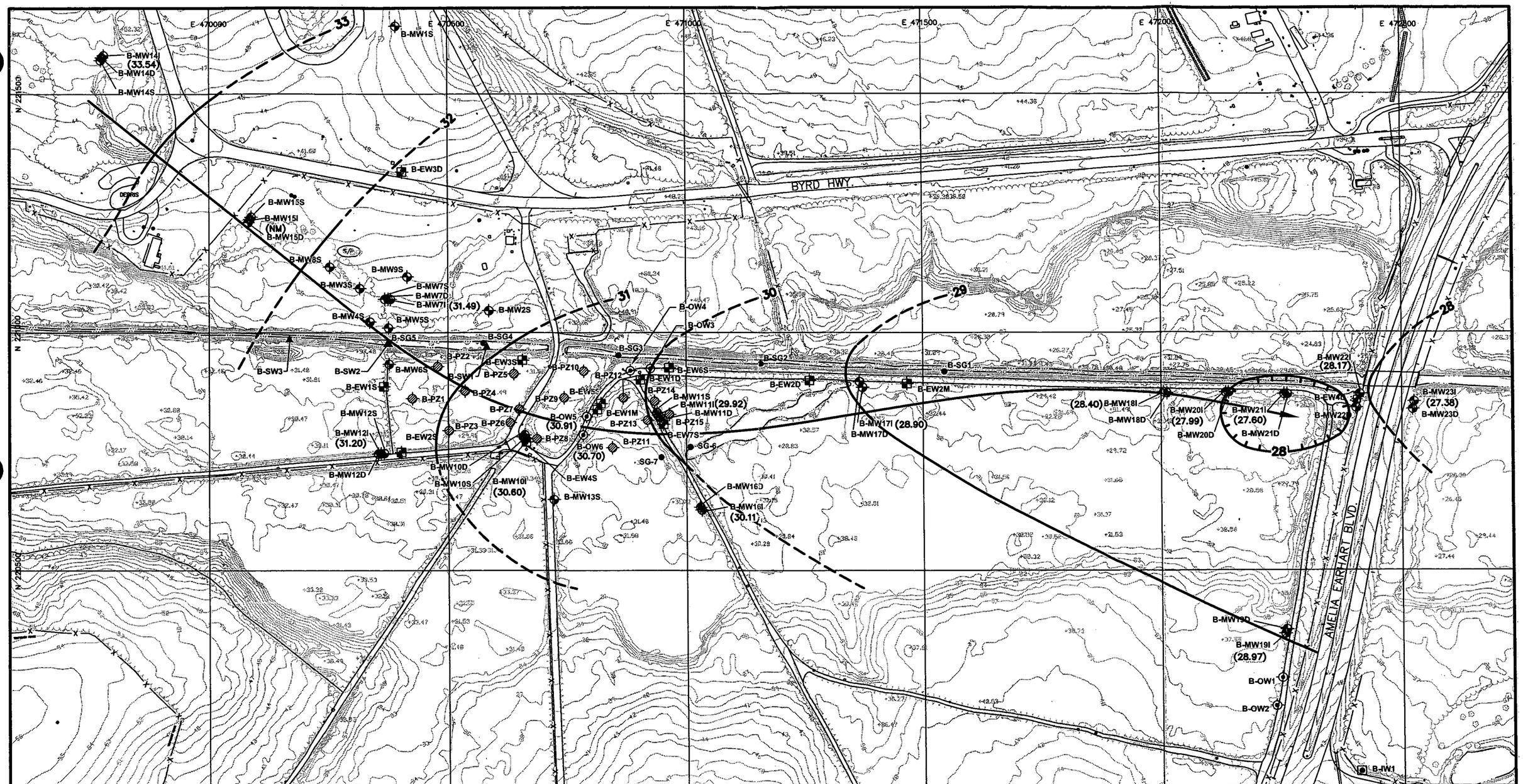
FIGURE 7B
AREA B
CONTOURED WATER LEVEL ELEVATIONS INTERMEDIATE AQUIFER - 09/11/13

J:\CAD\162662\000180\000501\Sept 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7B September 27, 2013–3:51PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
30	GROUNDWATER CONTOUR ON 12/09/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
	APPROXIMATE INTERMEDIATE GROUNDWATER FLOW DIRECTION
(31.49)	GROUNDWATER ELEVATION ON 12/09/13 (FT. NAVD88)
(NM)	NOT MEASURED

0 200' 400'
GRAPHIC SCALE

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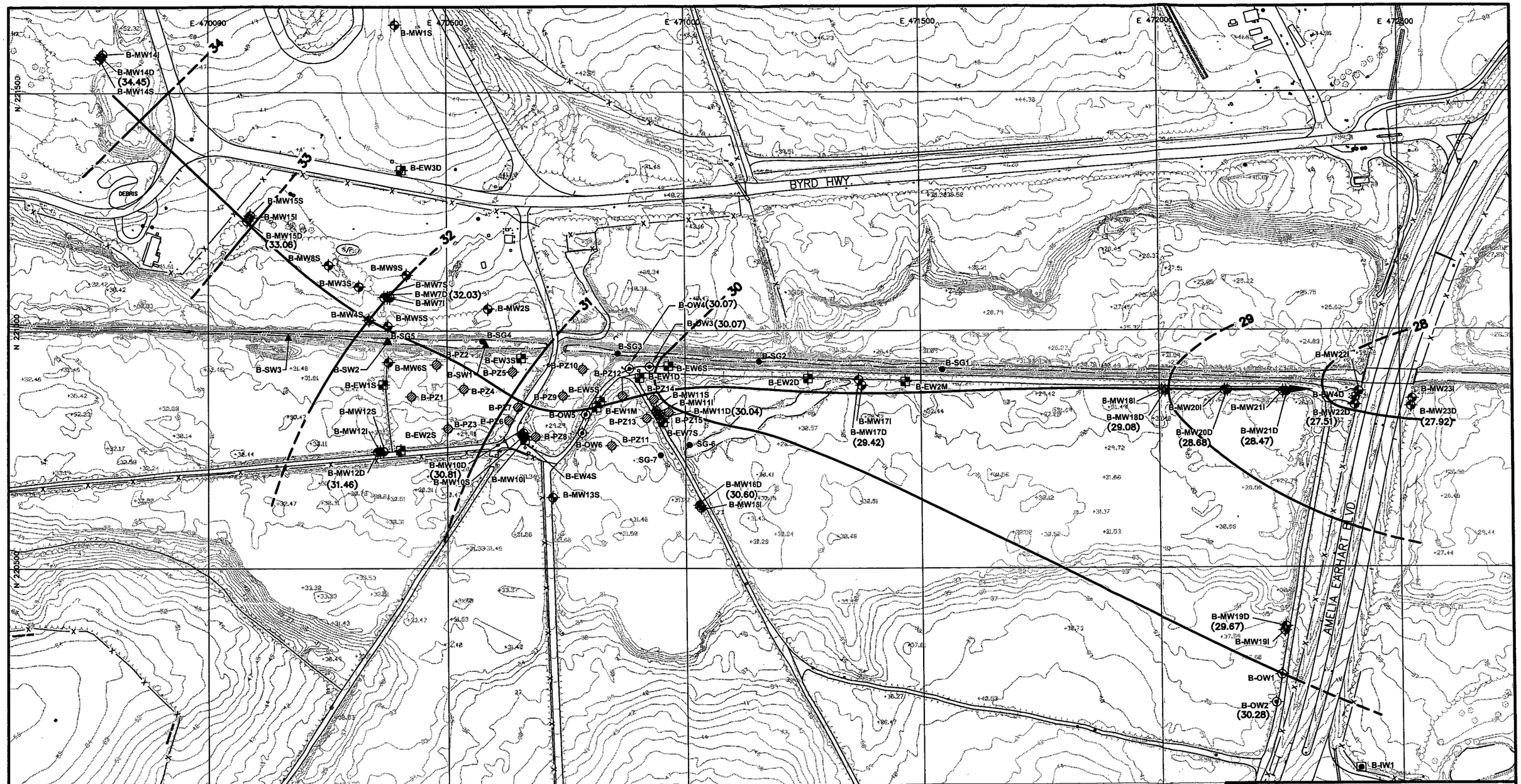
FIGURE 7B
AREA B
CONTOURED WATER LEVEL ELEVATIONS
INTERMEDIATE AQUIFER - 12/09/13

J:\CAD\162662\000180\000502\Dec 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7B March 20, 2014–9:03AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
31	GROUNDWATER CONTOUR ON 03/26/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	APPROXIMATE DEEP GROUNDWATER FLOW DIRECTION
(34.45)	GROUNDWATER ELEVATION ON 03/26/13 (FT. NAVD88)

0 200' 400'
GRAPHIC SCALE

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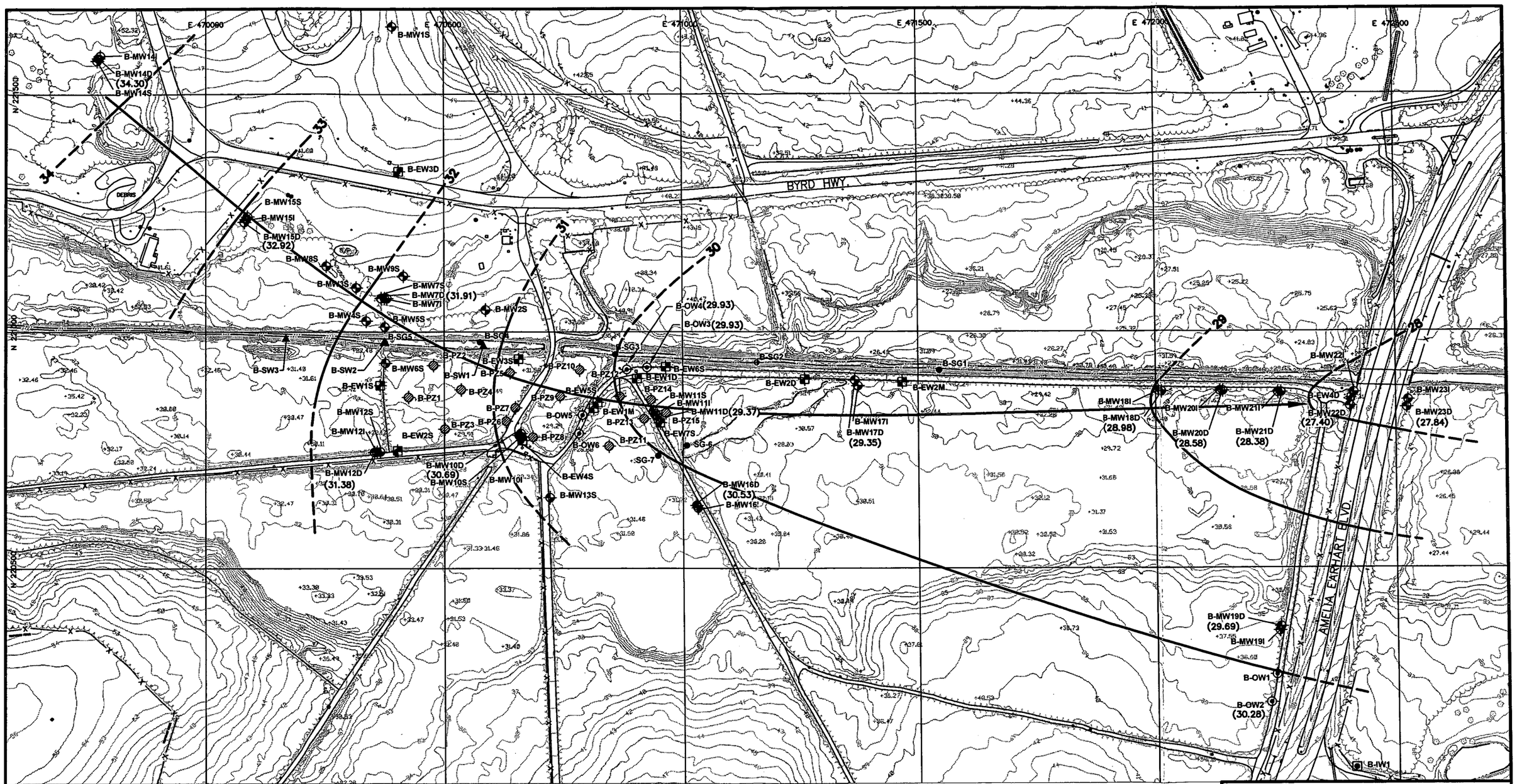
FIGURE 7C
AREA B
CONTOURED WATER LEVEL ELEVATIONS DEEP AQUIFER - 03/26/13

J:\CAD\162662\000180\000450\March 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7C October 01, 2013–9:58AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION

30 — — — GROUNDWATER CONTOUR ON 06/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)

→ APPROXIMATE DEEP GROUNDWATER FLOW DIRECTION

(29.93) GROUNDWATER ELEVATION ON 06/11/13 (FT. NAVD88)

0 200' 400'
GRAPHIC SCALE

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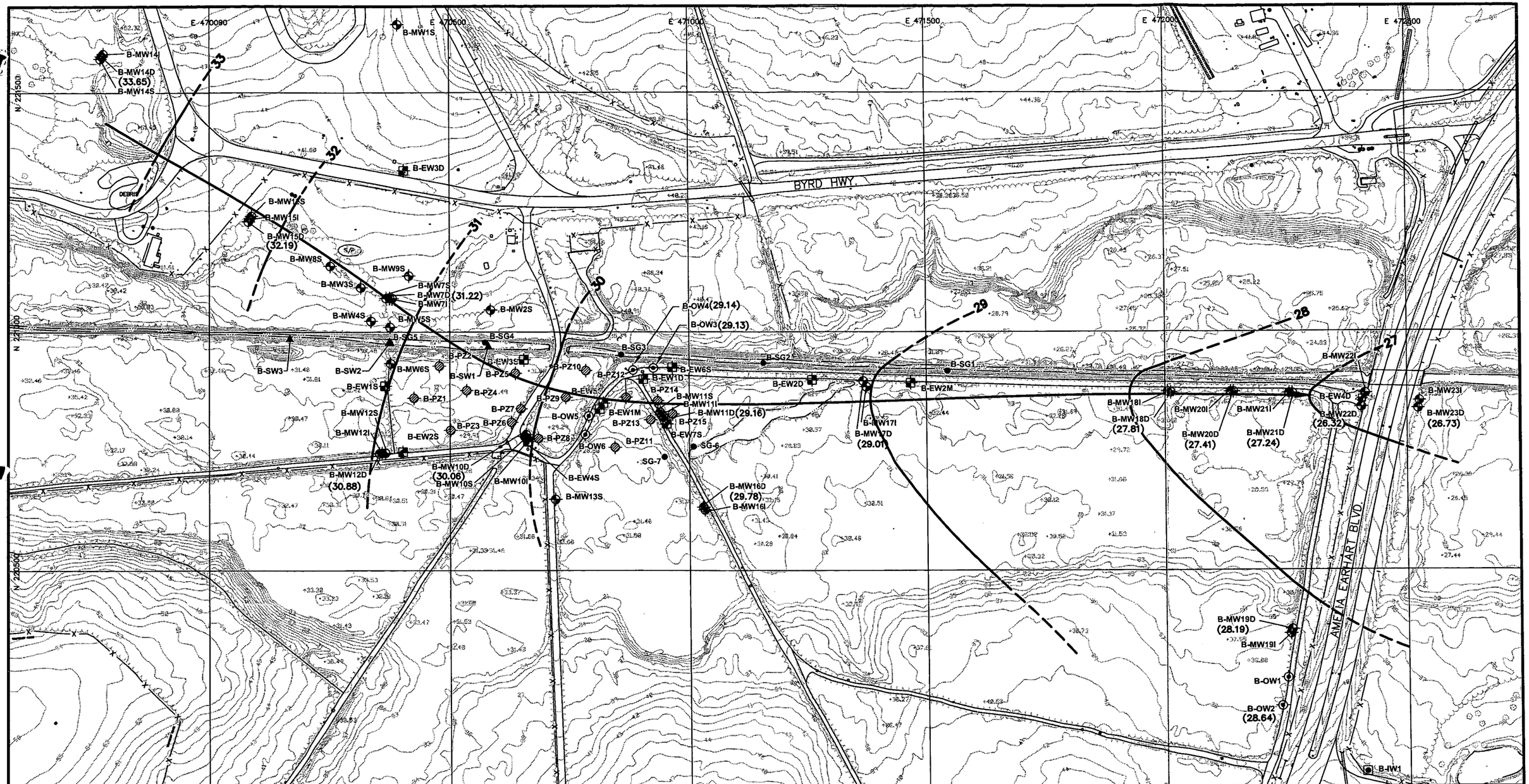
FIGURE 7C
AREA B
CONTOURED WATER LEVEL ELEVATIONS DEEP AQUIFER - 06/11/13

J:\CAD\162662\000110\000801\June 2013\
Figure 2 & 7a–7c.dwg Layout:FIGURE 7C June 27, 2013–8:38AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION

30 — — — GROUNDWATER CONTOUR ON 09/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)

→ APPROXIMATE DEEP GROUNDWATER FLOW DIRECTION

(30.06) GROUNDWATER ELEVATION ON 09/11/13 (FT. NAVD88)

0 200' 400'
GRAPHIC SCALE

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FIGURE 7C
AREA B
CONTOURED WATER LEVEL ELEVATIONS DEEP AQUIFER - 09/11/13

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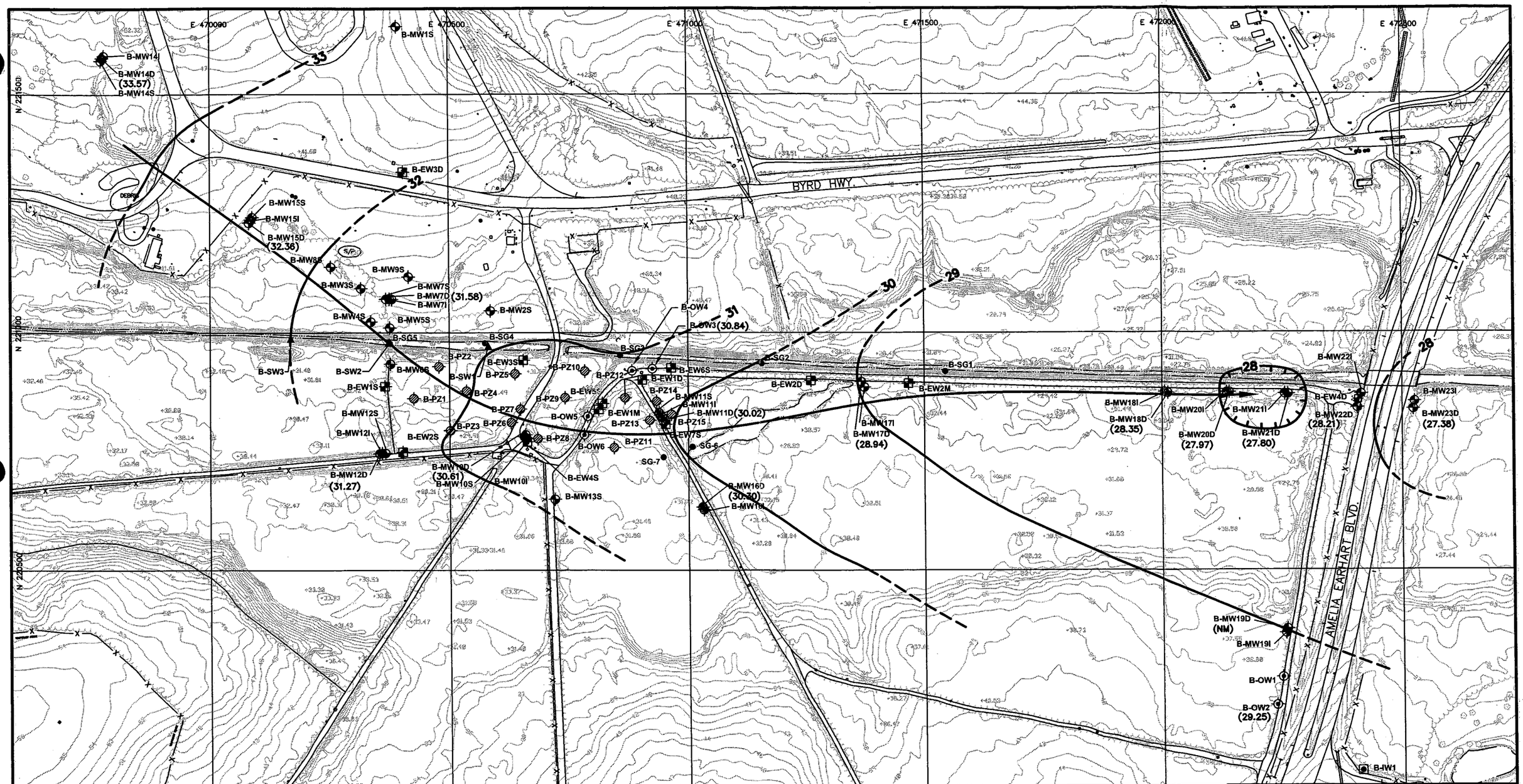
Figure 2 & 7a–7c.dwg Layout:FIGURE 7C October 01, 2013–9:28AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
30	GROUNDWATER CONTOUR ON 12/09/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	APPROXIMATE DEEP GROUNDWATER FLOW DIRECTION
(33.57)	GROUNDWATER ELEVATION ON 12/09/13 (FT. NAVD88)
(NM)	NOT MEASURED

0 200' 400'
GRAPHIC SCALE

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FIGURE 7C
AREA B
CONTOURED WATER LEVEL ELEVATIONS DEEP AQUIFER - 12/09/13

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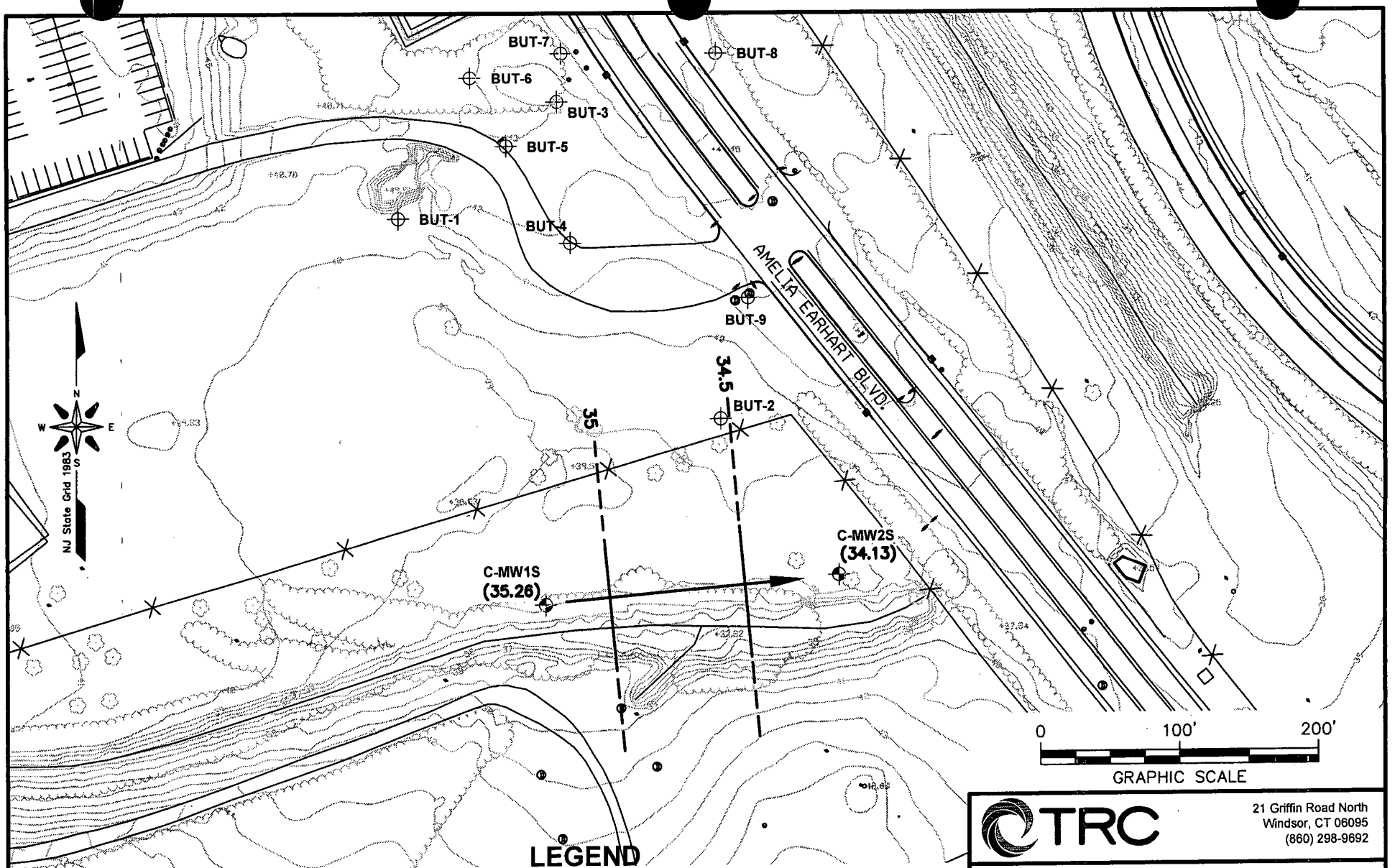
Figure 2 & 7a–7c.dwg Layout:FIGURE 7C March 20, 2014–9:05AM KHollenbeck



LEGEND

NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

C-MW1S	MONITORING WELL	35	GROUNDWATER CONTOUR ON 03/25/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
BUT-1	BUTLER AVIATION MONITORING WELL		
(35.26)	GROUNDWATER ELEVATION IN WELL ON 03/25/13 (FT. NAVD88)		PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 3 & 8.dwg Layout:FIGURE 8 April 05, 2013–9:43AM KHollenbeck

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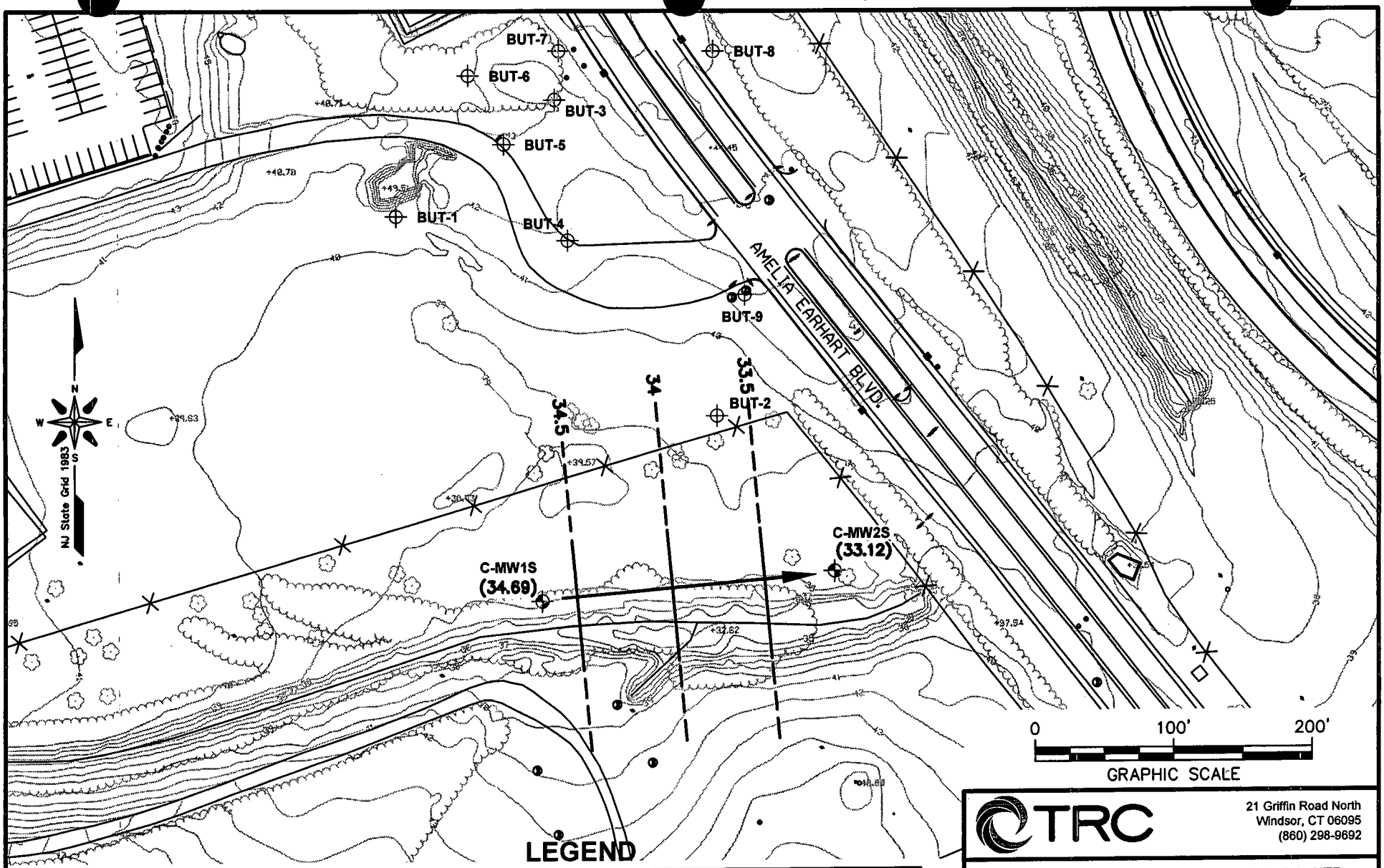
FIGURE 8.
AREA C
CONTOURED WATER LEVEL ELEVATIONS - 03/25/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

C-MW1S	MONITORING WELL
BUT-1	BUTLER AVIATION MONITORING WELL
(34.69)	GROUNDWATER ELEVATION IN WELL ON 06/11/13 (FT. NAVD88)
34	GROUNDWATER CONTOUR ON 06/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 3 & 8.dwg Layout:FIGURE 8 June 27, 2013–9:49AM KHollenbeck

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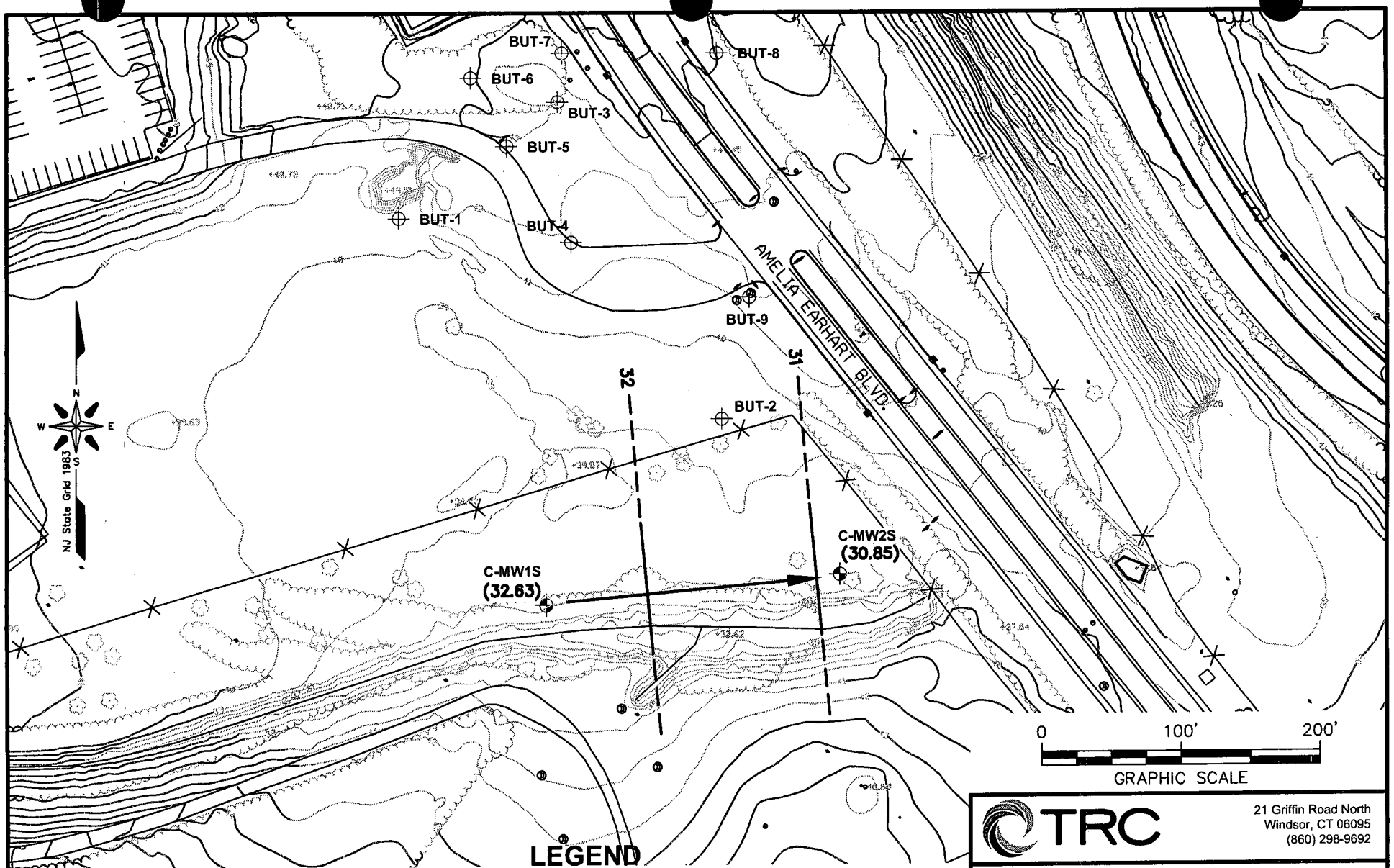
ANNUAL GROUNDWATER AND SURFACE WATER SAMPLING RESULTS REPORT

FIGURE 8.
AREA C
CONTOURED WATER LEVEL ELEVATIONS - 06/11/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

C-MW1S	MONITORING WELL
BUT-1	BUTLER AVIATION MONITORING WELL
(32.63)	GROUNDWATER ELEVATION IN WELL ON 09/13/13 (FT. NAVD88)
32	GROUNDWATER CONTOUR ON 09/13/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 3 & 8.dwg Layout:FIGURE 8 September 27, 2013–11:29AM KHollenbeck

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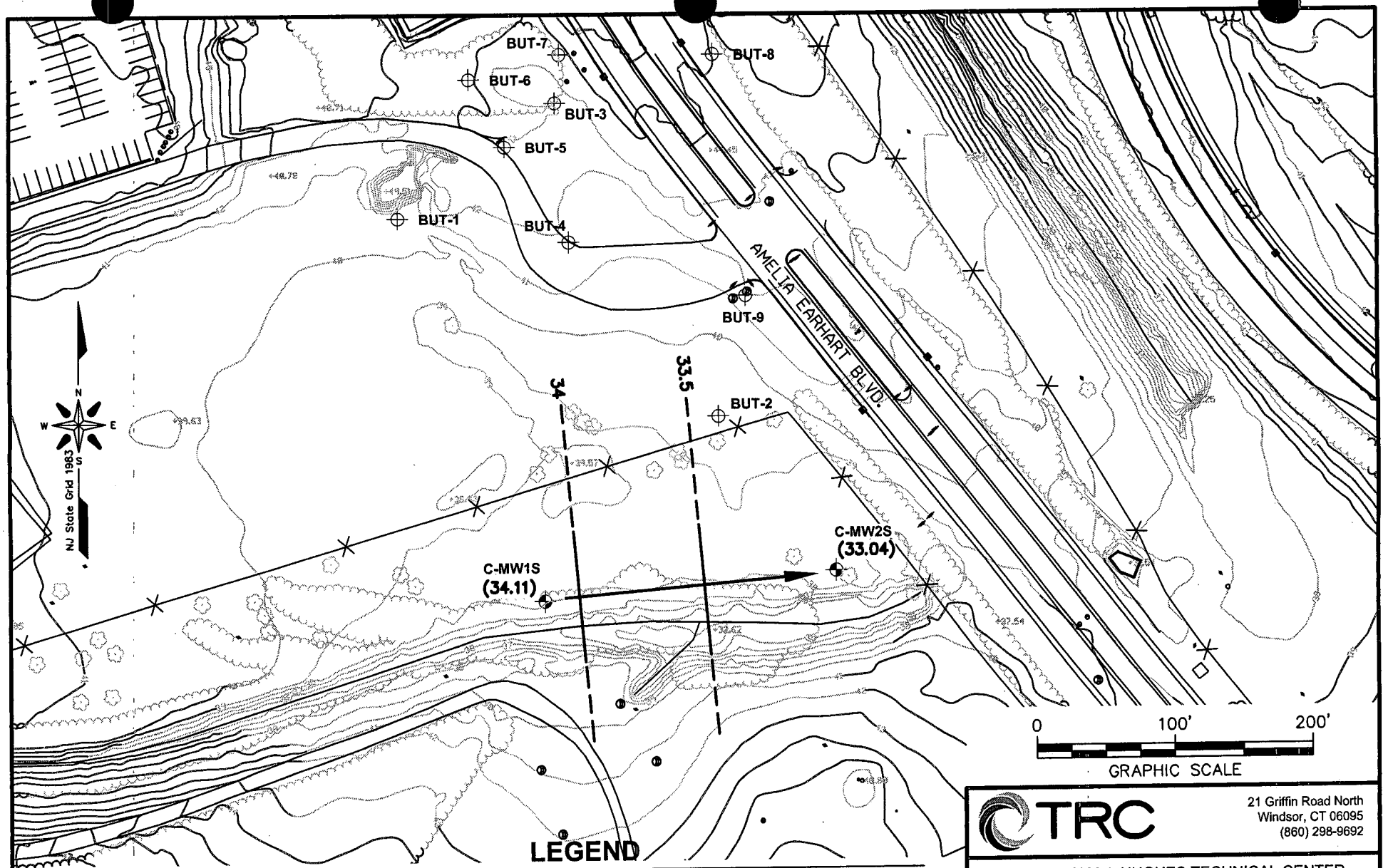
ANNUAL GROUNDWATER AND SURFACE WATER SAMPLING RESULTS REPORT

FIGURE 8.
AREA C
CONTOURED WATER LEVEL ELEVATIONS - 09/13/13



LEGEND

NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY-APRIL 4, 2010.

C-MW1S	MONITORING WELL
BUT-1	BUTLER AVIATION MONITORING WELL
(34.11)	GROUNDWATER ELEVATION IN WELL ON 12/12/13 (FT. NAVD88)
34	GROUNDWATER CONTOUR ON 12/12/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 3 & 8.dwg Layout:FIGURE 8 March 10, 2014-4:32PM KHollenbeck

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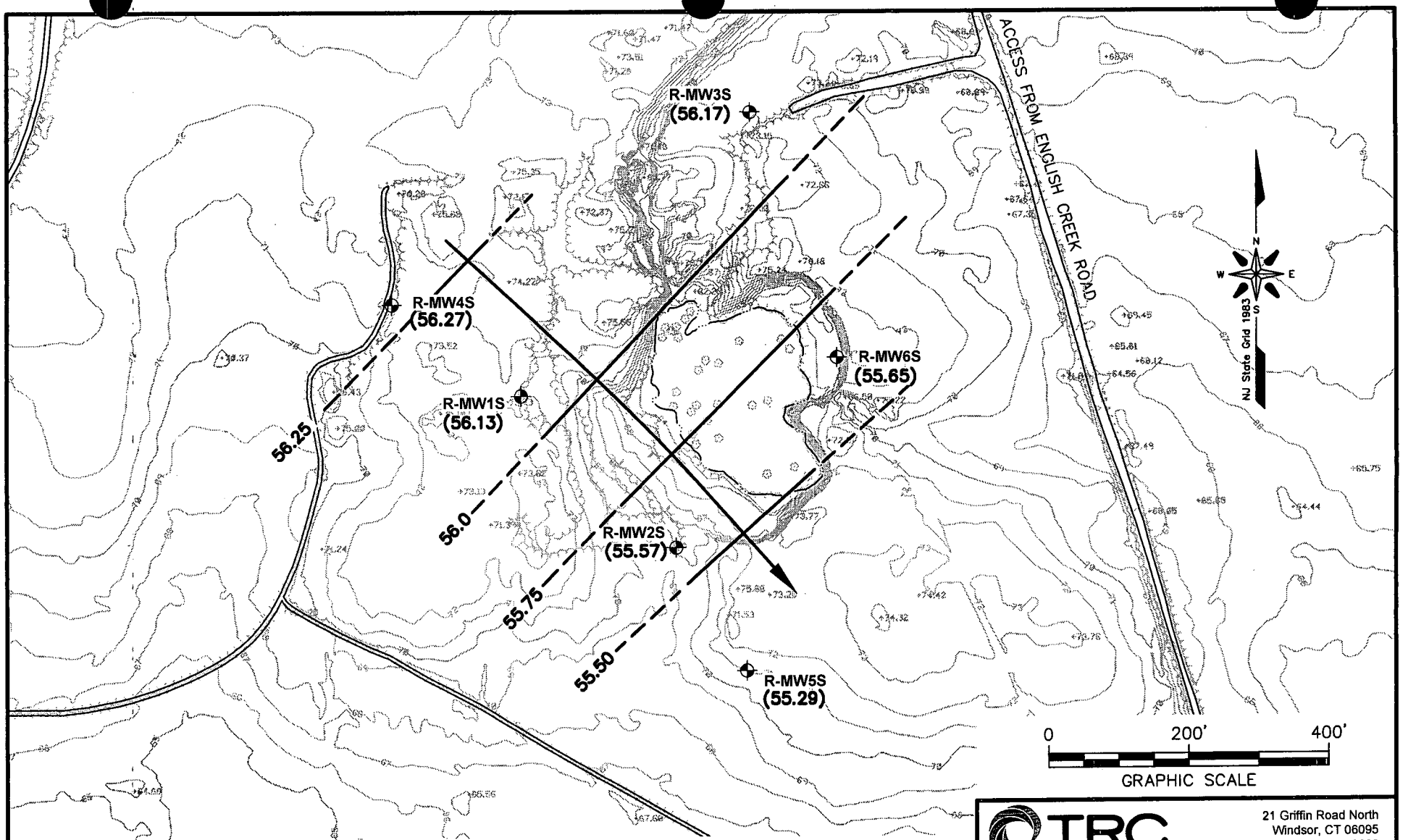
FIGURE 8.
AREA C
CONTOURED WATER LEVEL ELEVATIONS - 12/12/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

- R-MW1S — MONITORING WELL INSTALLED DURING PHASE II INVESTIGATION
- R-MW4S — MONITORING WELL INSTALLED DURING SUPPLEMENTAL INVESTIGATIONS
- (56.27) — GROUNDWATER ELEVATION IN WELL ON 03/27/13 (FT. NAVD88)
- 52 — GROUNDWATER CONTOUR ON 03/27/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
- PRESUMED DIRECTION OF GROUNDWATER FLOW

J:\CAD\162662\000180\000450\March 2013\
Figure 4 & 9.dwg Layout:FIGURE 9 April 05, 2013–10:00AM KHollenbeck

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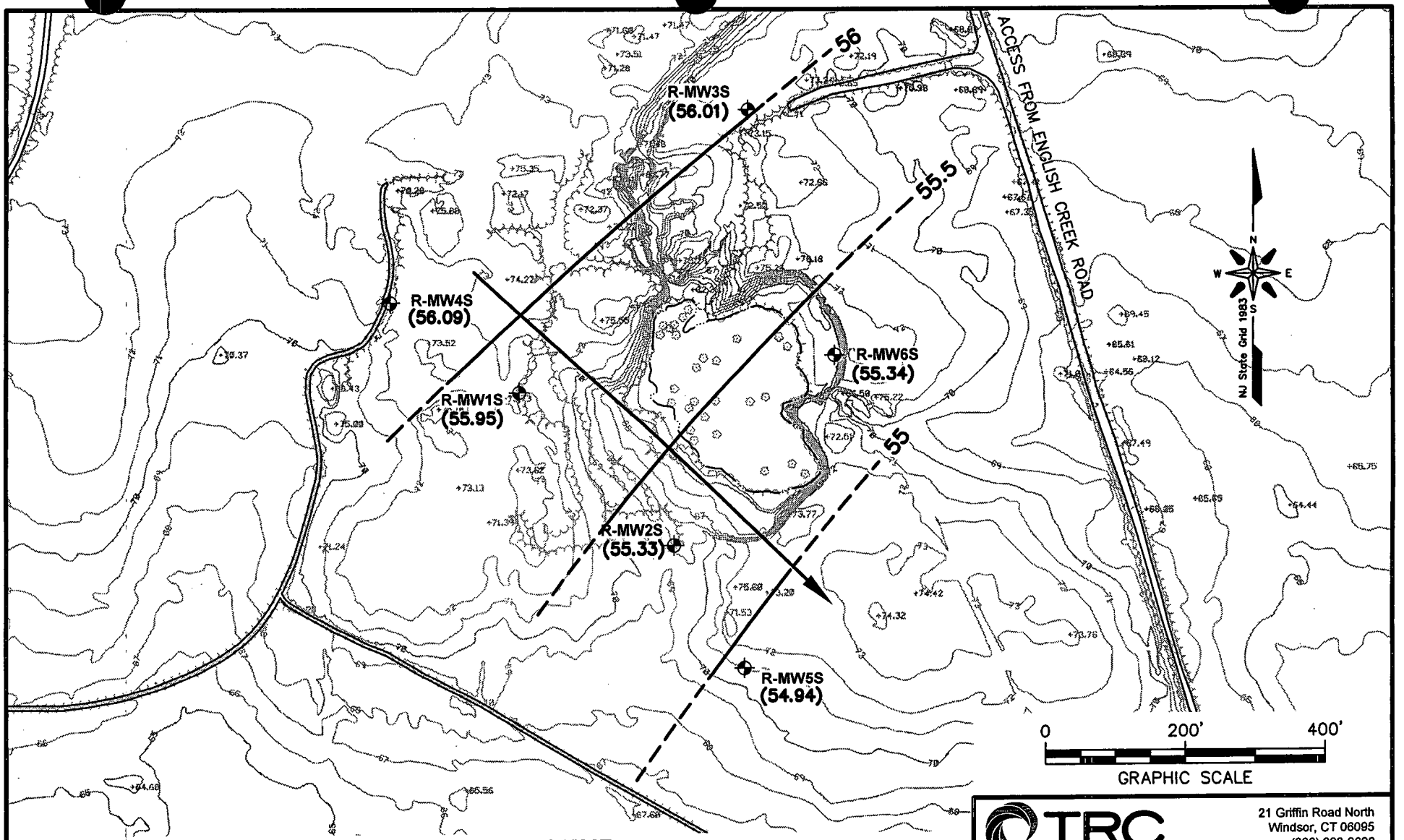
FIGURE 9.
AREA R
CONTOURED WATER LEVEL ELEVATIONS - 03/27/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

- R-MW1S — MONITORING WELL INSTALLED DURING PHASE II INVESTIGATION
- R-MW3S — MONITORING WELL INSTALLED DURING SUPPLEMENTAL INVESTIGATIONS
- (56.01) — GROUNDWATER ELEVATION IN WELL ON 06/12/13 (FT. NAVD88)
- 56 — GROUNDWATER CONTOUR ON 06/12/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
- PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 4 & 9.dwg Layout:FIGURE 9 June 27, 2013–10:00AM KHollenbeck

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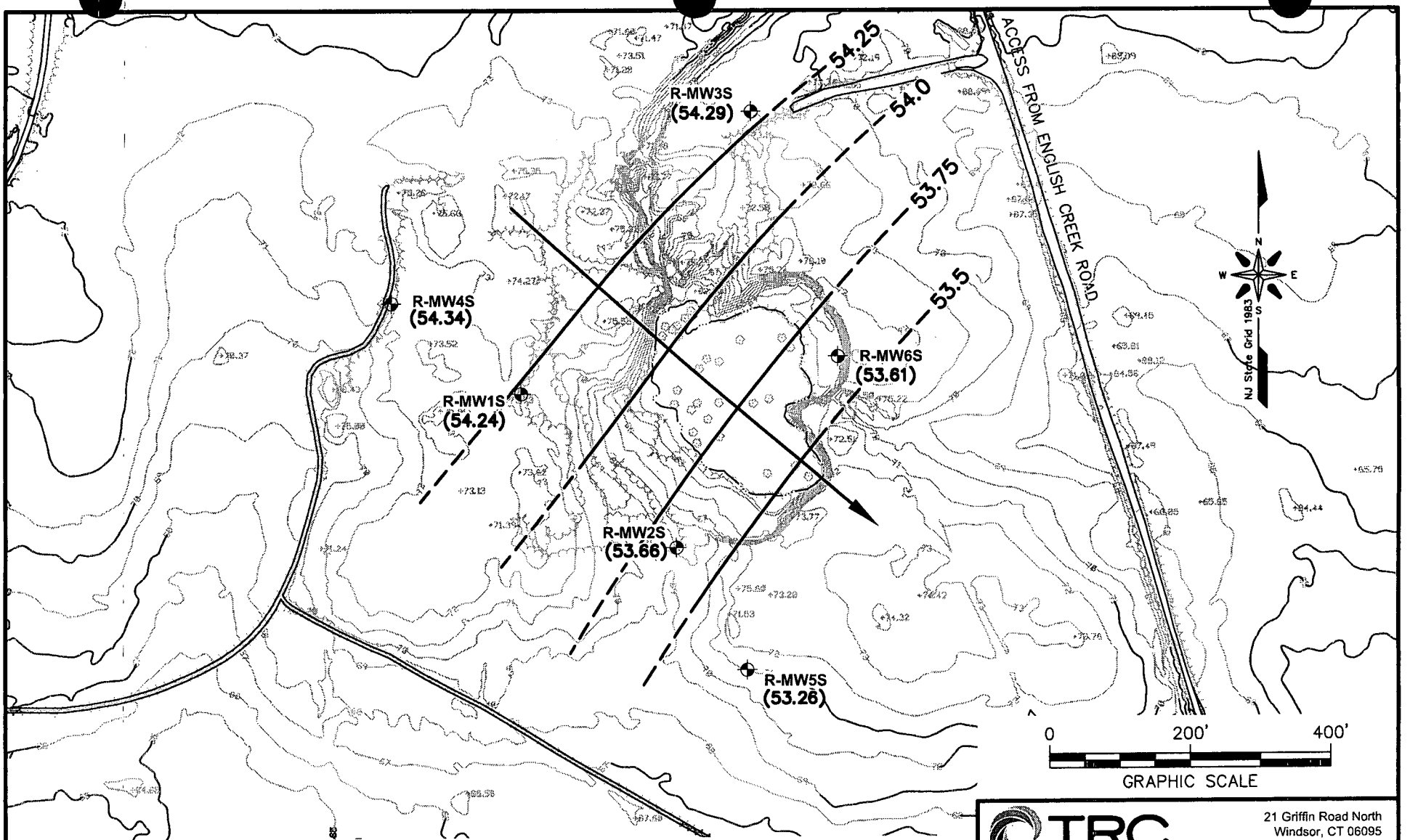
FIGURE 9.
AREA R
CONTOURED WATER LEVEL ELEVATIONS - 06/12/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

- R-MW1S — MONITORING WELL INSTALLED DURING PHASE II INVESTIGATION
- R-MW3S — MONITORING WELL INSTALLED DURING SUPPLEMENTAL INVESTIGATIONS
- (53.26) — GROUNDWATER ELEVATION IN WELL ON 09/12/13 (FT. NAVD88)
- 53.5 — GROUNDWATER CONTOUR ON 09/12/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
- PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 4 & 9.dwg Layout:FIGURE 9 September 27, 2013–11:44AM KHollenbeck

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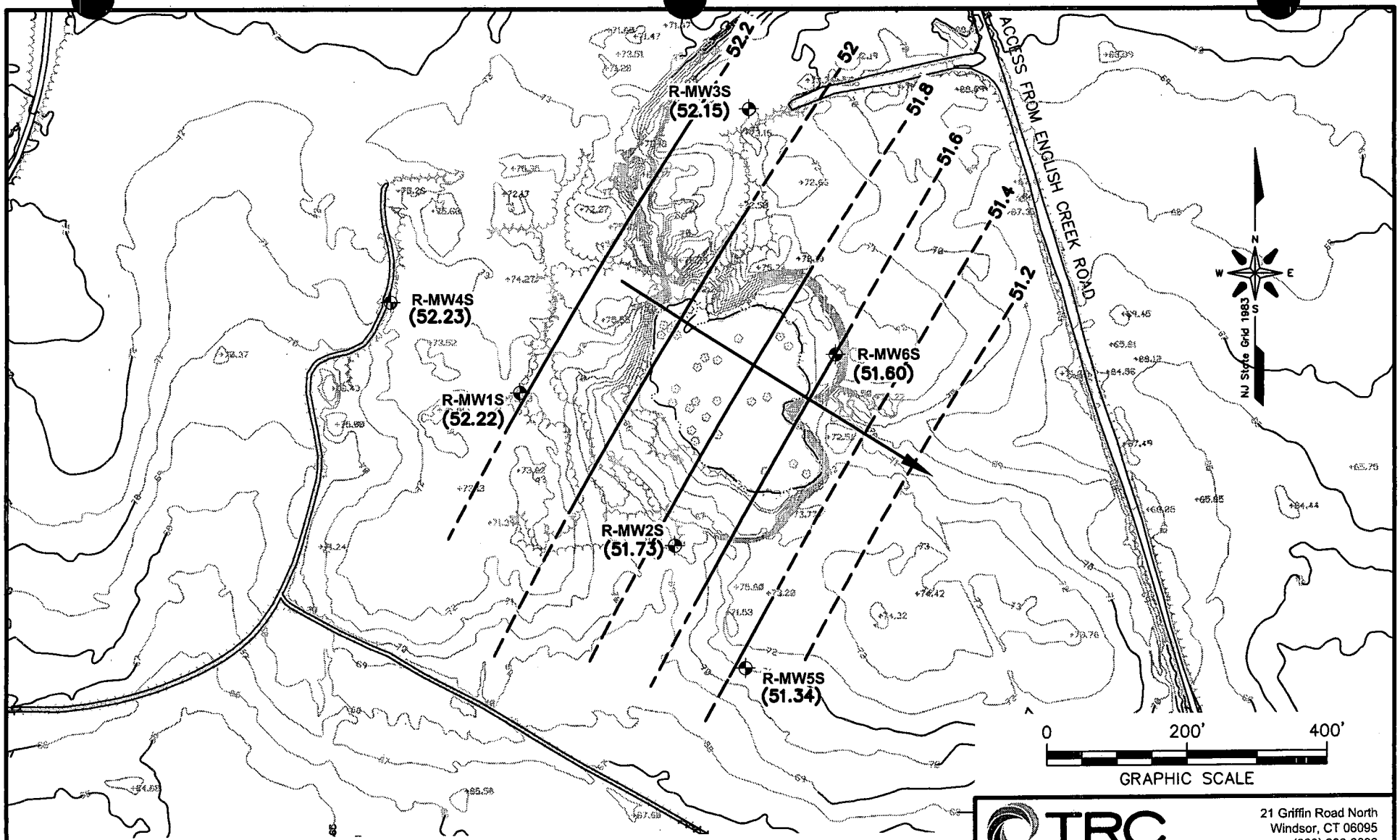
FIGURE 9.
AREA R
CONTOURED WATER LEVEL ELEVATIONS - 09/12/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

- **R-MW1S** MONITORING WELL INSTALLED DURING PHASE II INVESTIGATION
- **R-MW3S** MONITORING WELL INSTALLED DURING SUPPLEMENTAL INVESTIGATIONS
- **(52.22)** GROUNDWATER ELEVATION IN WELL ON 12/11/13 (FT. NAVD88)
- **51.80** GROUNDWATER CONTOUR ON 12/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
- PRESUMED DIRECTION OF GROUNDWATER FLOW

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Figure 4 & 9.dwg Layout:FIGURE 9 March 20, 2014–9:10AM KHollenbeck

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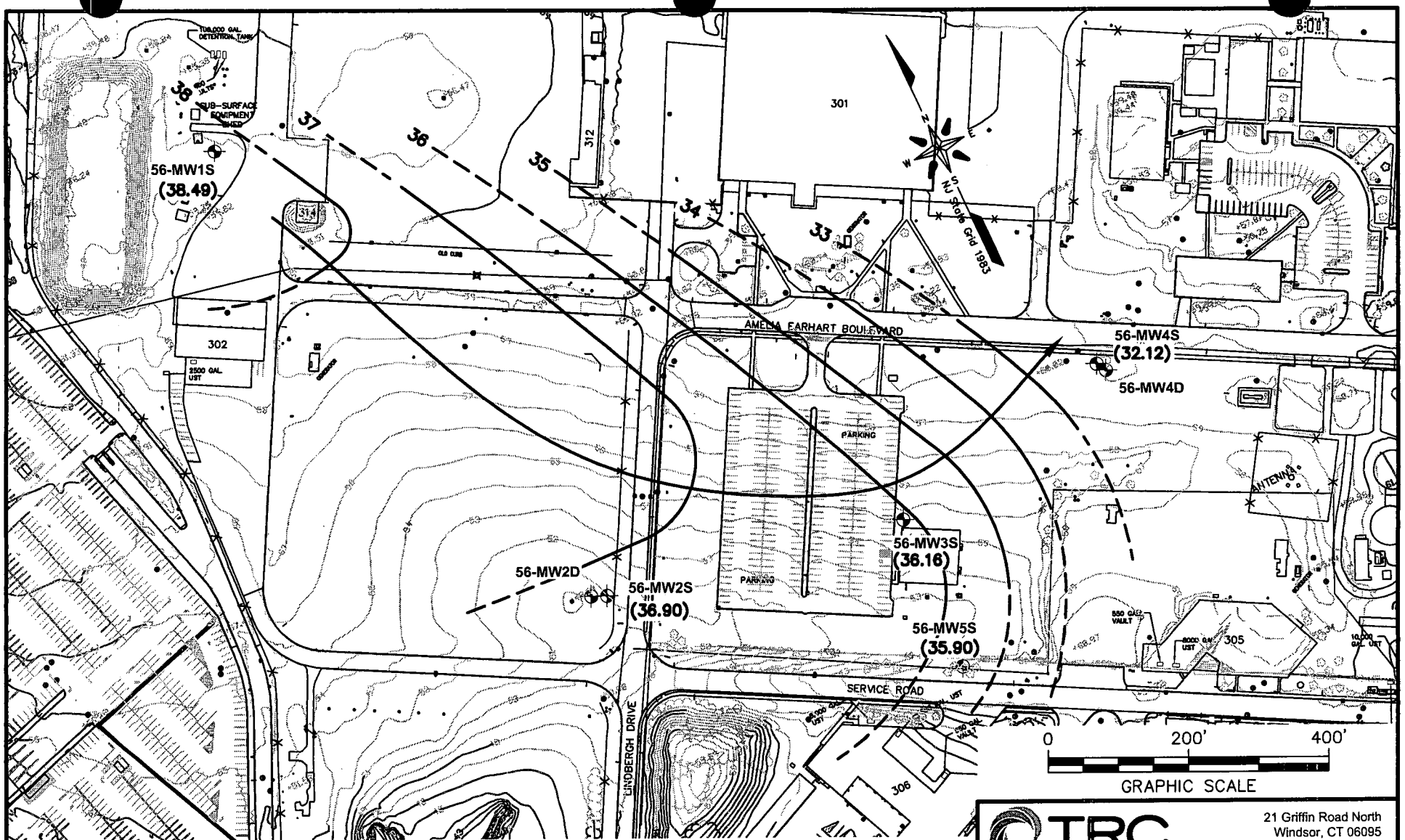
FIGURE 9.
AREA R
CONTOURED WATER LEVEL ELEVATIONS - 12/11/13



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW1S	MONITORING WELL
(38.49)	GROUNDWATER ELEVATION IN WELL ON 03/25/13 (FT. NAVD88)
36	GROUNDWATER CONTOUR ON 03/25/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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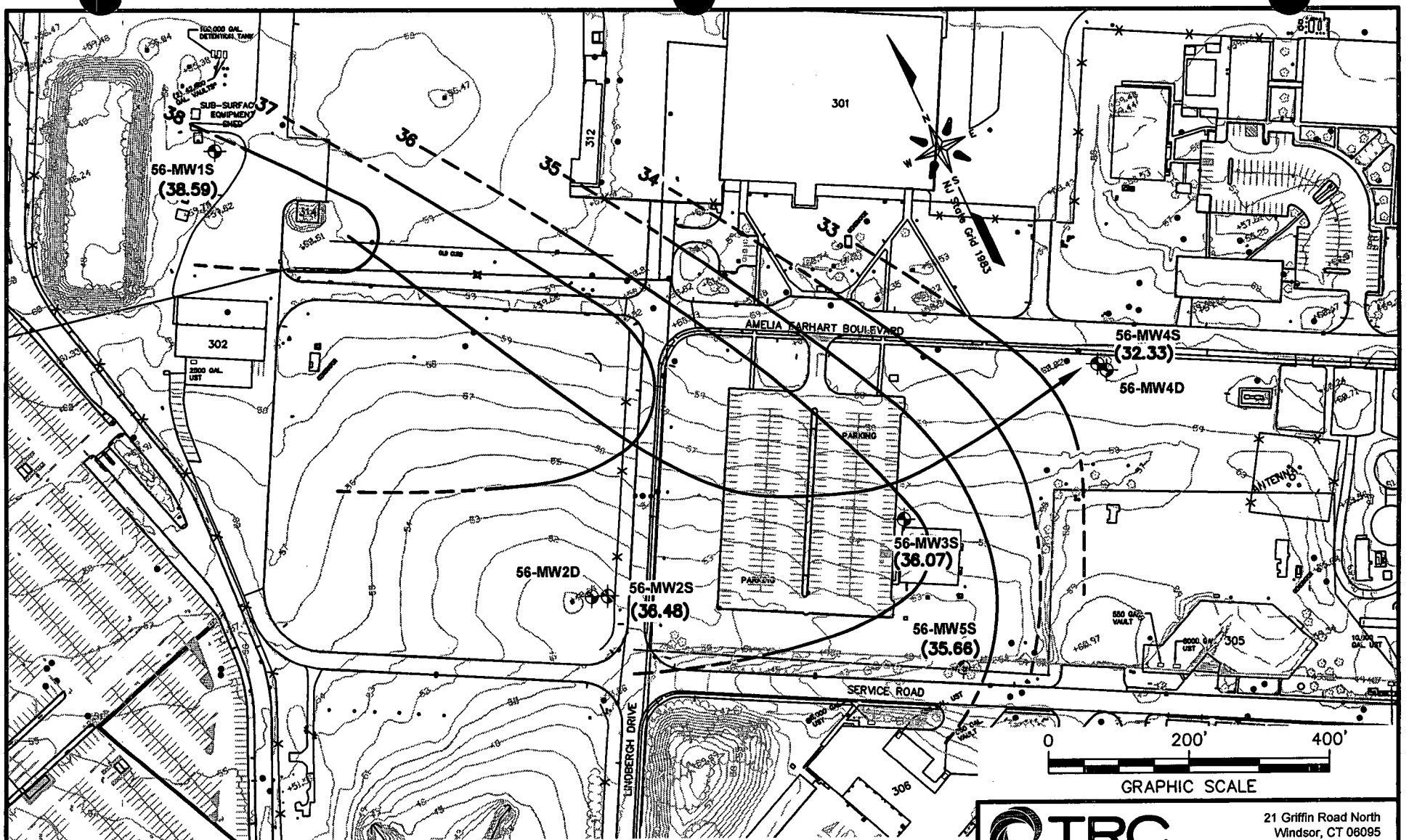
FIGURE 10A.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS
SHALLOW AQUIFER - 03/25/13

J:\CAD\162662\000180\000450\March 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10a October 01, 2013–9:54AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW1S	MONITORING WELL
(38.59)	GROUNDWATER ELEVATION IN WELL ON 06/11/13 (FT. NAVD88)
37	GROUNDWATER CONTOUR ON 06/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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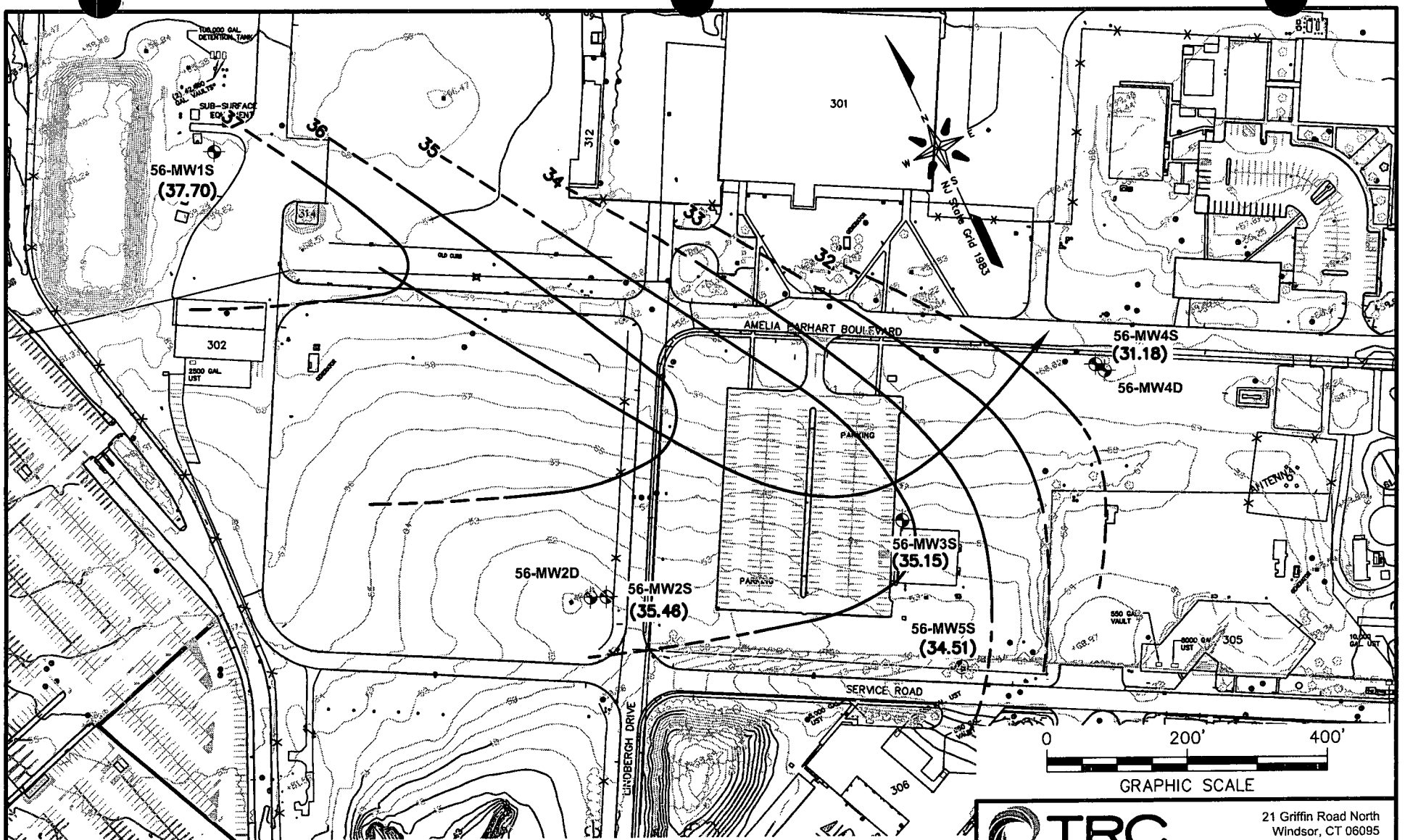
FIGURE 10A.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS SHALLOW AQUIFER - 06/11/13

J:\CAD\162662\000110\000801\June 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10a June 27, 2013–10:21AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW1S	MONITORING WELL
(37.70)	GROUNDWATER ELEVATION IN WELL ON 09/12/13 (FT. NAVD88)
37	GROUNDWATER CONTOUR ON 09/12/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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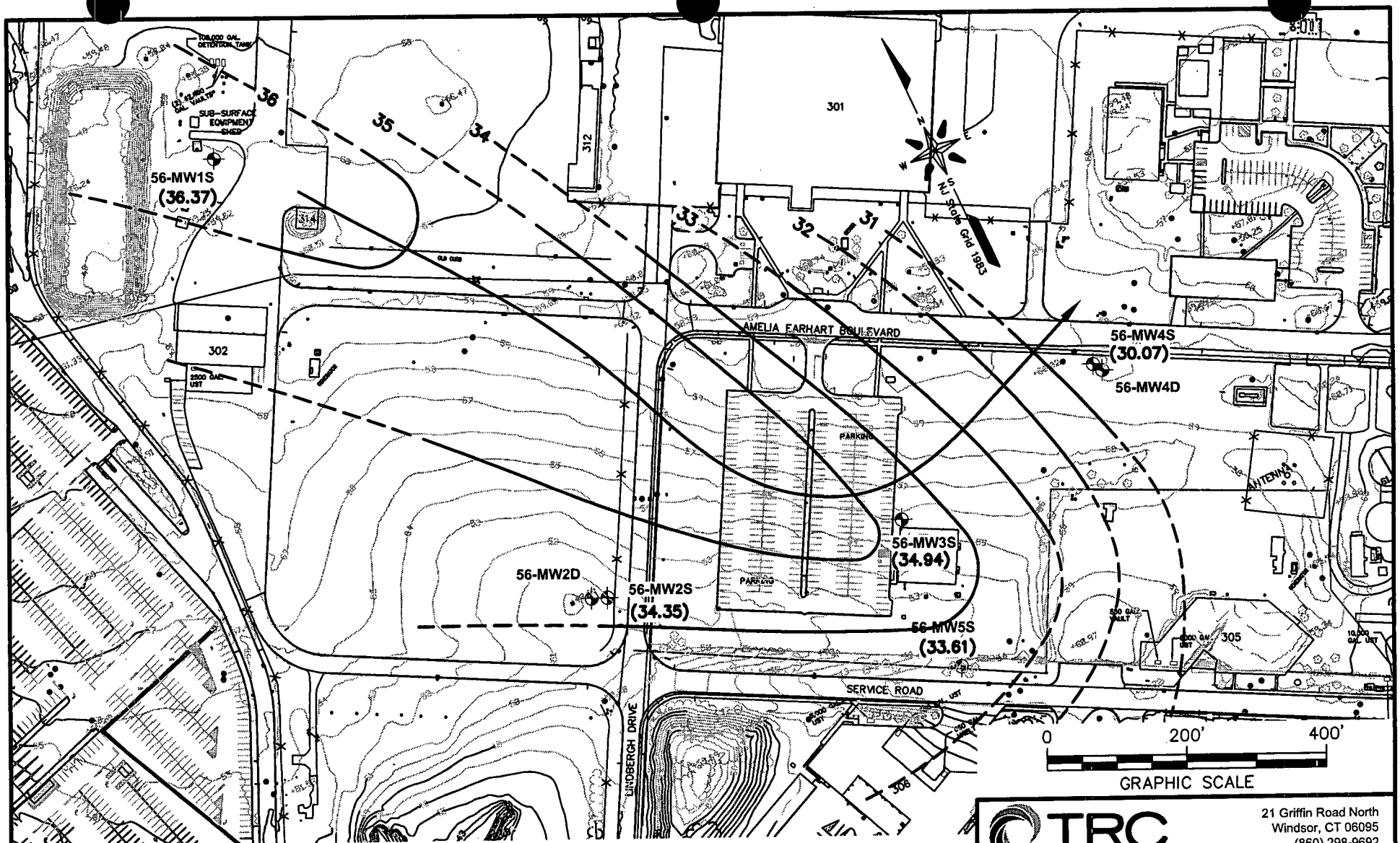
FIGURE 10A.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS
SHALLOW AQUIFER - 09/12/13

J:\CAD\162662\000180\000501\Sept 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10a September 27, 2013–1:33PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW1S	MONITORING WELL
(36.37)	GROUNDWATER ELEVATION IN WELL ON 12/09/13 (FT. NAVD88)
34	GROUNDWATER CONTOUR ON 12/09/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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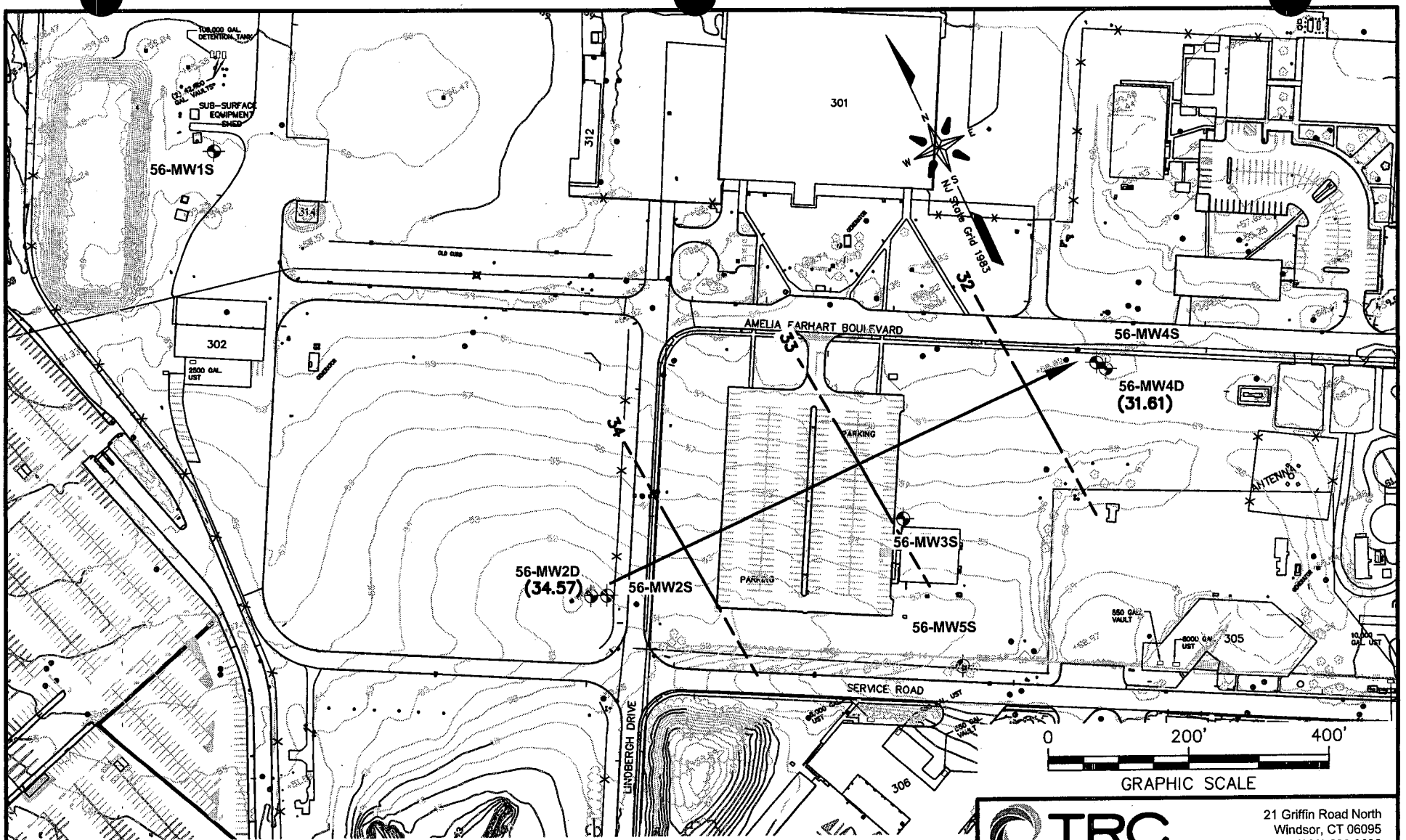
FIGURE 10A.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS SHALLOW AQUIFER - 12/09/13

J:\CAD\162662\000180\000502\Dec 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10a March 11, 2014–9:25AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW2D	MONITORING WELL
(33.00)	GROUNDWATER ELEVATION IN WELL ON 03/25/13 (FT. NAVD88)
32	GROUNDWATER CONTOUR ON 03/25/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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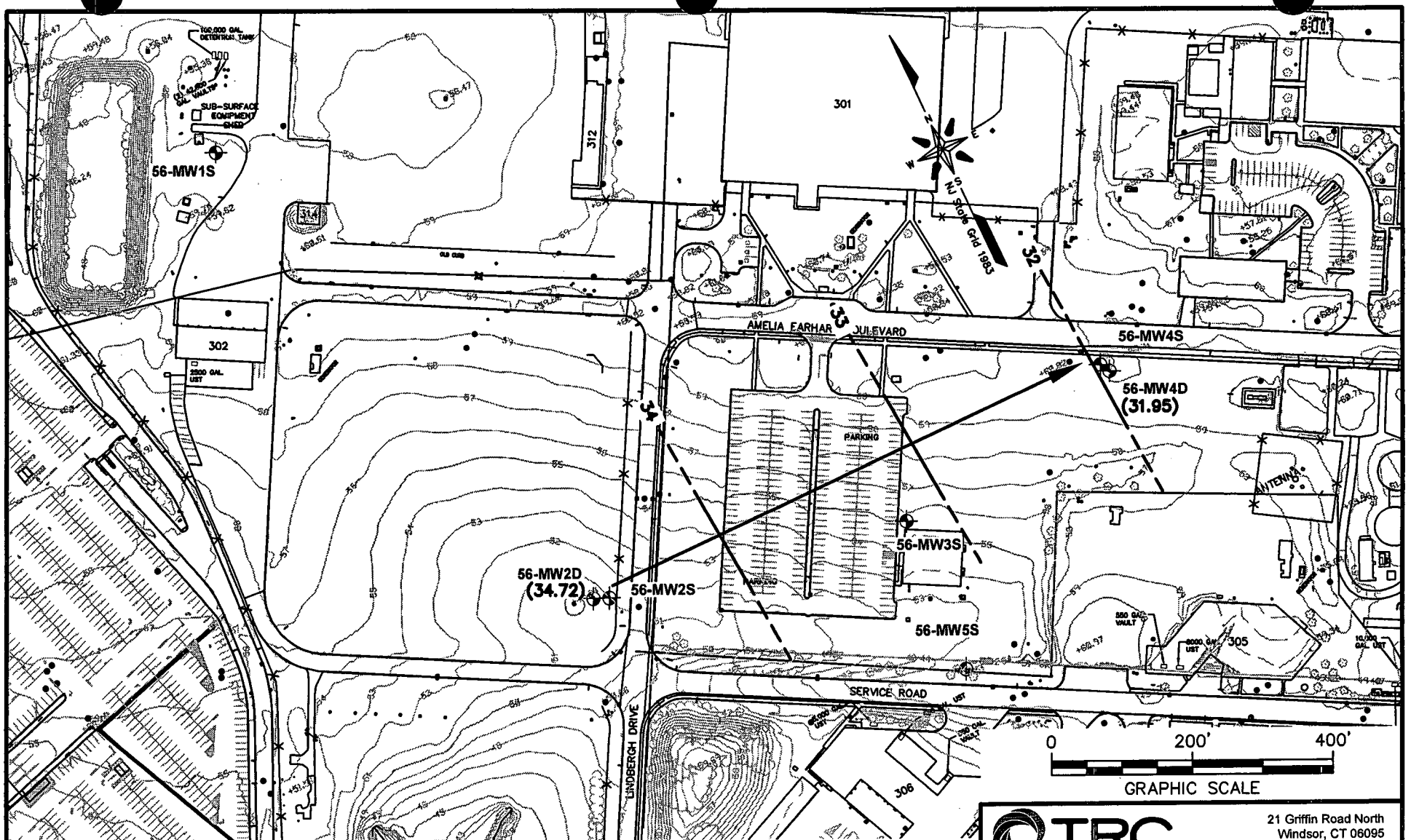
FIGURE 10B.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS
DEEP AQUIFER - 03/25/13

J:\CAD\162662\000180\000450\March 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10b October 01, 2013–9:55AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW2D	MONITORING WELL
(31.95)	GROUNDWATER ELEVATION IN WELL ON 06/11/13 (FT. NAVD88)
33	GROUNDWATER CONTOUR ON 06/11/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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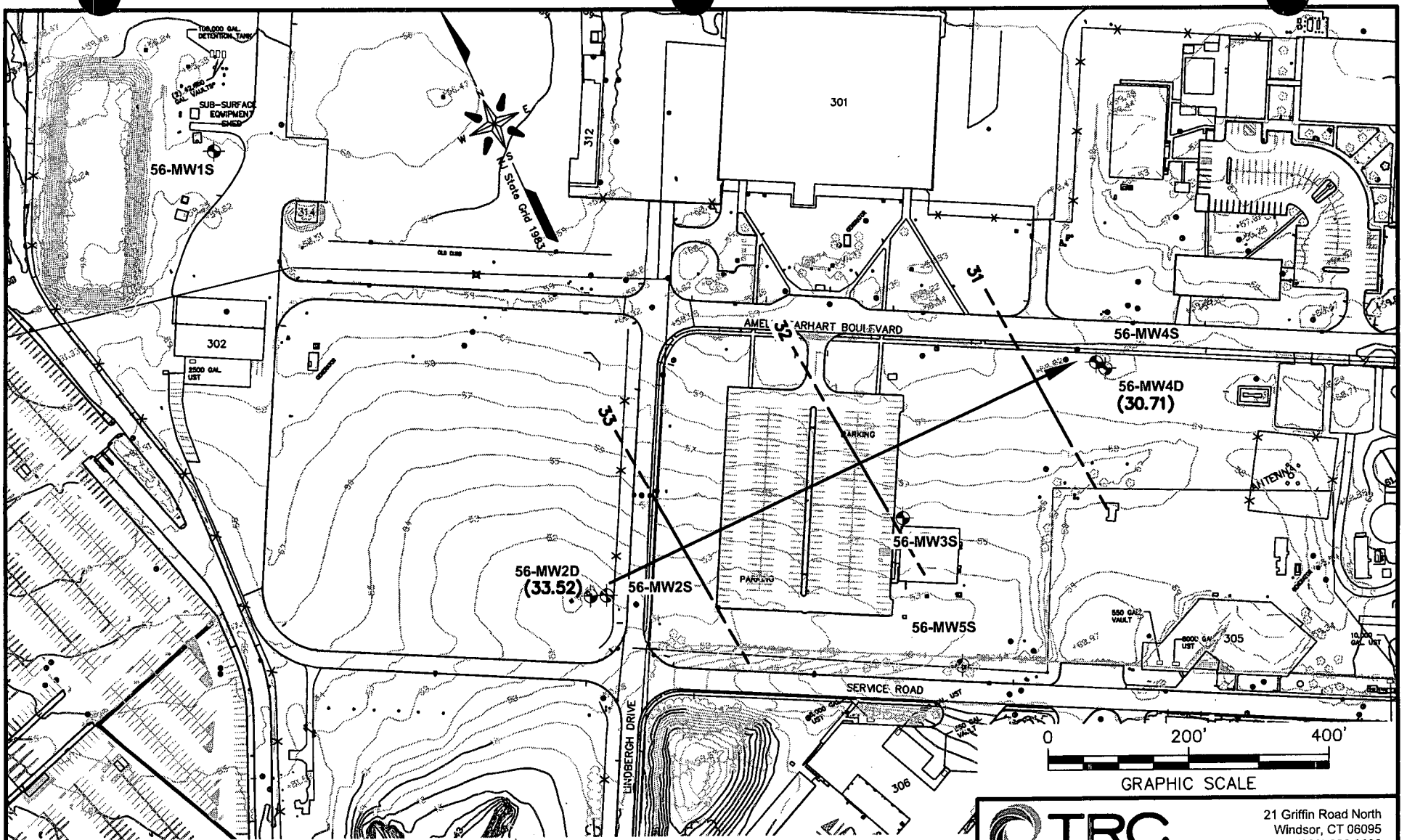
FIGURE 10B.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS
DEEP AQUIFER - 06/11/13

J:\CAD\162662\000110\000801\June 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10b June 27, 2013–10:31AM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW2D	MONITORING WELL
(33.52)	GROUNDWATER ELEVATION IN WELL ON 09/12/13 (FT. NAVD88)
33	GROUNDWATER CONTOUR ON 09/12/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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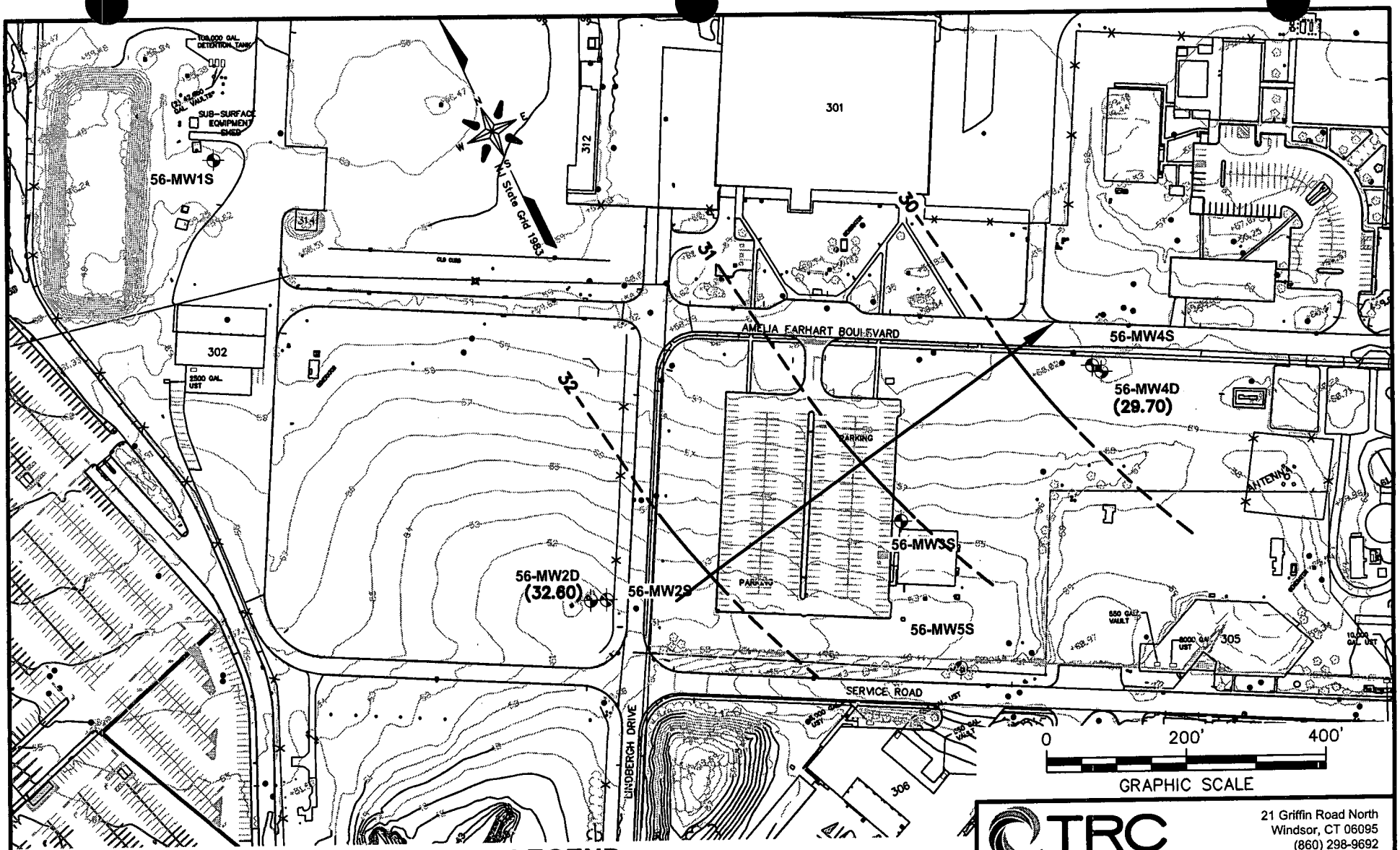
FIGURE 10B.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS
DEEP AQUIFER - 09/12/13

J:\CAD\162662\000180\000501\Sept 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10b September 30, 2013–4:25PM KHollenbeck



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY AXIS GEOSPATIAL; DATE OF PHOTOGRAPHY–APRIL 4, 2010.

LEGEND

56-MW2D	MONITORING WELL
(32.60)	GROUNDWATER ELEVATION IN WELL ON 12/09/13 (FT. NAVD88)
32	GROUNDWATER CONTOUR ON 12/09/13 WITH ELEVATION (FT. NAVD88) (DASHED WHERE INFERRED)
→	PRESUMED DIRECTION OF GROUNDWATER FLOW

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ANNUAL GROUNDWATER AND SURFACE WATER SAMPLING RESULTS REPORT

FIGURE 10B.
AREA 56
CONTOURED WATER LEVEL ELEVATIONS
DEEP AQUIFER - 12/09/13

J:\CAD\162662\000180\000502\Dec 2013\
Figure 5 & 10a–10b.dwg Layout:FIGURE 10b March 11, 2014–9:34AM KHollenbeck

Figure 11

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Area A - Historical Groundwater Results

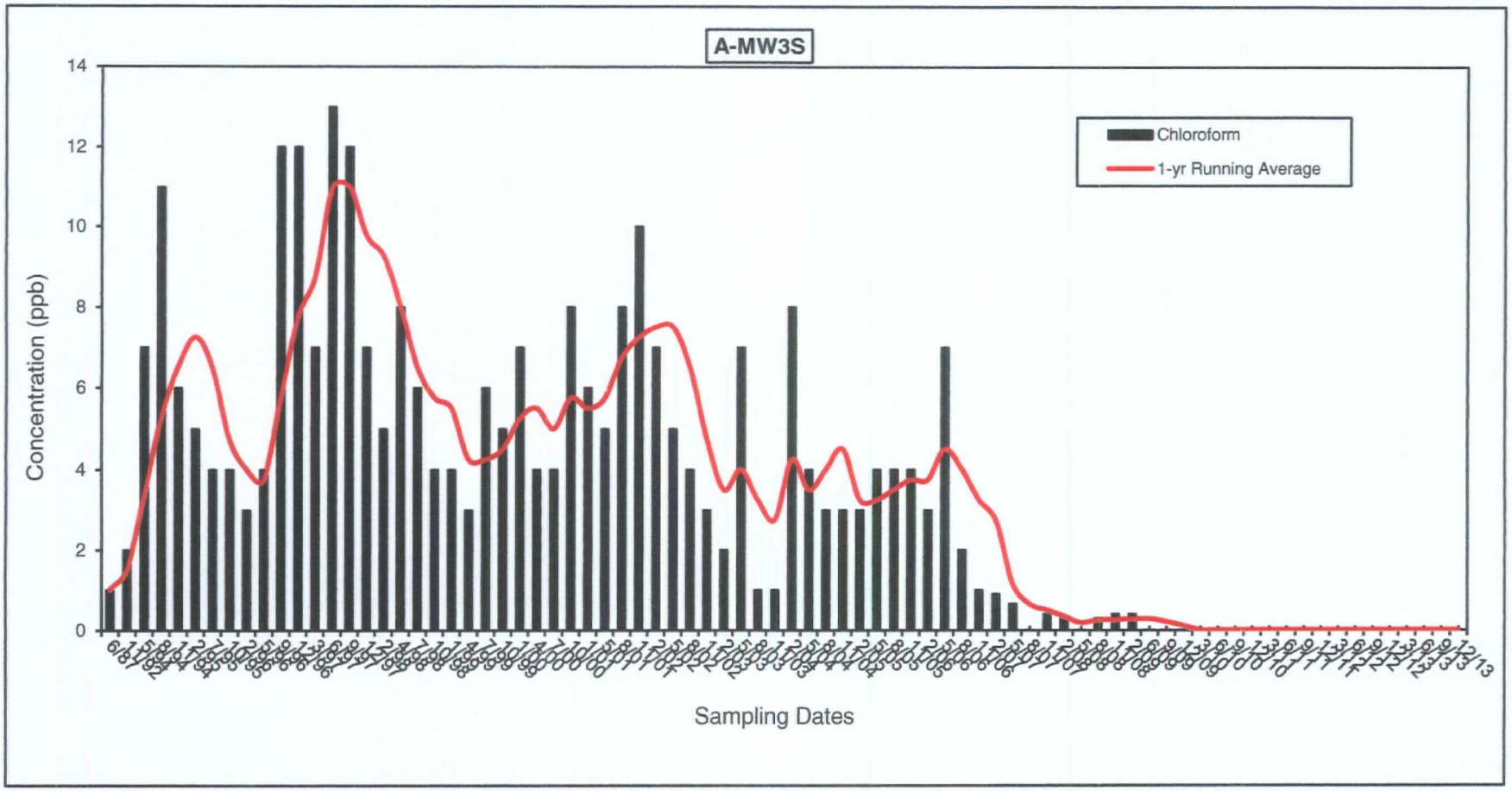

Figure 11 (continued)

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Area A - Historical Groundwater Results

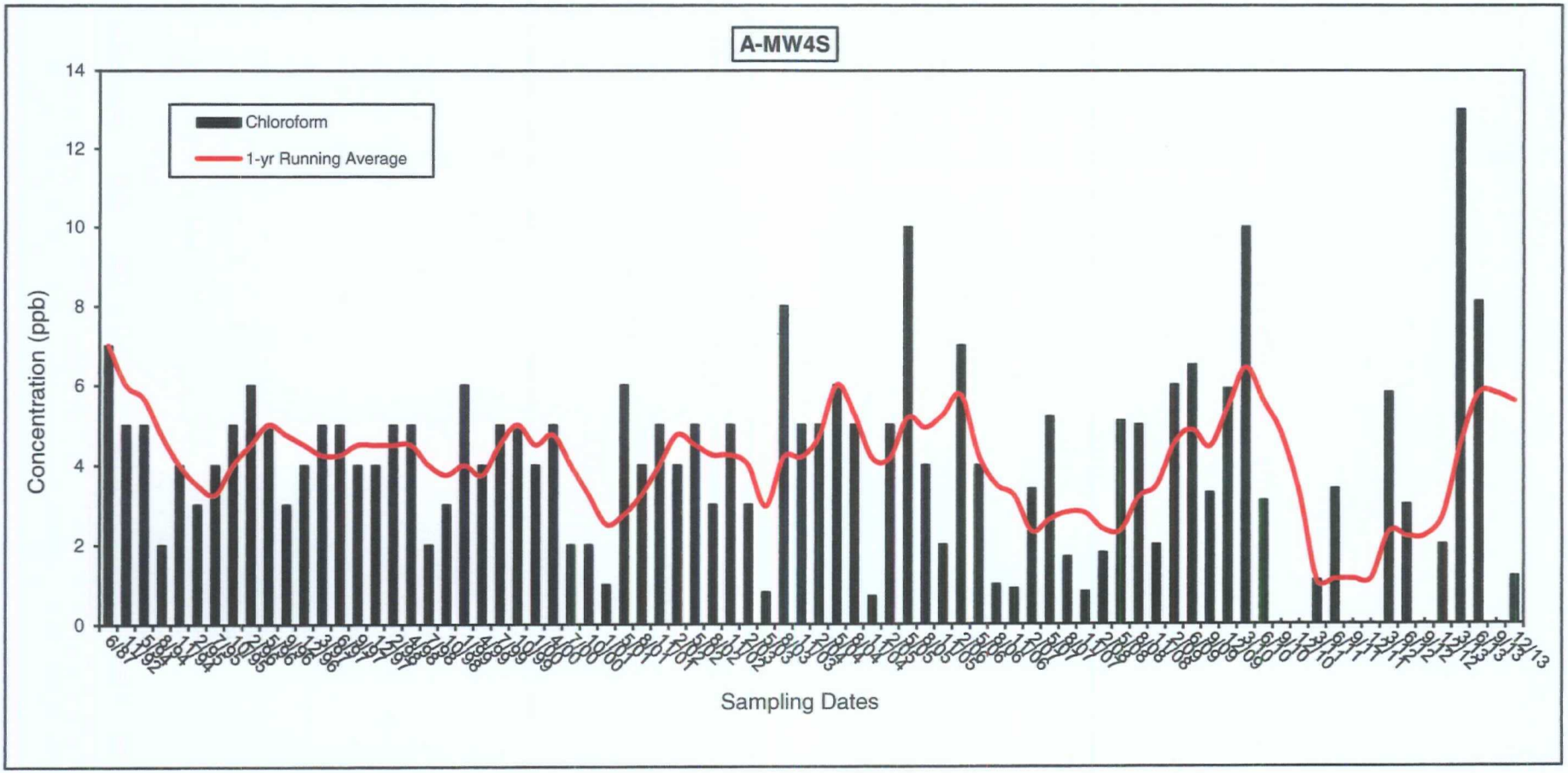

Figure 12

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Area B - Historical Groundwater Results

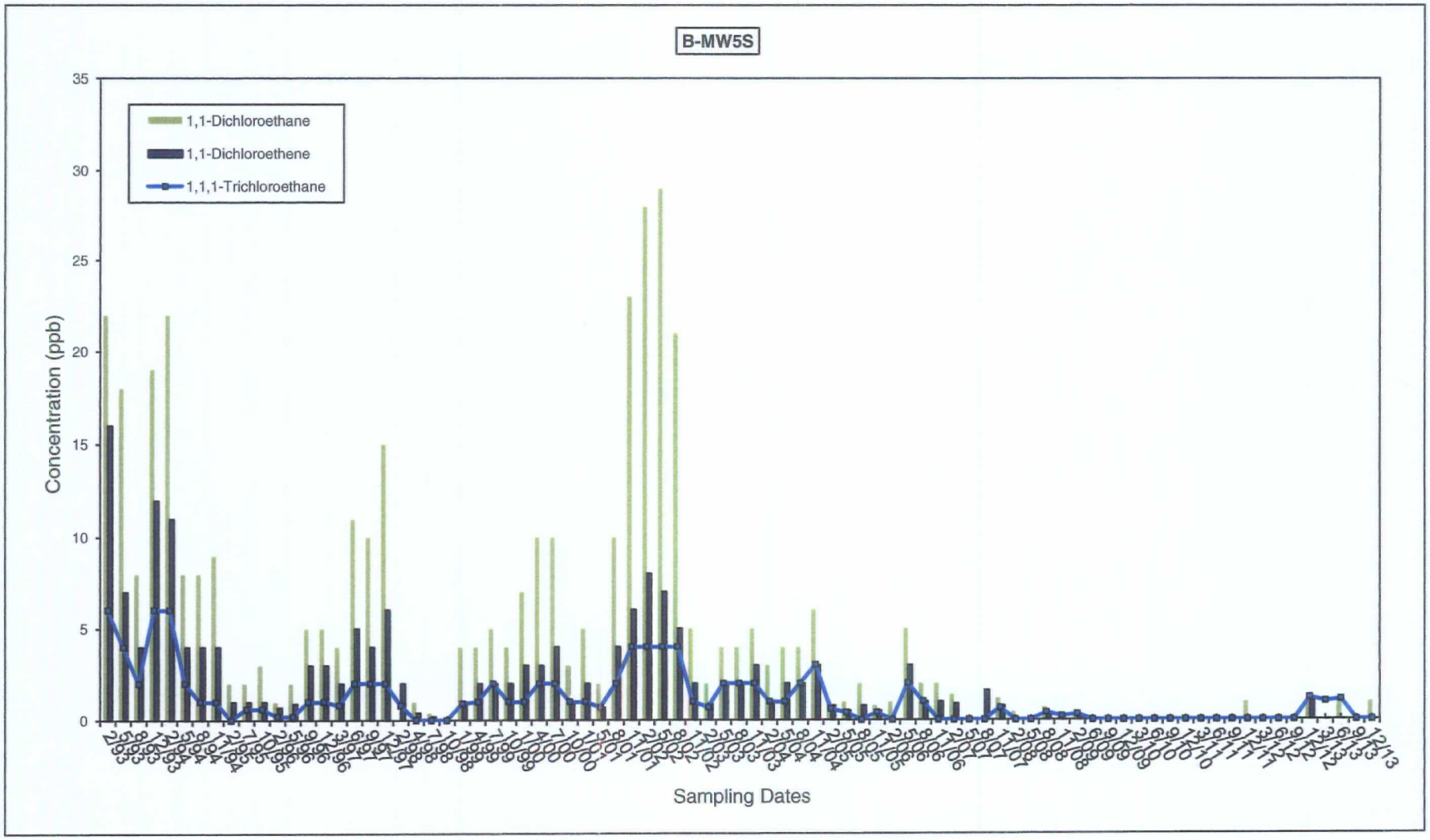

Figure 12 (continued)

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Area B - Historical Groundwater Results

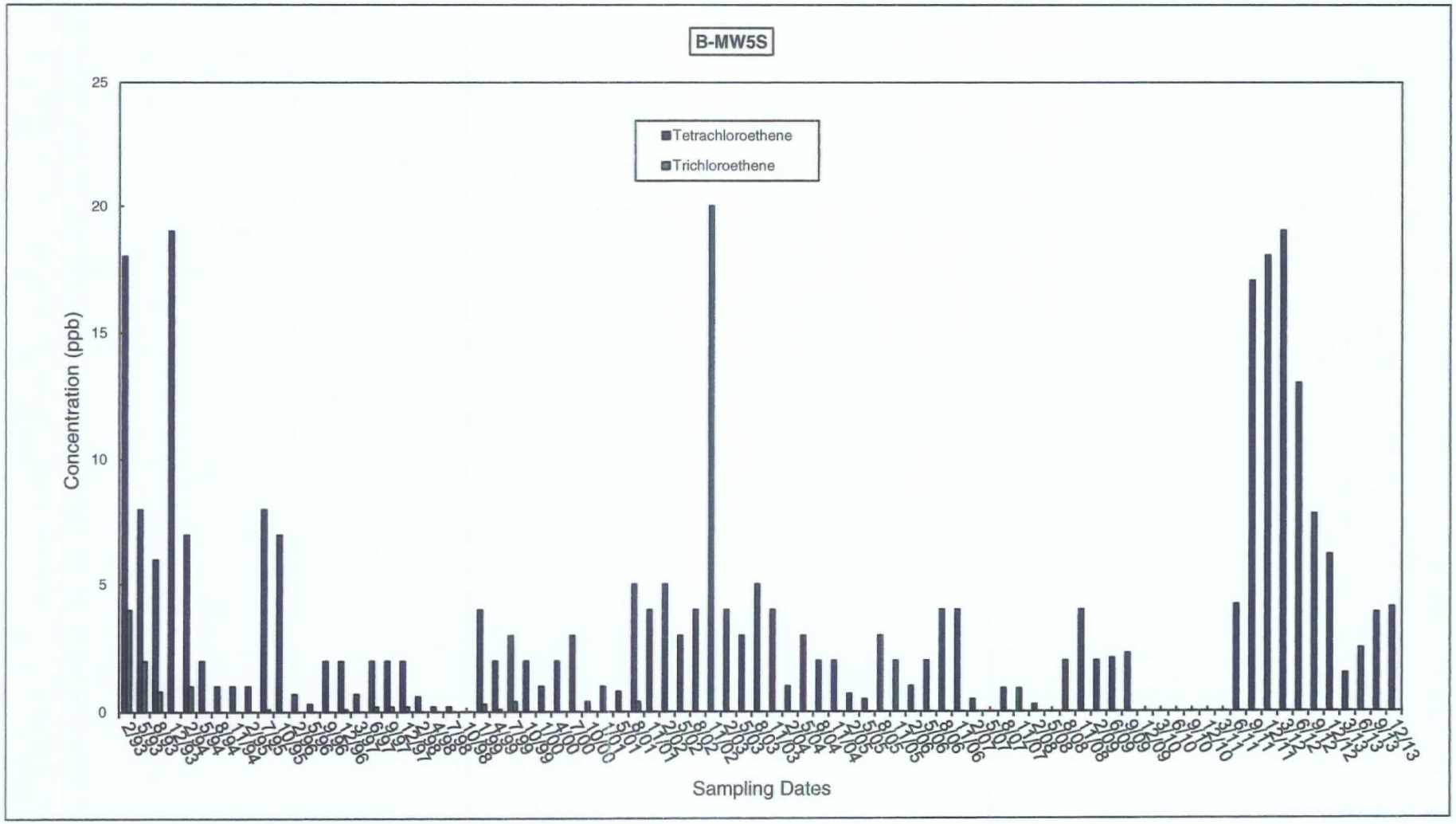

Figure 12 (continued)

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Area B - Historical Groundwater Results

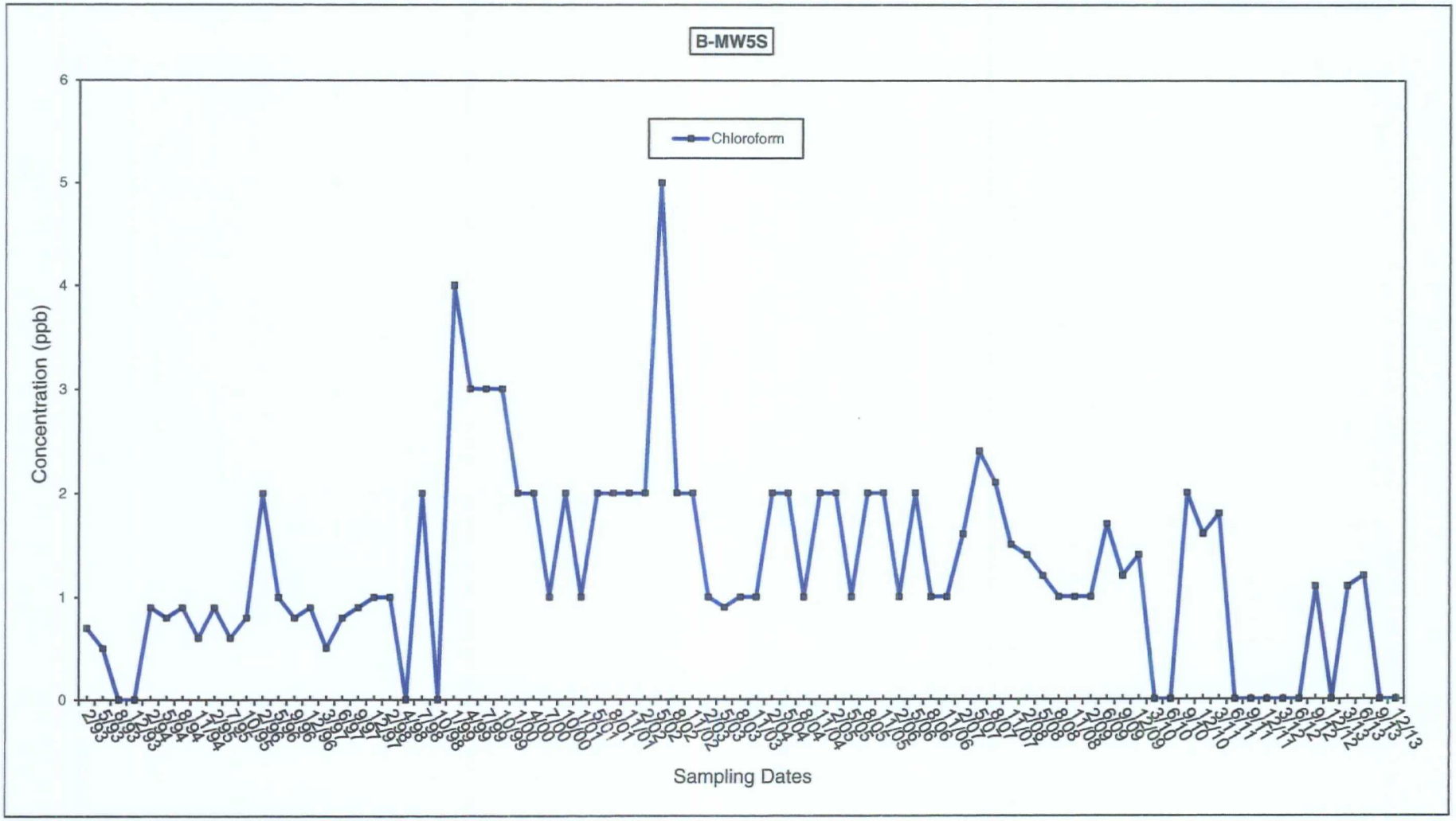

Figure 12 (Continued)

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Area B - Historical Groundwater Results

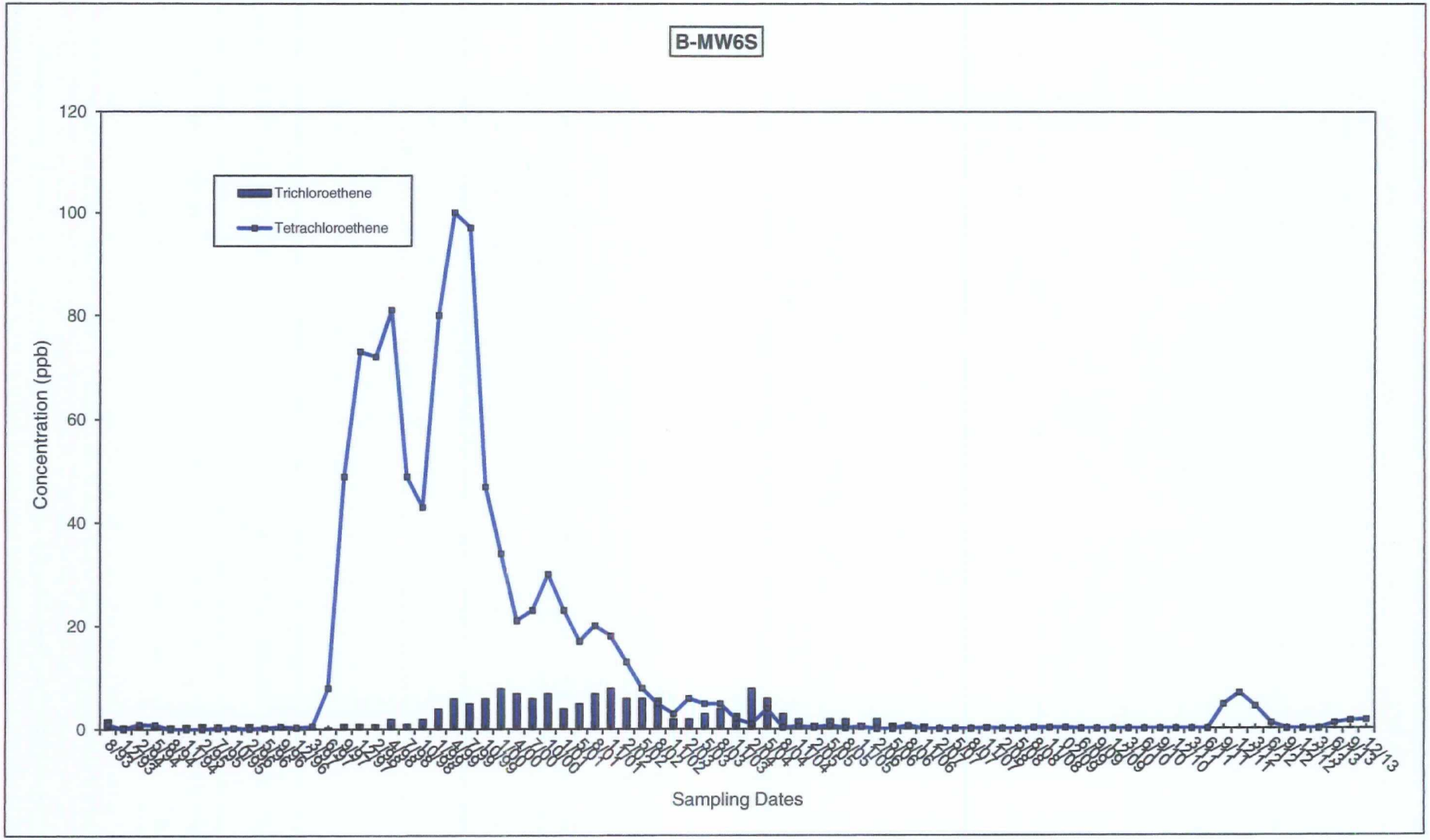

Figure 12 (Continued)

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Area B - Historical Groundwater Results

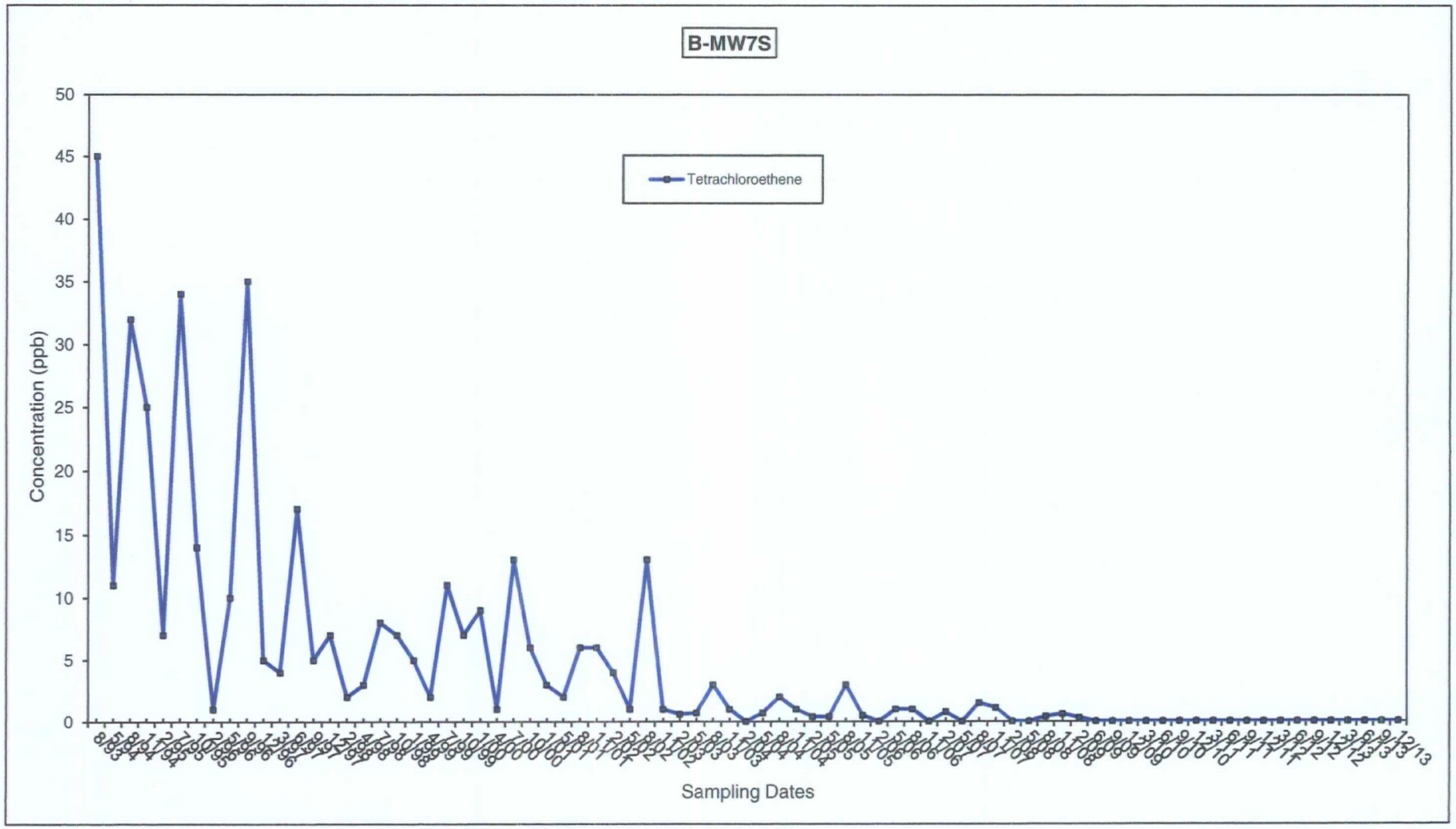

Figure 12A

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Area B - Historical Surface Water Results

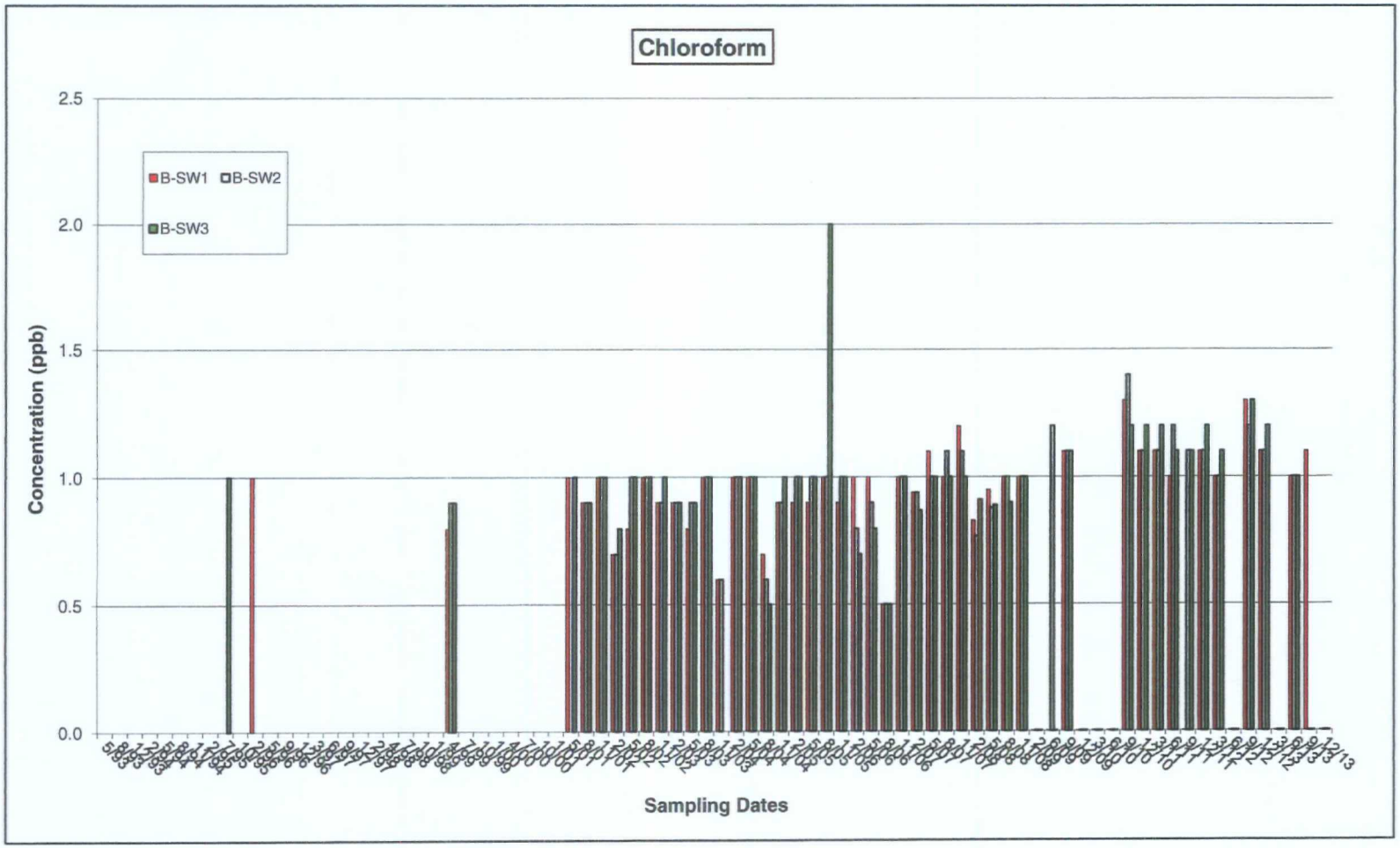

Figure 13

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Area C - Historical Groundwater Results

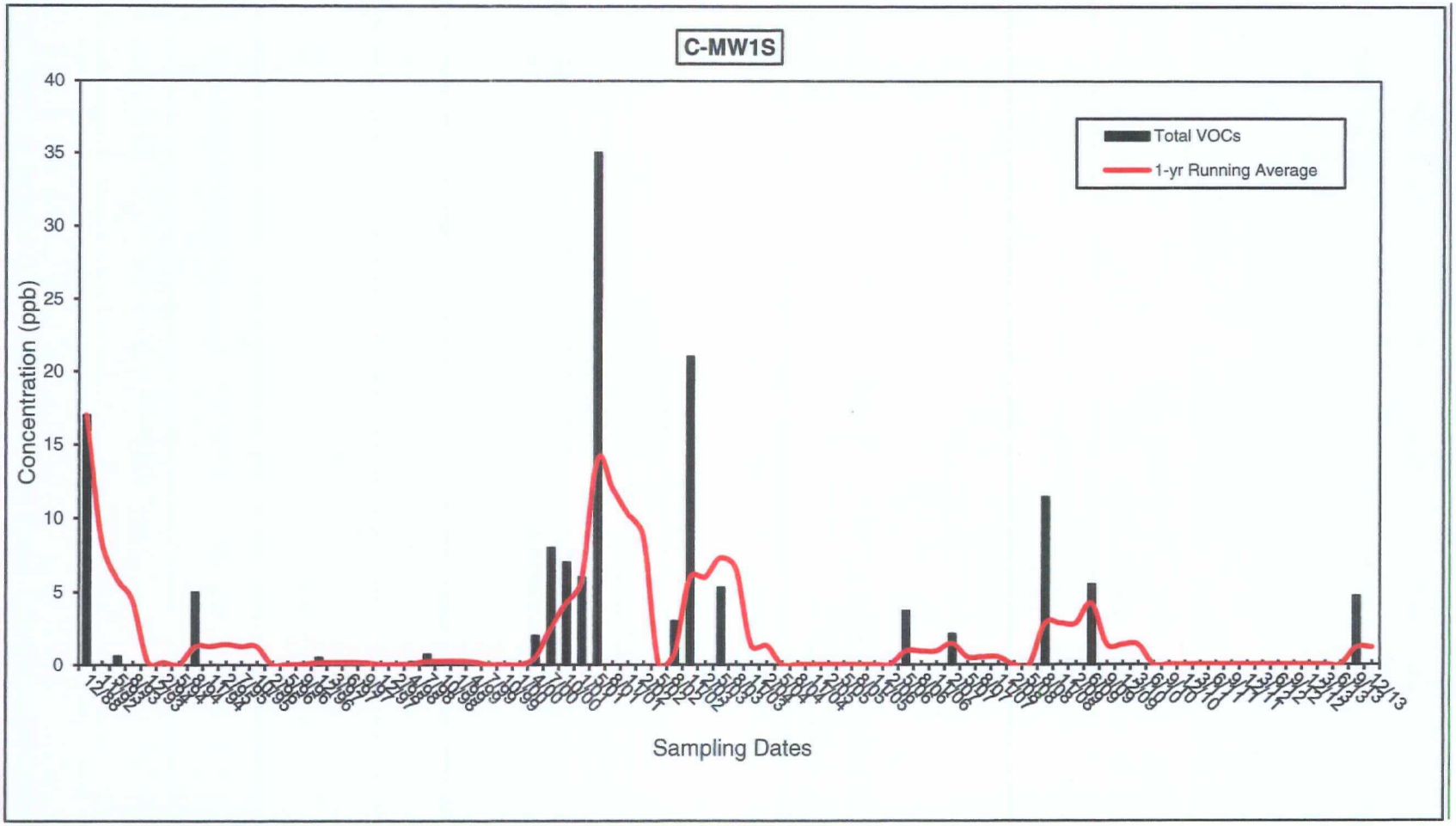

Figure 13 (continued)

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Area C - Historical Groundwater Results

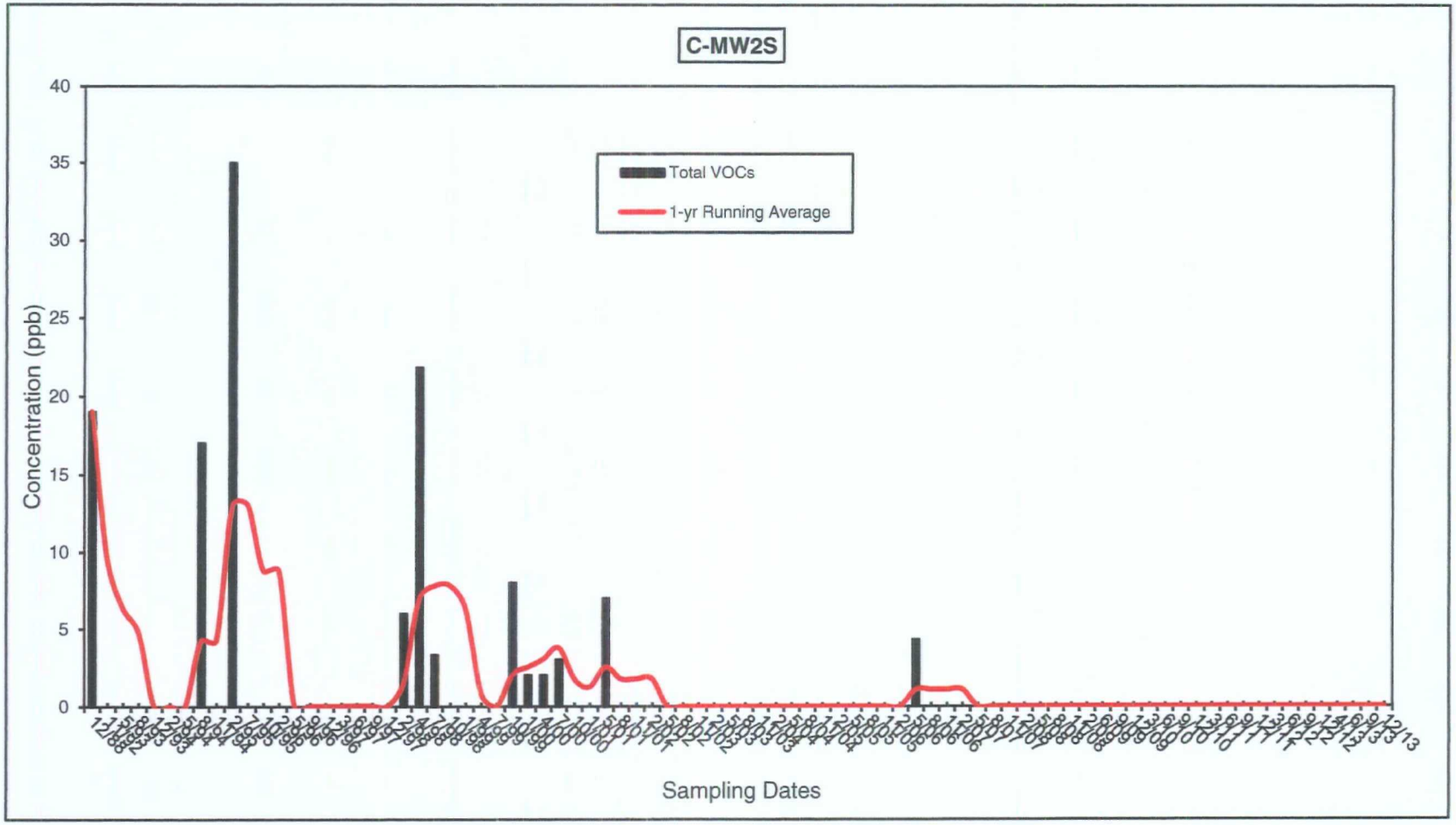

Figure 14

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Area R - Historical Groundwater Results

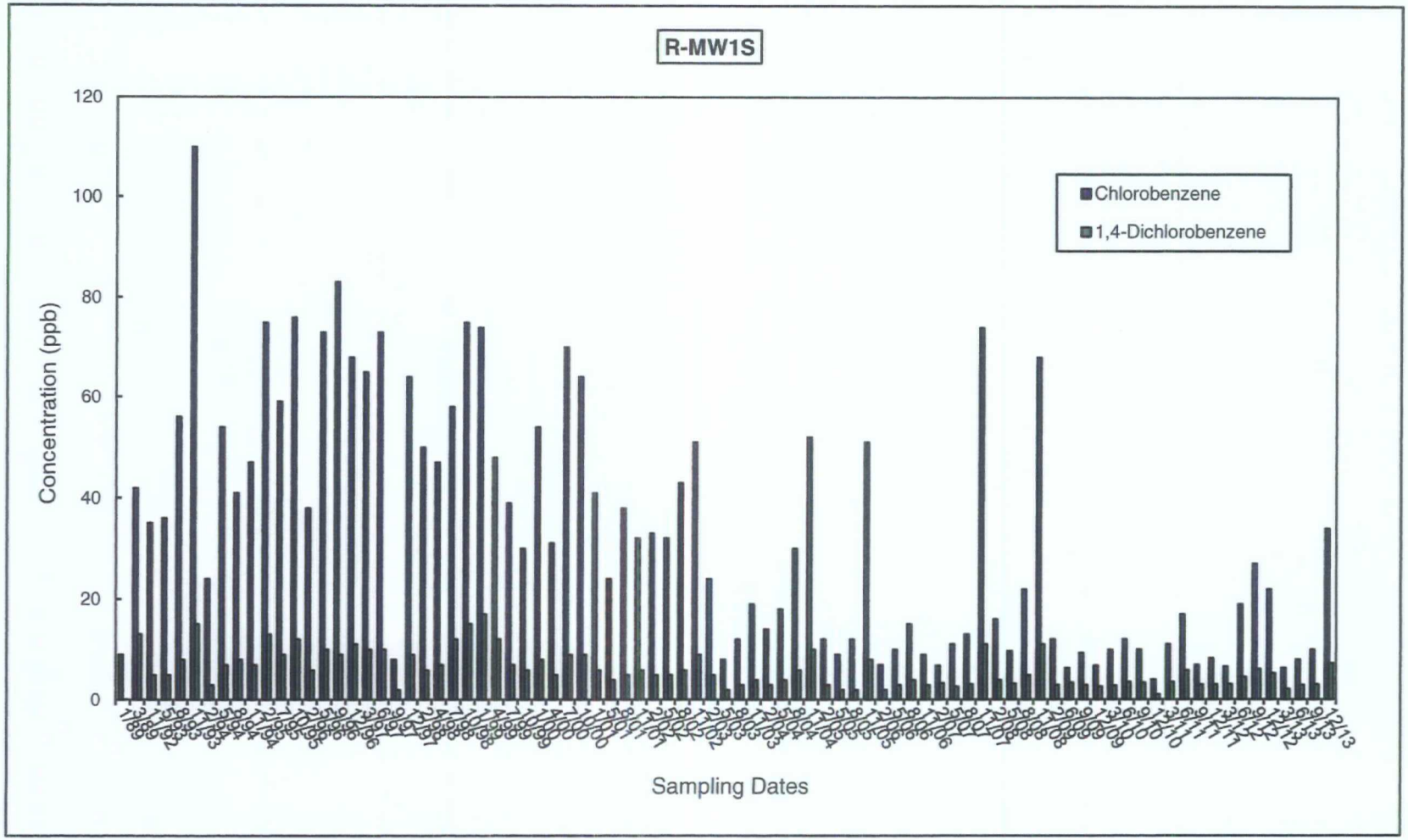

Figure 14 (continued)

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Area R - Historical Groundwater Results

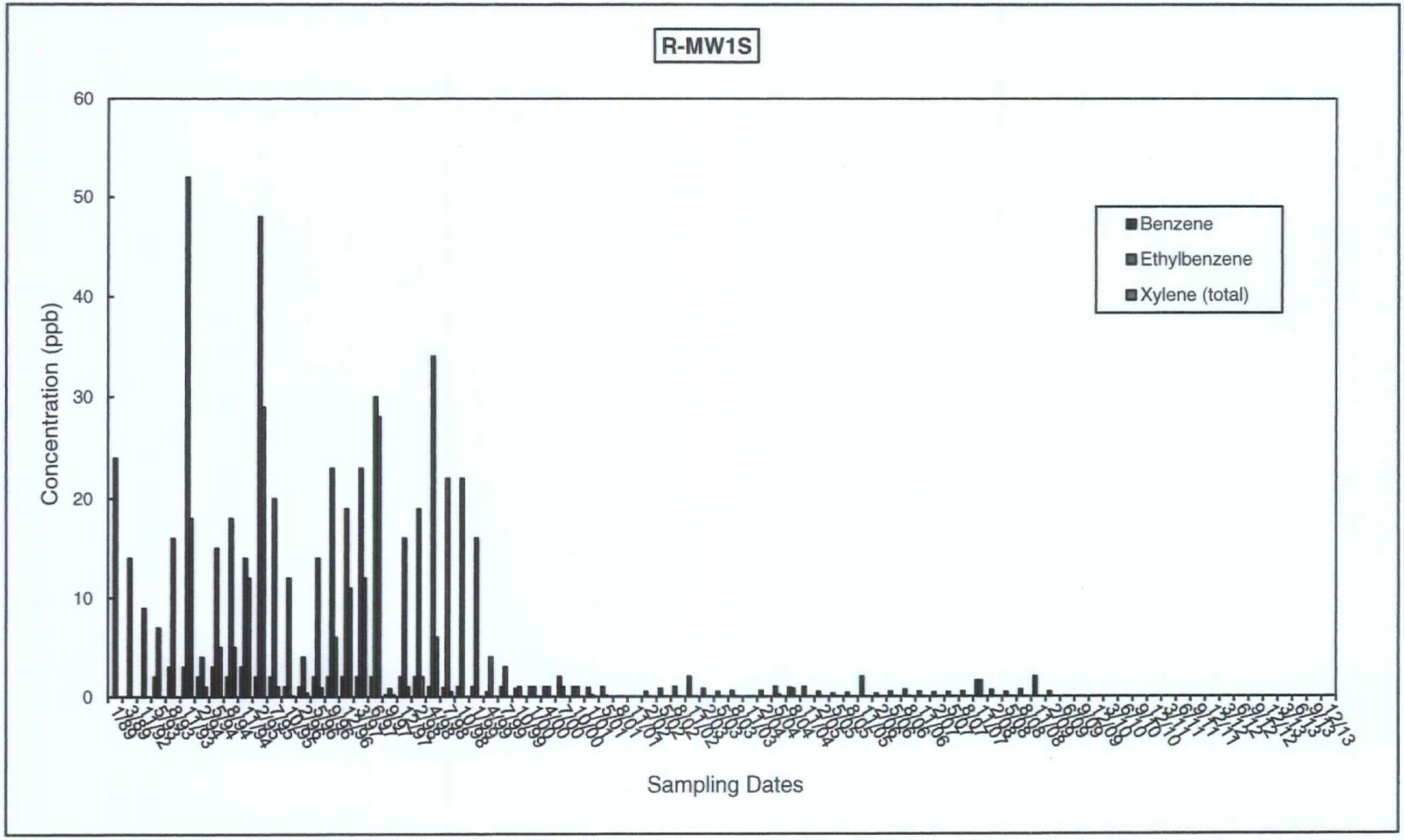

Figure 14 (continued)

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Area R - Historical Groundwater Results

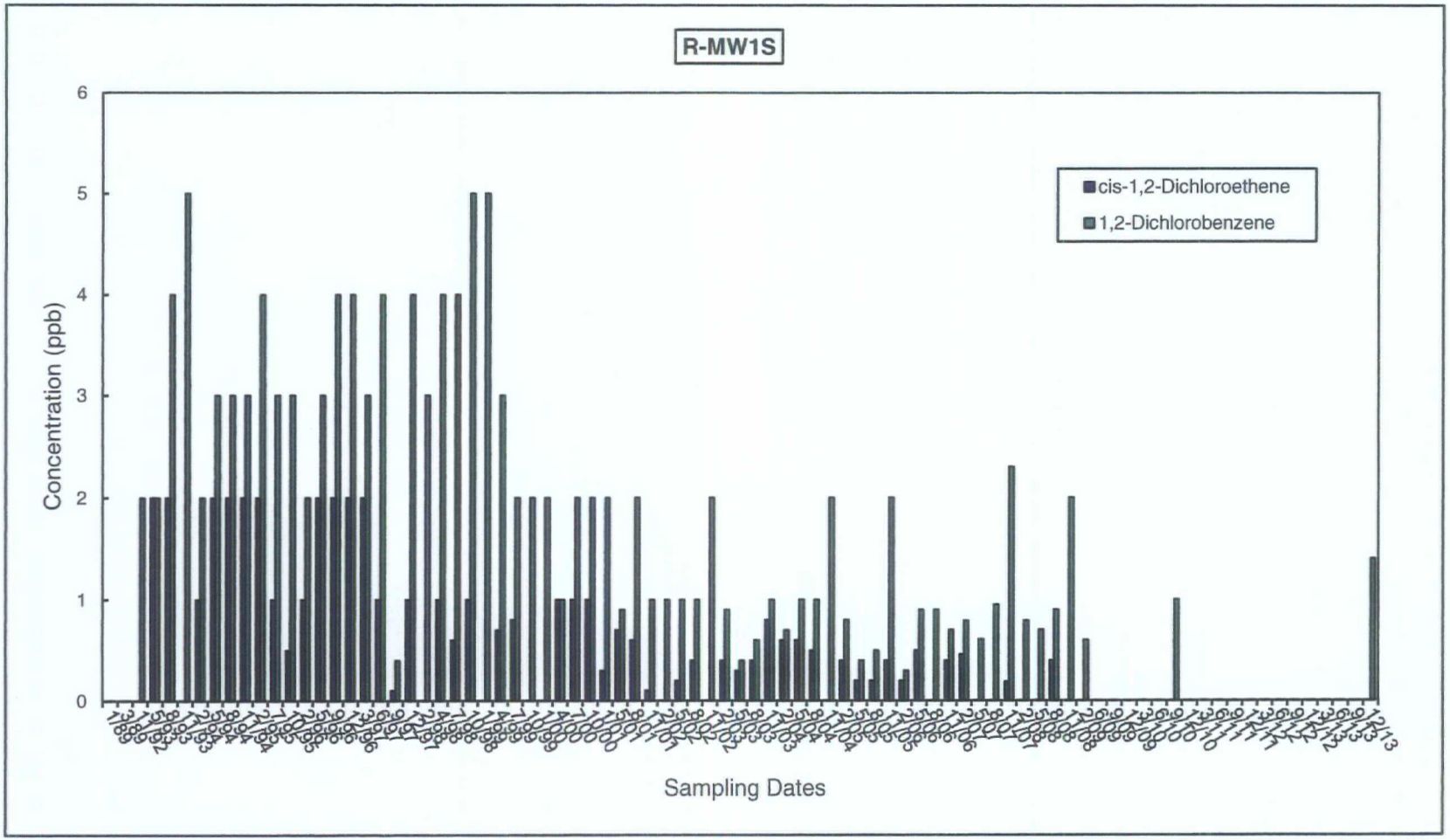

Figure 14 (Continued)

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Area R - Historical Groundwater Results

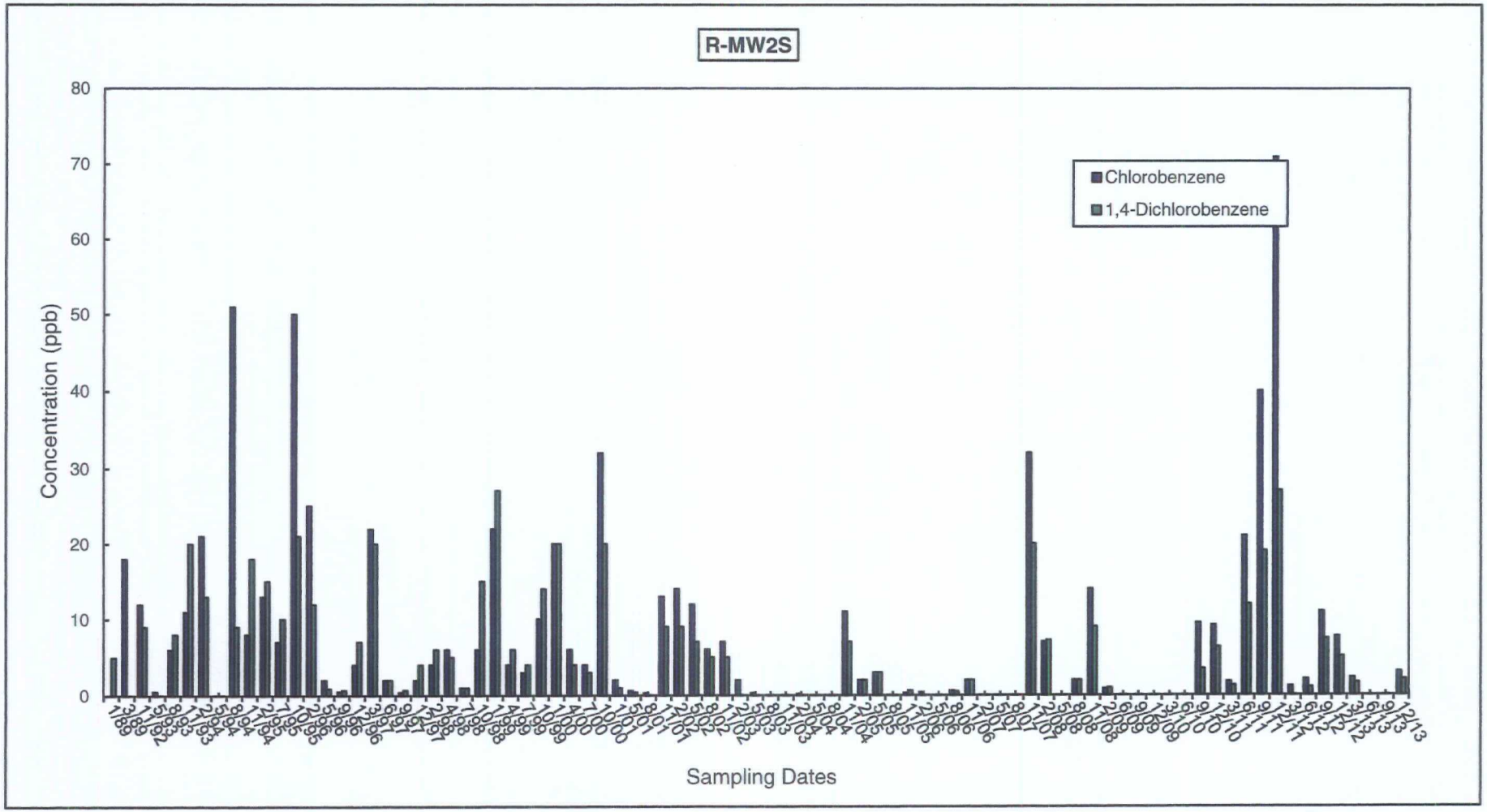

Figure 14 (Continued)

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Area R - Historical Groundwater Results

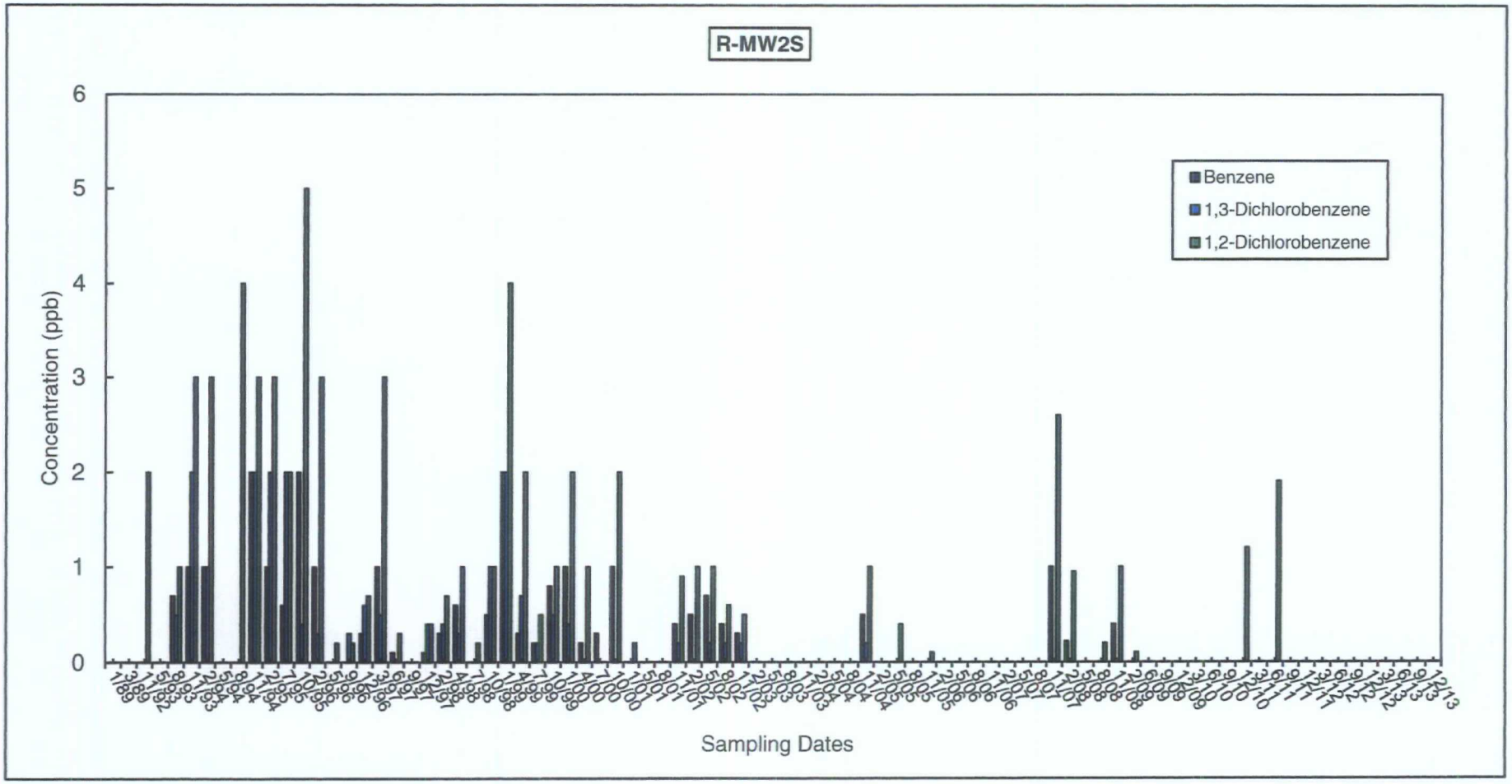

Figure 14 (Continued)

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Area R - Historical Groundwater Results

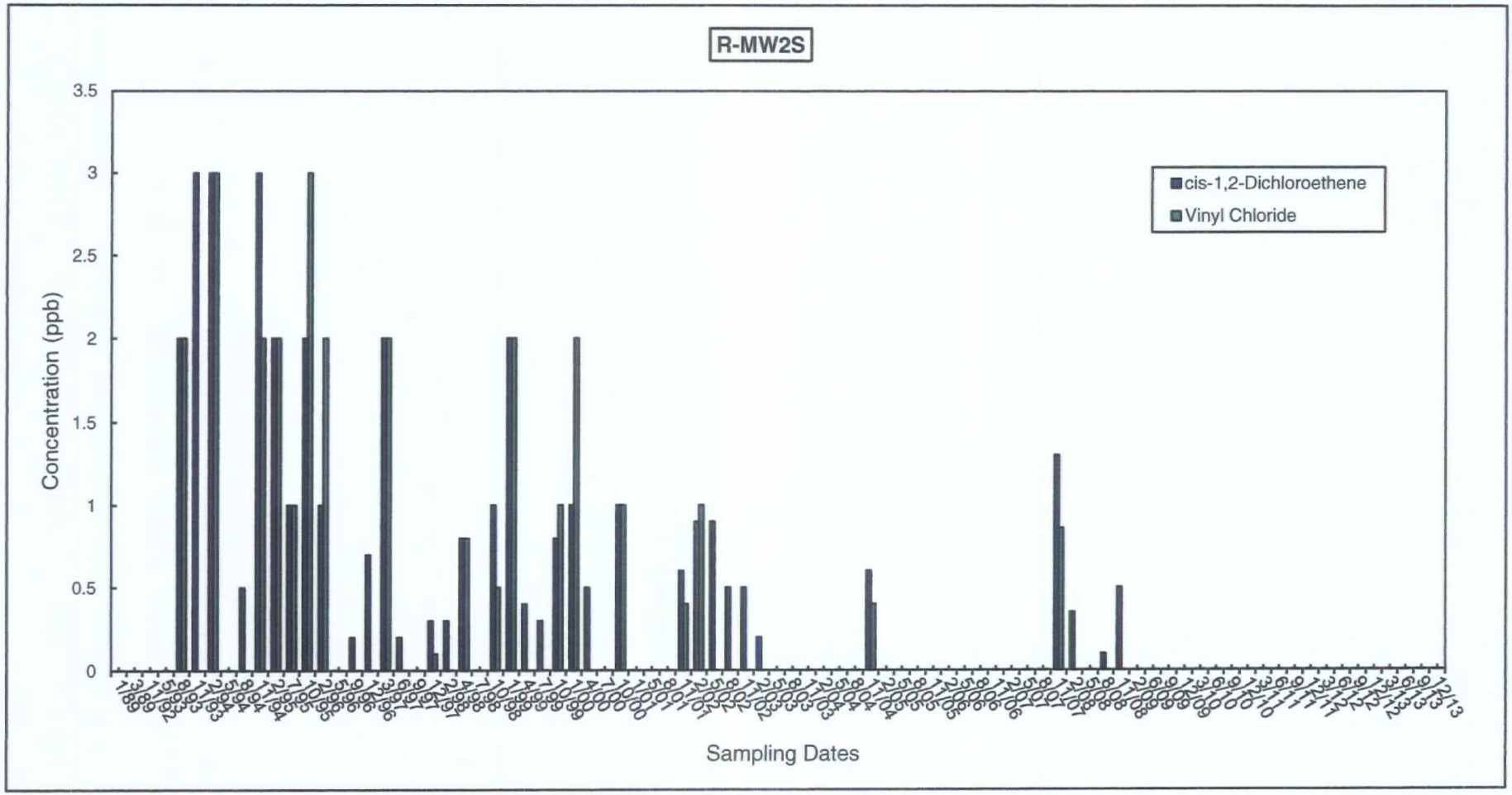

Figure 14 (Continued)

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Area R - Historical Groundwater Results

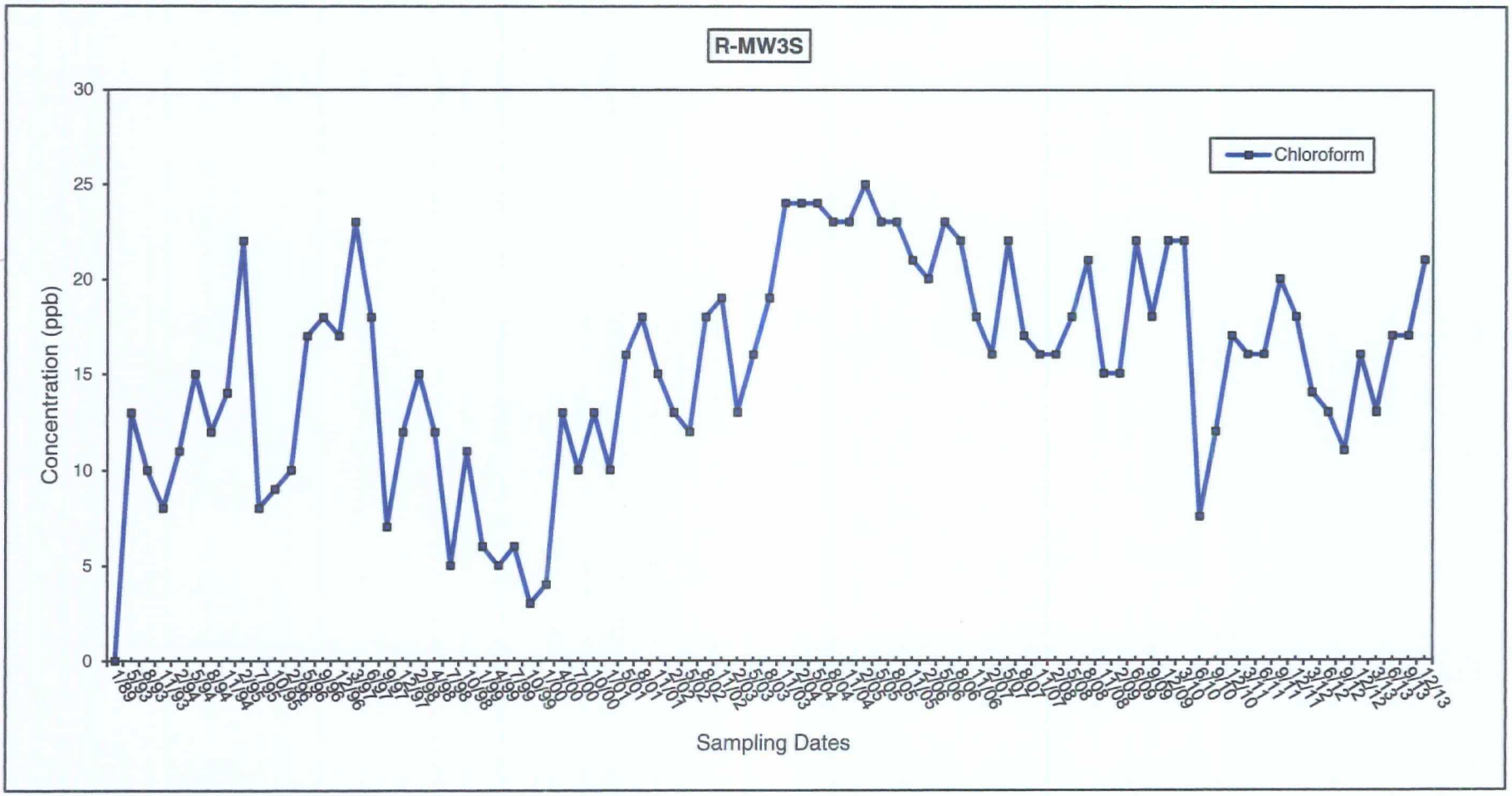

Figure 14 (Continued)

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Area R - Historical Groundwater Results

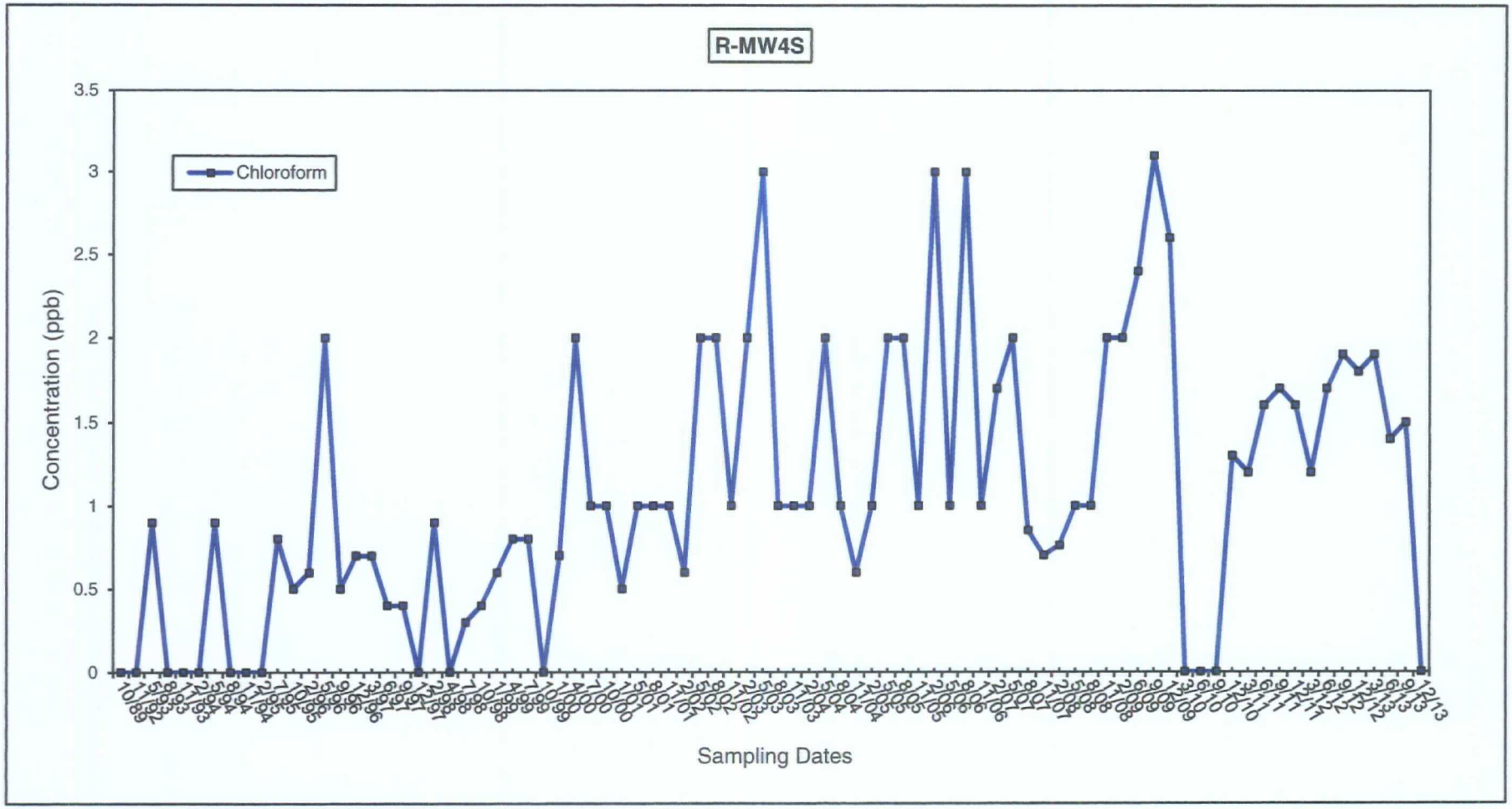

Figure 14 (Continued)

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Area R - Historical Groundwater Results

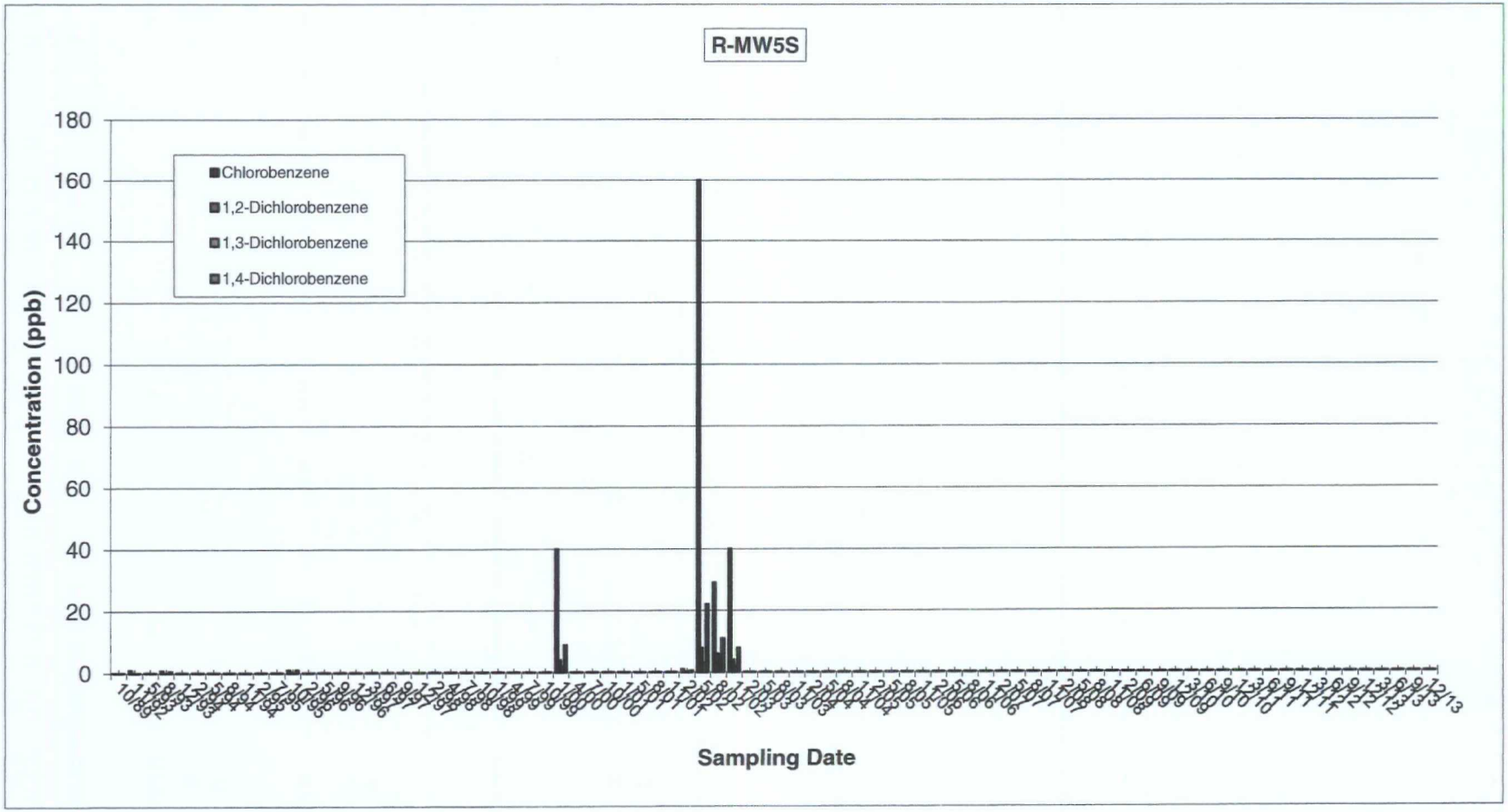

Figure 14 (Continued)

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Area R - Historical Groundwater Results

R-MW5S - Chloroform

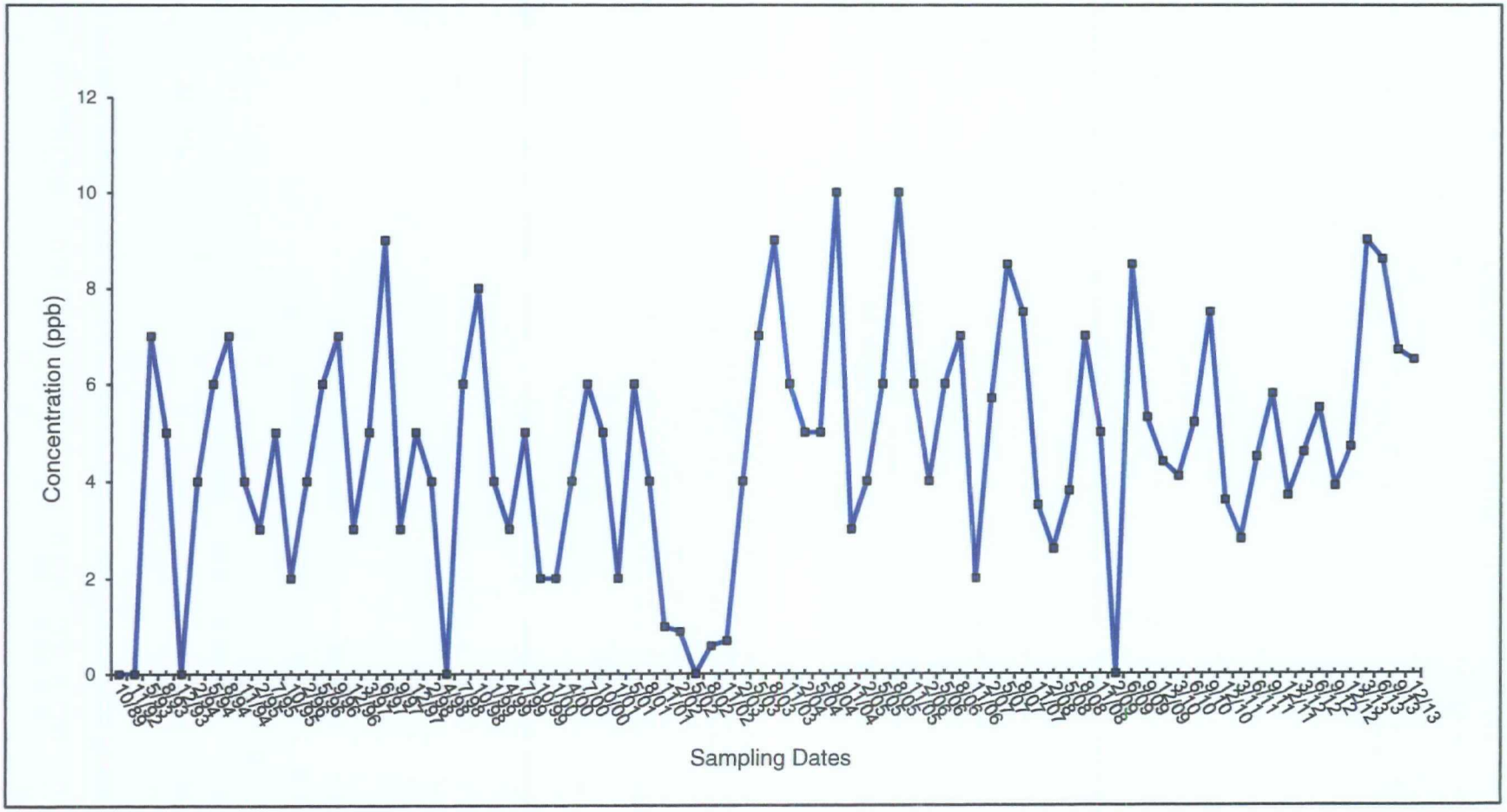

Figure 14 (Continued)

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Area R - Historical Groundwater Results

R-MW6S - Chloroform

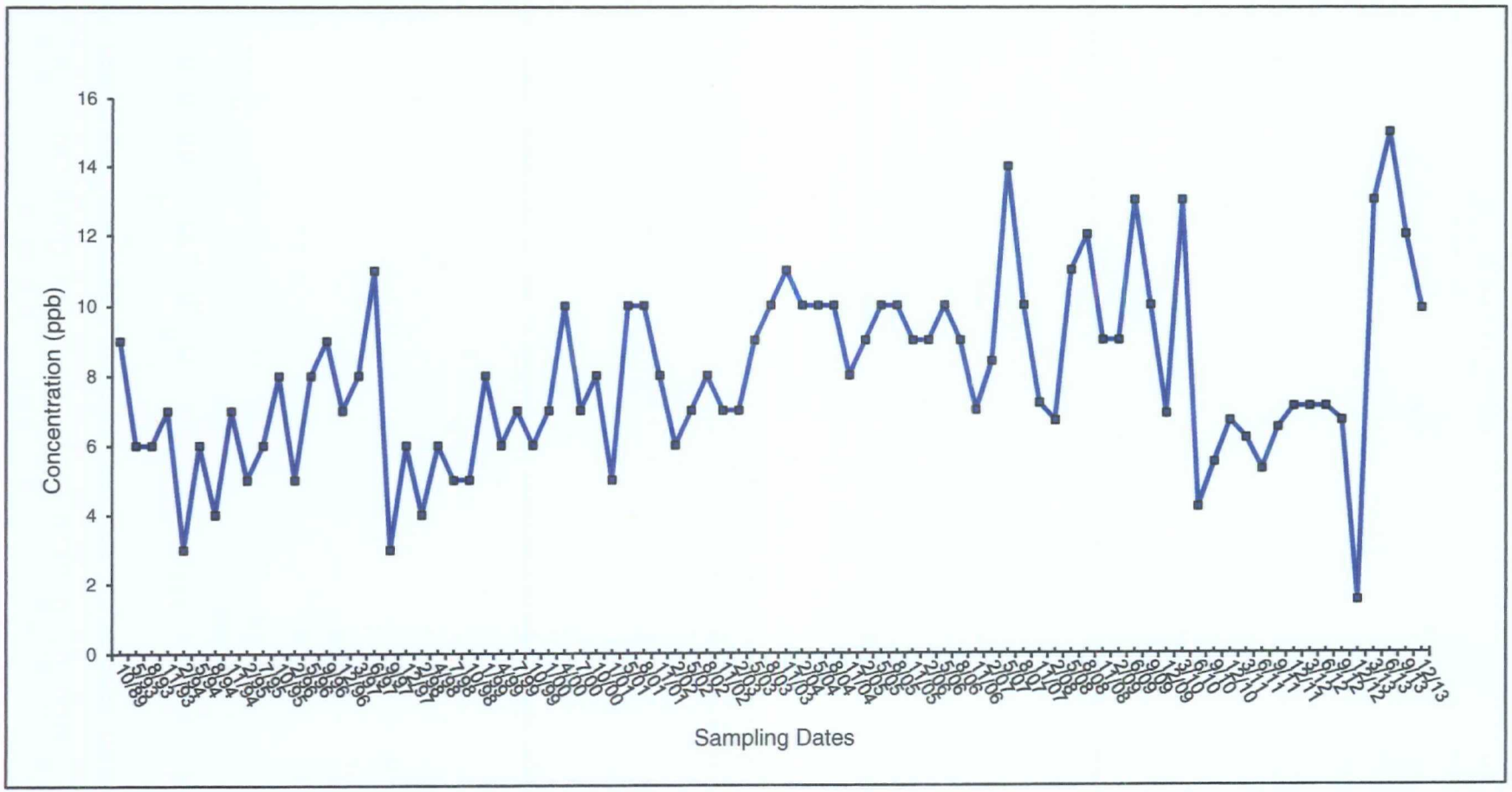

Figure 15

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Area 56 - Historical Groundwater Results

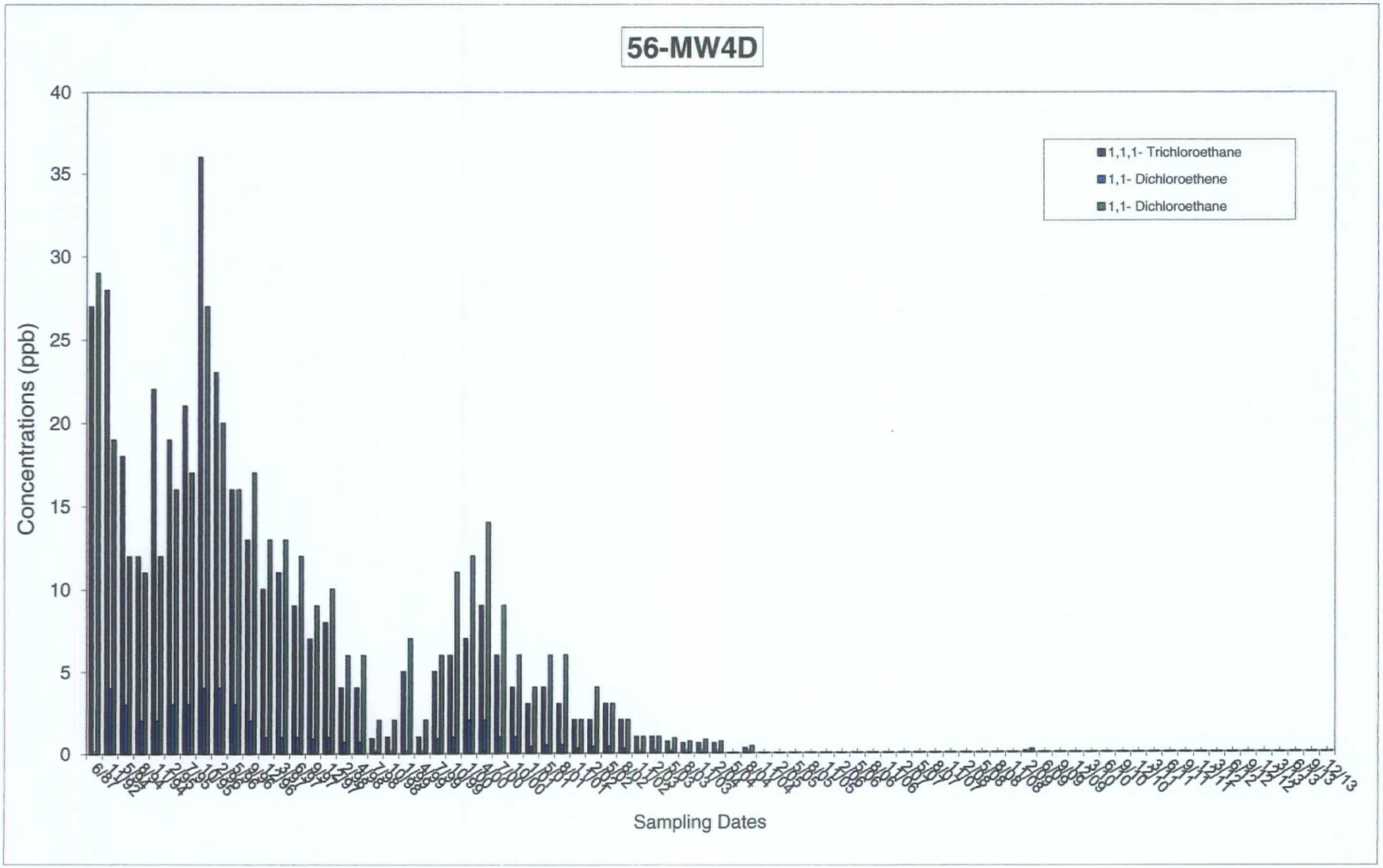

Figure 15 (Continued)

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Area 56 - Historical Groundwater Results

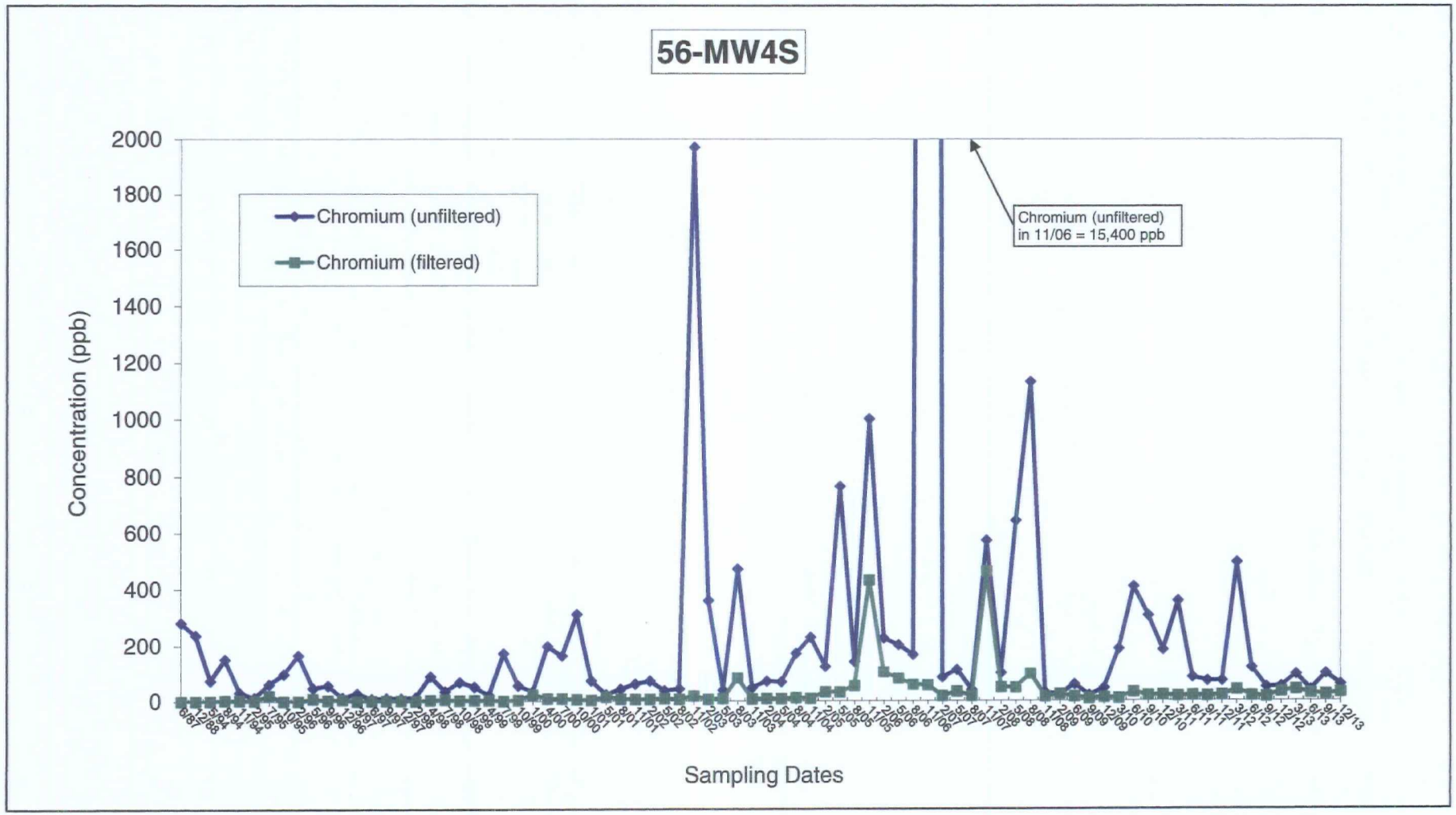

Figure 15 (Continued)

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Area 56 - Historical Groundwater Results

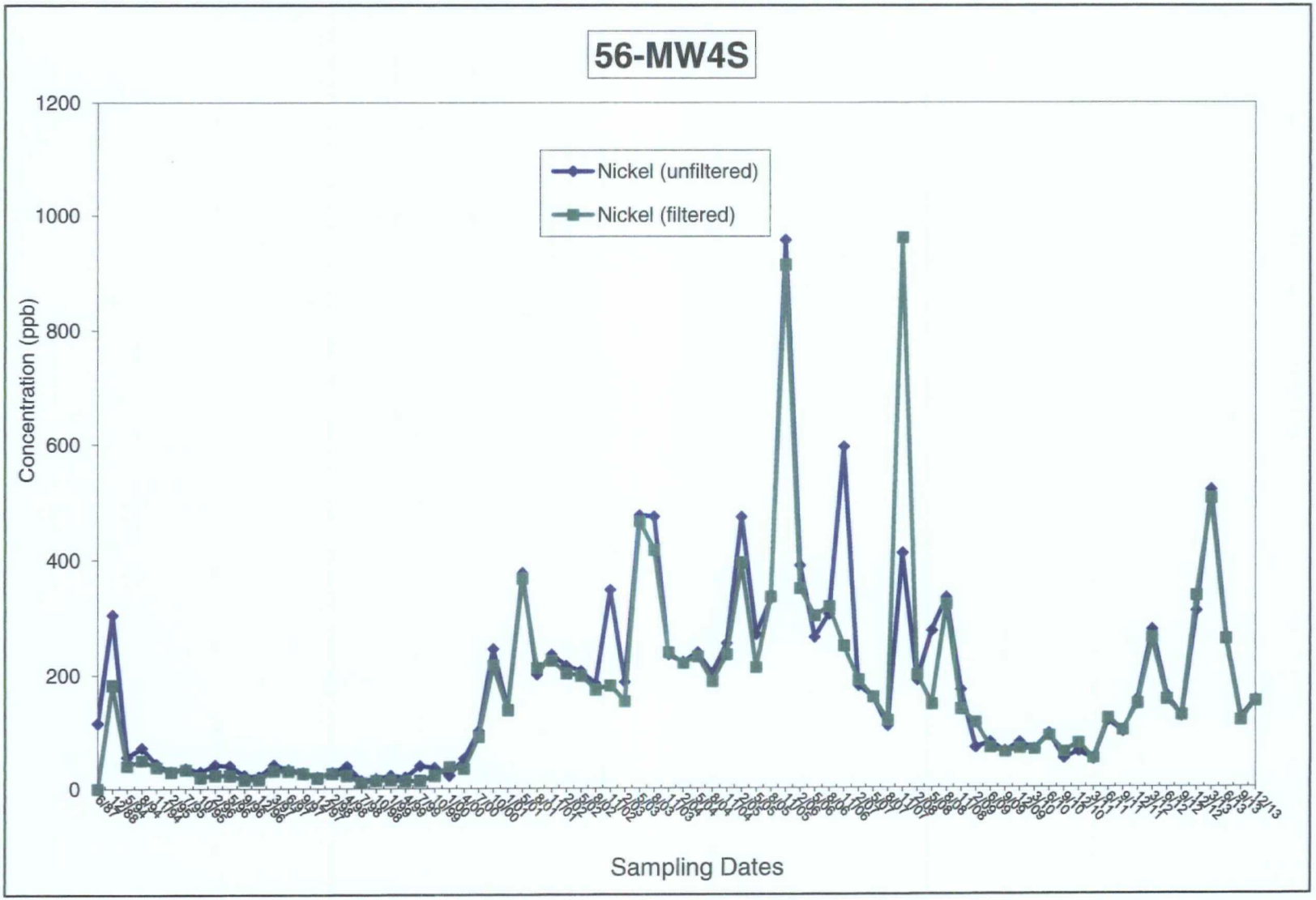

Figure 15 (Continued)

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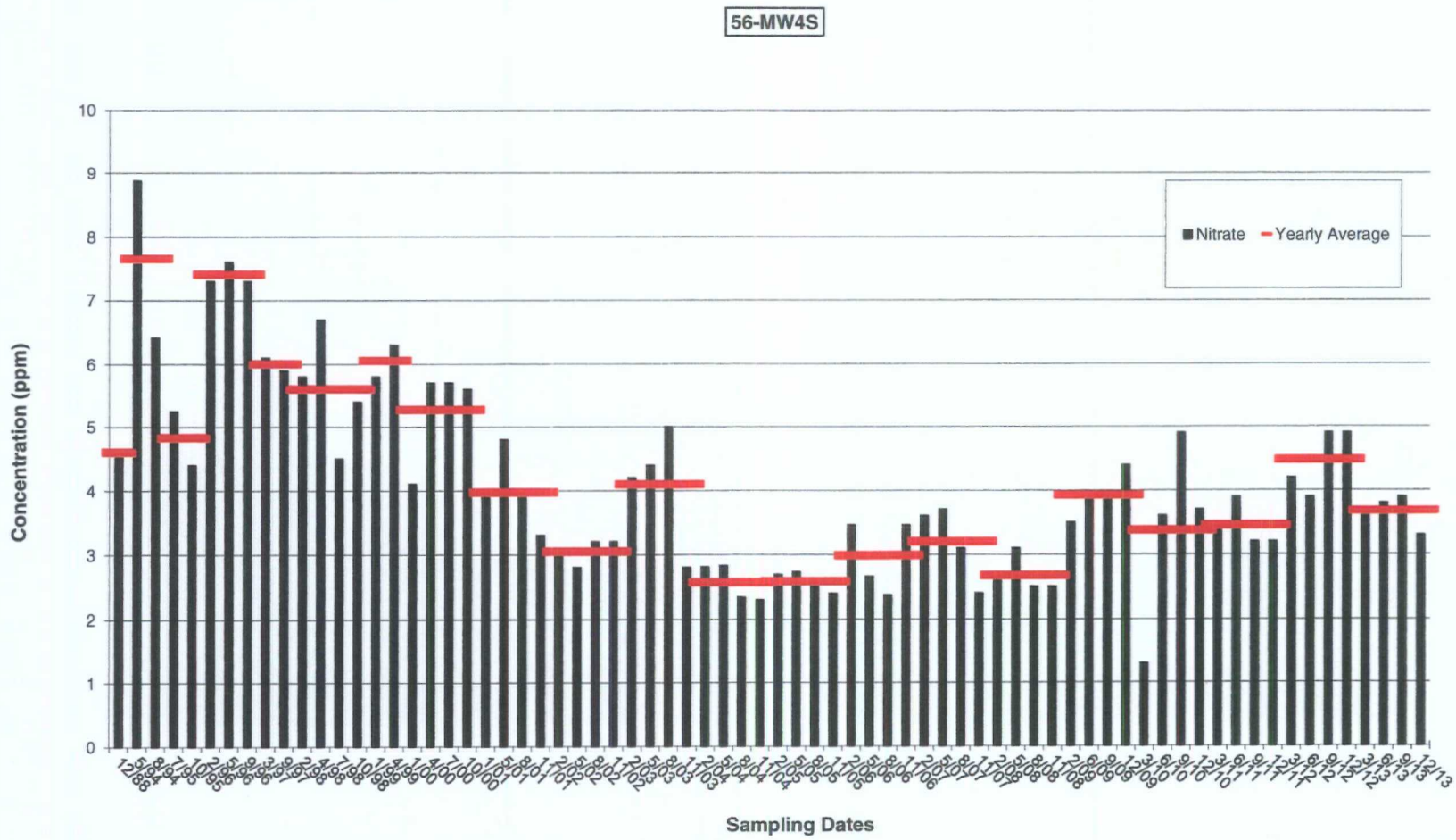
Area 56 - Historical Groundwater Results



Note: Anomalously high (December 1996-29.9 ppb), low (February 1995-0.149 ppb and June 1997-0.27 ppb) and rejected (November 1994-4.6 ppb) nitrate data not included in one-year running average. Nitrate analyses were not conducted on the July 1999 or October 1999 ground water samples due to an oversight by the laboratory. Nitrite analyses were perfromed instead and these results (both non-detect) are not included in the one-year running average.