



**VISTA LANDFILL  
TECHNICAL  
WATER QUALITY MONITORING  
REPORT  
2008 THROUGH 2010**

**Prepared for:**

Vista Landfill, Inc.  
242 West Keene Road  
Apopka, Florida 32703

**Prepared by:**

**SCS ENGINEERS**  
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Tampa, Florida 33610  
(813) 621-0080

May 18, 2011  
File No. 09207039.02

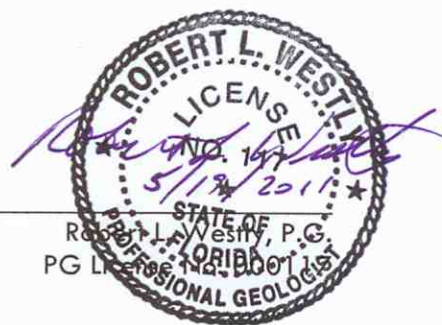
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## 1 INTRODUCTION

SCS Engineers (SCS) prepared this technical water quality monitoring report for the Vista Landfill (VLF) on behalf of Vista Landfill, Inc. (VLI). The VLF is located approximately two miles south of Apopka, Florida, at 242 West Keene Road. The VLF lies south of Keene Road, west of Old Apopka-Clarcona Road, and east of Lake Mitchell in Orange County, Florida (Figure 1-1). The VLF is a Class III lined landfill with a leachate collection system. The bottom-liner system consists of three layers (from top to bottom): a 2-foot thick sand liner protective layer, a double-sided geocomposite drainage layer, and a 50-mil high density polyethylene (HDPE) geomembrane layer. Waste was initially placed in the landfill on November 17, 2008.

This report was prepared in general accordance with Florida Department of Environmental Protection (FDEP) Permit/certification No. SC48-0165969-014, Condition 23, Monitoring Plan Implementation Schedule (MPIS), and Chapter 62-701.510(9)(a) Florida Administrative Code (FAC). This report includes a summary and evaluation of the groundwater and leachate analytical data from monitoring events performed at the VLF from April 2008 through the most recent monitoring event, December 2010. Locations of monitoring sites are shown on Figure 1-2. The following lists the specific data and information included in this report.

- Tabular and graphical displays of data that show that a monitoring parameter has been detected, including hydrographs for monitoring wells water levels.
- Trend analysis of monitoring parameters detected.
- Comparison among shallow, middle, and deep zone wells.
- Comparison between up-gradient and down-gradient wells.
- Correlation between related parameters such as total dissolved solids and specific conductance.
- Discussion of erratic and/or poorly correlated data.
- An interpretation of the groundwater contour maps, including an evaluation of groundwater flow rates.
- An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

Water quality sampling and physical readings and measurements were performed by technical staff of Pro-Tech Environmental (Pro-Tech), Atlanta, Georgia. Water quality analyses were performed by TestAmerica Laboratories, Inc. (TestAmerica Denver), Denver, Colorado. Field work, sampling methodologies, data evaluation, data Quality Assurance/Quality Control (QA/QC) were conducted in accordance with FAC Chapter 62-160 Standard Operating Procedures (DEP-SOP-001/01), the BRL WQLMP, the BRL site permit, and the Pro-Tech

sample team quality manual. Laboratory analyses were performed in accordance with Chapter 62-160, FAC DEP-SOP-001/01, the BRL WQLMP, and the site permits. TestAmerica-Denver is certified by the Florida Department of Health Environmental Laboratory Certification Program (DoH ELCP).



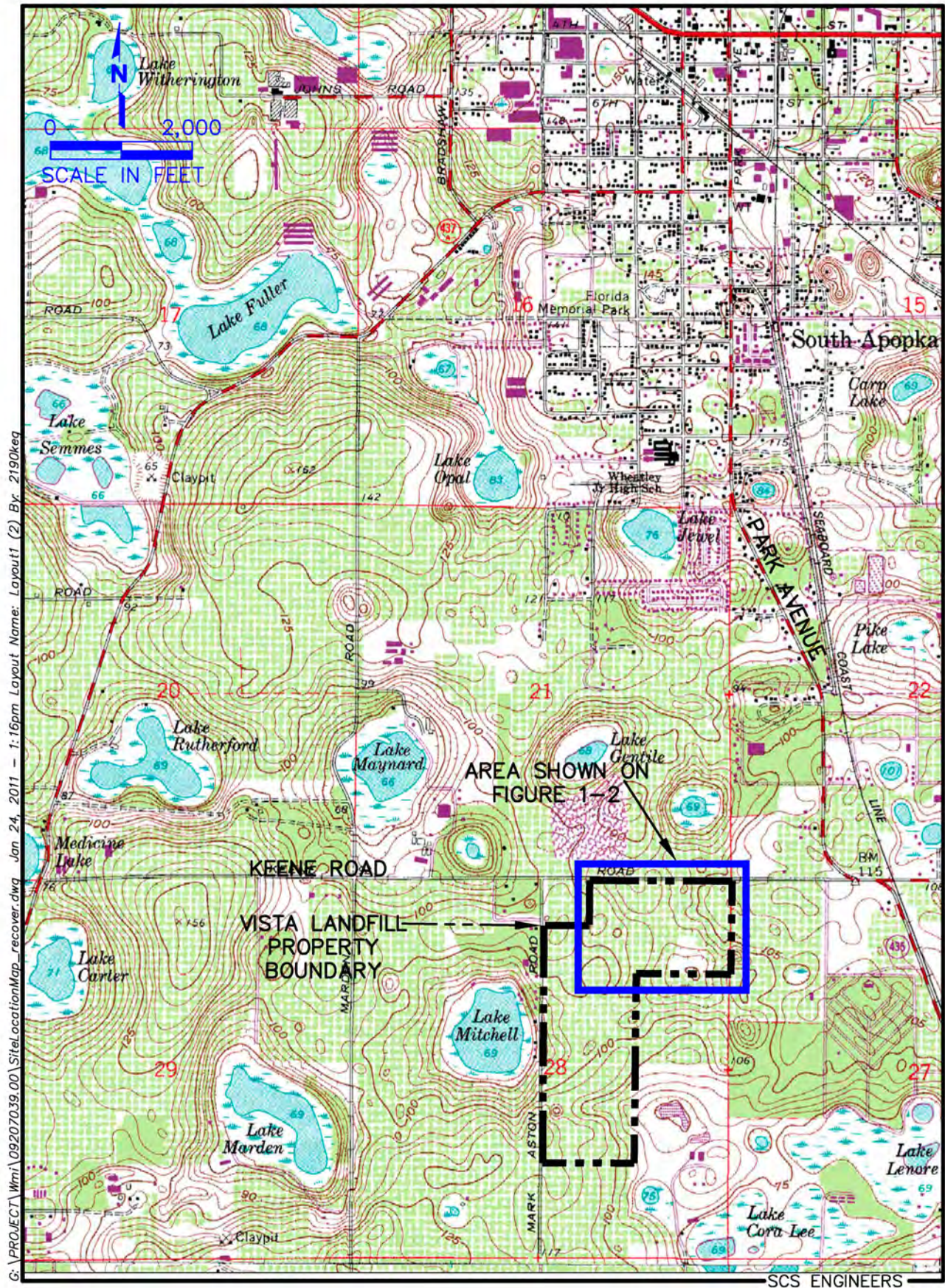


Figure 1-1. Site Location Map, Vista Landfill, Apopka, Florida.



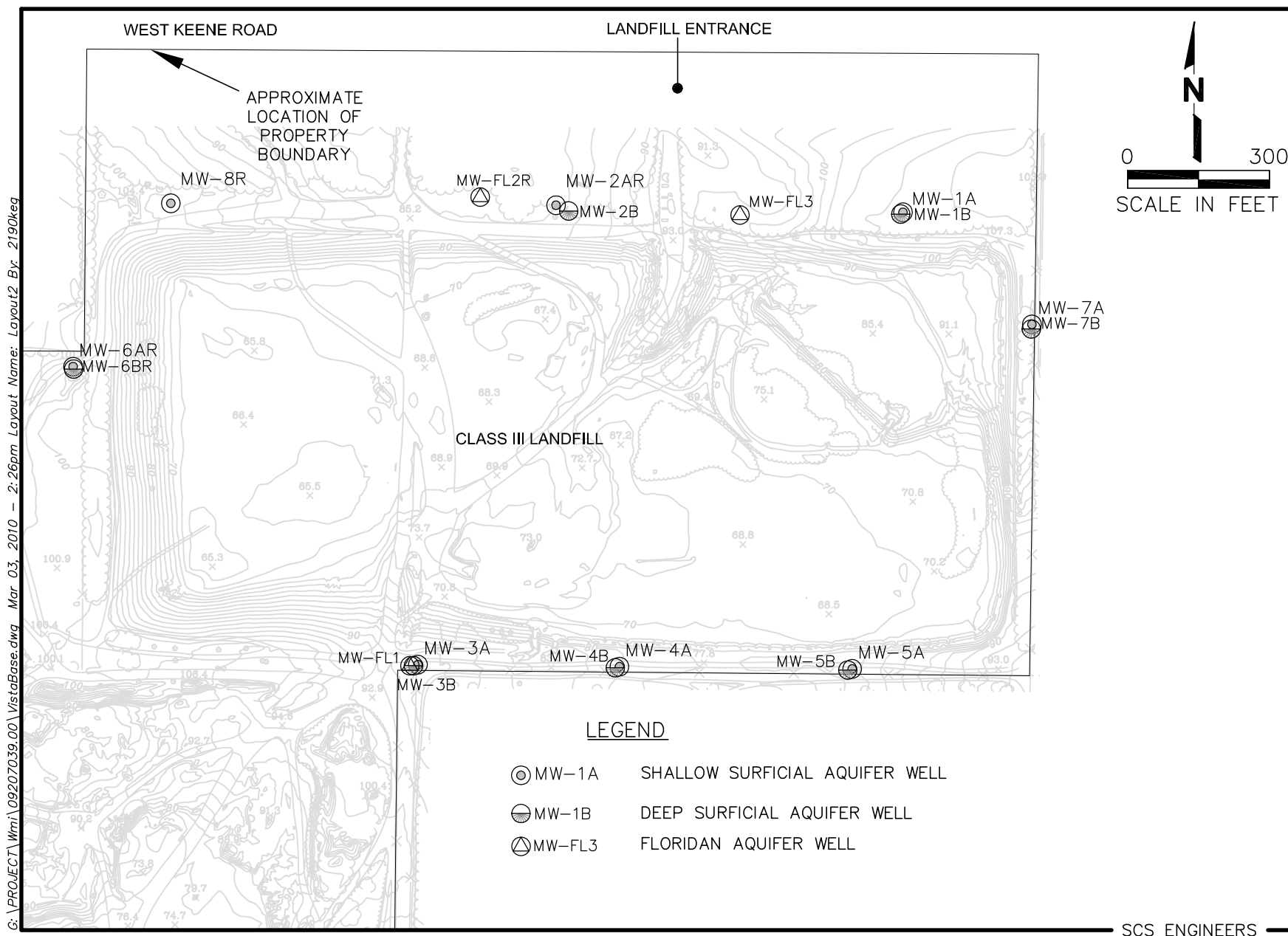


Figure 1-2. Site Map, Vista Landfill, Apopka, Florida.



## 2 GEOLOGIC AND HYDROGEOLOGIC CHARACTERISTICS

Figure 1-1 shows the topography of the VLF site and region prior to the site being developed as a borrow pit and then as a landfill. The topography indicates the site is located in a region that is internally drained.

Based on SCS' evaluation of the VLF hydrogeologic data, the groundwater at VLF primarily occurs in the Hawthorn Group and the underlying Floridan aquifer. The "surficial aquifer" consists of the water-bearing permeable zones of the Hawthorn Group that overlay the Floridan aquifer. The groundwater flow direction of the upper Hawthorn Group tends to mimic the pre-construction topography of the VLF. As seen on Figure 1-1, the topography of the VLF (Figure 1-1) generally slopes towards the north, west, and south.

The Floridan aquifer underlies the surficial aquifer at the KRL and is separated from it by the clay units of the Hawthorn Group.<sup>1</sup> Karst features (e.g., sinkholes) developed historically in the sediments overlying the upper Floridan aquifer, producing the internal drainage characteristics of the region. As a result, runoff and surficial aquifer groundwater flow moves toward and into these karst features, often resulting in the development of surface water bodies such as Lake Mitchell, which is located west of the VLF (Figure 1-1).

For this technical report, SCS performed groundwater flow assessment of the surficial aquifer for the period extending from April 2008 through December 2010. The activities included compiling groundwater depth measurements, calculating groundwater elevations, and plotting the data onto site figures to assess groundwater flow direction. Water level maps generated for the upper surficial aquifer (also referred to as the shallow surficial aquifer) and lower surficial aquifer (also referred to as the intermediate surficial aquifer) are presented in Appendix A. These maps are generated using the Surfer<sup>®</sup> Version 8.02 groundwater contouring computer program, with the interpretation verified by an SCS hydrogeologist.

### **Upper Surficial Aquifer**

The upper surficial aquifer is defined as the uppermost water-bearing zone of the undifferentiated sands and clayey sands that are part of the Hawthorn Group. Water table maps of this aquifer were prepared by SCS from surficial aquifer well data for each of the sampling events (Figures A-1 through A-6, Appendix A). Groundwater flow typically is perpendicular to the water level contours. Therefore, the approximate direction of groundwater flow in the upper surficial aquifer is to the southwest. This groundwater flow configuration results from a combination of recharge from rainfall infiltration outside the bottom liner, interchange of groundwater with the underlying intermediate surficial aquifer, and lateral inflow to the shallow surficial aquifer from outside the VLF.

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<sup>1</sup> The Rust Environment and Infrastructure (RUST) August 1996 (Revised September 1998) report entitled "Keene Road Hydrogeologic Evaluation" Prepared for Waste Management Inc.

Groundwater velocities along typical gradients within each flow regime shown on Figure A-6 (the most recent water level map) were calculated from average gradient estimated from the Figure A-6 of 0.016 feet/foot and hydraulic conductivity value reported in a 2004 permit application for VLF<sup>2</sup> of 1.03 ft/day. Based on lithology, the porosity is estimated to be approximately 0.3.

The velocity of groundwater in the surficial aquifer beneath the site was calculated using a form of Darcy's law<sup>3</sup>,  $V = k(dh/dl)/\theta$ , where:

- V is the average velocity of groundwater (ft/day).
- k is the aquifer horizontal hydraulic conductivity (ft/day).
- dh/dl is the aquifer hydraulic gradient (ft/ft).
- $\theta$  is the effective porosity of the aquifer (unitless).

The velocity in the surficial aquifer is approximately 20 feet/ year.

Based on the lithologic descriptions of the surficial aquifer of the VLF, the 1.03 ft/day hydraulic conductivity reported in the 2004 permit application appears to be representative of the VLF. Todd<sup>4</sup> reports that a typical value for a silty aquifer is approximately 0.08 meters per day (0.02 ft/day) and clayey aquifers have even lower hydraulic conductivities. Descriptions of the surficial aquifer lithology of the PRL include silty sands and clayey sands, indicating the effective horizontal conductivity of the surficial aquifer is consistent.

### **Intermediate Surficial Aquifer**

The intermediate surficial aquifer is defined as the lower water-bearing zone of the undifferentiated sands and clayey sands that are part of the Hawthorn Group. Water table maps of this aquifer were prepared by SCS from intermediate surficial well data for each of the sampling events (Figures A-7 through A-12, Appendix A). Groundwater flow within the intermediate surficial aquifer beneath the VLF apparently consists of two flow regimes, as indicated by the groundwater flow direction arrows on Figure A-12, Appendix A. A portion of the groundwater enters near the northeast corner and moves to the south and southwest. A portion of the groundwater also enters from the west boundary and probably flows toward the east and south. This groundwater flow configuration is a combination of interchange of groundwater with the overlying shallow surficial aquifer and lateral inflow to the intermediate surficial aquifer from outside the VLF.

### **Floridan Aquifer**

Due to the limited number of "FL" zone wells for the site, potentiometric maps were not prepared for the Floridan aquifer. Regional potentiometric maps for the Floridan aquifer indicate

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2 Bishop & Buttrey, Inc., May 2004 report titled "Application for Keene Road Disposal Class III Landfill Expansion"

3 Lohman, S. W., "Ground-Water Hydraulics." Geological Survey Professional Paper 78, 1972, pp.10-11.

4 Todd, David Keith. Groundwater Hydrology. John Wiley & Sons, Inc., New York. 1980, p. 71.

that flow in the aquifer at the VLF is towards the northeast. This is confirmed by the water levels observed at the VLF at Floridan aquifer groundwater monitoring wells MW-FL1 and MW-FL3 (see Figure A-15, Appendix A).

### **Aquifer Hydraulic Relationships**

Updated hydrographs depicting the groundwater elevations within each well for each sampling event over the monitoring period are included in Appendix A. Hydrographs are included that show elevations of water levels over time for:

- Clusters of monitoring wells to show vertical relationships between potentiometric head levels.
- Upper surficial aquifer and lower surficial aquifer wells.

There are seven well pairs that were used to provide data for the comparison of the upper surficial aquifer and the lower surficial aquifer on the site and one well pair that was used to provide data for the comparison of the lower surficial aquifer and the Floridan aquifer. These are listed below. Hydrographs for these well pairs can be used to assess the potential for vertical flow of groundwater between the upper and lower surficial aquifers for wells located in pairs. The presence of an upward or downward gradient between well pairs does not, however, indicate flow between the wells, but is only an indication of the different potentiometric heads and the potential for flow.

**Table 2-1. Vertical Hydraulic Pairs  
at the Vista Landfill**

<b>Vertical Hydraulic Pairs</b>			
<b>Vertical Pair (Lower/Upper)</b>	<b>Location</b>	<b>Difference in Potentiometric Levels During December 2010</b>	<b>Gradient Direction</b>
MW-1B/MW-1A	Northeast	10.18	Downward
MW-2B/MW-2AR	North Center	1.53	Downward
MW-3B/MW-3A	South Center	0.06	Upward
MW-FL1/MW-3B	South Center	0	None
MW-4B/MW-4A	South Center	1	Upward
MW-5B/MW-5A	Southeast	1.42	Downward
MW-6BR/MW-6AR	West	0.92	Upward
MW-7B/MW-7A	East Northeast	13	Downward

### 3 WATER MONITORING PROGRAM

The water monitoring program consists of monitoring the surficial aquifer groundwater, Floridan aquifer groundwater, and leachate.

Across the Vista Landfill, the surficial and Floridan aquifer groundwater currently are monitored at eighteen locations. The surficial aquifer is monitored in two zones: the shallow zone (“A” wells) and the intermediate zone (“B” wells). The Floridan aquifer is monitored by the “FL” wells, with the exception of MW-FL2R. Based on well logs and similar water levels to surficial aquifer intermediate zone wells, MW-FL2R appears to be installed in a deep portion of the surficial aquifer deep zone, possibly in a relict karst feature.

Well locations for each monitored zone are shown on Figure 1-2. The monitoring wells and respective aquifers for each monitored zone are listed in Table 3-1. The construction details for the eighteen active wells comprising the monitoring system are included in Table 3-2.

**Table 3-1. Active Surficial Aquifer and Floridan Aquifer Groundwater Monitoring Wells at the Vista Landfill**

Surficial Aquifer Shallow Zone	Surficial Aquifer Intermediate Zone	Surficial Aquifer Deep Zone	Floridan Aquifer
<b>Background Monitoring Wells</b>			
MW-1A	MW-1B		
MW-2AR	MW-2B		
MW-6AR	MW-6BR		
MW-7A			
MW-8R			
<b>Compliance Monitoring Wells</b>			
MW-3A	MW-3B		MW-FL1
MW-4A	MW-4B		
MW-5A	MW-5B		
	MW-7B		
		MW-FL2R	
			MW-FL3

Note:

1. Wells listed in the same row are part of a cluster of wells.



TABLE 3-2. EXISTING MONITORING LOCATIONS AND CONSTRUCTION DETAILS, VISTA LANDFILL, APOPKA, FLORIDA

WACS ID	Water Quality Monitoring Site ID	Date Installed	Date Abandoned	Well Type	Aquifer Monitored	Top of Casing Elevation (NGVD)	Total Well Depth (Feet BLS)	Outer Casing Diameter/ Depth	Well Diameter	Screen Slot Size	Screen Length (feet)	Top of Screen (Feet BLS)	Bottom of Screen (Feet BLS)	Top of Screen (Feet NGVD)	Bottom of Screen (Feet NGVD)	Northing (NAD 1983)	Easting (NAD 1983)	Latitude (NAD 1983)	Longitude (NAD 1983)
19335	MW-1A <sup>1</sup>	4/20/2004	NA	BG	Shallow Surficial	109.47	69	NA	2	0.006	20	49	69	57	37	1565469.28	492550.11	28° 38' 21.30"	81° 30' 36.28"
19336	MW-1B	4/20/2004	NA	BG	Intermediate Surficial	109.53	96	NA	2	0.010	10	86	96	20	10	1565465.40	492545.32	28° 38' 21.27"	81° 30' 36.33"
ND	MW-2A	ND	1/15/2007	BG	Shallow Surficial	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
19337	MW-2AR	1/23/2007	NA	BG	Shallow Surficial	87.22	39.94	NA	2	0.006	10	29.44	39.44	59.91	49.91	1565481.98	491815.07	28° 38' 21.40"	81° 30' 44.53"
19338	MW-2B	4/22/2004	NA	BG	Intermediate Surficial	88.46	73	NA	2	0.006	10	63	73	20	10	1565471.82	491843.09	28° 38' 21.30"	81° 30' 44.21"
19339	MW-3A	4/13/2004	NA	CO	Shallow Surficial	92.87	56	NA	2	0.006	30	36	56	57	37	1564509.87	491522.95	28° 38' 11.76"	81° 30' 47.76"
19340	MW-3B	4/13/2004	NA	CO	Intermediate Surficial	93.06	83	NA	2	0.010	10	73	83	20	10	1564509.53	491514.75	28° 38' 11.76"	81° 30' 47.85"
19341	MW-4A	4/14/2004	NA	CO	Shallow Surficial	82.04	42	NA	2	0.006	20	22	42	57	37	1564505.59	491949.09	28° 38' 11.74"	81° 30' 42.98"
19342	MW-4B	4/14/2004	NA	CO	Intermediate Surficial	83.18	69	NA	2	0.006	10	59	69	20	10	1564505.16	491941.64	28° 38' 11.73"	81° 30' 43.06"
19343	MW-5A	4/14/2004	NA	CO	Shallow Surficial	81.86	40	NA	2	0.006	20	20	40	57	37	1564500.86	492441.55	28° 38' 11.71"	81° 30' 37.45"
19344	MW-5B	4/14/2004	NA	CO	Intermediate Surficial	81.27	67	NA	2	0.006	10	57	67	20	10	1564500.47	492433.39	28° 38' 11.71"	81° 30' 37.54"
ND	MW-6A	4/15/2004	1/12/2007	BG	Shallow Surficial	101.94	61	NA	2	0.010	20	41	61	57	37	ND	ND	ND	ND
19345	MW-6AR	1/30/2007	NA	BG	Shallow Surficial	104.11	69.37	NA	2	0.010	20	48.87	68.87	52.27	32.27	1565140.42	490793.55	28° 38' 17.97"	81° 30' 55.98"
ND	MW-6B	4/15/2004	1/12/2007	BG	Intermediate Surficial	101.98	88	NA	2	0.010	10	78	88	20	10	ND	ND	ND	ND
19346	MW-6BR	1/30/2007	NA	BG	Intermediate Surficial	103.99	88.58	NA	2	0.010	10	78.08	88.08	22.98	12.98	1565137.25	490795.56	28° 38' 17.94"	81° 30' 55.95"
19347	MW-7A	4/20/2004	NA	BG	Shallow Surficial	109.26	69	NA	2	0.006	20	49	69	57	37	1565230.04	492821.74	28° 38' 18.95"	81° 30' 33.22"
19348	MW-7B	4/19/2004	NA	CO	Intermediate Surficial	109.13	96	NA	2	0.01	10	86	96	20	10	1565222.30	492821.61	28° 38' 18.87"	81° 30' 33.22"
ND	MW-8	4/23/2004	1/12/2007	BG	Shallow Surficial	99.7	60	NA	2	0.006	10	50	60	47	37	ND	ND	ND	ND
19868	MW-8R	1/25/2007	NA	BG	Shallow Surficial	99.6	72.12	NA	2	0.006	10	61.62	71.72	35.05	25.05	1565489.06	490997.80	28° 38' 21.43"	81° 30' 53.70"
19879	MW-FL1	4/13/2004	NA	CO	Floridan	93.16	125	NA	2	0.010	10	115	125	-45	-35	1564509.43	491507.05	28° 38' 11.76"	81° 30' 47.94"
ND	MW-FL2	4/22/2004	1/15/2007	CO	Floridan	87.4	130	NA	2	0.006	10	120	130	-45	-35	ND	ND	ND	ND
19880	MW-FL2R	1/29/2007	NA	CO	Deep Surficial	86.76	129.95	6"/0' to 80'	2	0.006	10	119.45	129.45	-45.54	-35.54	1565501.29	491655.91	28° 38' 21.58"	81° 30' 46.32"
19881	MW-FL3	4/21/2004	NA	CO	Floridan	97.49	140	NA	2	0.010	10	130	140	-45	-35	1565463.35	492205.45	28° 38' 21.23"	81° 30' 40.15"
22828	L-1	NA	NA	CO	Leachate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND

- Notes:
1. Survey Information was obtained from the May 25, 2007 Geosyntec Consultants Environmental Monitoring Location Map.
  2. Well construction information obtained from the July 2004, Collinas Group, Inc., Groundwater Monitoring Well Installation Report, Buttrey Landfill Parcel.
  3. Well construction information obtained from the March 15, 2007, Professional Service Industries, Inc., Monitoring Well Completion and Well Abandonment Report.
  4. NGVD = National Geodetic Vertical Datum of 1929.
  5. NAD 1983 = North American Datum of 1983.
  6. WACS = State Water Assurance Compliance System.
  7. BLS = Below Landsurface.
  8. NA = Not Applicable.
  9. BG = Background.
  10. CO = Compliance.
  11. ND = Data not available.
  12. OT = Other.
  13. ID = Identification.

The current permit requires semi-annual sampling of the background and compliance monitoring wells for the field and laboratory parameters listed below.

#### **Field Parameters**

- Static water level before purging
- Specific conductivity
- pH
- Dissolved oxygen
- Turbidity
- Temperature
- Color and sheens by observation

#### **Laboratory Parameters**

- Total ammonia-nitrogen
- Chlorides
- Iron
- Mercury
- Nitrate
- Sodium
- Total dissolved solids (TDS)
- Parameters listed in 40 CFR (Code of Federal Regulations) Part 258, Appendix I

#### **Additional Parameters**

During the initial background monitoring event prior to the placement of waste, some parameters exceeded the Primary Drinking Water Standards (PDWS) or Secondary Drinking Water Standards (SDWS) as listed in Chapter 62-550, FAC. These included the following parameters, which were added to the semi-annual monitoring:

- Aluminum
- Gross Alpha
- Manganese

Semi-annual reporting of the groundwater sampling results is performed in accordance with the VLF MPIS.

#### **LEACHATE MONITORING PROGRAM**

Leachate currently is monitored at the site at the leachate storage tank (L-1). The current permit requires the annual sampling of L-1 for the field and laboratory parameters listed below.

## Field Parameters

- Specific conductivity
- pH
- Dissolved oxygen
- Turbidity
- Temperature
- Color and sheens by observation

## Laboratory Parameters

- Total ammonia-nitrogen
- Total Alkalinity (as mg/L CaCO<sub>3</sub>)
- Chlorides
- Iron
- Mercury
- Nitrate
- Sodium
- Total dissolved solids (TDS)
- Biochemical Oxygen Demand (BOD<sub>5</sub>)
- Chemical Oxygen Demand (COD)
- Parameters listed in 40 CFR (Code of Federal Regulations) Part 258, Appendix II

## ZONE OF DISCHARGE

The zone of discharge (ZOD) for the landfill is defined in the permit as follows: “The zone of discharge for the facility shall be a three dimensional volume, defined in the horizontal plane as extending 100 feet from the edge of the solid waste deposit, or to the property boundary, whichever is less, as depicted in Attachment B of the Monitoring Plan Implementation Schedule (Exhibit I) of this permit, and defined in the vertical plane as extending from the top of the ground to the bottom of the screen of the lower surficial monitoring wells.”

Table 3-3 lists monitoring wells and approximate distances to the edge of the horizontal ZOD. The table also includes each well’s distance from the edge of waste.

**Table 3-3. Locations of Monitoring Wells Relative to the Horizontal Zone of Discharge**

Well No.	Purpose	ZOD Description Width, Feet	Monitoring Well Distance to ZOD (Feet)	Monitoring Well Distance to Edge of Waste (Feet)
MW-1A	Background	100	45	55
MW-1B	Background	100	49	51
MW-2AR	Background	100	37	63
MW-2B	Background	100	49	51
MW-3A	Compliance	PB	12	33
MW-3B	Compliance	PB	10	35
MW-4A	Compliance	PB	12	34
MW-4B	Compliance	PB	9	37
MW-5A	Compliance	PB	11	35
MW-5B	Compliance	PB	9	37
MW-6AR	Background	100	37	67
MW-6BR	Background	100	36	64
MW-7A	Background	PB	6	37
MW-7B	Compliance	PB	7	36
MW-8R	Background	100	40	60
MW-FL1	Compliance	100	10	36
MW-FL2R	Compliance	100	21	79
MW-FL3	Compliance	100	54	46

Notes:

1. Distances are measured to within +/- 10 feet and are based on the survey maps.
2. The 100 ft value in the "ZOD Description" indicates the ZOD is 100 feet from the edge of waste and lies within the property boundary.
3. The PB value in the "ZOD Description" indicates the ZOD is less than 100 feet from the edge of waste and lies at the property boundary.

## GROUNDWATER QUALITY

Water quality data for the groundwater parameters monitored during this reporting period were evaluated in accordance with Chapter 62-701.510(9)(b), FAC. Selected data tables and graphs are presented to support the evaluation of the adequacy of the water quality monitoring frequency and sampling locations.

Appendix B includes tables listing water quality detections and exceedances. Exceedances are concentrations in excess of Chapter 62-550, FAC, PDWS or SDWS. Additionally, in accordance with Chapter 62-701, FAC, groundwater results were compared to Groundwater Cleanup Target Levels (GCTL) listed in Chapter 62-777, FAC., as a screening tool to evaluate groundwater quality. Exceedances of one or more parameters over the previous 32 months were evaluated in



accordance with the permit. For comparison purposes, data from 2004 background sampling also are provided in the tables.

Graphs of water quality data and water quality trends for selected detected constituents are included in Appendix C. Graphs are provided for constituents that frequently exceeded their respective drinking water standard and/or exhibited significant trends (by visual review of the graphs, not statistical analysis) in their concentrations over time. Laboratory analytical data from the 2004 background monitoring events and from 2008 through December 2010 semi-annual events, were used in the graphs of water quality data. The following section discusses exceedances and includes related trends, where appropriate. The relationship between total dissolved solids and specific conductance is presented following the exceedances discussion.

### **Metals Exceedances and Trends**

Metals with concentrations in excess of applicable PDWS, SDWS, and/or GCTLs for at least one sampling event in the 32-month period of record include:

- Aluminum
- Cadmium
- Iron
- Lead
- Manganese

These exceedances are discussed below and are based on the exceedance tables included in Appendix B. Applicable trends are discussed based on the time series plots in Appendix C.

#### **Aluminum**

The FDEP SDWS of 200 micrograms per liter ( $\mu\text{g/L}$ ) for aluminum was exceeded at all surficial and Floridan aquifer wells including the background wells. This indicates that aluminum concentrations are naturally elevated in this area and do not appear to be related to landfill operations.

Trend charts are shown on Figures C-1 through C-3, Appendix C, for aluminum groundwater concentrations. In each aquifer, aluminum results generally have either stayed the same or decreased relative to the initial 2004 background sampling. VLF does not appear to be adversely impacting the aluminum concentration in the local groundwater.

#### **Cadmium**

Cadmium results exceeded the PDWS of 5  $\mu\text{g/L}$  in compliance monitoring well MW-7B during the June 2009 sampling event. The cadmium detection at MW-7B was not consistent with historical trends and may represent an outlier value caused by elevated turbidity (43.2 NTUs). Monitoring well MW-7B was re-sampled on August 4, 2009. During the August 2009 resample, cadmium at MW-7B (5.0  $\mu\text{g/L}$ ) was found to be lower than the initial sampling results,

consistent with historical concentrations, and below the FDEP SDWS at MW-7B. Cadmium was undetected during subsequent sampling events at this location.

### **Iron**

The concentration of iron in the groundwater ranged from undetected to 13,000 µg/L in the surficial aquifer and undetected to 2,800 µg/L in the Floridan aquifer. The SDWS of 300 µg/l for iron was exceeded at all locations except for MW-FL2R. Concentration ranges for these wells are consistent with site data for iron. Trend charts are shown on Figures C-4 and C-6, Appendix C show iron concentrations decreasing or staying constant in the shallow surficial zone and Floridan aquifer. The chart provided for the intermediate surficial aquifer zone (Figure C-5, Appendix C) shows more variations between sampling events; However, iron results in many well locations such as MW-1B and MW-7B have decreased relative to the initial 2004 background sampling.

Iron is naturally occurring in Florida groundwater. According to the Florida Geologic Survey Special Publication No.34, 1992:

“The most widespread violation of water quality standards is for iron. Seventy-five percent of all surficial aquifer system samples exceeded the standard. Forty-two percent of the intermediate aquifer system and forty-nine percent of the Floridan aquifer system samples violated the standard. There is no reason to believe the iron violations are anthropogenic. Iron is a natural constituent, and chemical conditions are conducive to transport of the iron.” (Florida Geological Survey Special Publication No. 34, 1992.)

Based on this publication and background levels of iron, the iron exceedances are associated with naturally occurring iron and do not appear to be a concern at this time.

### **Lead**

Lead results exceeded the PDWS of 15 µg/L in compliance monitoring well MW-7B. MW-7B exceeded in June 2009 and has been undetected in sampling since that event. The lead detection at MW-7B was not consistent with historical trends and may represent an outlier value caused by elevated turbidity (43.2 NTUs). Monitoring well MW-7B was re-sampled on August 4, 2009. During the August 2009 resample lead at MW-7B (9.0 µg/L) was found to be lower than the initial sampling results, consistent with historical concentrations, and below the FDEP SDWS at MW-7B. Lead was undetected during subsequent sampling events at this location.

### **Manganese**

The FDEP SDWS of 50 µg/L for manganese was exceeded at background well MW-6BR and compliance wells MW-4A, MW-4B, and MW-5A in the surficial aquifer. Both Floridan aquifer compliance wells also had exceedances for manganese. Trend charts are shown on Figures C-7 through C-9, Appendix C, for manganese groundwater concentrations. Monitoring well MW-4A exceeded the SDWS in the April 2008 and January 2010 sampling events; background well MW-6BR also exceeded the PDWS in April 2008, June 2009, June 2010, and December 2010.

Recent sampling values have been below the SDWS, and time series plot for MW-4A shows that the values have decreased since the initial 2004 background sampling. Monitoring locations MW-4B and MW-5A only exceeded the SDWS in one sampling event and have produced manganese results below the SDWS since December of 2008.

Floridan aquifer well MW-FL1 exceeded the SDWS of 50 µg/L for manganese in the June 2009 and December 2010 sampling events. The December 2010 sampling only slightly exceeded the guidance criteria, and the exceedances may represent outlier values. The manganese results at MW-FL3 have been at or slightly above the SDWS criteria in almost every sampling event, with the highest result (89 µg/L) measured during the January 2010 sampling. However, even the highest exceedances are much lower than the background 2004 manganese result of 1,600 µg/L. As the trend analysis shows (Figure C-9, Appendix C), manganese concentrations seem to be relatively flat in the Floridan aquifer groundwater.

### **Organic Parameters Exceedances and Trends**

Vinyl chloride was the only organic parameter with concentrations in excess of applicable groundwater standards in the surficial aquifer. Detectable vinyl chloride concentrations slightly exceeded the PDWS of 1.0 µg/L only in the April 2008 sampling at MW-FL2R. This detection has not been confirmed in subsequent sampling and is thought to represent an outlier value. No volatile organic compounds exceeded the PDWS, SDWS, or GCTL in the Floridan aquifer.

### **Inorganic Parameters Exceedances and Trends**

Inorganic analytes with concentrations in excess of applicable PDWS, SDWS, and/or GCTLs for at least one sampling event in the 32-month period of record include:

- Alpha Radiation
- Dissolved Oxygen Percent Saturation
- Nitrate
- pH
- Total Dissolved Solids (TDS)

These parameters are discussed below.

#### **Alpha Radiation**

Radiological compounds (alpha radiation, radium-226, and radium 228) commonly are found in the groundwater of the surficial aquifer in Orange County. This is primarily caused by the phosphatic sediments of the Hawthorn Group. These sediments can contain the apatite mineral francolite, which contain uranium-238. Uranium-238 decays radioactively, forming radium daughter isotopes (e.g., radium 226 and radium 228) and, eventually, radon-222<sup>5</sup>. These radiological compounds are not expected to be caused by the landfill (Class III and C&D) and are most likely due to natural background conditions.

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<sup>5</sup> Adamski, J.C., and German, E.R., 2004, Hydrogeology and Quality of Ground Water in Orange County, Florida: U.S. Geological Survey Water-Resources Investigations Report 03-4257, 88 p.

Alpha Radiation exceeded the PDWS of 15 pCi/L at background well MW-3A and compliance well MW-5B. Gross Alpha was detected across the site during the 2004 sampling before the placement of waste. MW-3A also exceeded the recommended levels for alpha radiation in 2004 before the placement of waste at VLF. The trend chart for MW-5B (Figure C-10, Appendix C) shows an increasing trend from 2009 through the most recent sampling in December 2010.

The exceedance at MW-3A and across the site can be attributed to the sediments in the Hawthorn Group, which naturally contain elevated alpha radiation.

### **Dissolved Oxygen Percent Saturation**

The Dissolved Oxygen Percent Saturation exceeded the recommended guidelines at every monitoring well location except MW-FL3 for at least one sampling event during this reporting period. The dissolved oxygen concentrations are thought to be related to natural background conditions (e.g., relatively high rainfall infiltration rates) since low flow sampling techniques are utilized at the site and the elevated oxygen saturations were present prior to waste placement.

### **Nitrate**

The FDEP PDWS of 10 mg/L for nitrate was exceeded at monitoring wells MW-1A, MW-6AR, and MW-7A. Trend chart is shown on Figure C-11, Appendix C, for nitrate groundwater concentrations. These are background monitoring wells and indicate that exceedances are not due to landfill operations. Nitrate exceedances may be related to Rapid Infiltration Basin (RIB) Facilities, which have been previously documented as potential sources for nitrates: Special Publication SJ2006-SP3, *Estimates Of Upper Floridan Aquifer Recharge Augmentation Based On Hydraulic And Water-Quality Data (1986-2002) From The Water Conserv II RIB Systems, Orange County, Florida* (<http://sjr.state.fl.us/programs/outreach/pubs/techpubs/pdfs/SP/SJ2006-SP3.pdf>).

### **pH**

The majority of the background and detection groundwater monitoring wells had pH concentrations below the FDEP SDWS range of 6.5 to 8.5 units for at least one sampling event. Trend analyses for pH measurements (Figures C-12 through C-14, Appendix C) indicate a wide range of concentrations with increasing and decreasing trends occurring in various wells. Low groundwater pH in this region is the result of low pH in precipitation, rapid recharge, and little buffering capacity of the surficial sands. The pH levels observed at VLF are characteristic of the ground water in this region of Florida.

The SDWS range was exceeded at MW-FL2R. This compliance monitoring well showed elevated pH values for most sampling events with the highest result at 11.64 units in the December 2010 sampling. The high pH indicates grout in the sand pack and may be due to well construction or the abandonment of MW-FL2. However, the groundwater analytical data show that the problem only affects the pH, and that the overall geochemistry is similar to the other wells. Therefore, this well is suitable as a compliance well with the understanding that the pH may be elevated and is considered an artifact of well construction.



## Total Dissolved Solids

Total dissolved solids (TDS) exceeded the SDWS of 500 mg/L in background monitoring well MW-1A. This exceedance occurred in one sampling event only and likely represents an outlier value.

## Total Dissolved Solids/Specific Conductance Correlation

A simple ratio was calculated to evaluate the correlation between TDS and specific conductance (SCond) data. The ratio between TDS and SCond may be evaluated using standard water/wastewater analysis methods to assess the accuracy of the laboratory methods. A generally acceptable correlation is a TDS to SCond ratio of 0.55 to 0.70. Ratios significantly outside this range may indicate that one or both measurements are suspect.

A summary of the TDS/SCond ratios for the reporting period is presented in Table 3-4. The ratios are generally within the acceptable range or are slightly outside the range. Overall, there are relatively few significant deviations. These deviations are most likely due to differences in field sampling techniques and/or calibration errors and do not affect the quality of the reported data.

**Table 3-5. Total Dissolved Solids/Specific Conductivity Ratios**

Well ID	April 2008	December 2008	June 2009	January 2010	June 2010	December 2010
MW-1A	0.63	0.63	0.80	0.74	3.21	0.62
MW-1B	0.56	0.57	0.64	0.67	0.60	0.62
MW-2AR	---	0.60	1.59	0.88	0.92	0.73
MW-2B	0.55	0.55	0.72	0.66	0.66	0.72
MW-3A	0.63	0.75	1.80	0.77	1.05	0.66
MW-3B	0.57	0.54	0.66	0.66	0.67	0.71
MW-4A	0.79	0.71	1.02	0.81	0.88	0.55
MW-4B	0.93	0.56	0.88	0.90	1.13	0.96
MW-5A	1.49	0.65	0.70	0.75	0.80	0.65
MW-5B	0.58	0.56	0.57	0.56	0.69	0.61
MW-6AR	0.53	0.57	0.78	0.74	0.90	0.66
MW-6BR	0.57	0.57	0.75	0.64	0.63	0.54
MW-7A	0.93	0.62	0.86	0.73	0.87	0.66
MW-7B	0.73	0.50	0.74	0.73	0.63	0.71
MW-8R	0.76	0.50	0.86	0.63	0.54	0.56
MW-FL1	0.53	0.59	0.69	0.53	0.72	0.47
MW-FL2R	0.26	0.35	0.73	0.45	0.32	0.38
MW-FL3	0.65	0.54	0.56	0.64	0.61	0.56

Notes:

1. --- = Monitoring well not sampled due to low water level conditions.
2. Green highlight indicates data significantly outside the typical range (i.e., arbitrarily set at less than half the lower value or more than twice the upper value of the range).

## LEACHATE QUALITY

The current permit includes annual leachate monitoring at the site of the leachate storage tank, L-1. The leachate data provided for three sampling events was evaluated in accordance with Chapter 62-701.510(9)(b). Appendix B includes a table listing the leachate quality detections.

Results of the laboratory analysis of the leachate samples did not indicate detections in excess of the concentrations listed in Title 40 Code of Federal Regulations (CFR) Part 261.24.

## ERRATIC AND POORLY CORRELATED DATA

No other erratic or poorly correlated data were observed in the water quality substantive analyses.

## 4 ADEQUACY OF MONITORING PROGRAM

This section assesses the adequacy of the monitoring program in observing the potential effects of the VLF operations on groundwater.

### SURFICIAL AQUIFER MONITORING

The existing monitoring wells were located based on groundwater flow direction. Locations were selected to monitor hydraulically up-gradient groundwater and groundwater that potentially could be affected by the presence of the landfill.

Table 3-2 lists monitoring wells and piezometers at the VLF and the aquifers the wells monitor. Monitoring wells listed under the “Type” column as “DE”, “CO”, and “BG” are included during the routine semi-annual monitoring events. This section discusses the adequacy of well location for horizontal and vertical monitoring and the adequacy of the semi-annual sampling frequency.

#### **Monitoring Well Geographic Location**

Geographic location is guided by the direction of lateral groundwater flow in the aquifers beneath the VLF. Figures A-6 and A-12 are thought to be representative of upper surficial aquifer and intermediate surficial aquifer flow, respectively, as represented by the flow arrows. Typically, background wells would be located at the hydraulically up gradient end of the flow arrows with compliance wells located at the down gradient end within or at the edge of the ZOD. The following discusses the locations of monitoring wells in each aquifer.

#### **Upper Surficial Aquifer Well Location**

Currently, there are five upper surficial aquifer background monitoring wells at the VLF (MW-1A, MW-2AR, MW-6AR, MW-7A, and MW-8R). These monitoring wells are located hydraulically up gradient from the landfill and appear to provide sufficient upper surficial aquifer background data for the VLF.

The geographic location of the detection wells appears to be adequate and effective in monitoring groundwater quality variations. The screen locations at each of the upper surficial aquifer locations appear to adequately monitor the upper surficial aquifer for water quality purposes.

#### **Intermediate Surficial Aquifer Well Location**

Currently, there are three lower surficial aquifer background monitoring wells at the PRL (MW-1B, MW-2B, and MW-6BR). These monitoring wells are located up-gradient from the landfill and appear to provide sufficient intermediate surficial aquifer background data for the VLF.

It is SCS’ understanding that the vertical ZOD is defined as extending from the top of the ground to the bottom of the screen of the lower surficial monitoring wells. The screen locations at each

of the locations appear to adequately monitor the middle and lower zones of the surficial aquifer for water quality purposes.

### **Floridan Aquifer Well Location**

Currently, there are no regulatory-designated Floridan aquifer background monitoring wells at the VLF. Based on well logs and similar water levels to surficial aquifer intermediate zone wells MW-FL2R appears to be installed in a deep portion of the surficial aquifer intermediate zone, possibly in a relic karst feature. The screen locations at monitoring wells MW-FL1 and MW-FL3 appear to adequately monitor the upper Floridan aquifer for water quality purposes.

### **Monitoring Frequency**

Groundwater monitoring frequency for the VLF is semi-annual and appears to provide sufficient data to evaluate trends in concentrations and plan appropriate evaluation monitoring where necessary. There have been no findings that indicate a need to modify the routine sampling frequency. The average groundwater velocity was calculated to be approximately 20 feet/year. Consequently, VLF will maintain the current groundwater quality monitoring frequency.

### **Monitoring Parameters**

Current routine monitoring parameters include various volatile organic, metals, and inorganic constituents required by Chapter 62-550 and 62-701 and expected waste characteristics. There have been no findings or observations that indicate a need to modify the routine parameter list. Consequently, the VLF will maintain the current groundwater quality monitoring parameters.

## **LEACHATE MONITORING**

The current permit includes leachate monitoring site, L-1. Leachate monitoring site L-1, includes discharge from all cells and provide leachate quality at the site.

Current routine monitoring parameters include various volatile organic, metals, and inorganic constituents sampled in general accordance with the FDEP Permit/certification No. SC48-0165969-014 and MPIS. There have been no findings that indicate a need to modify the routine parameter list. Consequently, VLF will maintain the current leachate quality monitoring parameters.



## APPENDIX A

### WATER TABLE MAPS AND HYDROGRAPHS

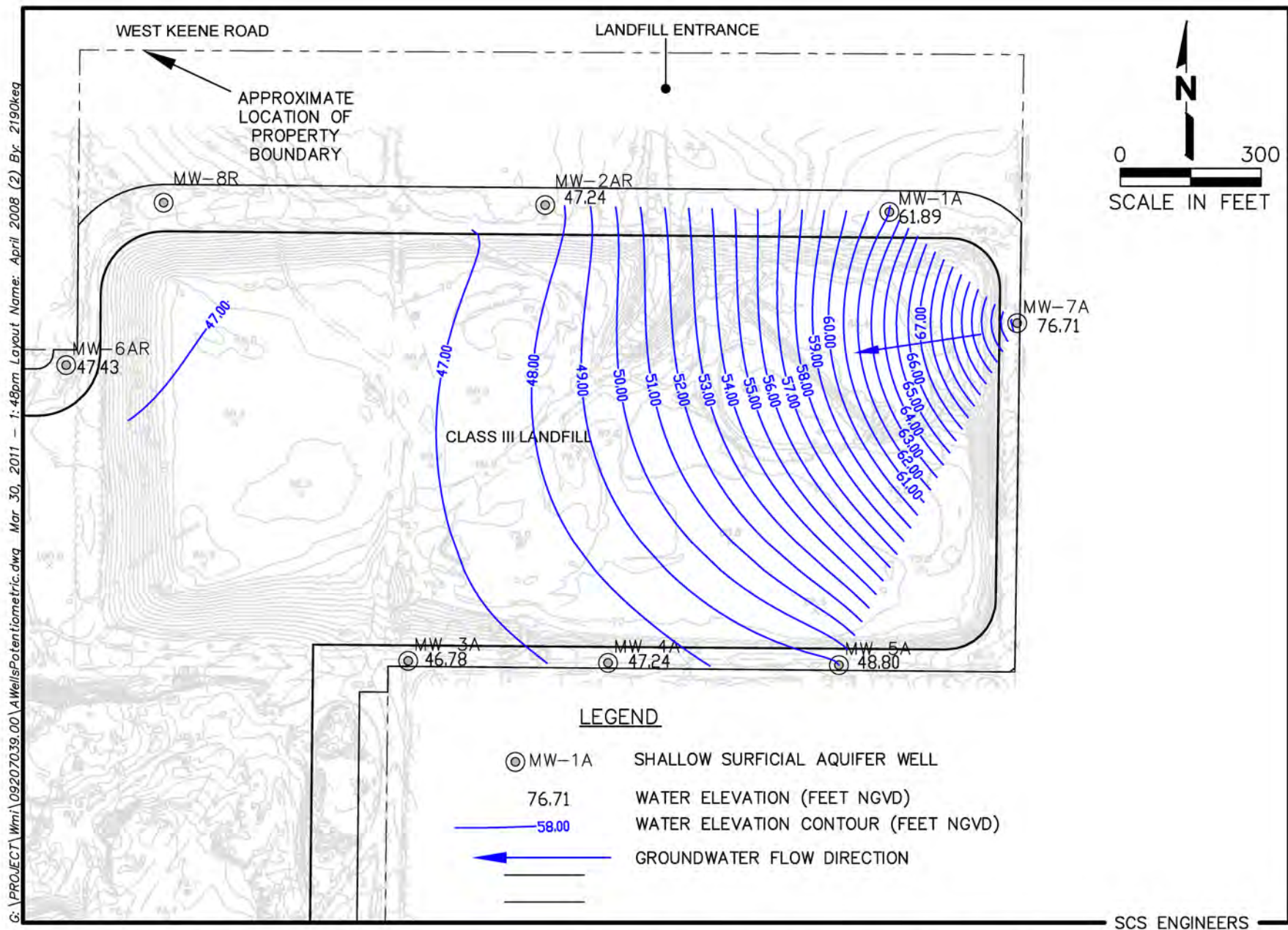


Figure A-1. April 2008 Shallow Surficial Aquifer Water Level Map, Vista Landfill, Apopka, Florida.

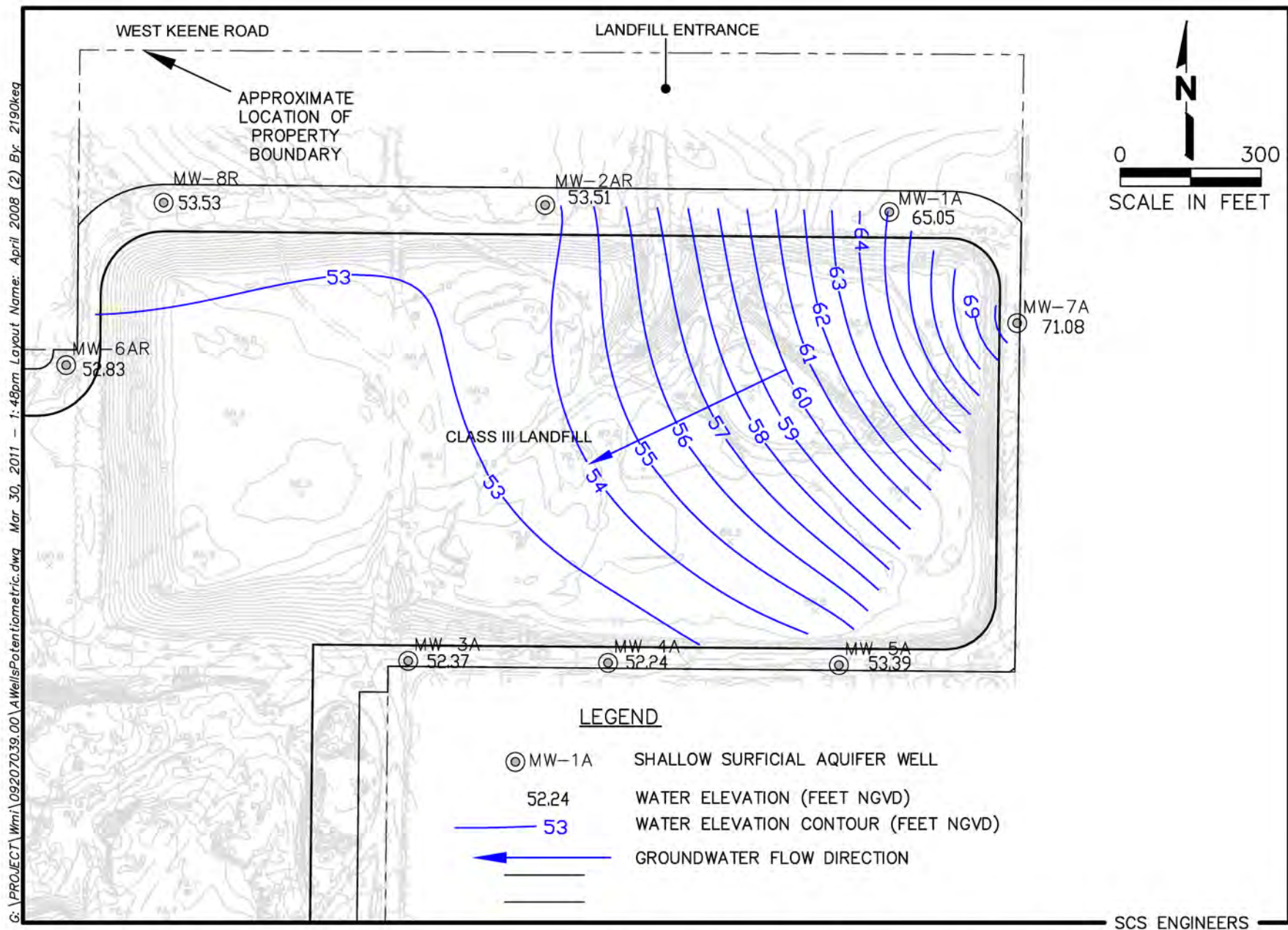


Figure A-2. December 2008 Shallow Surficial Aquifer Water Level Map, Vista Landfill, Apopka, Florida.



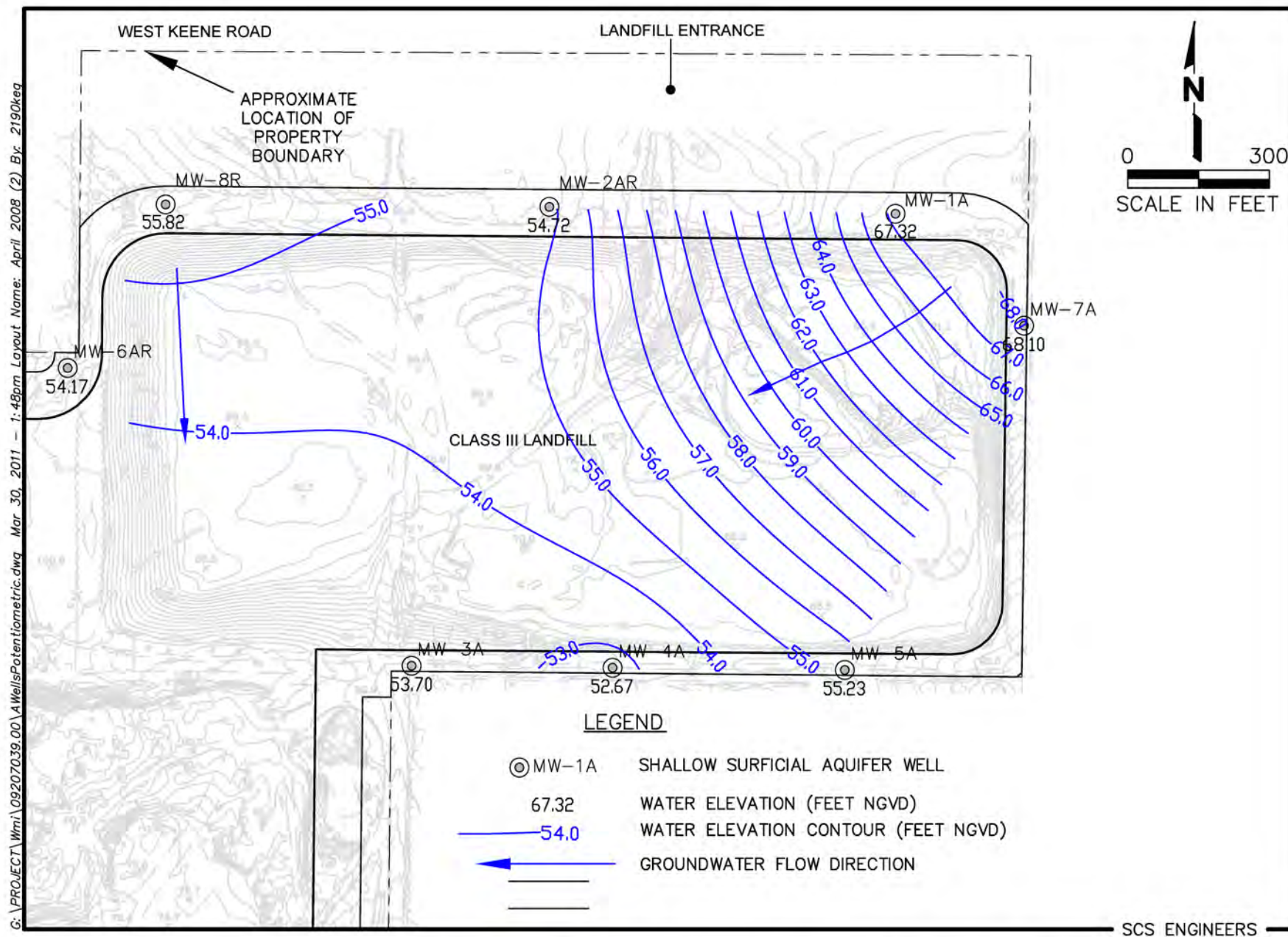


Figure A-3. June 2009 Shallow Surficial Aquifer Water Level Map, Vista Landfill, Apopka, Florida.

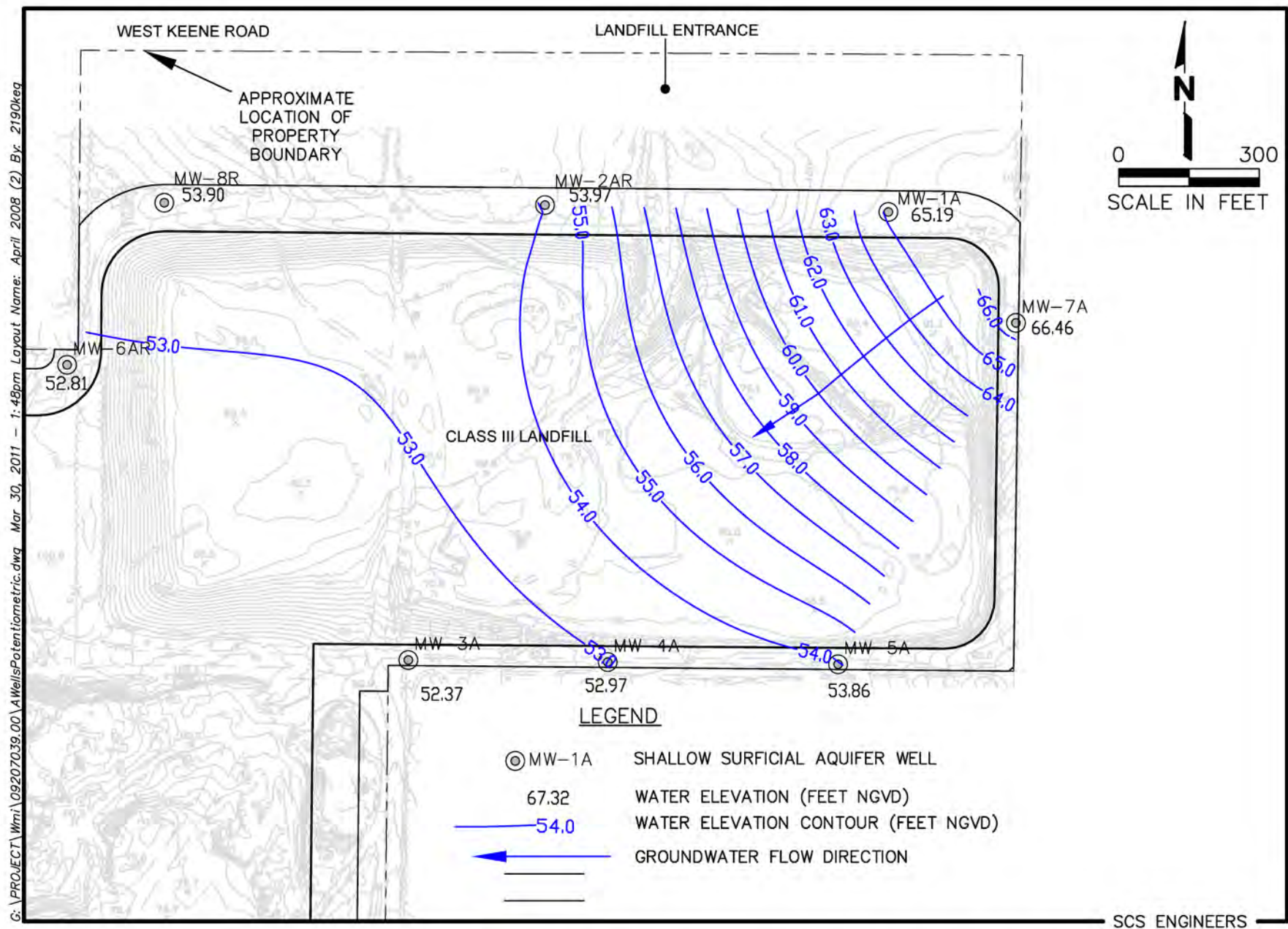
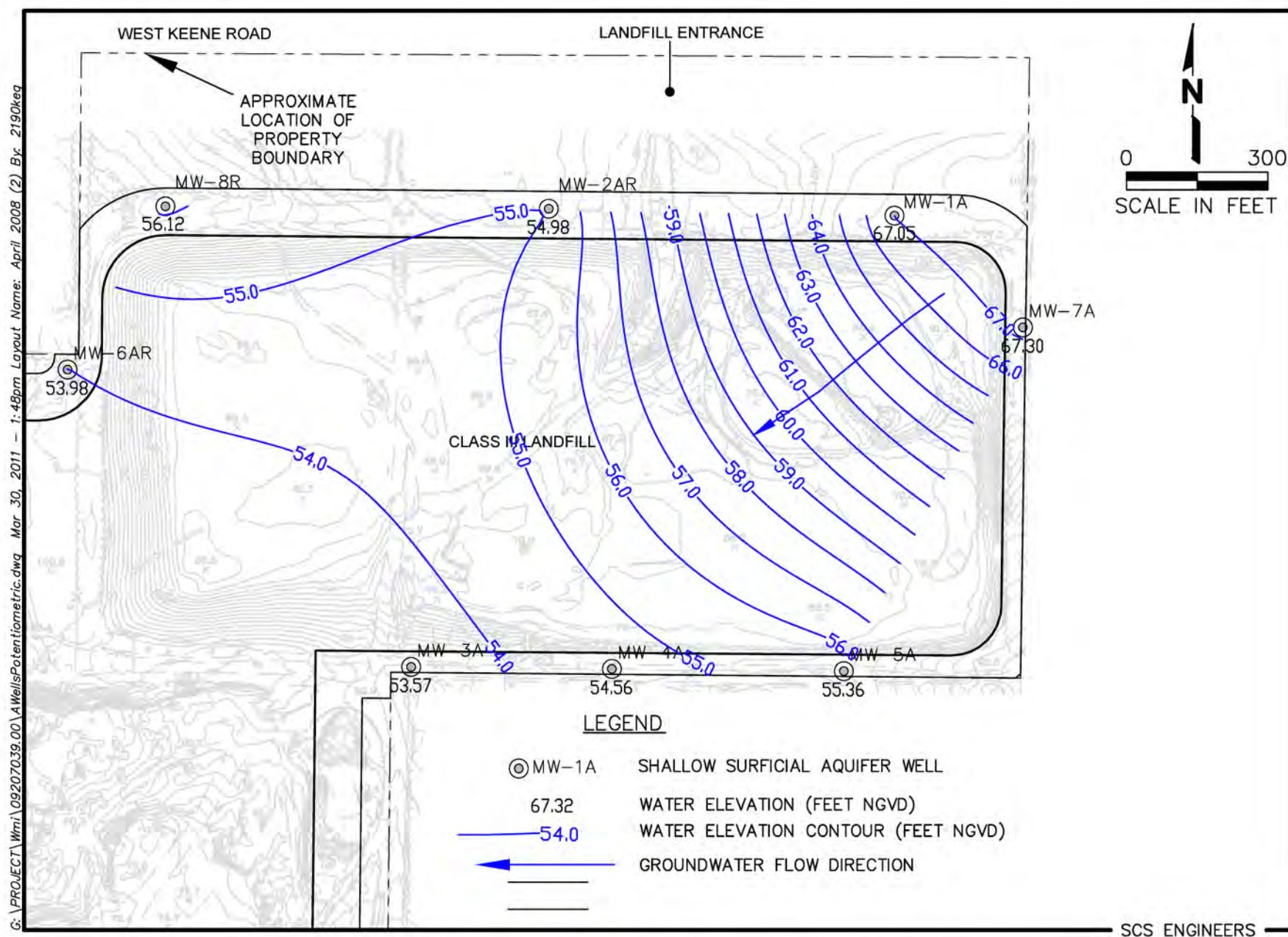


Figure A-4. January 2010 Shallow Surficial Aquifer Water Level Map, Vista Landfill, Apopka, Florida.







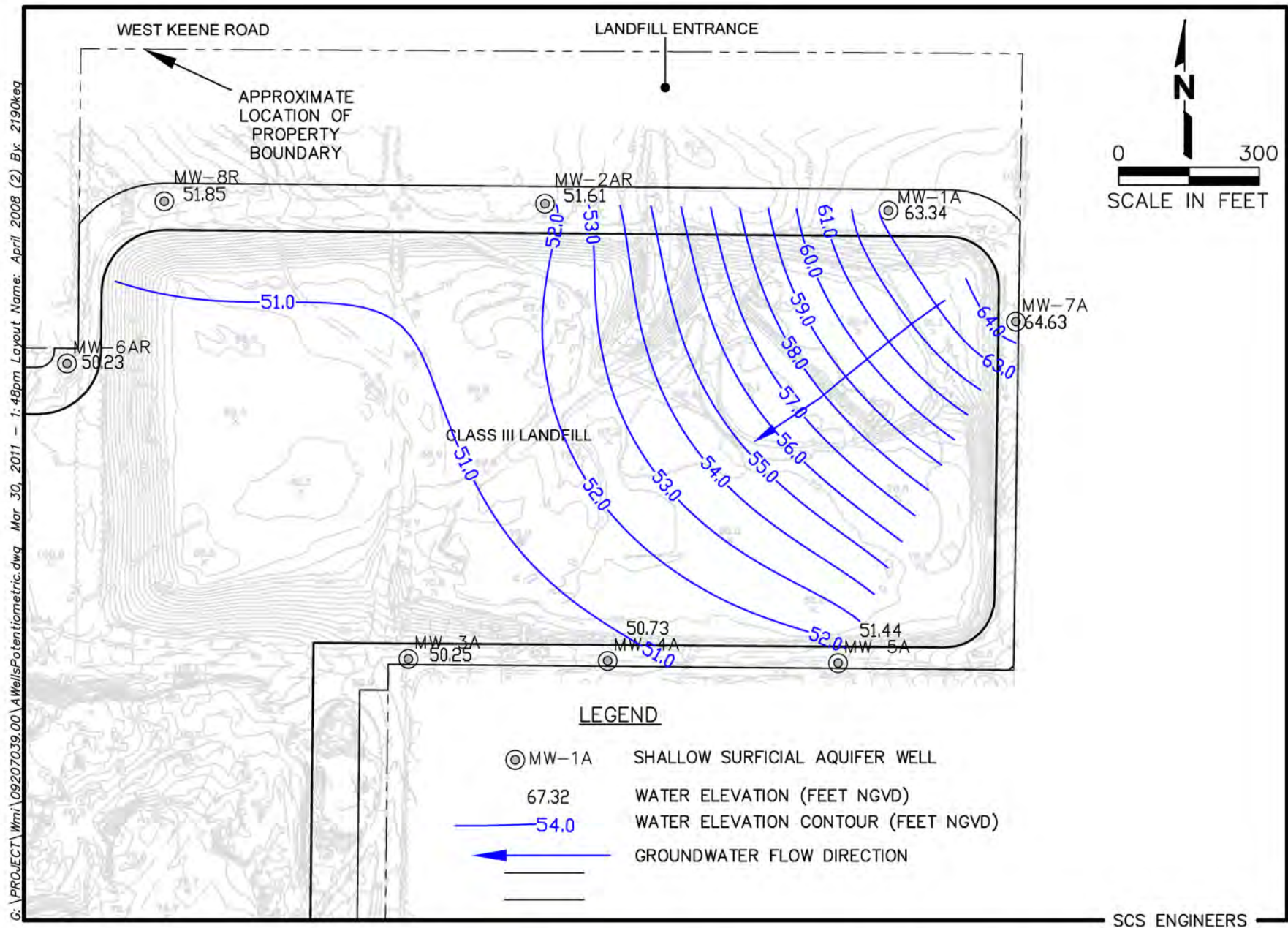


Figure A-6. December 2010 Shallow Surficial Aquifer Water Level Map, Vista Landfill, Apopka, Florida.

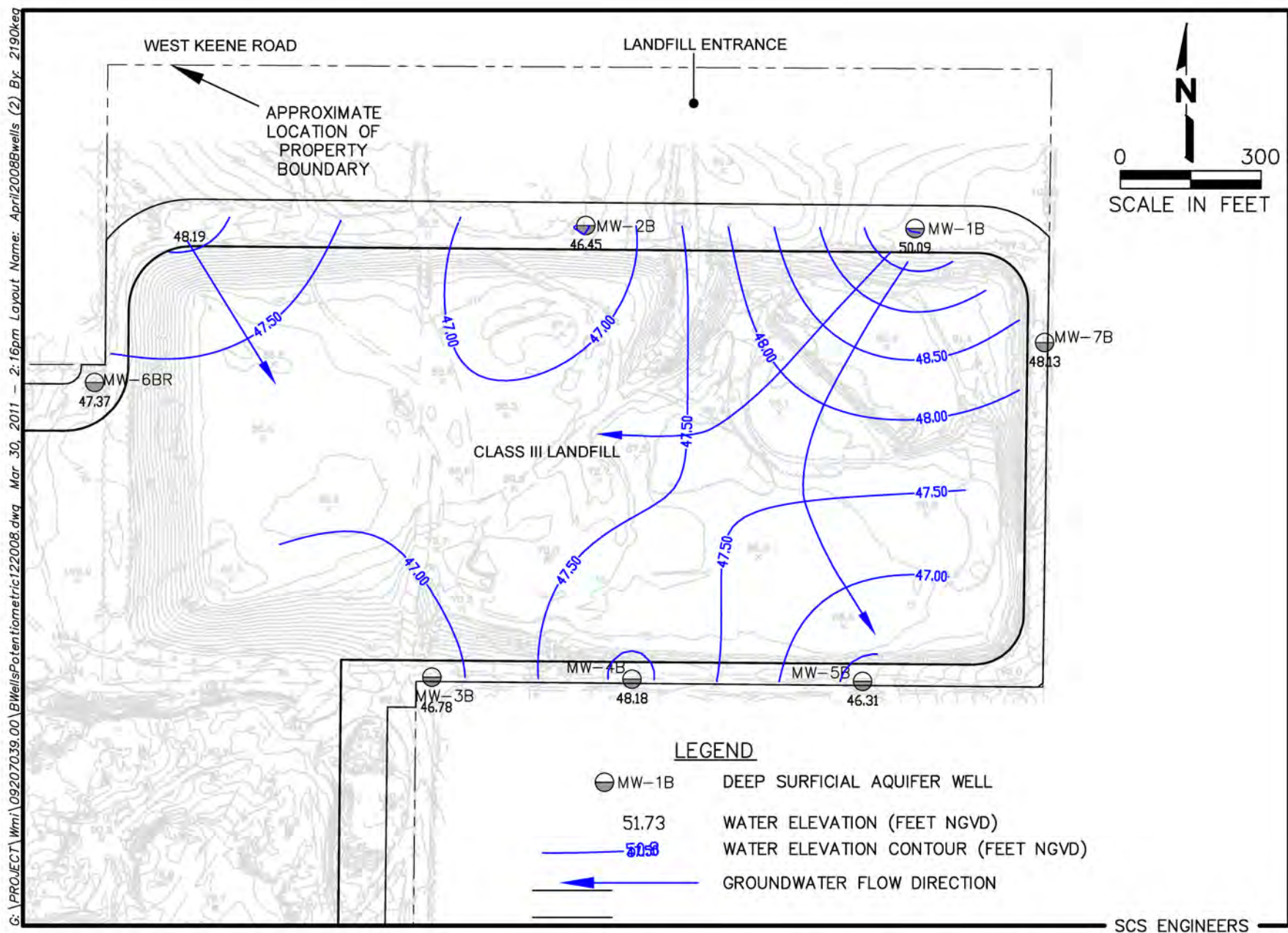


Figure A-7. April 2008 Intermediate Surficial Aquifer Potentiometric Surface Map, Vista Landfill, Apopka, Florida.



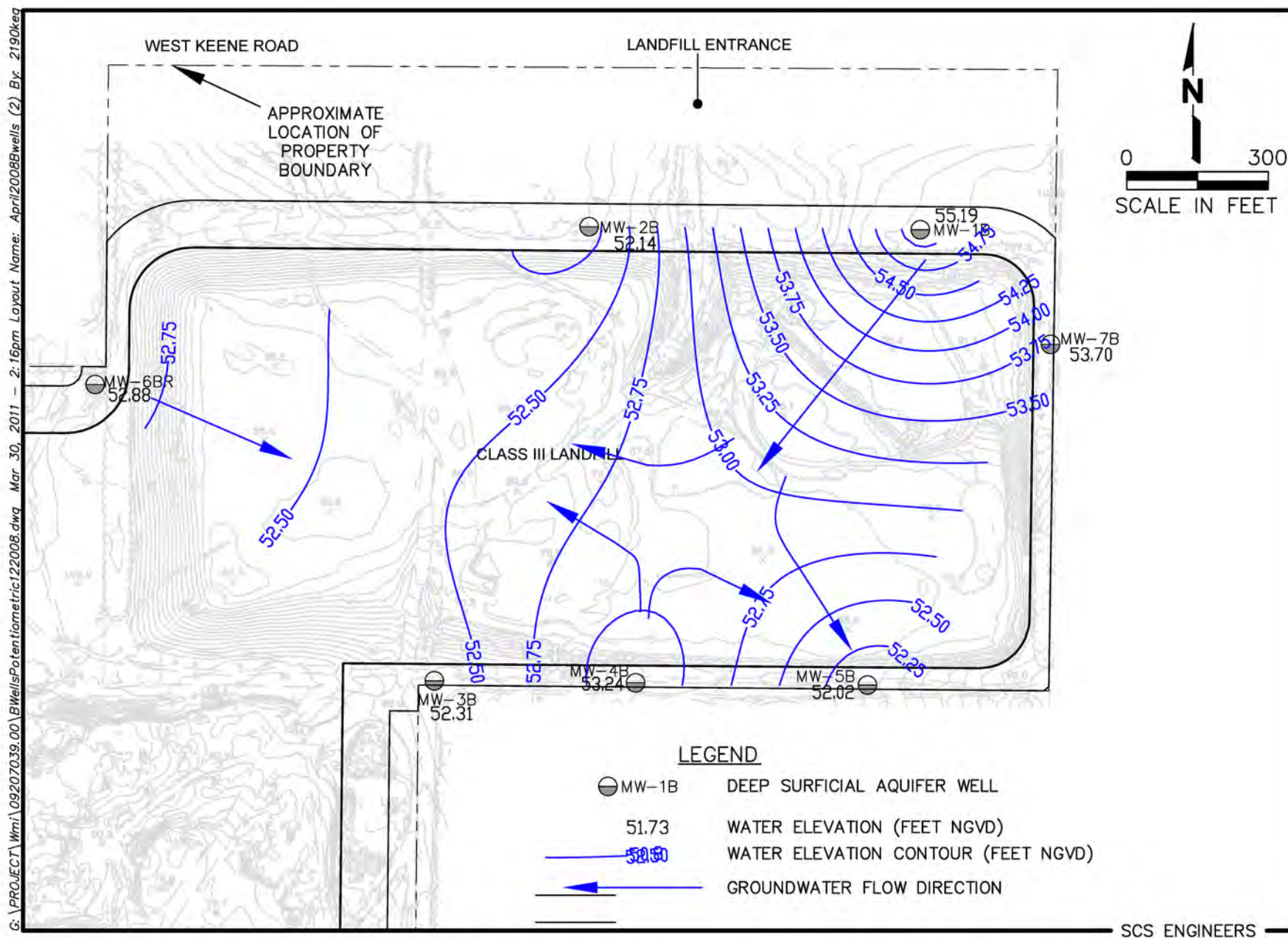


Figure A-8. December 2008 Intermediate Surficial Aquifer Potentiometric Surface Map, Vista Landfill, Apopka, Florida.





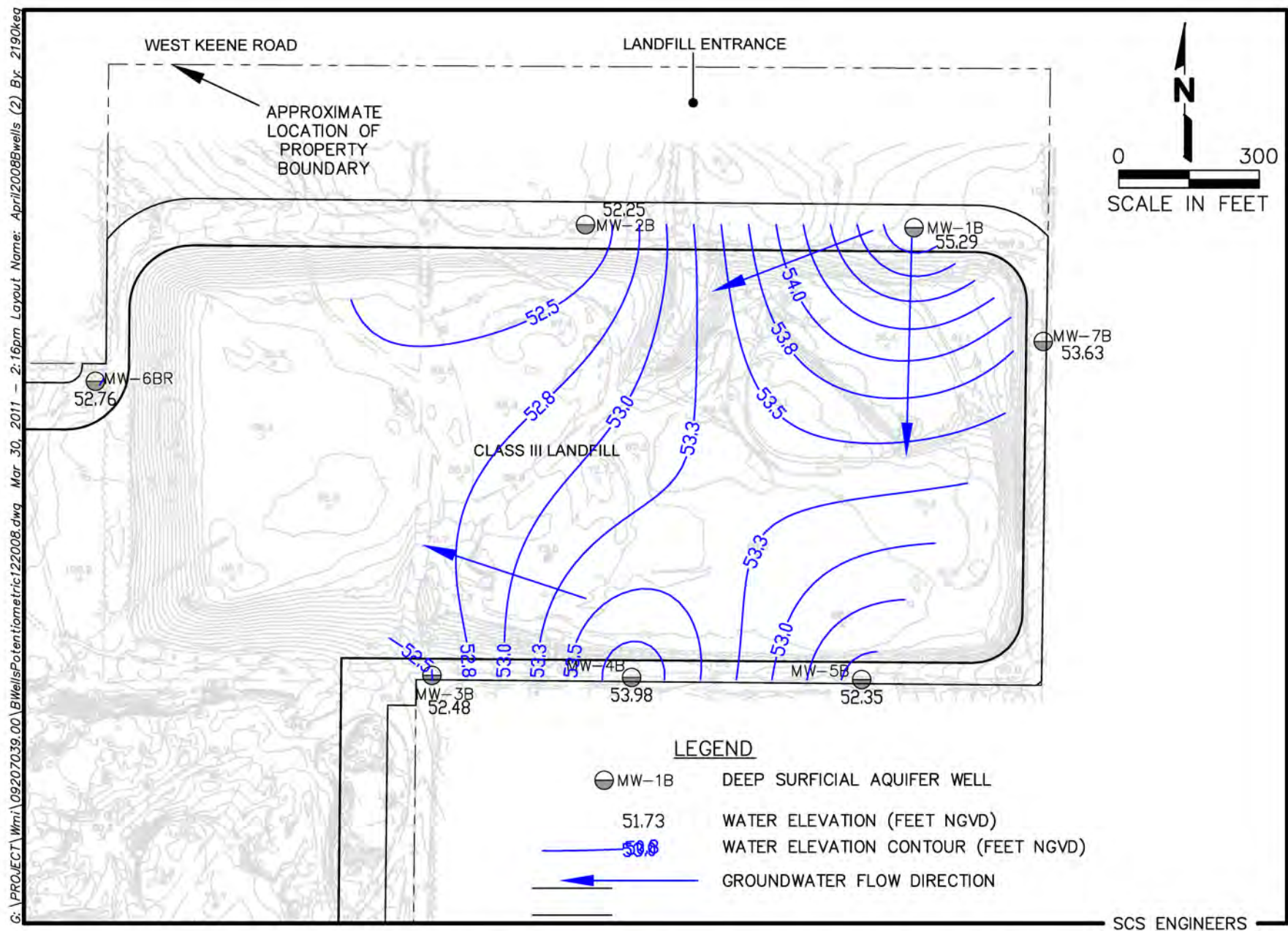
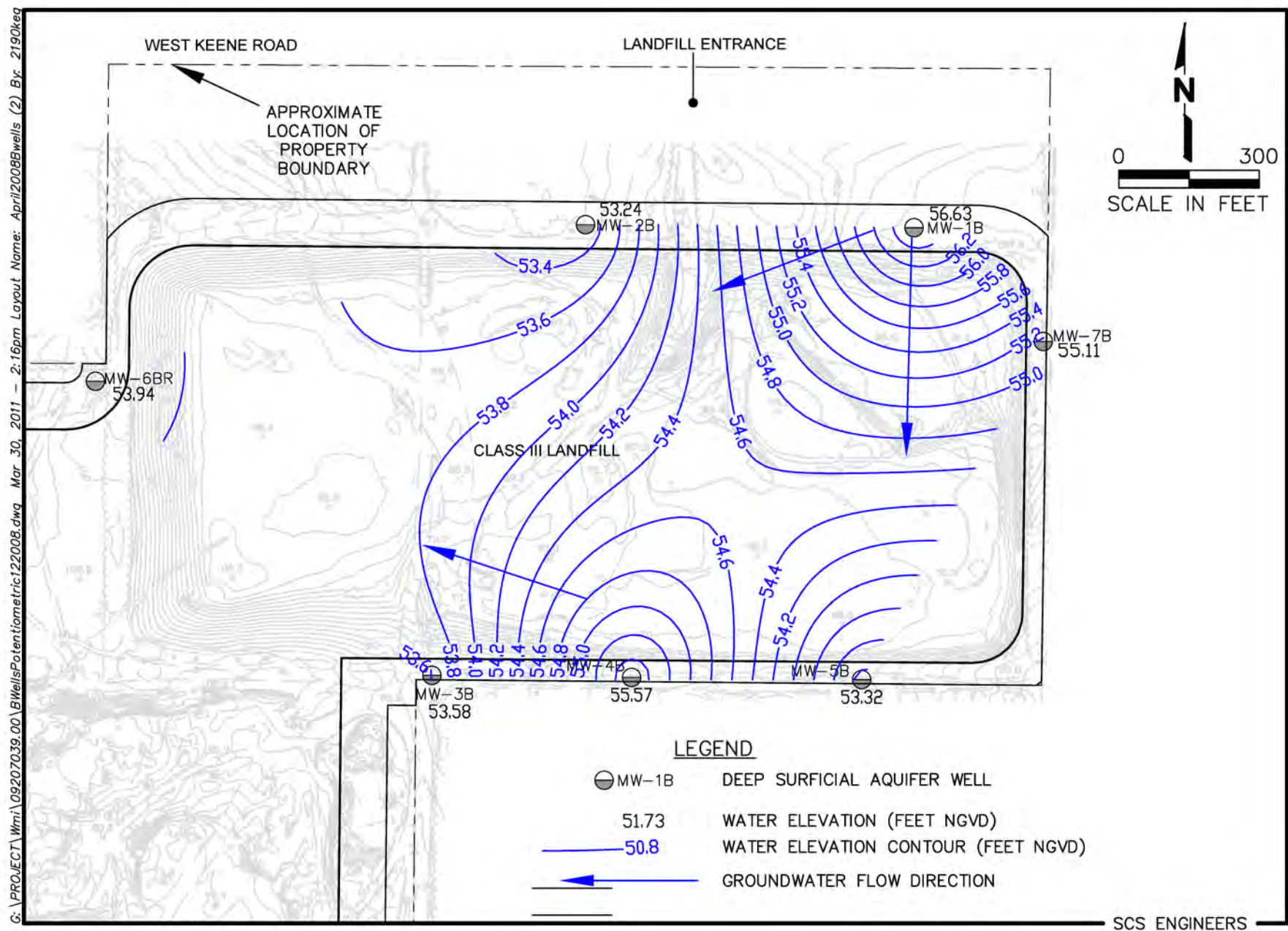
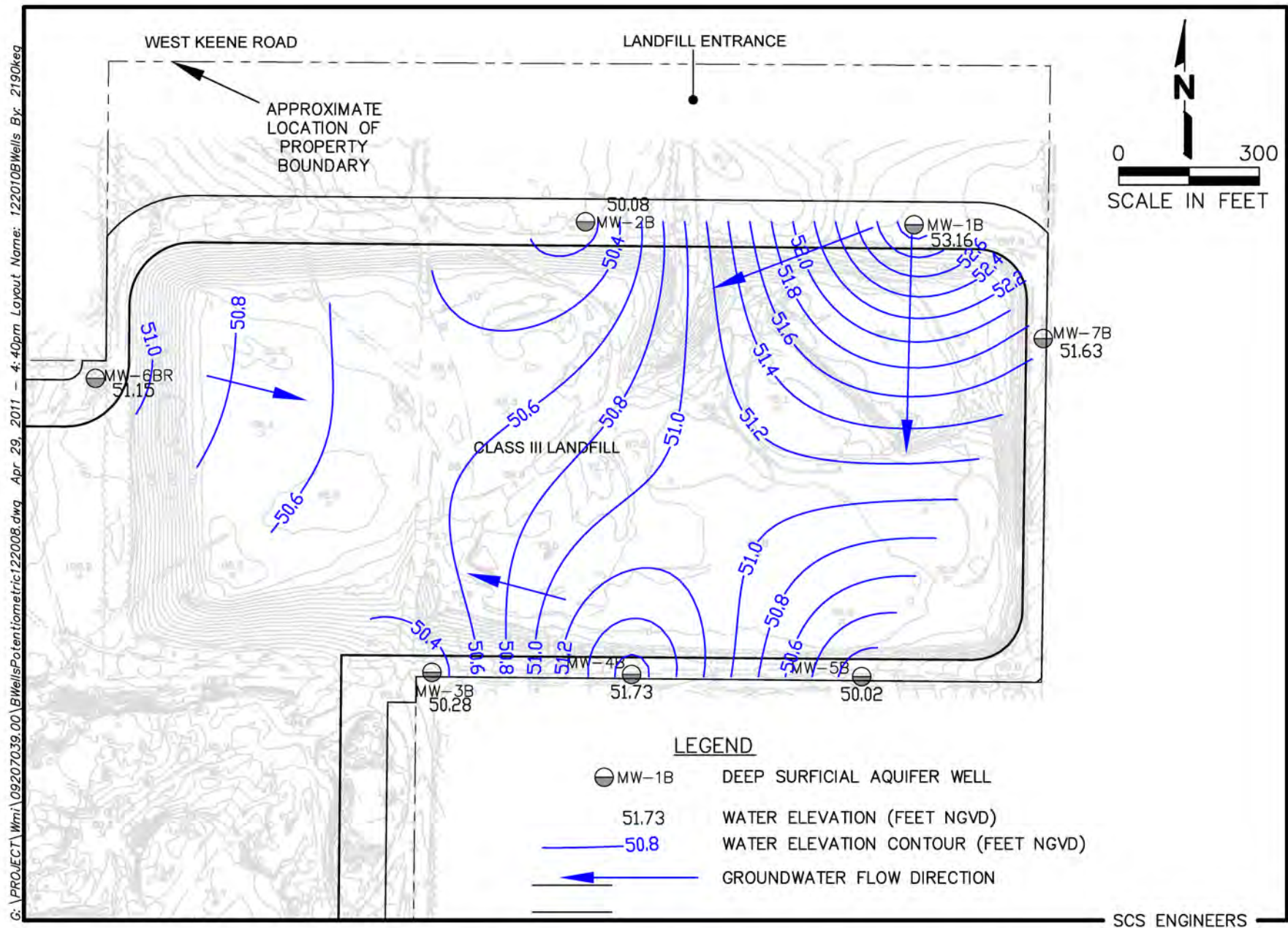


Figure A-10. January 2010 Intermediate Surficial Aquifer Potentiometric Surface Map, Vista Landfill, Apopka, Florida.

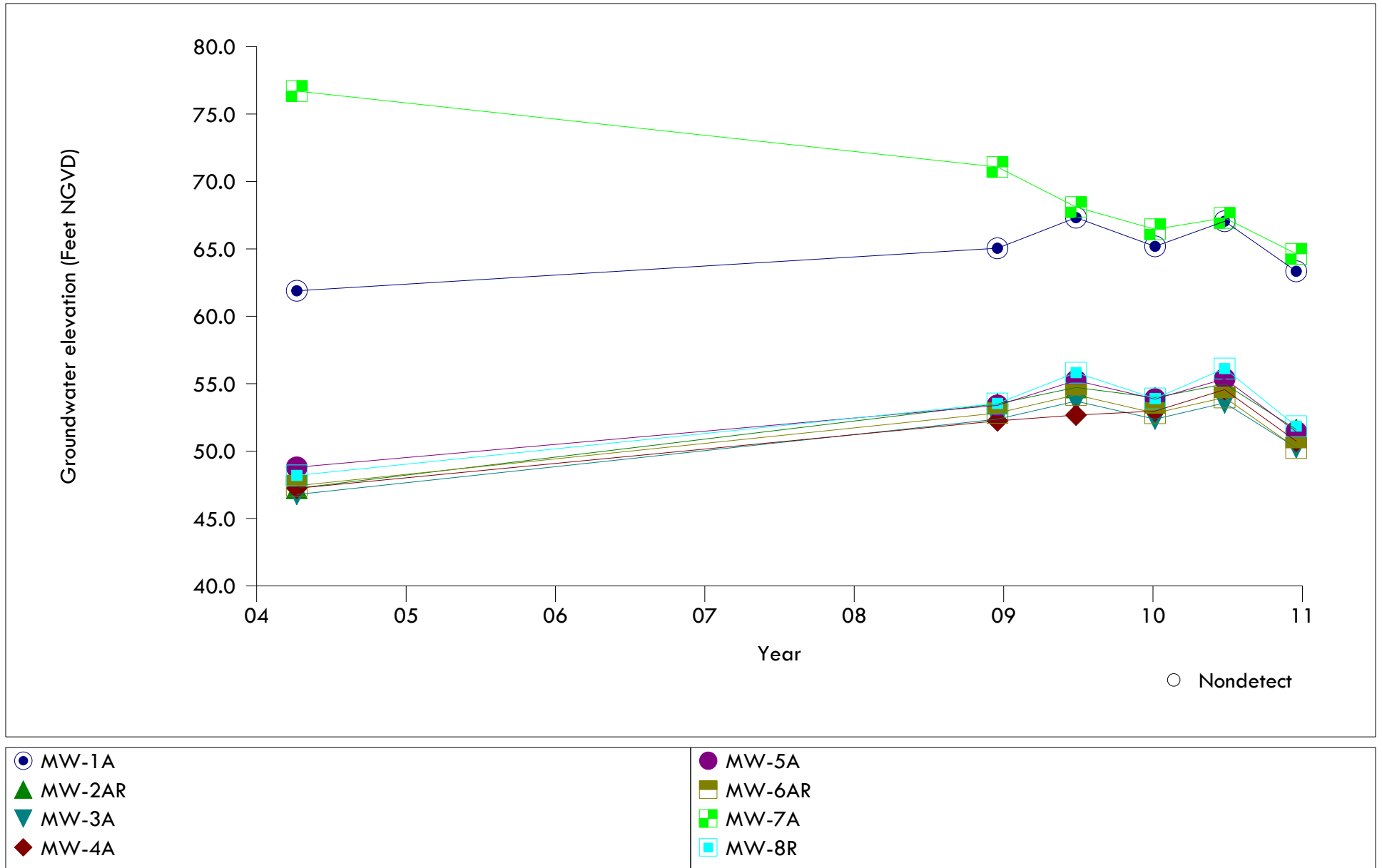






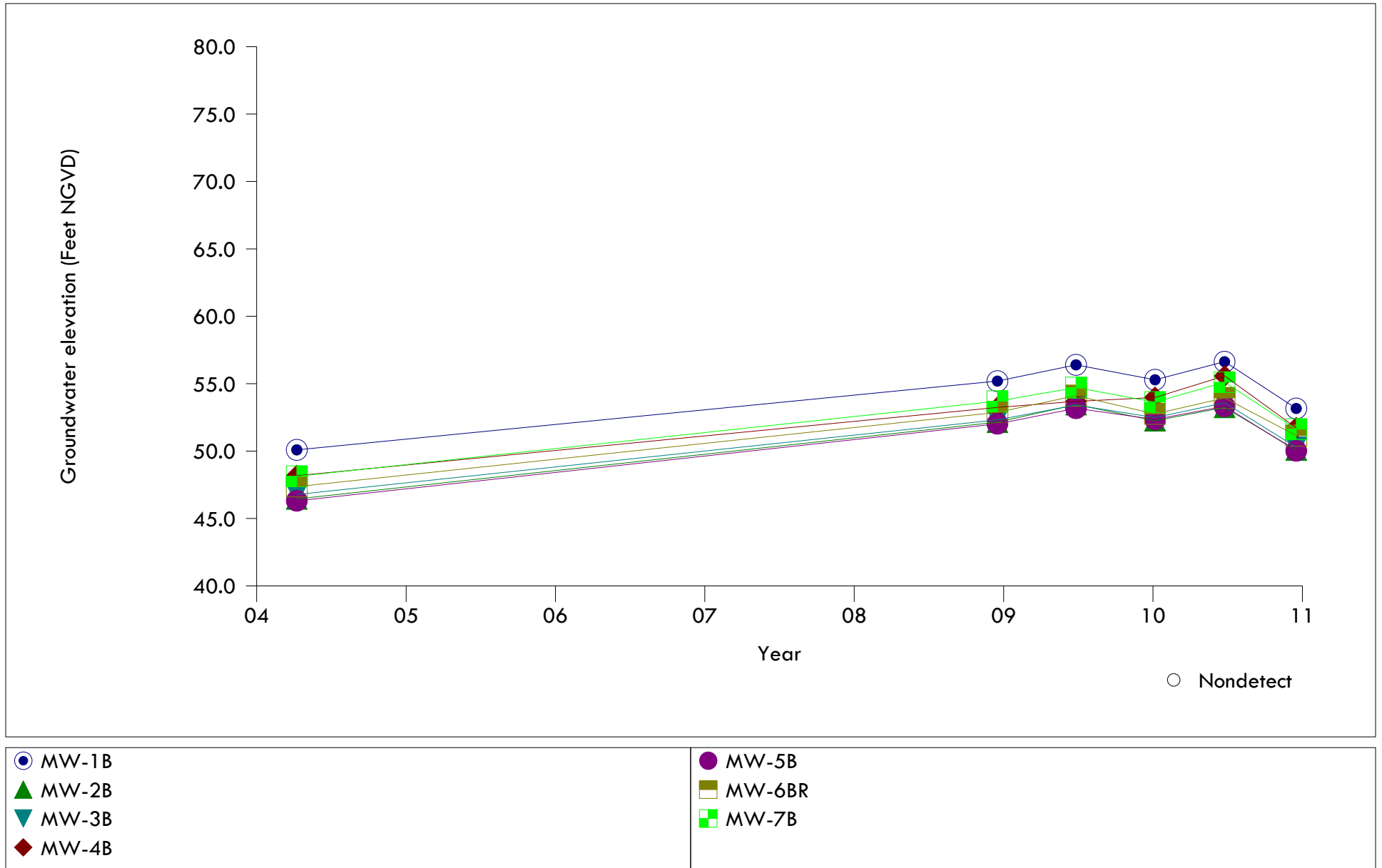
## Vista Landfill

Appendix A-13. Time Series Plot for Groundwater Elevation in Upper Surficial Aquifer



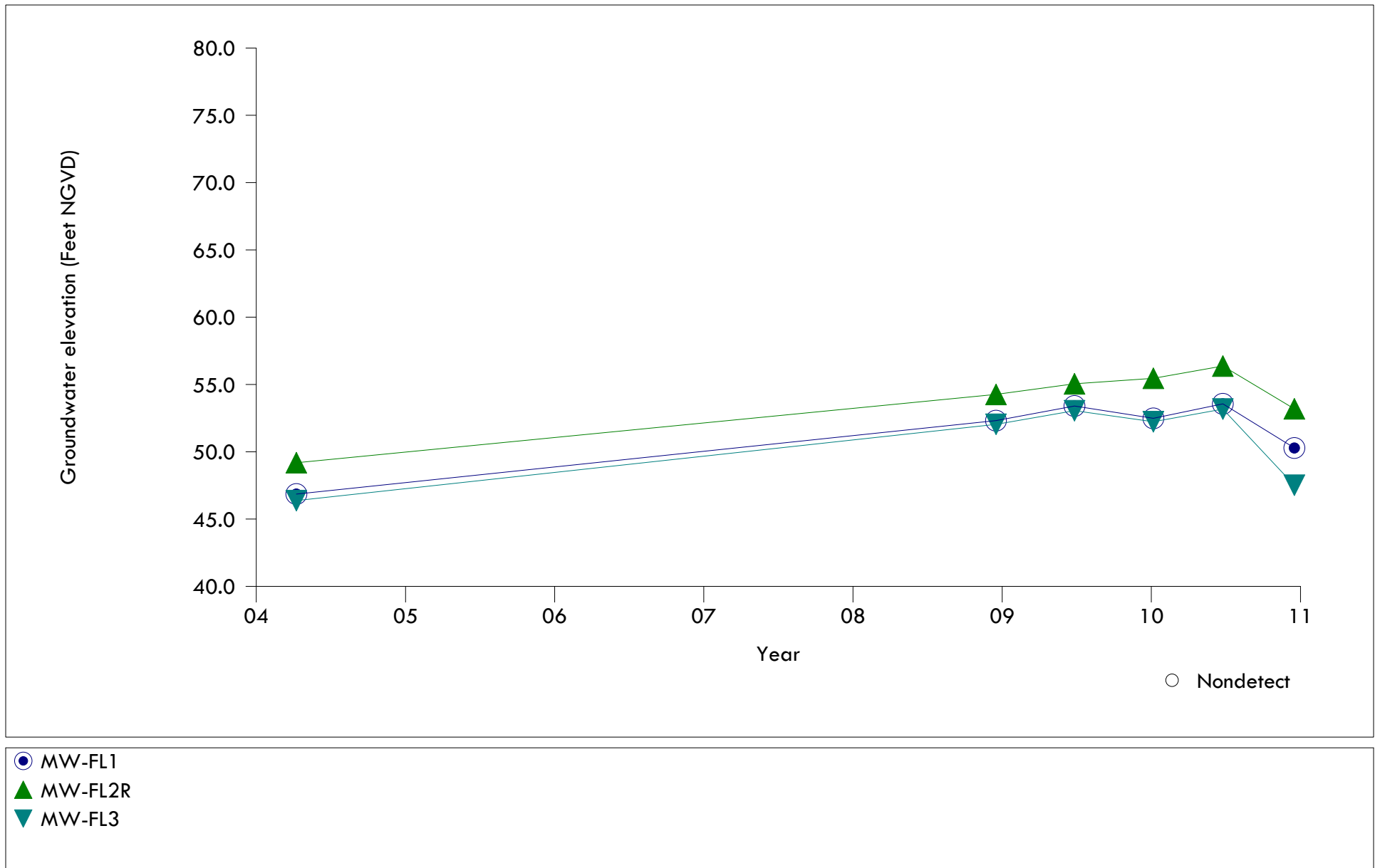
## Vista Landfill

Appendix A-14. Time Series Plot for Groundwater Elevation in Intermediate Surficial Aquifer



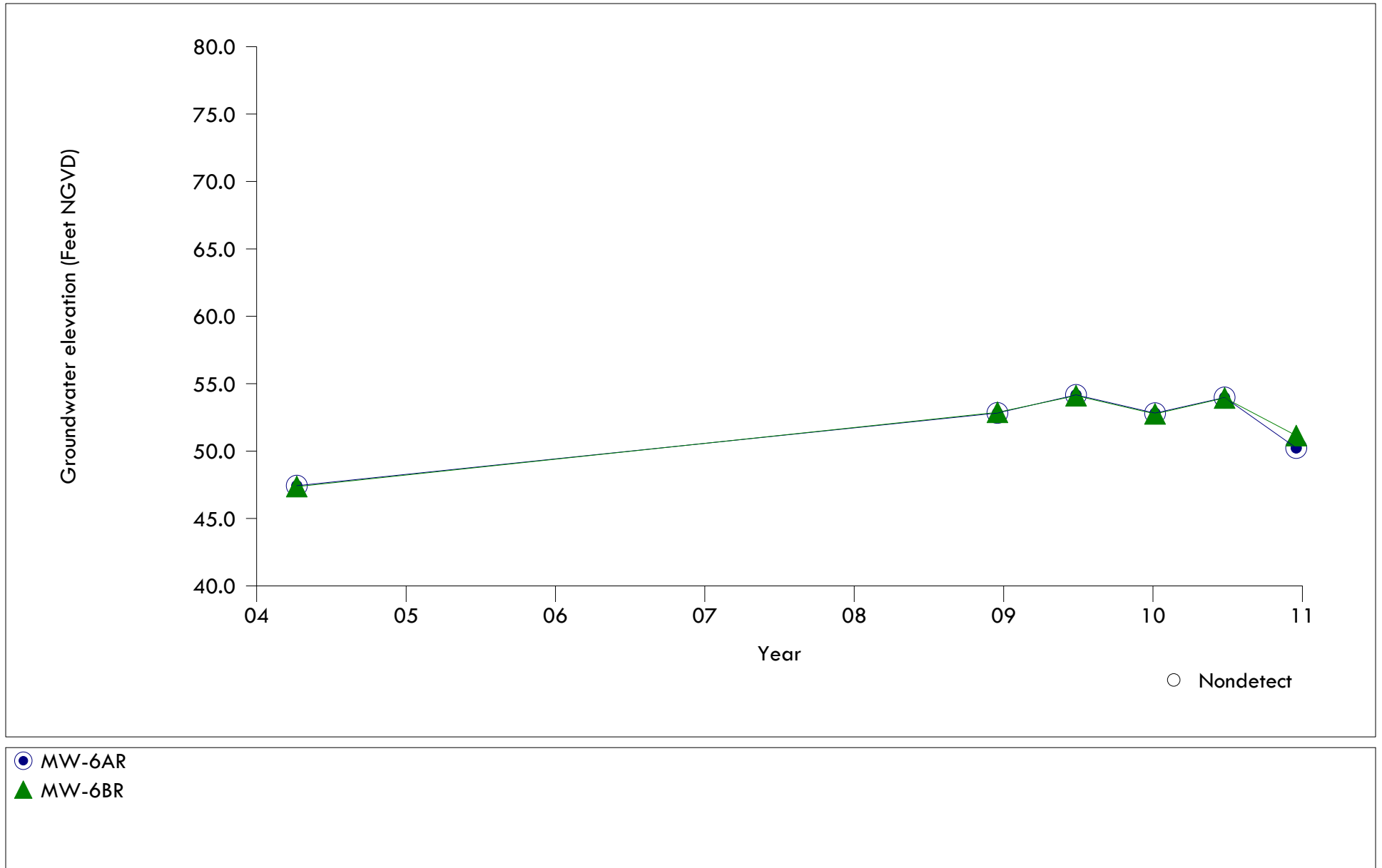
## Vista Landfill

Appendix A-15. Time Series Plot for Groundwater Elevation in FL-Wells



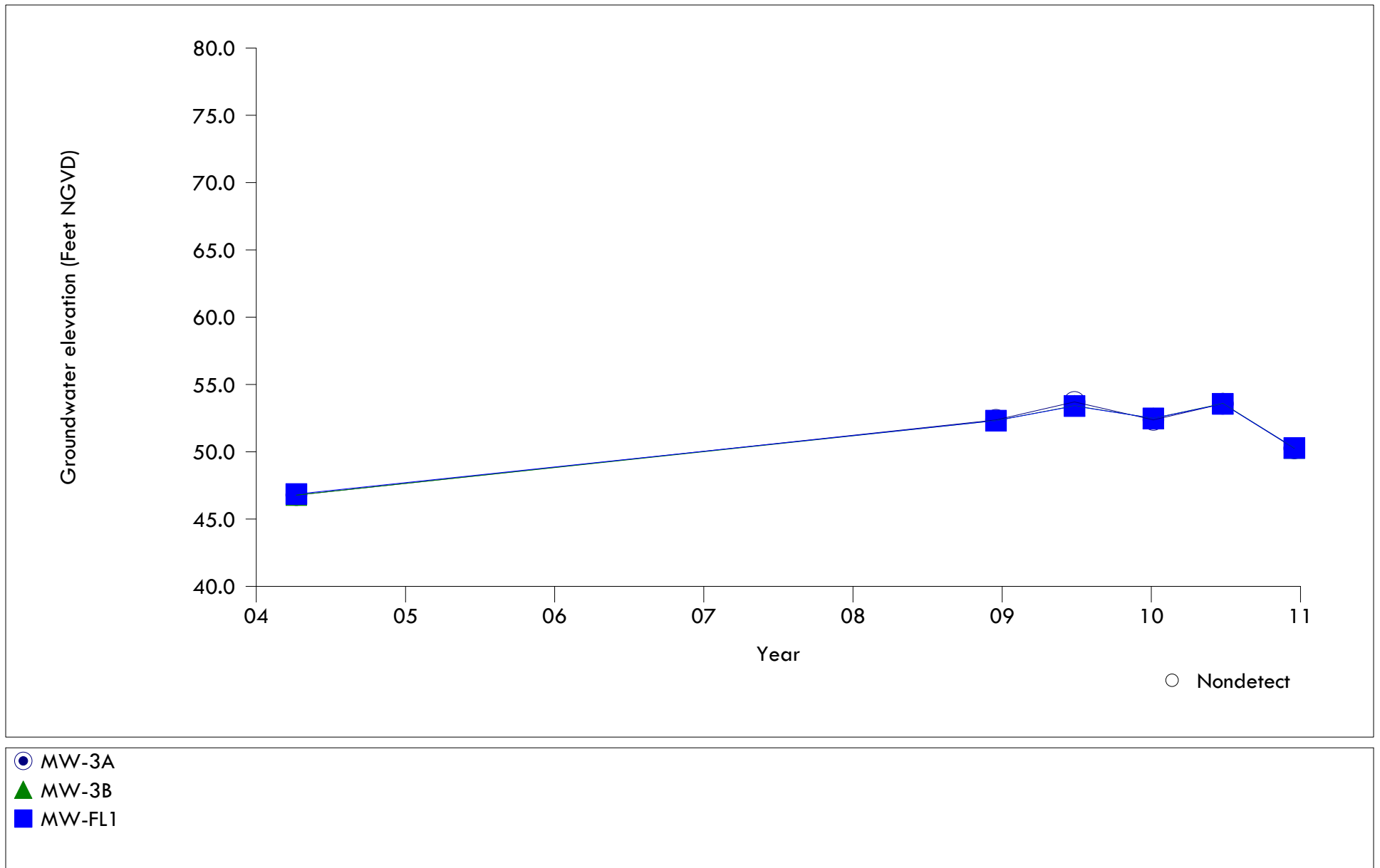
## Vista Landfill

Appendix A-16. Time Series Plot for MW-6AR and MW-6BR



## Vista Landfill

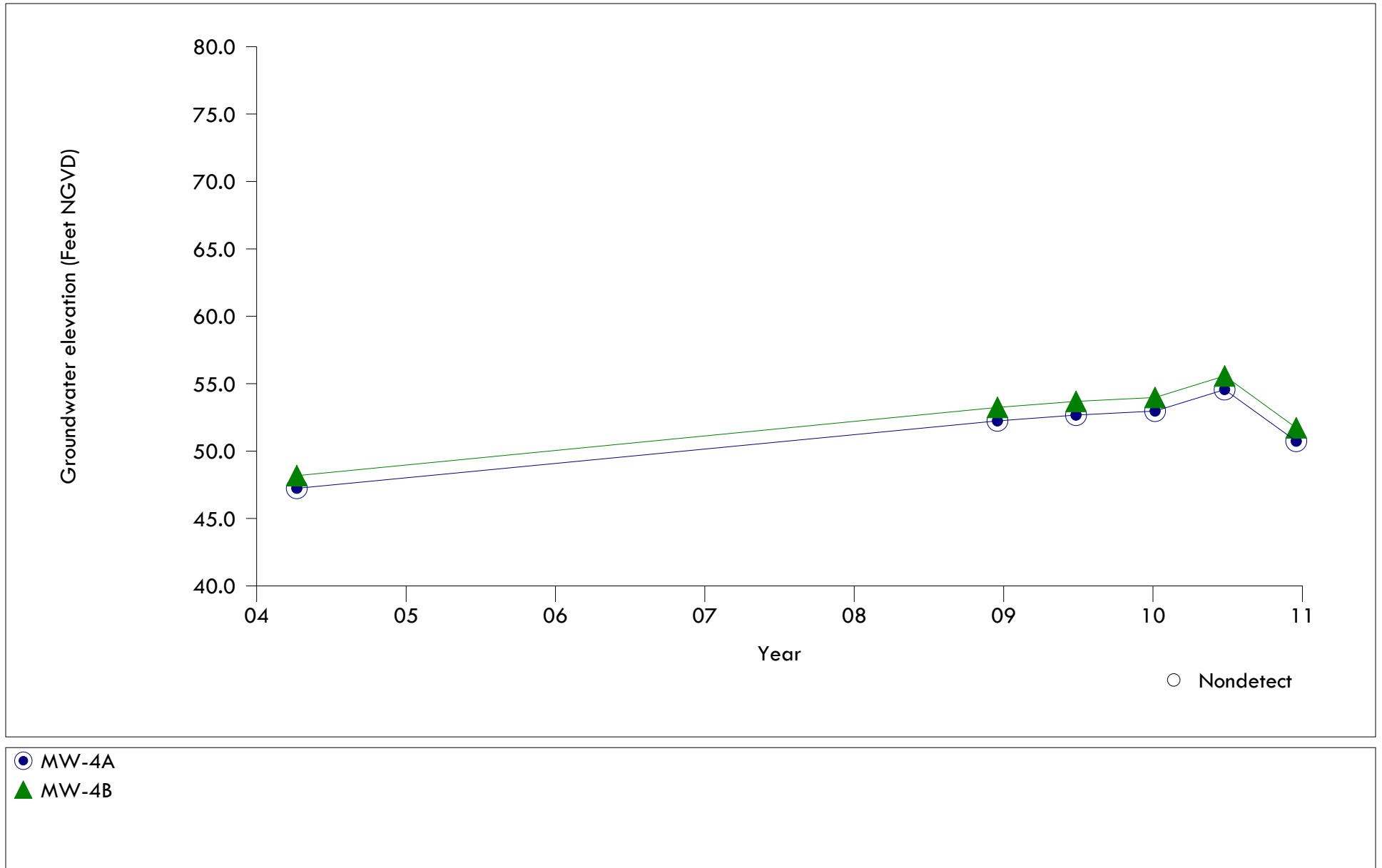
Appendix A-17. Time Series Plot for MW-3A, MW-3B, and MW-FL1





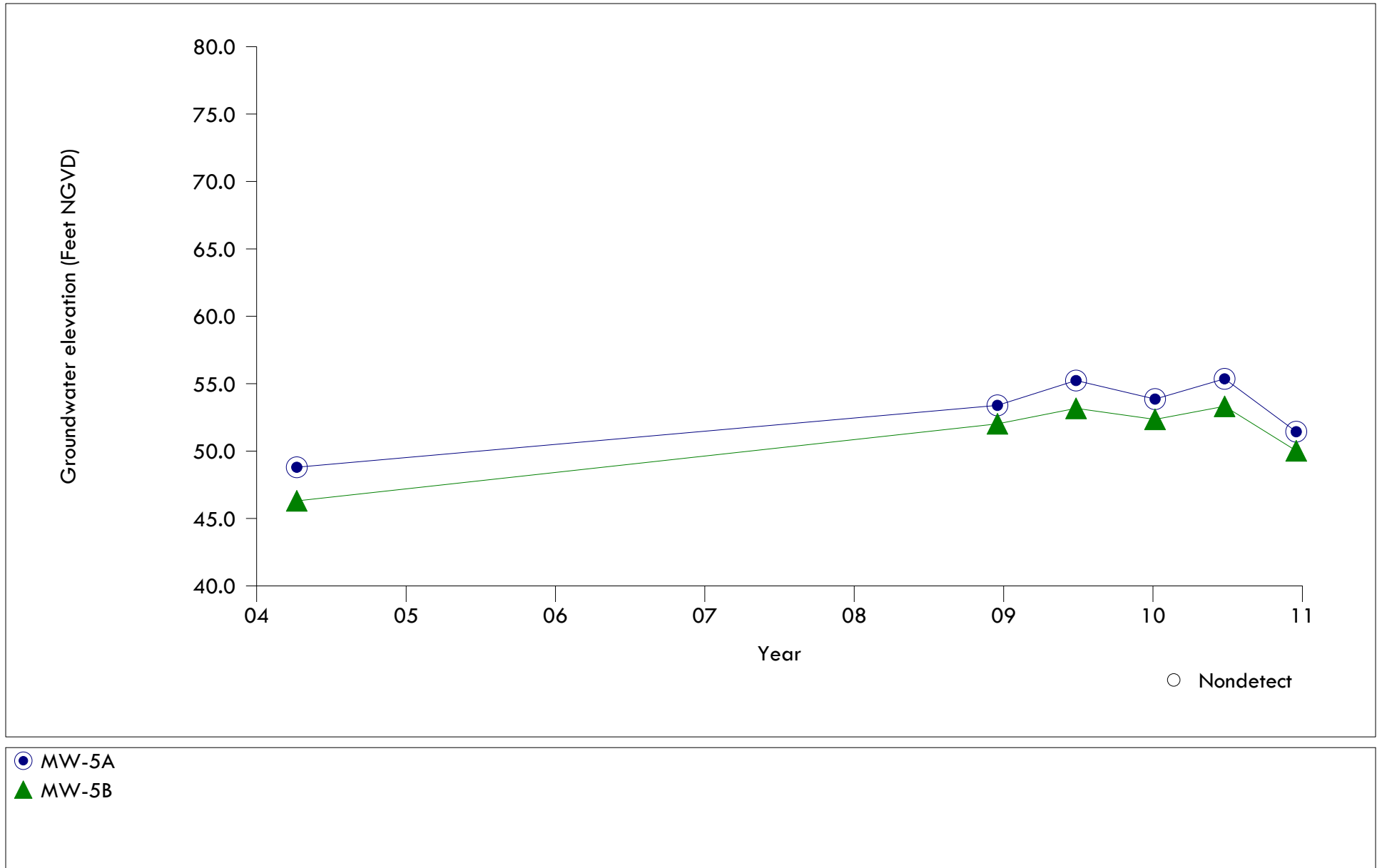
## Vista Landfill

Appendix A-18. Time Series Plot for MW-4A and MW-4B



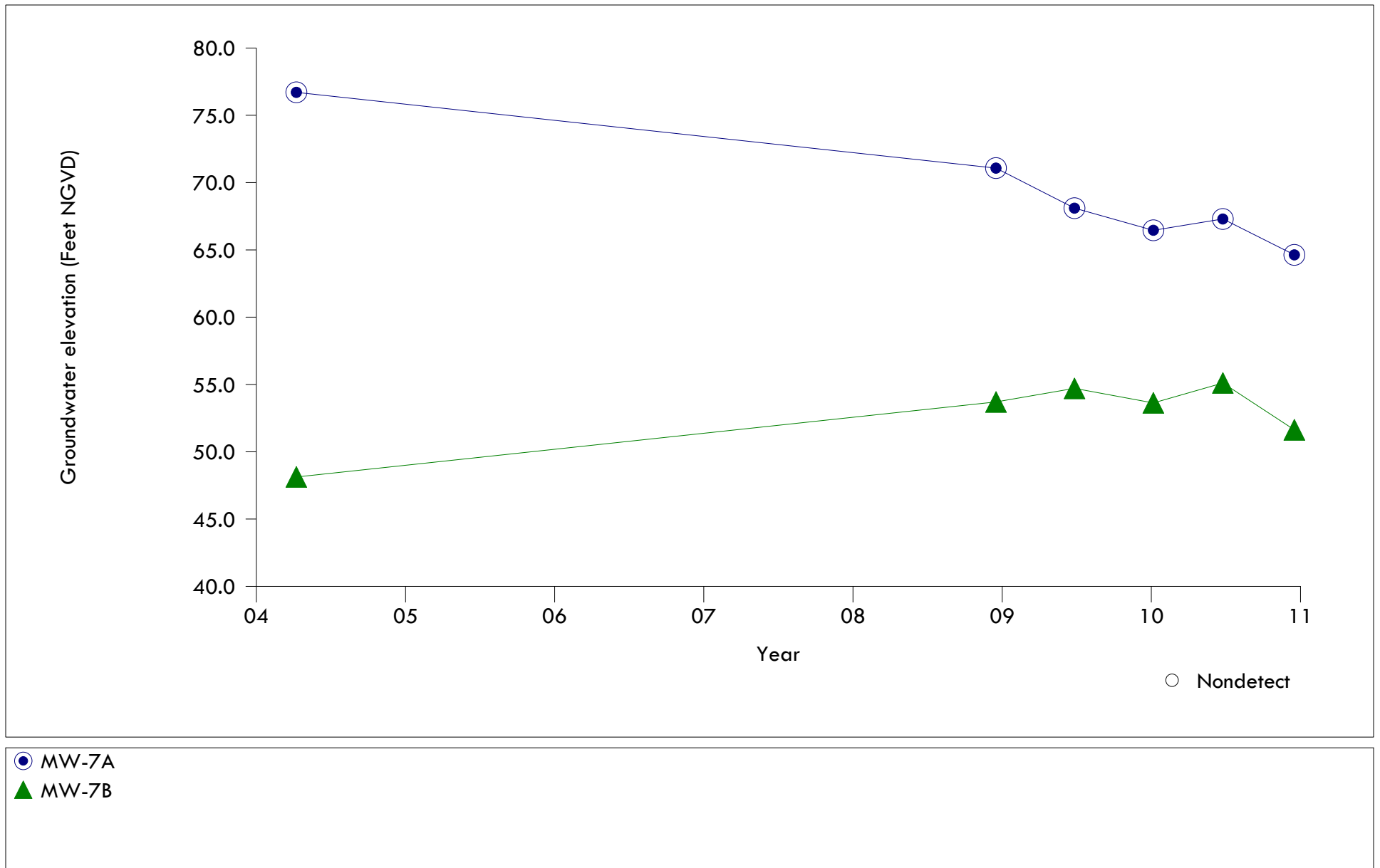
## Vista Landfill

Appendix A-19. Time Series Plot for MW-5A and MW-5B



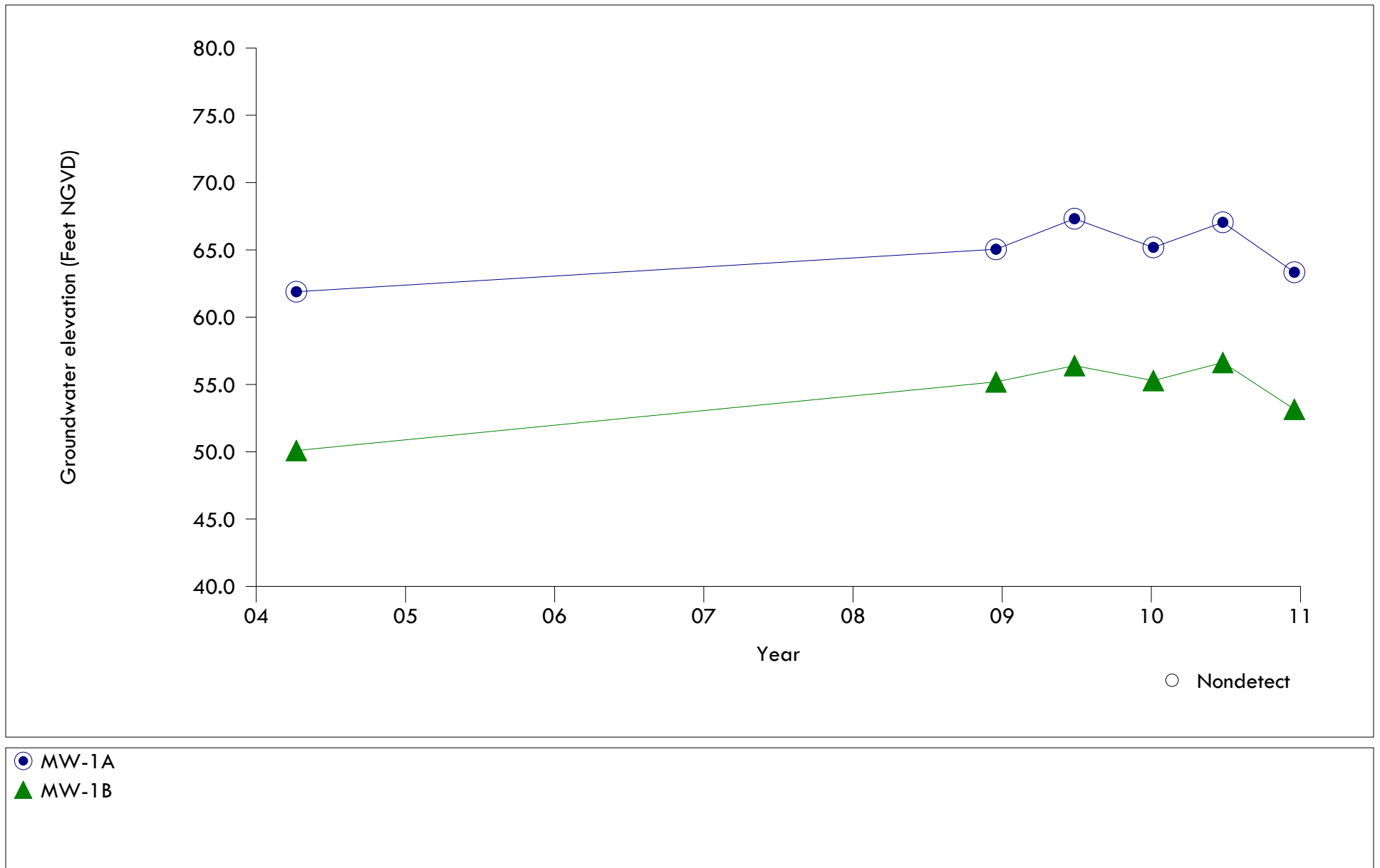
## Vista Landfill

Appendix A-20. Time Series Plot for MW-7A and MW-7B



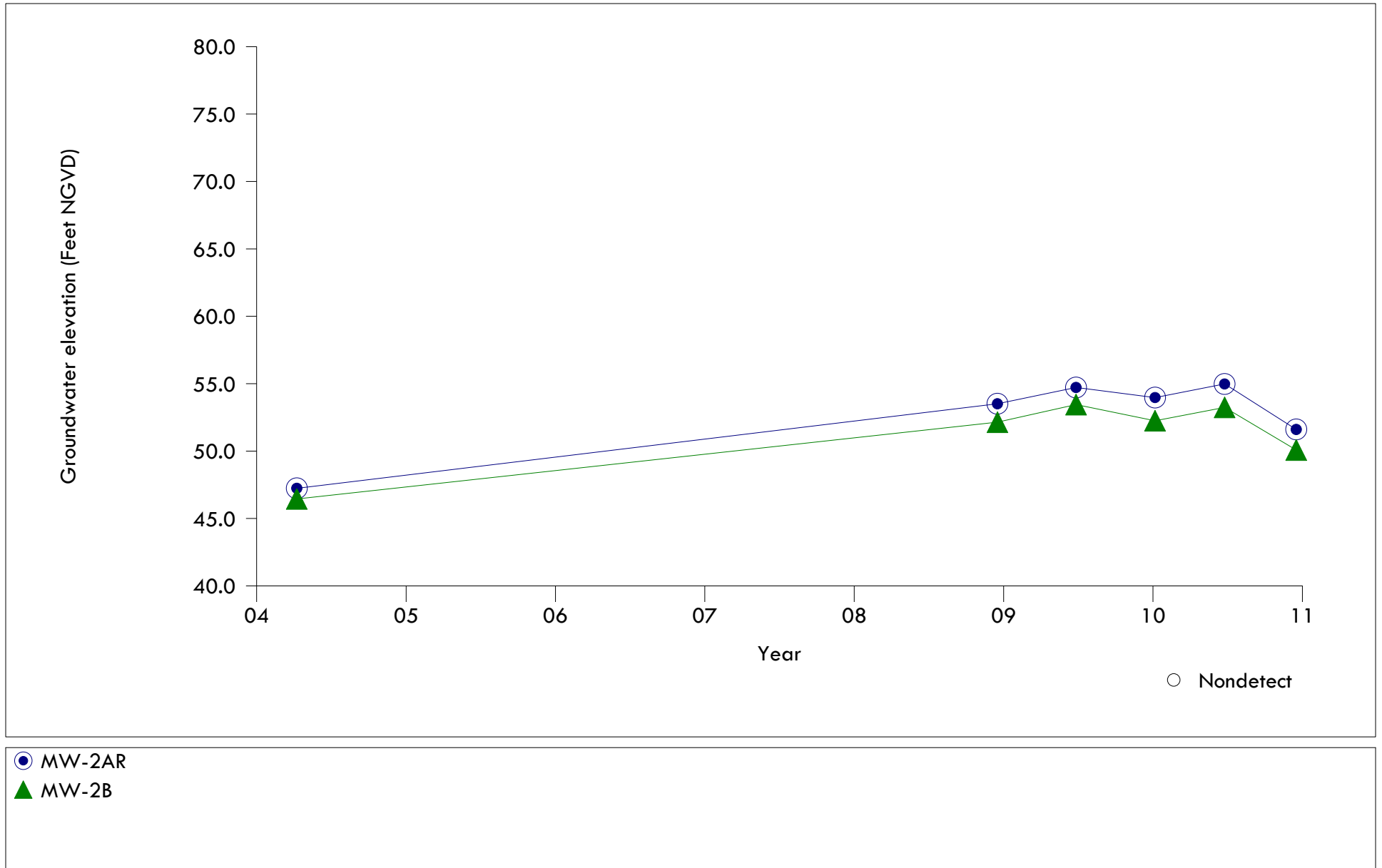
## Vista Landfill

Appendix A-21. Time Series Plot for MW-1A and MW-1B



## Vista Landfill

Appendix A-22. Time Series Plot for MW-2AR and MW-2B



APPENDIX B  
TABLES OF EXCEEDANCES AND DETECTIONS



Summary of Detected Parameters, MW-1A (Shallow Surficial Aquifer)											
Parameter	Standard	MCL	Units	6/4/2004	8/5/2004	4/29/2008	12/16/2008	6/26/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	8.9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	2.6 I	1.9 U	1.9 U	1.9 U	2.1 I	2.9 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.37 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	2.2	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	---	---	---	---	---	---	---
Dioxin											
2,3,7,8-TCDD	PDWS	30	pg/L	1.3 U	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4.4	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	1.6 I	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	1.6	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.34 I	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.21	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.01	---	---	---	---	---
Radial Chemistry											
Alpha Radiation	PDWS	15	pCi/l	15.1	---	---	5.4	3 IV	3 U	3 IV	3 U
Gross Beta	NS	NS	pCi/l	5.39	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	2.61	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.942 U	---	---	---	---	---	---	---
Metals											
Aluminum	SDWS	200	ug/l	1700	---	100 U	230	370	68 I	20 I	18 U
Antimony	PDWS	6	ug/l	0.2 I	---	2 U	0.07 U	0.07 U	0.1 I	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	1.4 I	---	5 U	0.29 I	0.3 I	0.21 U	0.21 U	0.21 U
Barium	PDWS	2000	ug/l	40	---	22	18	19	18 V	18	18
Beryllium	PDWS	4	ug/l	0.064 I	---	1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.46 I	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	56	---	---	---	---	---
Chromium	PDWS	100	ug/l	110	---	10 U	1.2 I	2.2 I	1 I	1.1 I	0.85 I
Cobalt	GCTL	140	ug/l	10 U	---	2.3 I	1.2 U	1.2 U	1.2 U	0.94 I	1.2 U
Copper	SDWS	1000	ug/l	3 I	---	15 U	1.8 I	2 I	1.4 U	2.7 I	1.6 I
Iron	SDWS	300	ug/l	1100	---	27 I	120	200	48 I	52 I	22 U
Lead	PDWS	15	ug/l	4	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	3.8	---	---	---	---	---
Manganese	SDWS	50	ug/l	9.9	---	10 U	0.96 I	7.1 I	1.1 I	0.63 I	0.25 U
Mercury	PDWS	2	ug/l	0.2 U	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	78	---	40 U	4 I	4.2 I	3.3 I	3.6 I	4.5 I
Potassium	NS	NS	mg/l	---	---	2.4 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.1 I	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	6.1	---	6.9	6	6.2	6.2	6.2	7.5 V
Thallium	PDWS	2	ug/l	0.16 U	---	0.045 I	0.041 I	0.045 I	0.071 I	0.088 IV	0.046 IV
Vanadium	GCTL	49	ug/l	49 U	---	10 U	1.2 I	1.3 I	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	7.5 I	---	5.1 I	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U
General Chemistry											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.05 U	0.13	0.022 U	0.022 U	0.022 U	0.043 IV
Chloride	SDWS	250	mg/l	10	11	11	12	11	12	10	13
Fluoride	SDWS	2	mg/l	0.042 I	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	8.4	5.1	12	10	10	11	9.7	10
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	19	---	20	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	100 V	---	---	99	---	94
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	270	200	230	210	220	220	1000 V	220
Field Parameters											
Color	SDWS	15	PCU	15	---	5 U	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	336	308	364	331	274	299	312	357
Dissolved Oxygen	NS	NS	mg/l	1.8	1.9	3.8	3.2	2.5	2	2.7	2.6
Dissolved Oxygen	MPIS	20	% Sat.	23	23.42	45.99	38.01	29.7	22.43	32.68	29.73
Field pH	SDWS	6.5-8.5	SU	7.25	7.6	7.34	7.11	7.32	7.44	6.38	7.52
Field Temperature	NS	NS	Degrees C	28.2	26.2	24.8	24.1	23.9	21.3	24.7	22.3
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	3.4	11.3	1.2	2.9	4.2	5.5	0.79	0.97

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-1B (Intermediate Surficial Aquifer)

Parameter	Standard	MCL	Units	6/4/2004	8/5/2004	4/29/2008	12/16/2008	6/26/2009	6/30/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds												
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	---	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	---	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	3.1 I	1.9 U	3.7 I	---	1.9 U	3 I	3.5 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	---	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.32 U	0.32 U	---	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.42 I	---	0.23 I	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	---	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	---	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds												
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	2.6	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	---	---	---	---	---	---	---	---
Dioxin												
2,3,7,8-TCDD	PDWS	30	pg/L	1.22 U	---	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals												
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4.2	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	0.97 U	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	0.19 U	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.65 I	---	0.2 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.14	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.06	---	---	---	---	---	---
Radial Chemistry												
Alpha Radiation	PDWS	15	pCi/l	10.3	---	---	3.7	---	3 IV	3 IV	3 IV	3 I
Gross Beta	NS	NS	pCi/l	13.6	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	2.1	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.942 I	---	---	---	---	---	---	---	---
Metals												
Aluminum	SDWS	200	ug/l	6400	---	220	42 I	210	---	20 I	18 U	21 I
Antimony	PDWS	6	ug/l	1.1 I	---	2 U	0.12 I	0.17 I	---	0.17 I	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	19	---	4.3 I	3.6 I	4 I	---	3.7 I	3.2 I	3.3 I
Barium	PDWS	2000	ug/l	34	---	5.4 I	8.2 I	8.1 I	---	8 IV	6.4 I	6.8 I
Beryllium	PDWS	4	ug/l	0.25 I	---	1 U	0.08 U	0.08 U	---	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	1.7 I	---	3 U	0.45 U	0.45 U	---	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	19	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	340	---	10 U	0.66 U	1.5 I	---	0.66 U	0.66 U	0.66 U
Cobalt	GCTL	140	ug/l	15	---	10 U	1.2 U	1.2 U	---	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	5 I	---	15 U	1.4 U	1.4 U	---	1.4 U	0.29 I	1.4 U
Iron	SDWS	300	ug/l	3100	---	100	31 I	360	---	22 I	22 U	25 I
Lead	PDWS	15	ug/l	3.3	---	9 U	2.6 U	2.6 U	---	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	7.2	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	35	---	10 U	4.1 I	13	---	1 I	1 I	1.1 I
Mercury	PDWS	2	ug/l	0.68	---	0.2 U	0.027 U	0.027 U	---	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	420	---	40 U	1.6 I	2.6 I	---	1.4 I	1.3 U	1.5 I
Potassium	NS	NS	mg/l	---	---	0.66 I	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.9 I	---	15 U	4.9 U	4.9 U	---	4.9 U	4.9 U	6.7 I
Silver	SDWS	100	ug/l	0.89 I	---	10 U	0.93 U	0.93 U	---	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	9.2	---	4.9	4.7	5	---	4.6	4.7	4.6 V
Thallium	PDWS	2	ug/l	0.45 I	---	1 U	0.02 U	0.022 I	---	0.02 U	0.024 IV	0.02 U
Vanadium	GCTL	49	ug/l	49 U	---	10 U	1.1 U	1.1 U	---	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	36	---	20 U	12 I	5.9 IV	---	4.5 U	4.5 U	4.5 U
General Chemistry												
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.05 U	0.12	0.022 U	---	0.022 U	0.022 U	0.045 IV
Chloride	SDWS	250	mg/l	7.7	6	6.3	6.7	---	6.4	6.5	6.3	6.5
Fluoride	SDWS	2	mg/l	0.26	---	0.5 U	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	0.74	0.5 U	0.044 I	0.19 I	---	0.042 I	0.042 U	0.05 I	0.046 I
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	9.3	---	8	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	72 V	---	---	---	73	---	72
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	160	110	99	94	---	110	100	100 V	110
Field Parameters												
Color	SDWS	15	PCU	25	---	5 U	0 U	---	5 I	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	325	170	177	165	180	173	149	168	178
Dissolved Oxygen	NS	NS	mg/l	1	1.2	3.4	2.5	1.5	1.3	0.8	0.5	0.5
Dissolved Oxygen	MPIS	20	% Sat.	13.93	15.34	40.39	29.7	17.82	15.15	8.97	6.28	5.83
Field pH	SDWS	6.5-8.5	SU	7.47	7.84	7.93	7.37	7.47	7.36	7.85	7.9	7.49
Field Temperature	NS	NS	Degrees C	33.2	28.5	24.2	23.9	23.9	23.2	21.4	26.6	22.8
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---	---
Turbidity	NS	NS	NTU	16	7.9	7.3	1.5	4	3.5	4.1	0.29	1.52

- Notes:
  - PDWS = Primary Drinking Water Standard (62-550 F.A.C.)
  - SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)
  - GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)
  - MPIS = Monitoring Plan Implementation Schedule
  - NS = No numeric standard has been set for this analyte.
  - = Parameter not analyzed.
  - mg/L = milligrams per liter
  - ug/L = micrograms per liter
  - NTU = nephelometric turbidity units
- umhos/cm = micromhos per centimeter
  - % Sat = percent saturation
  - Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.
  - deg C = degrees Celsius
  - U = Analyte concentration was below the laboratory detection limit (value shown).
  - I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.
  - V = Analyte was detected in the sample and associated method blank.
  - Calculated from <http://www.fivecreeks.org/monitor/do.html>
  - PCI/L= picocuries per liter

Summary of Detected Parameters, MW-2AR (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	5/26/2004	5/26/2004	8/4/2004	12/17/2008	6/30/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	1 U	---	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	1 U	---	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	5 U	---	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	---	10 U	---	2.6 I	1.9 U	1.9 U	1.9 U	3.4 IV
Benzene	PDWS	1	ug/l	0.2 U	1 U	---	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	2 U	---	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	1 U	---	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	1 U	---	0.26 I	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	1 U	---	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	---	2 U	---	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	1 U	---	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.56 U	10 U	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	10 U	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	10 U	---	---	---	---	---	---
Dioxin											
2,3,7,8-TCDD	PDWS	30	pg/L	0.955 U	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	1 U	---	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	1 U	---	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	---	---	---	---	---	---
Radial Chemistry											
Alpha Radiation	PDWS	15	pCi/l	0.285 U	---	---	3.5	3 IV	3 IV	3 IV	3 I
Gross Beta	NS	NS	pCi/l	1.41 U	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	0.226 U	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	2.52 I	---	---	---	---	---	---	---
Metals											
Aluminum	SDWS	200	ug/l	1600	---	---	1900	180	430	100	59 I
Antimony	PDWS	6	ug/l	0.16 U	6 U	---	0.39 I	0.078 I	0.092 I	0.18 I	0.07 U
Arsenic	PDWS	10	ug/l	1.4 U	10 U	---	0.74 I	0.21 U	0.21 U	0.21 U	0.21 U
Barium	PDWS	2000	ug/l	9.8	10 U	---	28	14	16 V	9.1 I	11
Beryllium	PDWS	4	ug/l	0.062 U	4 U	---	0.099 I	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.13 U	3 U	---	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	4 I	10 U	---	6.9 I	0.66 U	1.5 I	0.66 U	0.66 U
Cobalt	GCTL	140	ug/l	---	10 U	---	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	4.4 I	20 U	---	3.5 IV	1.4 U	1.4 U	0.57 I	1.4 U
Iron	SDWS	300	ug/l	150	---	---	820	110	160	30 I	22 I
Lead	PDWS	15	ug/l	1.5	3 U	---	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	3.4 I	---	---	13	4.6 I	4.6 I	3.8 I	4 I
Mercury	PDWS	2	ug/l	0.1 U	0.2 U	---	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	---	40 U	---	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Potassium	NS	NS	mg/l	---	---	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	0.14 U	5 U	---	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	10 U	---	0.93 U	0.93 U	0.93 U	0.93 U	1.3 I
Sodium	PDWS	160	mg/l	2.1	---	---	5.4	4.9	3.5	2.6	4.4 V
Thallium	PDWS	2	ug/l	0.16 U	2 U	---	0.02 U	0.03 I	0.024 I	0.032 IV	0.028 IV
Vanadium	GCTL	49	ug/l	---	49 U	---	2.5 I	1.1 U	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	9.4 I	20 U	---	12 I	6.5 IV	5.8 I	4.5 U	5.1 I
General Chemistry											
Ammonia as N	GCTL	2.8	mg/l	---	---	0.1 U	0.11	0.083 I	0.022 U	0.022 U	0.042 IV
Chloride	SDWS	250	mg/l	3.5	---	3	6.8	6.2	5.3	3.3	6.2
Fluoride	SDWS	2	mg/l	0.01 U	---	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	0.16	---	0.5 U	1.1	2	1.5	0.92	1.6
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	2.7	---	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	---	---	---	1.6 I	---	1.1 U
Total Coliform	NS	NS	CFU/100ml	---	---	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	28	---	15	28	35	30	34 V	32
Field Parameters											
Color	SDWS	15	PCU	5 U	---	---	0 U	10	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	---	30	24	47	22	34	37	44
Dissolved Oxygen	NS	NS	mg/l	---	4.5	4.6	1.7	1.9	1.1	0.6	2.7
Dissolved Oxygen	MPIS	20	% Sat.	---	55.48	58.79	19.82	22.57	11.38	7.53	31.47
Field pH	SDWS	6.5-8.5	SU	5.5	6.52	5.54	5.88	5.93	6.27	5.2	5.06
Field Temperature	NS	NS	Degrees C	---	26	27.8	23	24.1	16.7	27.4	22.7
Odor	SDWS	3	T.O.N.	1 U	---	---	---	---	---	---	---
Turbidity	NS	NS	NTU	19	4.8	14.8	29.2	6.5	11.6	4.23	1.9

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units  
10. umhos/cm = micromhos per centimeter
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter  
19. Monitoring Well MW-2A was replaced in January 2007 with MW-2AR.



Summary of Detected Parameters, MW-2B (Intermediate Surficial Aquifer)

Parameter	Standard	MCL	Units	5/26/2004	5/26/2004	8/4/2004	4/29/2008	12/16/2008	6/30/2009	8/4/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds										Resample			
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	1 U	---	1 U	0.13 U	0.13 U	---	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	1 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	5 U	---	10 U	1.8 U	1.8 U	---	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	---	9.1	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	---	10 U	---	10 U	1.9 U	1.9 U	---	1.9 U	1.9 U	2.9 IV
Benzene	PDWS	1	ug/l	0.2 U	1 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	2 U	---	1 U	0.3 U	0.3 U	---	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	1 U	---	2 U	0.34 IV	0.32 U	---	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	1 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	1 U	---	1 U	0.4 U	0.4 U	---	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	---	2 U	---	1 U	0.19 U	0.19 U	---	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	1 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds													
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.56 U	10 U	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	10 U	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	10 U	---	---	---	---	---	---	---	---
Dioxin													
2,3,7,8-TCDD	PDWS	30	pg/L	0.851 U	---	---	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals													
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	---	4.2	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	---	0.38 U	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	---	1.1 U	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	---	0.97 U	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	---	0.19 U	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	---	0.19 U	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	1 U	---	0.19 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	1 U	---	0.2 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	---	0.16 U	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	---	0.18	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	---	0.05	---	---	---	---	---	---
Radial Chemistry													
Alpha Radiation	PDWS	15	pCi/l	5.33	---	---	---	3 IV	3 IV	---	5.4	8	8.2
Gross Beta	NS	NS	pCi/l	3.7 U	---	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	0.575 I	---	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.739 U	---	---	---	---	---	---	---	---	---
Metals													
Aluminum	SDWS	200	ug/l	150	---	---	290	260	570	---	2000	1600	1400
Antimony	PDWS	6	ug/l	0.16 U	6 U	---	2 U	0.09 I	0.075 I	---	0.11 I	0.1 I	0.075 I
Arsenic	PDWS	10	ug/l	1.4 U	10 U	---	0.39 I	0.36 I	0.52 I	---	0.62 I	0.58 I	0.59 I
Barium	PDWS	2000	ug/l	11	13	---	9 I	7.7 I	21	---	25 V	25	23
Beryllium	PDWS	4	ug/l	0.062 U	4 U	---	1 U	0.08 U	0.08 U	---	0.08 U	0.12 I	0.08 U
Cadmium	PDWS	5	ug/l	0.13 U	3 U	---	3 U	0.45 U	0.45 U	---	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	---	16	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	2.9 I	10 U	---	10 U	1.4 I	3.3 I	---	5.3 I	4.8 I	5.1 I
Cobalt	GCTL	140	ug/l	---	10 U	---	10 U	1.2 U	1.2 U	---	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	1.2 I	20 U	---	15 U	1.4 U	1.4 U	---	1.4 U	2.7 I	1.4 U
Iron	SDWS	300	ug/l	95	---	---	130	75 I	650	430	870	850	730
Lead	PDWS	15	ug/l	0.39 I	3 U	---	9 U	2.6 U	2.6 U	---	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	---	6.2	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	7.6	---	---	10 U	1.1 I	2.8 I	---	9.3 I	9.8 I	8.7 I
Mercury	PDWS	2	ug/l	0.17 I	0.2 U	---	0.2 U	0.027 U	0.027 U	---	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	---	40 U	---	40 U	1.3 U	1.3 U	---	1.8 I	1.3 I	1.9 I
Potassium	NS	NS	mg/l	---	---	---	0.6 I	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.1 I	5 U	---	15 U	4.9 U	4.9 U	---	4.9 U	4.9 U	11 I
Silver	SDWS	100	ug/l	0.11 I	10 U	---	10 U	0.93 U	0.93 U	---	0.93 U	0.93 U	1.1 I
Sodium	PDWS	160	mg/l	17	---	---	5.5	5.6	5.6	---	4.7	4.7	5 V
Thallium	PDWS	2	ug/l	0.16 U	2 U	---	0.02 U	0.02 U	0.03 I	---	0.05 I	0.063 IV	0.028 IV
Vanadium	GCTL	49	ug/l	---	49 U	---	10 U	2.2 I	3.9 I	---	4.8 IV	4.5 I	3.1 I
Zinc	SDWS	5000	ug/l	3.8 I	20 U	---	20 U	5.6 I	5 IV	---	5.6 I	6.6 I	8.9 I
General Chemistry													
Ammonia as N	GCTL	2.8	mg/l	---	---	0.1 U	0.05 U	0.12	0.11	---	0.022 U	0.022 U	0.054 IV
Chloride	SDWS	250	mg/l	6.7	---	6	5.4	5.4	5.4	---	5.7	5.3	5.4
Fluoride	SDWS	2	mg/l	0.16	---	---	0.5 U	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	1	---	0.63	0.53	0.52	0.52	---	0.51	0.51	0.49 I
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	20	---	---	5	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	---	63 V	---	---	---	61	---	66
Total Coliform	NS	NS	CFU/100ml	---	---	---	1 U	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	150	---	110	85	78	94	---	86	100 V	110
Field Parameters													
Color	SDWS	15	PCU	5 U	---	---	5 U	0 U	5 I	---	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	---	242	193	155	142	131	129	130	152	152
Dissolved Oxygen	NS	NS	mg/l	---	3.4	3.1	3	1.1	0.9	1	0.7	0.5	0.4
Dissolved Oxygen	MPIS	20	% Sat.	---	40.39	37.52	35.64	13.31	10.69		7.54	6.16	4.75
Field pH	SDWS	6.5-8.5	SU	7.6	6.84	7.29	8.14	7.68	7.86	7.77	7.9	7.86	7.5
Field Temperature	NS	NS	Degrees C	---	24.3	24.7	24.4	25	24.2	24.4	18.7	25.5	23.5
Odor	SDWS	3	T.O.N.	1 U	---	---	1 U	---	---	---	---	---	---
Turbidity	NS	NS	NTU	3.2	1.7	1.9	7.9	0.4 I	8.2	10.1	14.6	13.89	13.89

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter  
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-3A (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	5/27/2004	8/3/2004	4/30/2008	12/16/2008	6/30/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	10 U	1.9 U	1.9 U	1.9 U	1.9 U	4 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.02	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.38 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	---	1 U	0.17 U	0.17 U	0.33 I	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.56 U	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	---	---	---	---	---	---	---
Dioxin											
2,3,7,8-TCDD	PDWS	30	pg/L	1.04 U	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	3.8	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.08	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.2	---	---	---	---	---
Radial Chemistry											
Alpha Radiation	PDWS	15	pCi/l	17	---	---	20.5	12.6	5.1	9.3	8.4
Gross Beta	NS	NS	pCi/l	10.3	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	1.08	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.813 U	---	---	---	---	---	---	---
Metals											
Aluminum	SDWS	200	ug/l	3200	---	9300	2900	450	1800	1100	1300
Antimony	PDWS	6	ug/l	0.16 U	---	2 U	0.19 I	0.07 U	0.07 U	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	1.4 U	---	0.74 I	0.21 I	0.34 I	0.21 U	0.21 U	0.21 U
Barium	PDWS	2000	ug/l	83	---	170	64	74	57 V	55	55
Beryllium	PDWS	4	ug/l	0.18 I	---	0.36 I	0.15 I	0.23 I	0.19 I	0.12 I	0.1 I
Cadmium	PDWS	5	ug/l	0.14 I	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	14	---	---	---	---	---
Chromium	PDWS	100	ug/l	33	---	13	6 I	6.6 I	4.8 I	3.6 I	4.4 I
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.58 I	1.2 U
Copper	SDWS	1000	ug/l	1.9 I	---	15 U	1.9 I	1.4 U	1.4 U	1 I	1.4 U
Iron	SDWS	300	ug/l	2300	---	3800	2000	2500	1600	1400	1200
Lead	PDWS	15	ug/l	2.8	---	13	2.7 I	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	3.6	---	---	---	---	---
Manganese	SDWS	50	ug/l	13	---	10 U	8.9 I	3.6 I	9.6 I	8 I	6.6 I
Mercury	PDWS	2	ug/l	0.11 I	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	40 U	1.4 I	2 I	1.8 I	1.3 U	1.4 I
Potassium	NS	NS	mg/l	---	---	1.3 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	0.56 I	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	6.8	---	3.4	2.1	2.3	2	2	2.7 V
Thallium	PDWS	2	ug/l	0.16 U	---	0.072 I	0.053 I	0.07 I	0.059 I	0.065 IV	0.042 IV
Vanadium	GCTL	49	ug/l	49 U	---	19	6.5 I	6.6 I	4.4 IV	4.3 I	3.1 I
Zinc	SDWS	5000	ug/l	15	---	11 IV	12 I	10 IV	15 I	11 I	8.7 I
General Chemistry											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.033 I	0.085 I	0.075 I	0.022 U	0.032 I	0.051 IV
Chloride	SDWS	250	mg/l	3.8	3.9	4.5 V	2.7 I	3 I	3.1	3.1	3.3
Fluoride	SDWS	2	mg/l	0.23	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	1.5	1.5	2.1	2.5	3.1	3.4	3.2	2.7
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	5.9	---	4.4 I	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.061 I	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	38 V	---	---	11	---	16
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	140	87	74	48	72	54	81 V	56
Field Parameters											
Color	SDWS	15	PCU	15	---	5	5 I	5 I	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	199	150	118	64	40	70	77	85
Dissolved Oxygen	NS	NS	mg/l	3.9	3.3	4	1.9	2.1	2.2	1.6	2.8
Dissolved Oxygen	MPIS	20	% Sat.	49.84	42.17	47.52	23.42	25.42	23.23	20.45	33.26
Field pH	SDWS	6.5-8.5	SU	7.1	7.05	6.93	5.93	6.06	4.99	6.07	6.26
Field Temperature	NS	NS	Degrees C	27.8	28	24.5	25.8	24.7	18.5	27.5	23.8
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	49	147	16.8	2.4	9.2	8.7	2.19	2.8

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-3B (Intermediate Surficial Aquifer)											
Parameter	Standard	MCL	Units	5/27/2004	8/3/2004	4/30/2008	12/16/2008	6/26/2009	1/5/2010	6/24/2010	12/16/2010
<b>Volatile Organic Compounds</b>											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	10 U	1.9 U	1.9 U	1.9 U	1.9 U	4.2 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.41 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	---	1 U	0.17 U	0.17 U	0.17 I	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.56 U	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	---	---	---	---	---	---	---
<b>Dioxin</b>											
2,3,7,8-TCDD	PDWS	0.00003	pg/L	30	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.32	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.13	---	---	---	---	---
<b>Radial Chemistry</b>											
Alpha Radiation	PDWS	15	pCi/l	9.71	---	---	3 IV	4.5	5.8	6.1	10
Gross Beta	NS	NS	pCi/l	10	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
<b>Metals</b>											
Aluminum	SDWS	200	ug/l	340	---	560	100 I	470	1900	690	790
Antimony	PDWS	6	ug/l	0.16 U	---	0.096 I	0.28 I	0.083 I	0.078 I	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	1.4 U	---	0.86 I	0.59 I	0.34 I	1 I	0.49 I	0.28 I
Barium	PDWS	2000	ug/l	44	---	22	19	90	67 V	62	71
Beryllium	PDWS	4	ug/l	0.062 U	---	1 U	0.08 U	0.08 U	0.19 I	0.08 U	0.091 I
Cadmium	PDWS	5	ug/l	0.13 U	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	24	---	---	---	---	---
Chromium	PDWS	100	ug/l	5.5	---	10 U	1.6 I	1.7 I	4.9 I	2.7 I	2.8 I
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	1.5 I	---	15 U	1.4 U	1.4 U	1.4 U	0.43 I	1.4 U
Iron	SDWS	300	ug/l	180	---	340	42 I	260	920	470	450
Lead	PDWS	15	ug/l	0.68 I	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	8.8	---	---	---	---	---
Manganese	SDWS	50	ug/l	9.9	---	10 U	2.3 I	9.9 I	26	11	15
Mercury	PDWS	2	ug/l	6.5	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	40 U	1.3 U	1.3 U	1.7 I	1.3 U	1.3 U
Potassium	NS	NS	mg/l	---	---	0.63 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.9 I	---	5.6 IV	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	1.1 I
Sodium	PDWS	160	mg/l	28	---	5	5.1	2	2.1	2.3	1.8 V
Thallium	PDWS	2	ug/l	0.16 U	---	0.096 I	0.062 I	0.047 I	0.096 I	0.085 IV	0.073 IV
Vanadium	GCTL	49	ug/l	10 U	---	3.4 I	2.5 I	3.8 I	4.5 IV	3.3 I	3.4 I
Zinc	SDWS	5000	ug/l	8.7 I	---	20 U	8.6 I	6.5 IV	9.3 I	5.2 I	7 I
<b>General Chemistry</b>											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.036 I	0.094 I	0.022 U	0.022 U	0.038 I	0.05 IV
Chloride	SDWS	250	mg/l	9.8	8	7.5 V	7	2.6 I	3.5	3.5	2.7 I
Fluoride	SDWS	2	mg/l	0.22	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	0.96	0.78	0.94	1.1	1.7	1.8	1.9	2.2
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	25	---	6.4	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.077 I	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	78 V	---	---	67	---	52
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	170	120	110	88	94	110	110 V	87
<b>Field Parameters</b>											
Color	SDWS	15	PCU	5 U	---	5	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	285	217	192	164	143	166	165	122
Dissolved Oxygen	NS	NS	mg/l	2	1.5	3	0.9	0.9	1.5	1.9	2.1
Dissolved Oxygen	MPIS	20	% Sat.	25.56	19.17	35.64	11.1	10.69	15.51	23	24.95
Field pH	SDWS	6.5-8.5	SU	7.11	7.63	8.06	7.59	7.68	6.44	7.28	6.37
Field Temperature	NS	NS	Degrees C	27.6	27.7	24.3	26	24.4	16.8	25.1	23.9
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	9.4	8.5	13.3	0.3 I	8.2	10.3	7.88	3.11

- Notes:
  - PDWS = Primary Drinking Water Standard (62-550 F.A.C.)
  - SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)
  - GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)
  - MPIS = Monitoring Plan Implementation Schedule
  - NS = No numeric standard has been set for this analyte.
  - = Parameter not analyzed.
  - mg/L = milligrams per liter
  - ug/L = micrograms per liter
  - NTU = nephelometric turbidity units
- umhos/cm = micronhos per centimeter
  - % Sat = percent saturation
  - Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.
  - deg C = degrees Celsius
  - U = Analyte concentration was below the laboratory detection limit (value shown).
  - I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.
  - V = Analyte was detected in the sample and associated method blank.
  - Calculated from <http://www.fivecreeks.org/monitor/do.html>
  - PCI/L= picocuries per liter



Summary of Detected Parameters, MW-4A (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	5/27/2004	8/3/2004	4/30/2008	12/16/2008	6/26/2009	1/5/2010	6/24/2010	12/16/2010
<b>Volatile Organic Compounds</b>											
1,2-Dichlorobenzene	PDWS	600	ug/l	1 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	1 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	8.8	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	2.4 I	1.9 U	1.9 U	1.9 U	1.9 U	3.1 IV
Benzene	PDWS	1	ug/l	1 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	2 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	1 U	---	2 U	0.39 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	1 U	---	1 U	0.19 I	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	1 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	10 U	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	10 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	10 U	---	---	---	---	---	---	---
<b>Dioxin</b>											
2,3,7,8-TCDD	PDWS	30	pg/L	---	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4.9	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	---	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	---	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	---	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	---	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	---	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	1 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	1 U	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.19	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.23	---	---	---	---	---
<b>Radial Chemistry</b>											
Alpha Radiation	PDWS	15	pCi/l	---	---	---	3 IV	3 U	3 U	3 IV	3 U
Gross Beta	NS	NS	pCi/l	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
<b>Metals</b>											
Aluminum	SDWS	200	ug/l	---	---	1200	650	310	400	140	120
Antimony	PDWS	6	ug/l	6 U	---	0.81 I	0.67 I	0.18 I	0.14 I	0.12 I	0.1 I
Arsenic	PDWS	10	ug/l	12	---	0.69 I	0.34 I	0.26 I	0.24 I	0.22 I	0.21 U
Barium	PDWS	2000	ug/l	240	---	35	26	23	23 V	22	23
Beryllium	PDWS	4	ug/l	4.6	---	0.098 I	0.08 U	0.08 U	0.08 U	0.083 I	0.13 I
Cadmium	PDWS	5	ug/l	3 U	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	7.2	---	---	---	---	---
Chromium	PDWS	100	ug/l	90	---	2.6 U	1.4 I	0.73 I	1.2 I	0.72 I	0.66 U
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	29	---	15 U	1.4 U	1.4 U	1.4 U	0.23 I	2.2 I
Iron	SDWS	300	ug/l	---	---	650	260	130	140	82 I	71 I
Lead	PDWS	15	ug/l	43	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	2.6	---	---	---	---	---
Manganese	SDWS	50	ug/l	---	---	120	42	23	52	26	27
Mercury	PDWS	2	ug/l	0.2 U	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	71	---	40 U	3.9 I	3.2 I	3 I	3.1 I	4.1 I
Potassium	NS	NS	mg/l	---	---	0.41 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	5 U	---	8.8 IV	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	10 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	---	---	1.2	1.3	1.2	1.4	1.4	1.4 V
Thallium	PDWS	2	ug/l	2 U	---	1 U	0.022 I	0.02 U	0.02 U	0.02 U	0.02 U
Vanadium	GCTL	49	ug/l	49 U	---	10 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	100	---	72 V	170	110 V	190	180	200
<b>General Chemistry</b>											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.036 I	0.097 I	0.022 U	0.022 U	0.022 U	0.045 IV
Chloride	SDWS	250	mg/l	---	3 U	2.6 IV	3.2	3 I	2.8 I	2 I	2.5 I
Fluoride	SDWS	2	mg/l	---	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	---	1.9	1.9	0.71	0.85	1.6	2	1.3
Nitrite-N	PDWS	1	mg/l	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	---	---	17	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	4.3 IV	---	---	1.6 I	---	1.4 I
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	---	220	48	44	52	52	61 V	37
<b>Field Parameters</b>											
Color	SDWS	15	PCU	---	---	5 U	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	---	300	61	62	51	64	69	67
Dissolved Oxygen	NS	NS	mg/l	---	1.4	3.6	1.8	1.9	2.2	1.3	1.1
Dissolved Oxygen	MPIS	20	% Sat.	---	18.53	44.38	22.19	23	24.67	16.03	13.31
Field pH	SDWS	6.5-8.5	SU	---	7.24	5.4	5.06	5.41	5.75	5.1	5.14
Field Temperature	NS	NS	Degrees C	---	30.1	25.8	26.4	25	20.6	26.5	24.9
Odor	SDWS	3	T.O.N.	---	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	---	46.7	13.6	2.7	4.1	1.8	3.41	3.45

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-4B (Intermediate Surficial Aquifer)

Parameter	Standard	MCL	Units	5/27/2004	8/3/2004	4/30/2008	12/16/2008	6/26/2009	1/5/2010	6/24/2010	12/16/2010
<b>Volatile Organic Compounds</b>											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	2.8 I	1.9 U	1.9 U	1.9 U	1.9 U	2.8 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	0.35 IV	0.37 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	---	0.32 I	0.22 I	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.86 I	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	1.2	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.049	---	---	---	---	---	---	---
<b>Dioxin</b>											
2,3,7,8-TCDD	PDWS	30	pg/L	2.48 U	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	2 I	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	2	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.23	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.8	---	---	---	---	---
<b>Radial Chemistry</b>											
Alpha Radiation	PDWS	15	pCi/l	14.3	---	---	3 U	3 U	3 IV	3 IV	3 U
Gross Beta	NS	NS	pCi/l	14.5	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
<b>Metals</b>											
Aluminum	SDWS	200	ug/l	5500	---	240	130	180	580	540	250
Antimony	PDWS	6	ug/l	0.38 I	---	0.43 I	0.52 I	0.21 I	0.12 I	0.1 I	0.11 I
Arsenic	PDWS	10	ug/l	2.2 I	---	0.32 I	0.29 I	0.25 I	0.25 I	0.31 I	0.27 I
Barium	PDWS	2000	ug/l	54	---	25	22	20	18 V	18	15
Beryllium	PDWS	4	ug/l	0.32 I	---	1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.14 I	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	8.7	---	---	---	---	---
Chromium	PDWS	100	ug/l	74	---	10 U	0.72 I	0.66 U	1.5 I	1.7 I	1.5 I
Cobalt	GCTL	140	ug/l	12	---	10 U	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	8.1	---	15 U	1.4 U	1.4 U	1.4 U	0.69 I	1.4 U
Iron	SDWS	300	ug/l	3500	---	120	67 I	73 I	250	300	140
Lead	PDWS	15	ug/l	7.5	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	4.3	---	---	---	---	---
Manganese	SDWS	50	ug/l	130	---	13	11	9.6 I	13	14	11
Mercury	PDWS	2	ug/l	11	---	0.2 U	0.027 U	0.085 IV	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	54	---	40 U	3 I	2.7 I	2.9 I	2.7 I	2.9 I
Potassium	NS	NS	mg/l	---	---	1 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	0.85 I	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	2.3 I	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	1.1 I
Sodium	PDWS	160	mg/l	32	---	3.9	3.6	2.8	1.3	1.2	1.2 V
Thallium	PDWS	2	ug/l	0.16 U	---	1 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Vanadium	GCTL	49	ug/l	49 U	---	10 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	24	---	11 IV	14 I	8.9 IV	6.1 I	6.9 I	9.8 I
<b>General Chemistry</b>											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.054	0.12	0.022 U	0.022 U	0.022 U	0.05 IV
Chloride	SDWS	250	mg/l	11	3 U	5.4 V	5.5	4.8	3.2	2.6 I	2.6 I
Fluoride	SDWS	2	mg/l	0.01 U	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	2.5	0.95	8.2	6.8	4.9	3	2.5	2.6
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	28	---	3.1 I	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.088 I	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	6 V	---	---	2.7 I	---	4.1 I
Total Coliform	NS	NS	CFU/100ml	---	---	100	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	170	100	90	48	57	44	53	45
<b>Field Parameters</b>											
Color	SDWS	15	PCU	45	---	5	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	322	97	97	85	65	49	47	47
Dissolved Oxygen	NS	NS	mg/l	2.3	3	4	1.9	1.9	2.3	0.9	0.8
Dissolved Oxygen	MPIS	20	% Sat.	29.39	39.02	47.52	23.42	23	26.3	11.3	9.68
Field pH	SDWS	6.5-8.5	SU	7.2	7.27	6.15	5.37	5.7	4.82	5.43	5.44
Field Temperature	NS	NS	Degrees C	27.9	29.1	24.1	25.6	25.4	21.9	27.1	24.6
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	110	18.8	16.6	0.4 I	2.5	4.5	10.06	9.76

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter  
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter



Summary of Detected Parameters, MW-5A (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	6/2/2004	8/4/2004	4/30/2008	12/17/2008	6/26/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds											
1,2-Dichlorobenzene	PDWS	600	ug/l	1 U	---	1 U	0.23 IV	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	1 U	---	1 U	0.24 IV	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	8.8	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	2.1 I	1.9 U	1.9 U	1.9 U	1.9 U	3.2 IV
Benzene	PDWS	1	ug/l	1 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	2 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	1 U	---	2 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	1 U	---	0.18 I	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	1 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	14 U	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	14 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	14 U	---	---	---	---	---	---	---
Dioxin											
2,3,7,8-TCDD	PDWS	30	pg/L	---	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	5.6	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	---	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	---	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	---	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	---	---	0.44 I	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	---	---	0.44 I	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	1 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	1 U	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.17	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.03	---	---	---	---	---
Radial Chemistry											
Alpha Radiation	PDWS	15	pCi/l	---	---	---	7	3.9	5.8	3.6	5
Gross Beta	NS	NS	pCi/l	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	---	---	---	---	---	---	---	---
Metals											
Aluminum	SDWS	200	ug/l	---	---	28000	140	140	150	160	86 I
Antimony	PDWS	6	ug/l	6 U	---	1 I	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	10 U	---	4.5 I	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Barium	PDWS	2000	ug/l	70	---	280	31	32	34 V	40	49
Beryllium	PDWS	4	ug/l	4 U	---	1.4	0.12 I	0.14 I	0.11 I	0.084 I	0.1 I
Cadmium	PDWS	5	ug/l	3 U	---	1.1 I	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	32	---	---	---	---	---
Chromium	PDWS	100	ug/l	100	---	76	0.92 I	0.86 I	0.88 I	1.5 I	1.6 I
Cobalt	GCTL	140	ug/l	10 U	---	3.5 I	1.4 I	1.2 U	1.2 U	0.33 I	1.2 U
Copper	SDWS	1000	ug/l	20 U	---	15	4.2 IV	1.4 U	1.4 U	0.29 I	1.4 U
Iron	SDWS	300	ug/l	---	---	8700	22 I	22 U	29 I	40 I	22 I
Lead	PDWS	15	ug/l	3 U	---	27	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	9.1	---	---	---	---	---
Manganese	SDWS	50	ug/l	---	---	350	19	22	13	13	6.7 I
Mercury	PDWS	2	ug/l	0.2 U	---	0.2 U	0.027 U	0.058 IV	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	110	---	28 I	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Potassium	NS	NS	mg/l	---	---	3.1	---	---	---	---	---
Selenium	PDWS	50	ug/l	5 U	---	6.7 IV	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	10 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.98 I
Sodium	PDWS	160	mg/l	---	---	2.6	2.7	1.5	2.1	2	2.3 V
Thallium	PDWS	2	ug/l	2 U	---	0.44 I	0.02 U	0.043 I	0.031 I	0.036 IV	0.032 IV
Vanadium	GCTL	49	ug/l	49 U	---	32	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	30	---	80 V	120	47 V	57	22	15 I
General Chemistry											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.033 I	0.093 I	0.022 U	0.022 U	0.022 U	0.043 IV
Chloride	SDWS	250	mg/l	---	4.8	3.4 V	3.2	2.2 I	2.7 I	2.4 I	2.9 I
Fluoride	SDWS	2	mg/l	---	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	---	1.5	2.3	3.9	2	2.8	2.8	3.2
Nitrite-N	PDWS	1	mg/l	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	---	---	16	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	27 V	---	---	1.1 U	---	1.6 I
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	---	98	110	41	39	42	51	46
Field Parameters											
Color	SDWS	15	PCU	---	---	5 U	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	212	131	74	63	56	56	64	71
Dissolved Oxygen	NS	NS	mg/l	3	3.8	3.3	1.6	1.4	2.3	2.2	2
Dissolved Oxygen	MPIS	20	% Sat.	39.71	46.85	40.68	19.36	16.94	26.3	27.62	24.21
Field pH	SDWS	6.5-8.5	SU	6.59	7.12	4.99	4.41	4.56	3.95	5.06	4.72
Field Temperature	NS	NS	Degrees C	29.9	26.3	25.8	24.6	24.9	21.5	26.8	25.3
Odor	SDWS	3	T.O.N.	---	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	47.2	16	143.9	2.1	4.7	2.5	2.39	3.5

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-5B (Intermediate Surficial Aquifer)

Parameter	Standard	MCL	Units	6/2/2004	6/14/2004	8/4/2004	4/30/2008	12/16/2008	6/26/2009	8/4/2009	1/5/2010	6/24/2010	12/16/2010
<b>Volatile Organic Compounds</b>										Resample			
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	0.092 U	---	1 U	0.13 U	0.13 U	---	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	0.078 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	---	10 U	1.8 U	1.8 U	---	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	---	8.9	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	---	10 U	1.9 U	1.9 U	---	1.9 U	1.9 U	2.7 IV
Benzene	PDWS	1	ug/l	0.2 U	0.2 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	0.31 U	---	1 U	0.3 U	0.3 U	---	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	0.015 U	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	0.15 U	---	2 U	0.32 U	0.32 U	---	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	0.18 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	0.1 U	---	1 U	0.4 U	0.4 U	---	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	---	1 U	0.19 U	0.19 U	---	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	0.074 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>													
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	1.2 I	0.56 U	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	0.33 U	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	0.045 U	---	---	---	---	---	---	---	---
<b>Dioxin</b>													
2,3,7,8-TCDD	PDWS	30	pg/L	1.74 U	3.17	---	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>													
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	---	4.7	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	0.38 U	---	0.38 U	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	0.81 U	---	1.1 U	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	2.4 P	---	0.97 U	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	0.35 U	---	0.19 U	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	2.4	---	0.19 U	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	0.085 U	---	0.19 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	0.32 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	---	0.16 U	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	---	0.11	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	---	0	---	---	---	---	---	---
<b>Radial Chemistry</b>													
Alpha Radiation	PDWS	15	pCi/l	8.82	2.32 I	---	---	3.5	9	---	15.8	16.6	27.1
Gross Beta	NS	NS	pCi/l	7.17	2.27 U	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	1.25	0.464 I	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.632 U	1.9 I	---	---	---	---	---	---	---	---
<b>Metals</b>													
Aluminum	SDWS	200	ug/l	220	46 I	---	210	78 I	2400	450	3500	1600	420
Antimony	PDWS	6	ug/l	0.17 I	0.16 U	---	0.12 I	0.16 I	0.22 I	---	0.2 I	0.17 I	0.2 I
Arsenic	PDWS	10	ug/l	2.9 I	1.4 U	---	4.6 I	4.5 I	8.8	---	7.9	6.1	8.7
Barium	PDWS	2000	ug/l	17	11	---	9.5 I	9 I	29	---	36 V	26	13
Beryllium	PDWS	4	ug/l	0.062 U	0.062 U	---	1 U	0.08 U	0.08 U	---	0.13 I	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.18 I	0.13 U	---	3 U	0.45 U	0.45 I	---	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	---	24	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	51	0.71 U	---	10 U	0.66 U	5.6 I	---	8.3 I	5.1 I	1.2 I
Cobalt	GCTL	140	ug/l	10 U	---	---	10 U	1.2 U	1.2 U	---	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	0.6 I	0.24 U	---	15 U	1.4 U	1.4 U	---	1.4 U	1.3 I	1.4 U
Iron	SDWS	300	ug/l	86	44	---	110	28 I	870	150	1400	950	230
Lead	PDWS	15	ug/l	0.24 I	0.18 I	---	9 U	2.6 U	2.6 U	---	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	---	9.5	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	11	---	---	10 U	4.6 I	15	---	19	11	5.8 I
Mercury	PDWS	2	ug/l	1.8	0.1 U	---	0.2 U	0.027 U	0.037 IV	---	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	---	40 U	1.3 U	2.4 I	---	3 I	2 I	1.3 U
Potassium	NS	NS	mg/l	---	---	---	1.1 I	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.4 I	0.5 I	---	15 U	4.9 U	4.9 U	---	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	0.059 U	---	10 U	0.93 U	0.93 U	---	0.93 U	0.93 U	1 I
Sodium	PDWS	160	mg/l	12	5.9	---	4.3	4.2	3.8	---	3.9	4.1	3.5 V
Thallium	PDWS	2	ug/l	0.18 I	0.16 U	---	0.2 I	0.18 I	0.097 I	---	0.21 I	0.22 IV	0.038 IV
Vanadium	GCTL	49	ug/l	49 U	---	---	10 U	1.2 I	4.8 I	---	7 IV	5 I	1.1 I
Zinc	SDWS	5000	ug/l	3.7 U	3.7 U	---	7.6 IV	4.5 U	9.5 IV	---	11 I	8 I	4.5 U
<b>General Chemistry</b>													
Ammonia as N	GCTL	2.8	mg/l	---	---	0.1 U	0.029 I	0.12	0.022 U	---	0.022 U	0.022 U	0.044 IV
Chloride	SDWS	250	mg/l	9	11	8.7	7.6 V	7.8	7.3	---	7.7	7.4	7.3
Fluoride	SDWS	2	mg/l	0.12	0.08 I	---	0.5 U	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	1.8	0.66	1.8	1.6	1.6	0.55	---	1.1	1.5	0.64
Nitrite-N	PDWS	1	mg/l	0.059	0.008 U	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	17	7.5	---	11	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	0.1 U	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	---	83 V	---	---	---	83	---	83
Total Coliform	NS	NS	CFU/100ml	---	---	---	1 U	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	180	170	200	130	120	120	---	120	150	130
<b>Field Parameters</b>													
Color	SDWS	15	PCU	5 U	5 U	---	5 U	0 U	0 U	---	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	302	---	258	226	215	209	191	216	217	212
Dissolved Oxygen	NS	NS	mg/l	0.6	---	0.7	0.6	0.6	12	0.5	0	0	0.3
Dissolved Oxygen	MPIS	20	% Sat.	7.67	---	8.63	7.26	7.26	145.24	---	0	0	3.56
Field pH	SDWS	6.5-8.5	SU	7.26	8	7.43	7.97	7.68	7.55	7.47	7.44	7.85	7.71
Field Temperature	NS	NS	Degrees C	28.1	---	26.2	25.2	24.9	24.8	25	18.9	25.4	24.5
Odor	SDWS	3	T.O.N.	1 U	4	---	1 U	---	---	---	---	---	---
Turbidity	NS	NS	NTU	7.2	0.67	4.6	7.7	2.6	3.9	4	19.1	13.6	2.15

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-6AR (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	6/3/2004	8/4/2004	4/29/2008	12/17/2008	6/30/2009	8/4/2009	1/5/2010	6/24/2010	12/17/2010
<b>Volatile Organic Compounds</b>									Resample			
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 <b>U</b>	---	1 <b>U</b>	0.13 <b>U</b>	0.13 <b>U</b>	---	0.13 <b>U</b>	0.15 <b>U</b>	0.15 <b>U</b>
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 <b>U</b>	---	1 <b>U</b>	0.16 <b>U</b>	0.16 <b>U</b>	---	0.16 <b>U</b>	0.16 <b>U</b>	0.16 <b>U</b>
2-Butanone	GCTL	4200	ug/l	---	---	10 <b>U</b>	1.8 <b>U</b>	1.8 <b>U</b>	---	1.8 <b>U</b>	2 <b>U</b>	2 <b>U</b>
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 <b>U</b>	---	10 <b>U</b>	2 <b>I</b>	1.9 <b>U</b>	---	1.9 <b>U</b>	1.9 <b>U</b>	3.2 <b>IV</b>
Benzene	PDWS	1	ug/l	0.2 <b>U</b>	---	1 <b>U</b>	0.16 <b>U</b>	0.16 <b>U</b>	---	0.16 <b>U</b>	0.16 <b>U</b>	0.16 <b>U</b>
Chloromethane	GCTL	2.7	ug/l	0.31 <b>U</b>	---	1 <b>U</b>	0.3 <b>U</b>	0.3 <b>U</b>	---	0.3 <b>U</b>	0.3 <b>U</b>	0.3 <b>U</b>
Isopropylbenzene	GCTL	0.8	ug/l	0.015 <b>U</b>	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 <b>U</b>	---	2 <b>U</b>	0.32 <b>U</b>	0.39 <b>IV</b>	---	0.32 <b>U</b>	0.32 <b>U</b>	0.32 <b>U</b>
Toluene	SDWS	40	ug/l	0.35 <b>I</b>	---	1 <b>U</b>	0.17 <b>U</b>	0.17 <b>U</b>	---	0.17 <b>U</b>	0.17 <b>U</b>	0.17 <b>U</b>
Vinyl chloride	PDWS	1	ug/l	0.1 <b>U</b>	---	1 <b>U</b>	0.4 <b>U</b>	0.4 <b>U</b>	---	0.4 <b>U</b>	0.4 <b>U</b>	0.4 <b>U</b>
Xylenes (total)	SDWS	20	ug/l	2 <b>U</b>	---	1 <b>U</b>	0.19 <b>U</b>	0.19 <b>U</b>	---	0.19 <b>U</b>	0.19 <b>U</b>	0.19 <b>U</b>
Styrene	PDWS	100	ug/l	0.074 <b>U</b>	---	1 <b>U</b>	0.17 <b>U</b>	0.17 <b>U</b>	---	0.17 <b>U</b>	0.17 <b>U</b>	0.17 <b>U</b>
<b>Semi-Volatile Organic Compounds</b>												
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.57 <b>I</b>	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 <b>U</b>	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 <b>U</b>	---	---	---	---	---	---	---	---
<b>Dioxin</b>												
2,3,7,8-TCDD	PDWS	30	pg/L	2.38 <b>U</b>	---	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>												
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	5.1	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 <b>U</b>	---	0.38 <b>U</b>	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 <b>U</b>	---	1.1 <b>U</b>	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 <b>U</b>	---	0.97 <b>U</b>	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 <b>U</b>	---	0.19 <b>U</b>	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 <b>U</b>	---	0.19 <b>U</b>	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 <b>U</b>	---	0.19 <b>U</b>	0.17 <b>U</b>	0.17 <b>U</b>	---	0.17 <b>U</b>	0.17 <b>U</b>	0.17 <b>U</b>
Chloroform	GCTL	70	ug/l	0.32 <b>U</b>	---	0.2 <b>U</b>	0.16 <b>U</b>	0.16 <b>U</b>	---	0.16 <b>U</b>	0.16 <b>U</b>	0.16 <b>U</b>
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 <b>U</b>	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.27	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.1	---	---	---	---	---	---
<b>Radial Chemistry</b>												
Alpha Radiation	PDWS	15	pCi/l	29.9	---	---	8.2	3 <b>IV</b>	---	3.1	3 <b>IV</b>	3 <b>I</b>
Gross Beta	NS	NS	pCi/l	11.3	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	---	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	---	---	---	---	---	---	---	---	---
<b>Metals</b>												
Aluminum	SDWS	200	ug/l	15000	---	420	1600	28 <b>I</b>	---	41 <b>I</b>	67 <b>I</b>	66 <b>I</b>
Antimony	PDWS	6	ug/l	0.42 <b>I</b>	---	0.074 <b>I</b>	0.19 <b>I</b>	0.07 <b>U</b>	---	0.07 <b>U</b>	0.07 <b>U</b>	0.1 <b>I</b>
Arsenic	PDWS	10	ug/l	9.1	---	0.67 <b>I</b>	0.6 <b>I</b>	0.21 <b>U</b>	---	0.21 <b>U</b>	0.21 <b>U</b>	0.21 <b>U</b>
Barium	PDWS	2000	ug/l	110	---	19	22	19	---	18 <b>V</b>	16	17 <b>V</b>
Beryllium	PDWS	4	ug/l	0.93	---	1 <b>U</b>	0.1 <b>I</b>	0.08 <b>U</b>	---	0.08 <b>U</b>	0.08 <b>U</b>	0.08 <b>I</b>
Cadmium	PDWS	5	ug/l	1 <b>I</b>	---	0.74 <b>I</b>	0.73 <b>I</b>	0.45 <b>U</b>	---	0.45 <b>U</b>	0.45 <b>U</b>	0.45 <b>U</b>
Calcium	NS	NS	mg/l	---	---	28	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	95	---	5.1 <b>I</b>	10 <b>I</b>	0.66 <b>U</b>	---	1.3 <b>I</b>	1.2 <b>I</b>	0.7 <b>I</b>
Cobalt	GCTL	140	ug/l	10 <b>U</b>	---	1.4 <b>I</b>	1.2 <b>U</b>	1.2 <b>U</b>	---	1.2 <b>U</b>	0.12 <b>U</b>	1.2 <b>U</b>
Copper	SDWS	1000	ug/l	8.4	---	15 <b>U</b>	4 <b>IV</b>	1.4 <b>U</b>	---	1.4 <b>U</b>	0.14 <b>U</b>	2.3 <b>I</b>
Iron	SDWS	300	ug/l	8800	---	230	880	22 <b>U</b>	---	59 <b>I</b>	33 <b>I</b>	22 <b>U</b>
Lead	PDWS	15	ug/l	9.6	---	9 <b>U</b>	2.6 <b>U</b>	2.6 <b>U</b>	---	2.6 <b>U</b>	2.6 <b>U</b>	2.6 <b>U</b>
Magnesium	NS	NS	mg/l	---	---	9	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	11	---	10 <b>U</b>	26	4.5 <b>I</b>	---	4.4 <b>I</b>	4.5 <b>I</b>	4.3 <b>IV</b>
Mercury	PDWS	2	ug/l	0.1 <b>U</b>	---	0.2 <b>U</b>	0.64	0.25	---	0.13 <b>I</b>	0.027 <b>U</b>	0.039 <b>I</b>
Nickel	PDWS	100	ug/l	40 <b>U</b>	---	40 <b>U</b>	4.3 <b>I</b>	1.3 <b>U</b>	---	1.3 <b>U</b>	1.3 <b>U</b>	1.3 <b>U</b>
Potassium	NS	NS	mg/l	---	---	1.6 <b>I</b>	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	0.93 <b>I</b>	---	7.6 <b>I</b>	4.9 <b>U</b>	4.9 <b>U</b>	---	4.9 <b>U</b>	4.9 <b>U</b>	4.9 <b>U</b>
Silver	SDWS	100	ug/l	0.086 <b>I</b>	---	10 <b>U</b>	0.93 <b>U</b>	0.93 <b>U</b>	---	0.93 <b>U</b>	0.93 <b>U</b>	0.93 <b>U</b>
Sodium	PDWS	160	mg/l	5.7	---	10	12	11	---	11	11	9.9
Thallium	PDWS	2	ug/l	1.3	---	0.099 <b>I</b>	0.073 <b>I</b>	0.058 <b>I</b>	---	0.045 <b>I</b>	0.063 <b>IV</b>	0.055 <b>I</b>
Vanadium	GCTL	49	ug/l	49 <b>U</b>	---	4.3 <b>I</b>	9.2 <b>I</b>	1.1 <b>U</b>	---	1.1 <b>U</b>	1.1 <b>U</b>	1.1 <b>U</b>
Zinc	SDWS	5000	ug/l	36	---	7.8 <b>I</b>	12 <b>I</b>	4.5 <b>U</b>	---	4.5 <b>U</b>	4.5 <b>U</b>	4.5 <b>U</b>
<b>General Chemistry</b>												
Ammonia as N	GCTL	2.8	mg/l	---	0.1 <b>U</b>	0.041 <b>I</b>	0.14	0.085 <b>I</b>	---	0.022 <b>U</b>	0.022 <b>U</b>	0.057 <b>IV</b>
Chloride	SDWS	250	mg/l	17	13	19	25	24	---	20	17	15
Fluoride	SDWS	2	mg/l	0.19	---	0.5 <b>U</b>	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	1.9	1.7	7.5	10	12	11	11	11	11
Nitrite-N	PDWS	1	mg/l	0.008 <b>U</b>	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	2.7	---	1.8 <b>I</b>	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 <b>U</b>	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	68 <b>V</b>	---	---	---	11	---	13
Total Coliform	NS	NS	CFU/100ml	---	---	1 <b>U</b>	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	120	110	140	110	160	---	120	170	120
<b>Field Parameters</b>												
Color	SDWS	15	PCU	40	---	5 <b>U</b>	0 <b>U</b>	0 <b>U</b>	---	0 <b>U</b>	---	---
Conductivity	NS	NS	UMHOS/CM	246	193	264	194	204	174	162	188	182
Dissolved Oxygen	NS	NS	mg/l	3.8	---	3.9	1.7	1.6	1.9	0.7	0.7	1.7
Dissolved Oxygen	MPIS	20	% Sat.	48.56	---	46.33	20.19	19.01	---	7.54	8.79	19.82
Field pH	SDWS	6.5-8.5	SU	7.21	7.22	7.15	6.01	6.12	6.18	6.02	5.64	5.7
Field Temperature	NS	NS	Degrees C	28.5	26.7	23.8	24.5	24.1	24.6	19.2	27.3	23.3
Odor	SDWS	3	T.O.N.	1 <b>U</b>	---	1 <b>U</b>	---	---	---	---	---	---
Turbidity	NS	NS	NTU	15	58.3	10.2	5.3	3	2.5	2.6	1.88	0.48

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)
4. MPIS = Monitoring Plan Implementation Schedule
5. NS = No numeric standard has been set for this analyte.
6. --- = Parameter not analyzed.
7. mg/L = milligrams per liter
8. ug/L = micrograms per liter
9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.
13. deg C = degrees Celsius
14. U = Analyte concentration was below the laboratory detection limit (value shown).
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.
16. V = Analyte was detected in the sample and associated method blank.
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>
18. PC/L= picocuries per liter
19. Monitoring Well MW-6A was replaced in January 2007 with MW-6AR.



Summary of Detected Parameters, MW-6BR (Intermediate Surficial Aquifer)

Parameter	Standard	MCL	Units	6/3/2004	8/4/2004	4/29/2008	12/17/2008	6/30/2009	1/5/2010	6/24/2010	12/17/2010
Volatile Organic Compounds											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	10 U	1.9 U	1.9 U	1.9 U	1.9 U	3 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.32 U	0.4 IV	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.3 I	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.88 I	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	---	---	---	---	---	---	---
Dioxin											
2,3,7,8-TCDD	PDWS	30	pg/L	1.22 U	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4.2	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.55 I	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	1.8 IP	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	1.8	---	0.55 I	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.65 I	---	0.54 I	0.62 I	0.47 I	0.42 I	0.46 I	0.5 I
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.64 V	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.91	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.09	---	---	---	---	---
Radial Chemistry											
Alpha Radiation	PDWS	15	pCi/l	15.2	---	---	3 U	5.5	3 IV	4.5	4.7
Gross Beta	NS	NS	pCi/l	9.49	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	2.01	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.83 I	---	---	---	---	---	---	---
Metals											
Aluminum	SDWS	200	ug/l	680	---	930	57 I	400	190	1100	720
Antimony	PDWS	6	ug/l	0.22 I	---	0.088 I	0.1 I	0.12 I	0.09 I	0.11 I	0.12 I
Arsenic	PDWS	10	ug/l	2.4 I	---	1.3 I	0.99 I	1.6 I	1.2 I	1.9 I	1.4 I
Barium	PDWS	2000	ug/l	150	---	13	6.9 I	14	8.7 IV	15	11 V
Beryllium	PDWS	4	ug/l	0.062 U	---	1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.13 U	---	3 U	0.5 I	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	38	---	---	---	---	---
Chromium	PDWS	100	ug/l	110	---	20	4 I	39	6.1 I	44	22
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.34 I	1.2 U
Copper	SDWS	1000	ug/l	0.91 I	---	15 U	3.4 IV	1.4 U	1.4 U	1.2 I	1.8 I
Iron	SDWS	300	ug/l	370	---	830	45 I	1500	160	1600	760
Lead	PDWS	15	ug/l	17	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	14	---	---	---	---	---
Manganese	SDWS	50	ug/l	9.9	---	90	4.7 I	44	16	140	67 V
Mercury	PDWS	2	ug/l	0.19 I	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	63	---	40 U	1.3 U	4.9 I	1.4 I	5.2 I	3.2 I
Potassium	NS	NS	mg/l	---	---	0.77 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	2.8	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	13	---	7.1	6.8	6.8	6.1	6	6.6
Thallium	PDWS	2	ug/l	0.34 I	---	0.33 I	0.22 I	0.3 I	0.17 I	0.27 IV	0.19 I
Vanadium	GCTL	49	ug/l	49 U	---	6.5 I	2.3 I	9.5 I	3 IV	9.6 I	6.4 I
Zinc	SDWS	5000	ug/l	52	---	8.8 I	4.5 U	10 IV	4.5 U	10 I	5.1 I
General Chemistry											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.05 U	0.18	0.068 I	0.022 U	0.022 U	0.061 IV
Chloride	SDWS	250	mg/l	16	16	20	19	18	17	17	18
Fluoride	SDWS	2	mg/l	0.16	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	3.8	3.8	3.8	3.8	3.7	4.1	3.8	3.8
Nitrite-N	PDWS	1	mg/l	0.065	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	16	---	7.2	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	92 V	---	---	88	---	98
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	180	170	150	140	180	140	170	150
Field Parameters											
Color	SDWS	15	PCU	5 U	---	10	0 U	5 I	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	283	272	263	247	240	219	270	277
Dissolved Oxygen	NS	NS	mg/l	1.1	1.9	1.6	0.9	0.8	0.5 I	0.4	3.8
Dissolved Oxygen	MPIS	20	% Sat.	13.56	23.42	19.01	10.69	9.5	5.39	5.02	44.3
Field pH	SDWS	6.5-8.5	SU	7.61	7.67	7.87	7.98	7.73	8.05	7.71	8.17
Field Temperature	NS	NS	Degrees C	26.5	25.8	23.9	24.4	23.6	19.2	27	23.1
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	7.3	14.5	12.6	0.8	10.8	4.9	4.26	0.72

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units  
10. umhos/cm = micromhos per centimeter
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter  
19. Monitoring Well MW-6B was replaced in January 2007 with MW-6BR.

Summary of Detected Parameters, MW-7A (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	6/3/2004	8/5/2004	4/30/2008	12/16/2008	6/26/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	2.4 I	1.9 U	1.9 U	1.9 U	1.9 U	4.1 IV
Benzene	PDWS	1	ug/l	0.2 U	---	0.47 I	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	0.35 IV	0.38 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	---	0.48 I	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	3.3	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	---	---	---	---	---	---	---
Dioxin											
2,3,7,8-TCDD	PDWS	30	pg/L	1.64 U	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	5.1	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	2.1 I	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	2.1	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	---	0.2 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.13	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.06	---	---	---	---	---
Radial Chemistry											
Alpha Radiation	PDWS	15	pCi/l	3.01	---	---	3.2	3 IV	3 U	3 U	3 I
Gross Beta	NS	NS	pCi/l	6.38 U	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	1.65	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.296 U	---	---	---	---	---	---	---
Metals											
Aluminum	SDWS	200	ug/l	310	---	670	170	29 I	52 I	23 I	18 U
Antimony	PDWS	6	ug/l	0.16 U	---	0.14 I	0.097 I	0.07 U	0.07 U	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	1.4 U	---	0.64 I	0.22 I	0.21 U	0.21 U	0.21 U	0.21 U
Barium	PDWS	2000	ug/l	12	---	12	10 I	12	15 V	11	12
Beryllium	PDWS	4	ug/l	0.062 U	---	1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.15 I	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	42	---	---	---	---	---
Chromium	PDWS	100	ug/l	32	---	3.4 I	1.4 I	1.1 I	1.2 I	0.97 I	0.83 I
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	1.2 I	---	15 U	1.4 U	1.4 U	1.4 U	0.96 I	1.4 U
Iron	SDWS	300	ug/l	230	---	380	100 I	35 I	30 I	22 U	22 U
Lead	PDWS	15	ug/l	0.44 I	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	3.8	---	---	---	---	---
Manganese	SDWS	50	ug/l	5	---	10 U	3.1 I	0.73 I	0.36 I	0.28 I	0.25 U
Mercury	PDWS	2	ug/l	0.2	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	40 U	2 I	2 I	2 I	1.5 I	2.4 I
Potassium	NS	NS	mg/l	---	---	0.46 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.1 I	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.1 I	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.96 I
Sodium	PDWS	160	mg/l	4.2	---	5.1	5.1	5.8	5.6	5.6	5.6 V
Thallium	PDWS	2	ug/l	0.16 U	---	0.087 I	0.038 I	0.053 I	0.065 I	0.088 IV	0.06 IV
Vanadium	GCTL	49	ug/l	49 U	---	3.2 I	1.1 I	1.1 U	1.1 U	1.1 U	1.1 U
Zinc	SDWS	5000	ug/l	6.7 I	---	20 U	8 I	5.4 IV	4.5 U	4.5 U	4.5 U
General Chemistry											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.031 I	0.11	0.025 I	0.022 U	0.022 U	0.042 IV
Chloride	SDWS	250	mg/l	10	11	11 V	11	11	11	11	11
Fluoride	SDWS	2	mg/l	0.065 I	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	7.9	8.3	11	11	13	13	13	13
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	2.2	---	3.9 I	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	53 V	---	---	59	---	66
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	190	160	180	150	210	170	250	200
Field Parameters											
Color	SDWS	15	PCU	5 U	---	5 U	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	198	198	193	241	245	234	288	304
Dissolved Oxygen	NS	NS	mg/l	1.6	2.5	2.4	1.9	1.7	1.2	0.8	2.4
Dissolved Oxygen	MPIS	20	% Sat.	20.81	31.38	27.98	22.57	20.19	13.46	9.5	29.05
Field pH	SDWS	6.5-8.5	SU	7.75	7.8	6.77	7.72	7.59	7.94	7.54	7.08
Field Temperature	NS	NS	Degrees C	29.3	27.1	22.9	23.9	23.9	20.8	24.3	25
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	11	18.3	10	3.6	4.7	4.5	0.89	1.66

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter  
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter

Summary of Detected Parameters, MW-7B (Intermediate Surficial Aquifer)												
Parameter	Standard	MCL	Units	6/3/2004	8/5/2004	4/29/2008	12/16/2008	6/26/2009	8/4/2009	1/5/2010	6/24/2010	12/16/2010
<b>Volatile Organic Compounds</b>									Resample			
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	---	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	---	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9.1	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	2.8 I	1.9 U	1.9 U	---	1.9 U	1.9 U	3.6 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	---	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.32 U	0.32 U	---	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.4 I	---	0.38 I	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	---	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	---	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.25 I	0.17 U	---	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>												
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	7.7 I	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	4.9 I	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.52	---	---	---	---	---	---	---	---
<b>Dioxin</b>												
2,3,7,8-TCDD	PDWS	30	pg/L	1.72 U	---	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>												
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4.1	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	10	---	0.97 U	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	10	---	0.19 U	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	---	0.2 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.25	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.05	---	---	---	---	---	---
<b>Radial Chemistry</b>												
Alpha Radiation	PDWS	15	pCi/l	690	---	---	3 IV	8.2	---	4.6	4.7	3 I
Gross Beta	NS	NS	pCi/l	130	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	---	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	---	---	---	---	---	---	---	---	---
<b>Metals</b>												
Aluminum	SDWS	200	ug/l	13000	---	1300	150	1600	---	1900	410	170
Antimony	PDWS	6	ug/l	1.4 I	---	0.65 I	0.14 I	0.14 I	---	0.096 I	0.07 U	0.07 U
Arsenic	PDWS	10	ug/l	16	---	4.9 I	2.5 I	2.7 I	---	2.6 I	1.9 I	1.3 I
Barium	PDWS	2000	ug/l	44	---	9.8 I	4.8 I	12	---	9.3 IV	5.5 I	5 I
Beryllium	PDWS	4	ug/l	0.48 I	---	1 U	0.08 U	0.1 I	---	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	3.3	---	3 U	0.45 U	12	5 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	22	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	100	---	5.2 I	0.66 U	6.4 I	---	3.9 I	2 I	3.3 I
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	---	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	9.9	---	15 U	1.4 U	1.4 U	---	1.4 U	0.46 I	1.4 U
Iron	SDWS	300	ug/l	4500	---	720	87 I	930	---	590	270	260
Lead	PDWS	15	ug/l	7.5	---	9 U	2.6 U	30	9 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	8.2	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	41	---	10 U	2.9 I	9.2 I	---	20	3.7 I	4.7 I
Mercury	PDWS	2	ug/l	0.83	---	0.2 U	0.027 U	0.027 U	---	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	40 U	1.3 U	1.3 U	---	1.6 I	1.3 U	2 I
Potassium	NS	NS	mg/l	---	---	0.75 I	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.7 I	---	15 U	4.9 U	4.9 U	---	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.18 I	---	10 U	0.93 U	0.93 U	---	0.93 U	0.93 U	1.1 I
Sodium	PDWS	160	mg/l	17	---	6.8	6.3	6.9	---	6.4	6.4	6.3 V
Thallium	PDWS	2	ug/l	0.42 I	---	0.079 I	0.02 U	0.081 I	---	0.055 I	0.038 IV	0.02 U
Vanadium	GCTL	49	ug/l	49 U	---	3.6 I	1.1 U	1.7 I	---	2.4 IV	1.2 I	1.1 U
Zinc	SDWS	5000	ug/l	35	---	17 I	16 I	14 IV	---	6.9 I	5.8 I	4.5 U
<b>General Chemistry</b>												
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.05 U	0.12	0.028 I	---	0.022 U	0.022 U	0.052 IV
Chloride	SDWS	250	mg/l	16	7.5	4.2	4.3	4.1	---	4.3	4	4.2
Fluoride	SDWS	2	mg/l	0.32	---	0.5 U	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	1.7	0.5 U	0.052 I	0.043 I	0.053 I	---	0.042 U	0.042 U	0.042 U
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	18	---	2.7 I	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	71 V	---	---	---	72	---	72
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	180	150	89	70	90	---	94	100	110
<b>Field Parameters</b>												
Color	SDWS	15	PCU	40	---	5	0 U	0 U	---	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	286	223	122	141	122	127	128	158	156
Dissolved Oxygen	NS	NS	mg/l	1.2	1.2	2.1	1.8	1.9	0.6	1.3	0.7	1.9
Dissolved Oxygen	MPIS	20	% Sat.	15.88	15.61	24.95	21.38	22.57		14.01	8.47	22.15
Field pH	SDWS	6.5-8.5	SU	7.42	7.58	7.31	7.75	7.88	7.75	7.81	7.28	7.58
Field Temperature	NS	NS	Degrees C	29.8	29.2	24	23.6	24.3	24.7	19.4	24.8	22.9
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---	---
Turbidity	NS	NS	NTU	14	79.8	18.9	3.8	43.2	18.4	16.1	7.49	2.3

- Notes:
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units

10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter



Summary of Detected Parameters, MW-8R (Shallow Surficial Aquifer)

Parameter	Standard	MCL	Units	6/4/2004	8/4/2004	4/29/2008	12/16/2008	6/30/2009	1/5/2010	6/24/2010	12/17/2010
<b>Volatile Organic Compounds</b>											
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	61	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	5.3 I	1.9 U	1.9 U	1.9 U	1.9 U	3.3 IV
Benzene	PDWS	1	ug/l	0.2 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	0.51 I	0.35 IV	0.32 U	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.64 I	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>											
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	5.6 U	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	3.3 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.45 U	---	---	---	---	---	---	---
<b>Dioxin</b>											
2,3,7,8-TCDD	PDWS	30	pg/L	1.41 U	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>											
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	5.6	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	0.19 U	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.3 I	0.22 I	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.34 I	---	1.1 V	0.78 I	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	1.37 V	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.15	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.01	---	---	---	---	---
<b>Radial Chemistry</b>											
Alpha Radiation	PDWS	15	pCi/l	4.98	---	---	3 IV	3 IV	3.4	3 IV	3 I
Gross Beta	NS	NS	pCi/l	13.8	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	2.11	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	1.55 I	---	---	---	---	---	---	---
<b>Metals</b>											
Aluminum	SDWS	200	ug/l	3400	---	18000	1500	190	720	23 I	310
Antimony	PDWS	6	ug/l	0.16 U	---	0.36 I	0.17 I	0.46 I	0.53 I	0.43 I	0.54 I
Arsenic	PDWS	10	ug/l	1.4 U	---	4.8 I	1 I	1.1 I	1.5 I	1.1 I	0.45 I
Barium	PDWS	2000	ug/l	130	---	30	6.8 I	10 I	9.1 IV	5.8 I	10 V
Beryllium	PDWS	4	ug/l	0.13 I	---	0.1 I	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.13 U	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	15	---	---	---	---	---
Chromium	PDWS	100	ug/l	64	---	23	3.5 I	2 I	1.6 I	0.66 U	0.87 I
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	4 I	---	5.1 I	1.4 U	2.1 I	1.4 U	0.74 I	3.7 I
Iron	SDWS	300	ug/l	2700	---	13000	970	800	420	23 I	190
Lead	PDWS	15	ug/l	15	---	8.9 I	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	4.9	---	---	---	---	---
Manganese	SDWS	50	ug/l	27	---	24	5 I	2.5 I	2.9 I	0.45 I	2.8 IV
Mercury	PDWS	2	ug/l	0.1 U	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	40 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Potassium	NS	NS	mg/l	---	---	1.2 I	---	---	---	---	---
Selenium	PDWS	50	ug/l	0.44 I	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	6.2 I
Silver	SDWS	100	ug/l	0.059 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	9.6	---	18	13	16	26	25	26
Thallium	PDWS	2	ug/l	0.16 U	---	0.081 I	0.024 I	0.071 I	0.052 I	0.049 IV	0.02 U
Vanadium	GCTL	49	ug/l	49 U	---	28	3.8 I	3.2 I	2.9 IV	2.1 I	2.4 I
Zinc	SDWS	5000	ug/l	29	---	14 I	4.5 I	19 IV	5.7 I	4.5 U	8.2 I
<b>General Chemistry</b>											
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.041 I	0.12	0.15	0.022 I	0.022 IV	0.066 IV
Chloride	SDWS	250	mg/l	12	7.5	5.7	5.8	5.8	5	4.5	4.5
Fluoride	SDWS	2	mg/l	0.27	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	0.89	0.63	0.78	1	1.2	1.5	0.22 I	1.2
Nitrite-N	PDWS	1	mg/l	0.008 U	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	12	---	5.7	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	74 V	---	---	85	---	91
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	99	75	130	78	100	99	100	120
<b>Field Parameters</b>											
Color	SDWS	15	PCU	40	---	35	5 I	5 I	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	123	65	170	157	116	157	186	216
Dissolved Oxygen	NS	NS	mg/l	2	2.6	3.1	2.8	2.9	2.2	3.8	4.1
Dissolved Oxygen	MPIS	20	% Sat.	25.56	33.82	37.52	33.89	35.1	25.16	45.14	45.98
Field pH	SDWS	6.5-8.5	SU	6.3	6.28	8.39	8.46	8.12	8.26	7.24	7.02
Field Temperature	NS	NS	Degrees C	28.2	28.8	24.9	24.7	24.8	21.6	24	20.7
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	21	44.3	210	16.3	8.6	17.9	3.46	2.51

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units  
10. umhos/cm = micromhos per centimeter
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter  
19. Monitoring Well MW-8 was replaced in January 2007 with MW-8R.

Summary of Detected Parameters, MW-FL1 (Floridan Aquifer)

Parameter	Standard	MCL	Units	5/26/2004	5/26/2004	8/3/2004	4/30/2008	12/16/2008	6/26/2009	8/4/2009	1/5/2010	6/24/2010	12/16/2010
<b>Volatile Organic Compounds</b>										Resample			
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	1 U	---	1 U	0.13 U	0.13 U	---	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	1 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	5 U	---	10 U	1.8 U	1.8 U	---	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	---	8.9	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	---	10 U	---	10 U	1.9 U	1.9 U	---	1.9 U	2.8 I	1.9 U
Benzene	PDWS	1	ug/l	0.2 U	1 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	2 U	---	1 U	0.3 U	0.3 U	---	0.3 U	0.34 I	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	1 U	---	2 U	0.37 IV	0.32 U	---	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	1 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	1 U	---	1 U	0.4 U	0.4 U	---	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	---	2 U	---	1 U	0.19 U	0.19 U	---	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	1 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
<b>Semi-Volatile Organic Compounds</b>													
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	0.56 U	10 U	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	10 U	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	10 U	---	---	---	---	---	---	---	---
<b>Dioxin</b>													
2,3,7,8-TCDD	PDWS	30	pg/L	0.626 U	---	---	---	---	---	---	---	---	---
<b>Disinfection Byproduct/Residuals</b>													
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	---	4	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	---	0.38 U	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	---	1.1 U	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	---	0.97 U	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	---	0.19 U	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	---	0.19 U	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	1 U	---	0.19 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	1 U	---	0.2 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	---	0.16 U	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	---	0.21	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	---	0	---	---	---	---	---	---
<b>Radial Chemistry</b>													
Alpha Radiation	PDWS	15	pCi/l	16.4	---	---	---	3 IV	14.6	---	7.6	7.9	10.5
Gross Beta	NS	NS	pCi/l	2.47 U	---	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	1.82	---	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.874 I	---	---	---	---	---	---	---	---	---
<b>Metals</b>													
Aluminum	SDWS	200	ug/l	140	---	---	100 U	18 U	4600	100 U	1200	510	630
Antimony	PDWS	6	ug/l	0.19 I	6 U	---	0.11 I	0.27 I	0.17 I	---	0.14 I	0.09 I	0.076 I
Arsenic	PDWS	10	ug/l	1.4 U	10 U	---	0.43 I	0.38 I	1.6 I	---	0.58 I	0.48 I	0.44 I
Barium	PDWS	2000	ug/l	22	21	---	31	34	73	---	43 V	45	50
Beryllium	PDWS	4	ug/l	0.062 U	4 U	---	1 U	0.08 U	0.2 I	---	0.08 U	0.08 U	0.13 I
Cadmium	PDWS	5	ug/l	0.13 U	3 U	---	3 U	0.45 U	0.96 I	---	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	---	40	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	5.4	10 U	---	10 U	0.66 U	16	---	4 I	3.6 I	6.5 I
Cobalt	GCTL	140	ug/l	---	10 U	---	10 U	1.2 U	1.2 U	---	1.2 U	0.29 I	1.2 U
Copper	SDWS	1000	ug/l	0.87 I	20 U	---	15 U	1.4 U	2.9 I	---	1.4 U	0.79 I	1.4 U
Iron	SDWS	300	ug/l	120	---	---	49 I	22 U	2800	100 U	680	420	490
Lead	PDWS	15	ug/l	0.92 I	3 U	---	9 U	2.6 U	2.9 I	---	2.8 I	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	---	11	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	18	---	---	13	11	74	15	26	21	57
Mercury	PDWS	2	ug/l	0.19 I	0.2 U	---	0.2 U	0.027 U	0.027 U	---	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	---	40 U	---	40 U	2 I	6.4 I	---	2.6 I	1.4 I	2.2 I
Potassium	NS	NS	mg/l	---	---	---	1.5 I	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	1.7 I	5 U	---	15 U	4.9 U	4.9 U	---	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	10 U	---	10 U	0.93 U	0.93 U	---	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	19	---	---	9.2	8.1	8.6	---	9.8	5.4	4.1 V
Thallium	PDWS	2	ug/l	0.16 U	2 U	---	0.18 I	0.14 I	0.25 I	---	0.22 I	0.12 IV	0.11 IV
Vanadium	GCTL	49	ug/l	---	49 U	---	2.6 I	1.1 U	11	---	3.6 IV	2.4 I	2 I
Zinc	SDWS	5000	ug/l	4.4 I	20 U	---	20 U	6.7 I	20 IV	---	6.1 I	5.3 I	9.3 I
<b>General Chemistry</b>													
Ammonia as N	GCTL	2.8	mg/l	---	---	0.1 U	0.048 I	0.1 I	0.022 U	---	0.022 U	0.022 U	0.047 IV
Chloride	SDWS	250	mg/l	15	---	15	18 V	16	16	---	20	11	9
Fluoride	SDWS	2	mg/l	0.21	---	---	0.5 U	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	0.88	---	1.1	1.1	0.62	0.9	---	1.1	1.3	1.6
Nitrite-N	PDWS	1	mg/l	0.13	---	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	27	---	---	18	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	---	120 V	---	---	---	130	---	94
Total Coliform	NS	NS	CFU/100ml	---	---	---	1 U	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	220	---	180	180	170	180	---	180	170	120
<b>Field Parameters</b>													
Color	SDWS	15	PCU	5 U	---	---	5 U	0 U	0 U	---	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	---	336	310	339	289	261	260	339	236	255
Dissolved Oxygen	NS	NS	mg/l	---	0.5	0.7	0.8	0.3 I	0.4 I	0.5	0 T	3.1	2.4
Dissolved Oxygen	MPIS	20	% Sat.	---	6.16	8.79	9.33	3.63	4.75	---	11.21	38.22	28.51
Field pH	SDWS	6.5-8.5	SU	7.9	7.75	7.4	7.68	7.17	7.27	7.33	7.1	7.35	7.56
Field Temperature	NS	NS	Degrees C	---	25.8	26.6	23.4	24.7	23.9	24.1	21.4	26.4	23.7
Odor	SDWS	3	T.O.N.	1 U	---	---	1 U	---	---	---	---	---	---
Turbidity	NS	NS	NTU	5.5	5.3	8.7	6.3	0.7	658.3	9.2	6.3	8.19	8.6

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter

11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter



Summary of Detected Parameters, MW-FL2R (Deep Surficial Aquifer)

Parameter	Standard	MCL	Units	5/26/2004	5/26/2004	8/4/2004	4/29/2008	12/17/2008	6/30/2009	1/5/2010	6/24/2010	12/17/2010
Volatile Organic Compounds												
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	1 U	---	1 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	1 U	---	1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	5 U	---	5.6 I	1.8 U	1.8 U	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	---	8.9	---	---	---	---	---
Acetone	GCTL	6300	ug/l	---	10 U	---	19	3.7 I	2.5 I	2.4 I	5.1 I	4.3 IV
Benzene	PDWS	1	ug/l	0.2 U	1 U	---	0.36 I	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	2 U	---	1 U	0.3 U	0.68 I	0.3 U	0.41 I	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	1 U	---	2 U	0.32 U	0.39 IV	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.18 U	1 U	---	0.76 I	0.21 I	0.17 U	0.17 U	0.17 U	0.19 I
Vinyl chloride	PDWS	1	ug/l	0.1 U	1 U	---	1.6	0.4 U	0.4 U	0.42 I	0.45 I	0.43 I
Xylenes (total)	SDWS	20	ug/l	---	2 U	---	0.65 I	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	1 U	---	1 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds												
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	2.6	10 U	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	0.33 U	10 U	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.045 U	10 U	---	---	---	---	---	---	---
Dioxin												
2,3,7,8-TCDD	PDWS	30	pg/L	0.675 U	---	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals												
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	---	3.7	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	---	0.38 U	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	---	3.2	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	---	0.97 U	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	---	1.2	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	---	4.4	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	1 U	---	0.19 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	1 U	---	3.2 V	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	---	3.2 V	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	---	0.29	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	---	0.11	---	---	---	---	---
Radial Chemistry												
Alpha Radiation	PDWS	15	pCi/l	1.62 U	---	---	---	3 IV	3 U	3 U	3 U	3 U
Gross Beta	NS	NS	pCi/l	1.67 U	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	0.292 U	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	0.988 I	---	---	---	---	---	---	---	---
Metals												
Aluminum	SDWS	200	ug/l	190	---	---	4900	2200	3400	3000	3000	2700
Antimony	PDWS	6	ug/l	1.2 I	6 U	---	---	---	---	---	---	---
Arsenic	PDWS	10	ug/l	1.8 I	10 U	---	1.3 I	1.1 I	1.3 I	1.3 I	1.7 I	1.5 I
Barium	PDWS	2000	ug/l	14	12	---	170	29	54	42 V	31	29 V
Beryllium	PDWS	4	ug/l	0.062 U	4 U	---	1 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	0.13 U	3 U	---	3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	---	110	---	---	---	---	---
Chromium	PDWS	100	ug/l	7.6	12	---	82	11	24	26	23	24
Cobalt	GCTL	140	ug/l	---	10 U	---	10 U	1.2 U	1.2 U	1.2 U	0.33 I	1.2 U
Copper	SDWS	1000	ug/l	3.1 I	20 U	---	15 U	3.3 IV	22	1.4 U	2.7 I	2.6 I
Iron	SDWS	300	ug/l	98	---	---	93 I	22 U	280	84 I	290	52 I
Lead	PDWS	15	ug/l	3.8	3 U	---	9 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NS	NS	mg/l	---	---	---	0.059 I	---	---	---	---	---
Manganese	SDWS	50	ug/l	37	---	---	10 U	0.25 U	1.6 I	0.25 U	2.6 I	0.43 IV
Mercury	PDWS	2	ug/l	1.8	0.2 U	---	0.2 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	---	40 U	---	40 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Potassium	NS	NS	mg/l	---	---	---	6.1	---	---	---	---	---
Selenium	PDWS	50	ug/l	3.3	5 U	---	15 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.059 U	10 U	---	10 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	110	---	---	30	2.6	1.7	1.3	1.4	1.6
Thallium	PDWS	2	ug/l	0.16 U	2 U	---	1 U	0.02 U	0.02 U	0.02 U	0.021 IV	0.02 U
Vanadium	GCTL	49	ug/l	---	49 U	---	17	8.5 I	17	18 V	20	21
Zinc	SDWS	5000	ug/l	7.7 I	25	---	7.4 I	4.5 U	19 IV	5.1 I	4.8 I	4.5 U
General Chemistry												
Ammonia as N	GCTL	2.8	mg/l	---	---	0.1 U	0.11	0.1 I	0.13	0.022 U	0.022 U	0.073 IV
Chloride	SDWS	250	mg/l	17	---	11	9.5	5.4	8.7	10	11	11
Fluoride	SDWS	2	mg/l	0.12	---	---	0.5 U	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	3	---	1	0.65	0.38 I	0.59	0.55	0.34 I	0.4 I
Nitrite-N	PDWS	1	mg/l	0.25	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	40	---	---	29	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	---	290 V	---	---	150	---	120
Total Coliform	NS	NS	CFU/100ml	---	---	---	1 U	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	340	---	590	370	130	260	250	230	220
Field Parameters												
Color	SDWS	15	PCU	5 U	---	---	5	0 U	0 U	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	---	382	892	1441	367	357	559	712	574
Dissolved Oxygen	NS	NS	mg/l	---	0.6	0.6	4.5	1.9	2.1	1.3	0.7	1.7
Dissolved Oxygen	MPIS	20	% Sat.	---	7.4	7.53	53.46	22.57	24.95	13.73	8.63	19.44
Field pH	SDWS	6.5-8.5	SU	7.9	7.28	6.56	11.61	10.97	11.11	10.97	10.74	11.64
Field Temperature	NS	NS	Degrees C	---	26.2	26.7	24.4	24.4	23.7	17.7	26.4	21.9
Odor	SDWS	3	T.O.N.	1 U	---	---	1 U	---	---	---	---	---
Turbidity	NS	NS	NTU	4	4	11.4	5.2	1.5	3.4	4.9	7.81	2.23

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)

2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)

3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)

4. MPIS = Monitoring Plan Implementation Schedule

5. NS = No numeric standard has been set for this analyte.

6. --- = Parameter not analyzed.

7. mg/L = milligrams per liter

8. ug/L = micrograms per liter

9. NTU = nephelometric turbidity units

10. umhos/cm = micromhos per centimeter
11. % Sat = percent saturation

12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.

13. deg C = degrees Celsius

14. U = Analyte concentration was below the laboratory detection limit (value shown).

15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.

16. V = Analyte was detected in the sample and associated method blank.

17. Calculated from <http://www.fivecreeks.org/monitor/do.html>

18. PCI/L= picocuries per liter

19. Monitoring Well MW-FL2 was replaced in January 2007 with MW-FL2R.

Summary of Detected Parameters, MW-FL3 (Floridan Aquifer)

Parameter	Standard	MCL	Units	6/4/2004	8/4/2004	4/29/2008	12/16/2008	6/26/2009	8/4/2009	1/5/2010	6/24/2010	12/16/2010
Volatile Organic Compounds												
1,2-Dichlorobenzene	PDWS	600	ug/l	0.092 U	---	1 U	0.13 U	0.13 U	---	0.13 U	0.15 U	0.15 U
1,4-Dichlorobenzene	PDWS	75	ug/l	0.078 U	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
2-Butanone	GCTL	4200	ug/l	---	---	10 U	1.8 U	1.8 U	---	1.8 U	2 U	2 U
4-Bromofluorobenzene	NS	NS	ug/l	---	---	9.1	---	---	---	---	---	---
Acetone	GCTL	6300	ug/l	10 U	---	10 U	2.4 I	1.9 U	---	1.9 U	1.9 U	3.3 IV
Benzene	PDWS	1	ug/l	0.23 I	---	1 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Chloromethane	GCTL	2.7	ug/l	0.31 U	---	1 U	0.3 U	0.3 U	---	0.3 U	0.3 U	0.3 U
Isopropylbenzene	GCTL	0.8	ug/l	0.015 U	---	---	---	---	---	---	---	---
Methylene chloride	PDWS	5	ug/l	0.15 U	---	2 U	0.44 IV	0.32 U	---	0.32 U	0.32 U	0.32 U
Toluene	SDWS	40	ug/l	0.64 I	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Vinyl chloride	PDWS	1	ug/l	0.1 U	---	1 U	0.4 U	0.4 U	---	0.4 U	0.4 U	0.4 U
Xylenes (total)	SDWS	20	ug/l	2 U	---	1 U	0.19 U	0.19 U	---	0.19 U	0.39 I	0.19 U
Styrene	PDWS	100	ug/l	0.074 U	---	1 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Semi-Volatile Organic Compounds												
bis(2-Ethylhexyl) phthalate	PDWS	6	ug/l	4.3 I	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	GCTL	700	ug/l	3.3 U	---	---	---	---	---	---	---	---
Phenanthrene	GCTL	210	ug/l	0.45 U	---	---	---	---	---	---	---	---
Dioxin												
2,3,7,8-TCDD	PDWS	30	pg/L	1.76 U	---	---	---	---	---	---	---	---
Disinfection Byproduct/Residuals												
2,3-Dibromopropionic acid	NS	NS	ug/l	---	---	4.1	---	---	---	---	---	---
Dibromoacetic Acid	NS	NS	ug/l	0.38 U	---	0.38 U	---	---	---	---	---	---
Dichloroacetic Acid	GCTL	0.7	ug/l	0.81 U	---	1.1 U	---	---	---	---	---	---
Monochloroacetic acid	GCTL	14	ug/l	0.98 U	---	0.97 U	---	---	---	---	---	---
Trichloroacetic Acid	GCTL	9.1	ug/l	0.35 U	---	0.19 U	---	---	---	---	---	---
Total Haloacetic Acids	PDWS	60	ug/l	3.1 U	---	0.19 U	---	---	---	---	---	---
Bromodichloromethane	GCTL	0.6	ug/l	0.085 U	---	0.19 U	0.17 U	0.17 U	---	0.17 U	0.17 U	0.17 U
Chloroform	GCTL	70	ug/l	0.32 U	---	0.2 U	0.16 U	0.16 U	---	0.16 U	0.16 U	0.16 U
Trihalomethanes, Total	PDWS	80	ug/l	---	---	0.16 U	---	---	---	---	---	---
Chloramine	PDWS	4	mg/l	---	---	0.13	---	---	---	---	---	---
Chlorine Dioxide	PDWS	0.8	mg/l	---	---	0.07	---	---	---	---	---	---
Radial Chemistry												
Alpha Radiation	PDWS	15	pCi/l	127	---	---	5.4	5.2 U	---	6.2	3.1	6.6
Gross Beta	NS	NS	pCi/l	51.1	---	---	---	---	---	---	---	---
Radium 226	PDWS	5	pCi/l	24.5	---	---	---	---	---	---	---	---
Radium 228	PDWS	5	pCi/l	2.53 I	---	---	---	---	---	---	---	---
Metals												
Aluminum	SDWS	200	ug/l	65000	---	1700	18 U	1200	---	1100	480	390
Antimony	PDWS	6	ug/l	0.59 I	---	---	---	---	---	---	---	---
Arsenic	PDWS	10	ug/l	19	---	1.5 I	0.62 I	1.1 I	---	1.1 I	1 I	1 I
Barium	PDWS	2000	ug/l	500	---	45	29	40	---	39 V	34	30
Beryllium	PDWS	4	ug/l	4.3	---	0.13 I	0.08 U	0.16 I	---	0.08 U	0.08 U	0.08 U
Cadmium	PDWS	5	ug/l	5.2	---	0.56 I	0.45 U	0.49 I	---	0.45 U	0.45 U	0.45 U
Calcium	NS	NS	mg/l	---	---	62	---	---	---	---	---	---
Chromium	PDWS	100	ug/l	290	---	6 I	0.66 U	8.4 I	---	6.1 I	3 I	2.3 I
Cobalt	GCTL	140	ug/l	10 U	---	10 U	1.2 U	1.2 U	---	1.2 U	0.12 U	1.2 U
Copper	SDWS	1000	ug/l	50	---	15 U	1.4 U	1.4 U	---	1.4 U	1.2 I	2 I
Iron	SDWS	300	ug/l	33000	---	1200	22 U	790	---	750	460	350
Lead	PDWS	15	ug/l	60	---	9 U	2.6 U	2.6 U	---	2.6 U	2.6 U	3.5 I
Magnesium	NS	NS	mg/l	---	---	11	---	---	---	---	---	---
Manganese	SDWS	50	ug/l	1600	---	49	0.64 I	67	44	89	72	60
Mercury	PDWS	2	ug/l	0.23	---	0.2 U	0.027 U	0.027 U	---	0.027 U	0.027 U	0.027 U
Nickel	PDWS	100	ug/l	40 U	---	40 U	1.3 U	2.1 I	---	1.7 I	1.3 U	1.8 I
Potassium	NS	NS	mg/l	---	---	0.82 I	---	---	---	---	---	---
Selenium	PDWS	50	ug/l	5.6	---	15 U	4.9 U	4.9 U	---	4.9 U	4.9 U	4.9 U
Silver	SDWS	100	ug/l	0.3 I	---	10 U	0.93 U	0.93 U	---	0.93 U	0.93 U	0.93 U
Sodium	PDWS	160	mg/l	83	---	6.4	5.4	5.5	---	5.1	5	4.8 V
Thallium	PDWS	2	ug/l	1.3	---	0.13 I	0.082 I	0.099 I	---	0.075 I	0.058 IV	0.091 IV
Vanadium	GCTL	49	ug/l	49 U	---	6.2 I	1.2 I	5.1 I	---	2.3 IV	1.8 I	1.1 I
Zinc	SDWS	5000	ug/l	140	---	10 I	5.6 I	7.3 IV	---	9 I	6.1 I	25
General Chemistry												
Ammonia as N	GCTL	2.8	mg/l	---	0.1 U	0.023 I	0.1 I	0.029 I	---	0.022 U	0.022 U	0.071 IV
Chloride	SDWS	250	mg/l	9.7	7.9	7.8	8.3	7.9	---	8.4	8.7	9.1
Fluoride	SDWS	2	mg/l	0.28	---	0.5 U	---	---	---	---	---	---
Nitrate (as N)	PDWS	10	mg/l	0.31	0.5 U	0.5 U	0.042 U	0.042 U	---	0.042 U	0.042 U	0.042 U
Nitrite-N	PDWS	1	mg/l	0.38	---	---	---	---	---	---	---	---
Sulfate	SDWS	250	mg/l	73	---	4.7 I	---	---	---	---	---	---
Surfactants (MBAS)	SDWS	0.5	mg/l	0.1 U	---	---	---	---	---	---	---	---
Total Alkalinity	NS	NS	mg/l	---	---	100 V	---	---	---	100	---	110
Total Coliform	NS	NS	CFU/100ml	---	---	1 U	---	---	---	---	---	---
Total Dissolved Solids	SDWS	500	mg/l	320	170	120	110	120	---	130	150	140
Field Parameters												
Color	SDWS	15	PCU	40	---	5 U	0 U	0 U	---	0 U	---	---
Conductivity	NS	NS	UMHOS/CM	549	267	184	202	215	253	202	245	252
Dissolved Oxygen	NS	NS	mg/l	0.8	0.8	1.1	0.3 I	0.5 I	0.5	0.3 I	0	0
Dissolved Oxygen	MPIS	20	% Sat.	9.86	9.68	13.07	3.56	5.94	---	3.17	0	0
Field pH	SDWS	6.5-8.5	SU	7.66	7.61	6.75	7.52	7.76	7.56	7.98	7.36	7.46
Field Temperature	NS	NS	Degrees C	26.3	25.1	23.7	24.1	23.9	24.4	18.3	26.7	23.3
Odor	SDWS	3	T.O.N.	1 U	---	1 U	---	---	---	---	---	---
Turbidity	NS	NS	NTU	15	9.3	18.8	0.1 I	615	3.3	358.3	2.72	1.97

- Notes:  
1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)  
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)  
3. GCTL = Groundwater Clean-Up Target Level (62-777 F.A.C.)  
4. MPIS = Monitoring Plan Implementation Schedule  
5. NS = No numeric standard has been set for this analyte.  
6. --- = Parameter not analyzed.  
7. mg/L = milligrams per liter  
8. ug/L = micrograms per liter  
9. NTU = nephelometric turbidity units
10. umhos/cm = micromhos per centimeter  
11. % Sat = percent saturation  
12. Yellow shaded values indicate parameter concentrations exceed PDWS, SDWS, or GCTL.  
13. deg C = degrees Celsius  
14. U = Analyte concentration was below the laboratory detection limit (value shown).  
15. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.  
16. V = Analyte was detected in the sample and associated method blank.  
17. Calculated from <http://www.fivecreeks.org/monitor/do.html>  
18. PCI/L= picocuries per liter

## Summary of Detected Parameters, L-1

Parameter	MCL	Units	12/17/2008	1/5/2010	12/17/2010
<b>Volatile Organic Compounds</b>					
1,1-Dichloroethane	NS	ug/l	0.16 <b>U</b>	0.16 <b>U</b>	0.45 <b>I</b>
1,2-Dichloroethane	500	ug/l	0.13 <b>U</b>	0.84 <b>I</b>	1.2
1,4-Dichlorobenzene	7500	ug/l	0.16 <b>U</b>	0.16 <b>U</b>	0.46 <b>I</b>
2-Butanone (MEK)	200000	ug/l	1.8 <b>U</b>	1.8 <b>U</b>	10
2-Hexanone	NS	ug/l	1.4 <b>U</b>	1.4 <b>U</b>	2.4 <b>I</b>
4-Methyl-2-pentanone (MIBK)	NS	ug/l	1 <b>U</b>	1 <b>U</b>	1.8 <b>I</b>
Acetone	NS	ug/l	1.9 <b>U</b>	6.9 <b>I</b>	30 <b>V</b>
Acetophenone	NS	ug/l	0.24 <b>U</b>	0.51 <b>I</b>	2.3 <b>U</b>
Benzene	500	ug/l	0.16 <b>U</b>	0.23 <b>I</b>	0.89 <b>I</b>
Chloroethane	NS	ug/l	0.41 <b>U</b>	0.41 <b>U</b>	1.1 <b>I</b>
cis-1,2-Dichloroethene	NS	ug/l	0.15 <b>U</b>	1.3	0.5 <b>I</b>
Ethylbenzene	NS	ug/l	0.16 <b>U</b>	0.63 <b>I</b>	3.5
Methylene chloride	NS	ug/l	0.34 <b>IV</b>	0.32 <b>U</b>	0.32 <b>U</b>
Toluene	NS	ug/l	0.17 <b>U</b>	0.18 <b>I</b>	3.5
Vinyl chloride	200	ug/l	0.4 <b>U</b>	2.4	14
Xylenes (total)	NS	ug/l	0.19 <b>U</b>	0.25 <b>I</b>	3.4
<b>Semi-Volatile Organic Compounds</b>					
bis(2-Ethylhexyl) phthalate	NS	ug/l	0.56 <b>U</b>	1.6 <b>I</b>	5.7 <b>I</b>
Diethyl phthalate	NS	ug/l	0.38 <b>U</b>	0.44 <b>I</b>	3.6 <b>U</b>
Isophorone	NS	ug/l	0.21 <b>U</b>	0.3 <b>I</b>	2 <b>U</b>
m- & p-Cresol	200000	ug/l	0.25 <b>U</b>	0.29 <b>I</b>	2.4 <b>U</b>
n-Nitrosodi-n-propylamine	NS	ug/l	0.35 <b>U</b>	0.35 <b>U</b>	11 <b>I</b>
<b>Disinfection Byproduct/Residuals</b>					
Bromodichloromethane	NS	ug/l	0.29 <b>I</b>	0.17 <b>U</b>	0.17 <b>U</b>
Chloroform	6000	ug/l	0.69 <b>I</b>	0.16 <b>U</b>	0.16 <b>U</b>
<b>Pesticides</b>					
delta-BHC	NS	ug/l	0.0058 <b>U</b>	0.0058 <b>U</b>	0.0089 <b>I</b>
Endosulfan I	NS	ug/l	0.0058 <b>U</b>	0.0058 <b>U</b>	0.013 <b>I</b>
gamma-BHC (Lindane)	400	ug/l	0.0069 <b>U</b>	0.0069 <b>U</b>	0.028 <b>I</b>
<b>Metals</b>					
Antimony	NS	ug/l	0.07 <b>U</b>	0.33 <b>I</b>	0.49 <b>I</b>
Arsenic	5000	ug/l	0.26 <b>I</b>	2.7 <b>I</b>	5.3 <b>I</b>
Barium	100000	ug/l	43	74	88 <b>V</b>
Chromium	5000	ug/l	0.66 <b>U</b>	0.66 <b>U</b>	1.7 <b>I</b>
Copper	NS	ug/l	2.5 <b>I</b>	3.3 <b>I</b>	190
Iron	NS	ug/l	46 <b>I</b>	4700	12000
Nickel	NS	ug/l	1.3 <b>U</b>	1.8 <b>I</b>	5.8 <b>I</b>
Selenium	1000	ug/l	4.9 <b>U</b>	4.9 <b>U</b>	18
Silver	5000	ug/l	0.93 <b>U</b>	1.3 <b>I</b>	0.93 <b>U</b>
Sodium	NS	mg/l	5	82	210
Thallium	NS	ug/l	0.02 <b>U</b>	0.02 <b>U</b>	0.073 <b>I</b>
Zinc	NS	ug/l	130 <b>V</b>	23	250
<b>General Chemistry</b>					
Alkalinity, Bicarbonate (as CaCO3)	NS	mg/l	120	490	---
Total Alkalinity	NS	mg/l	120	490	760
Ammonia as N	NS	mg/l	0.083 <b>I</b>	5.5	27 <b>V</b>
Biochemical Oxygen Demand	NS	mg/l	---	---	18
Chemical Oxygen Demand (COD)	NS	mg/l	---	---	250
Chloride	NS	mg/l	4.2	110	280
Total Cyanide	NS	mg/l	0.033	0.0036 <b>I</b>	0.0028 <b>I</b>
Nitrate (as N)	NS	mg/l	0.3 <b>I</b>	0.042 <b>U</b>	0.042 <b>U</b>
Total Dissolved Solids	NS	mg/l	170	690	1100 <b>V</b>
<b>Field Parameters</b>					
Conductivity	NS	umhos/cm	287	1009	1860
Dissolved Oxygen	NS	mg/l	1.5	0.4 <b>I</b>	0.3
Field pH	NS	SU	6.86	7.37	6.23
Field Temperature	NS	Deg C	32.6	16.7	23
Turbidity	NS	NTU	0.8	64.4	53.2

### NOTES:

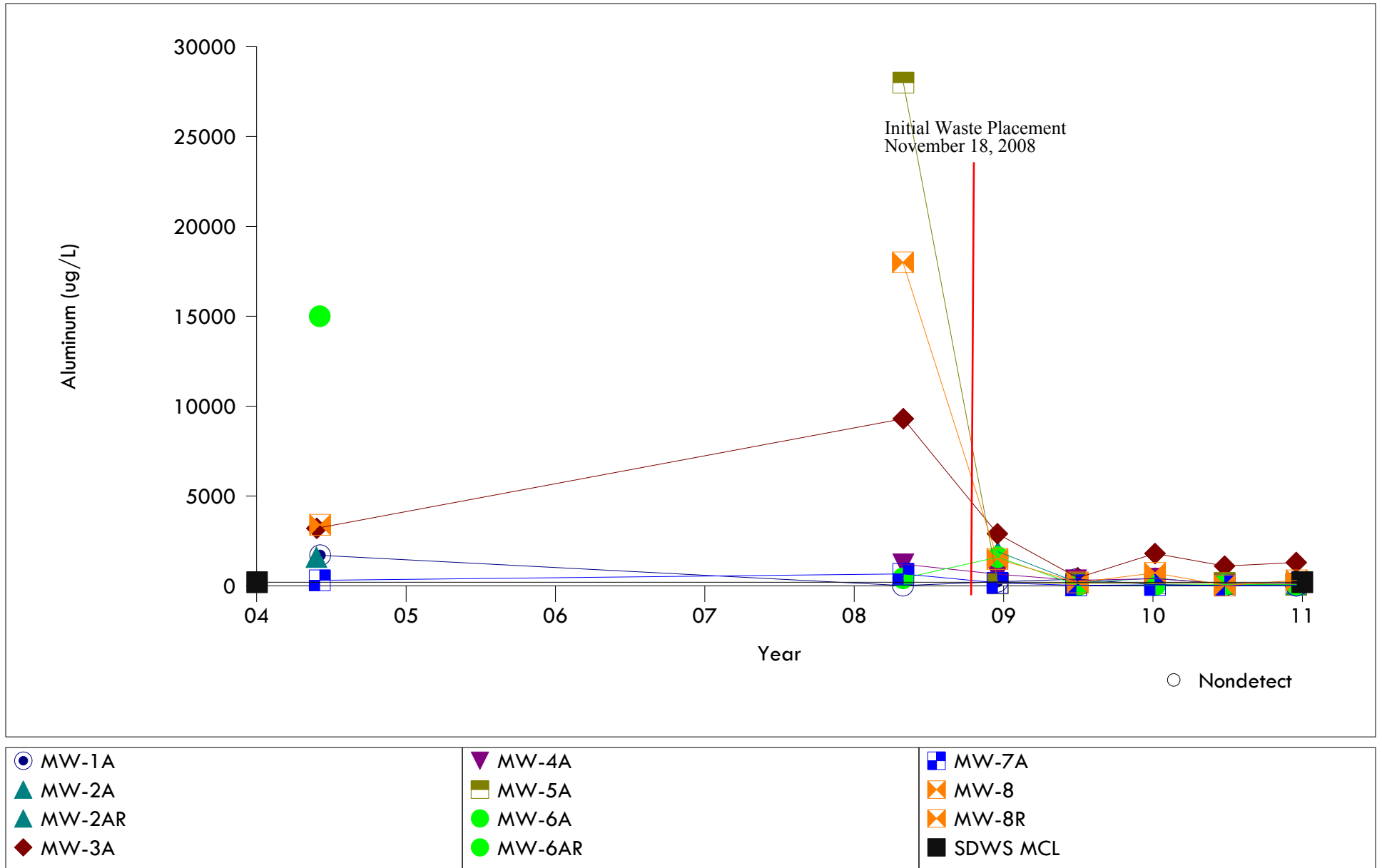
1. MCL = Maximum Contaminant Level according to EPA Toxicity Standards, Title 40 CFR Part 261.24.
2. mg/L = milligrams per liter
3. ug/L= micrograms per liter
4. NTU = nephelometric turbidity units
5. Deg C = Degrees Celcius
6. SU = standard units
7. umhos/cm = micromhos per centimeter
8. V = Analyte was detected in the sample and associated method blank.
9. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.
10. NS = No numeric standard has been set for this analyte.

## APPENDIX C

### TIME SERIES PLOTS OF WATER QUALITY TRENDS

## Vista Landfill

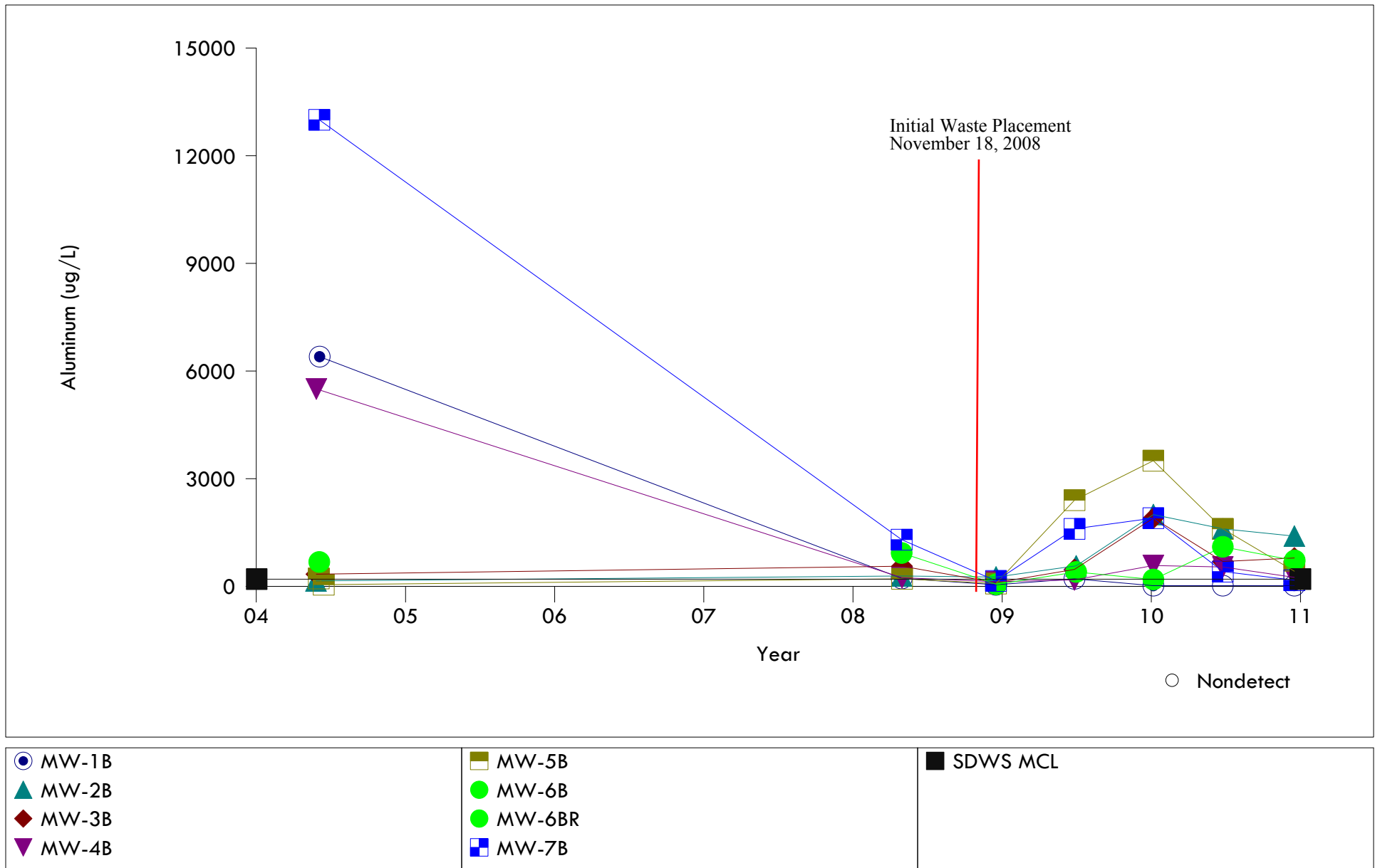
Figure C-1. Time Series Plot for Aluminum in "A" Wells





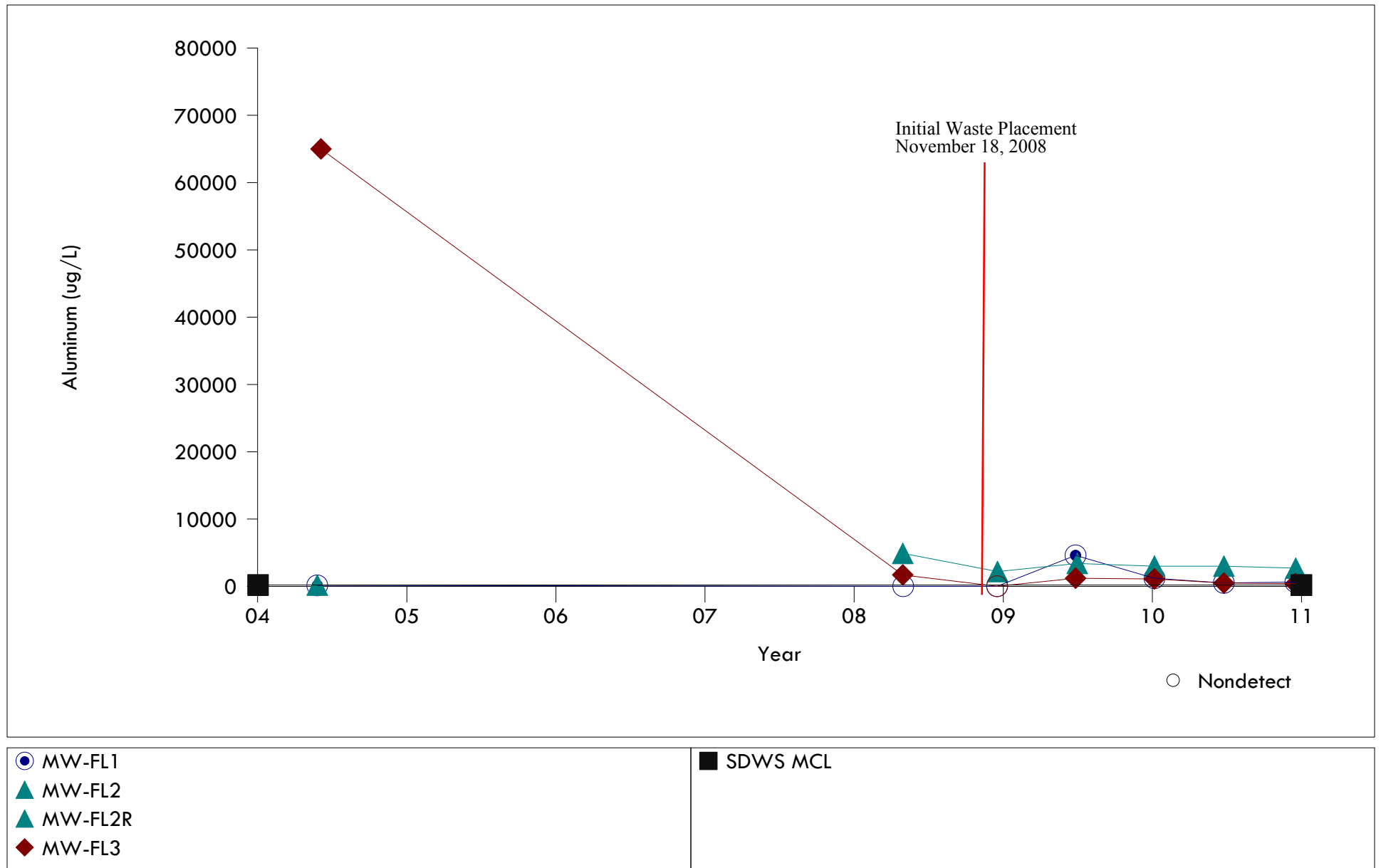
## Vista Landfill

Figure C-2. Time Series Plot for Aluminum in "B" Wells



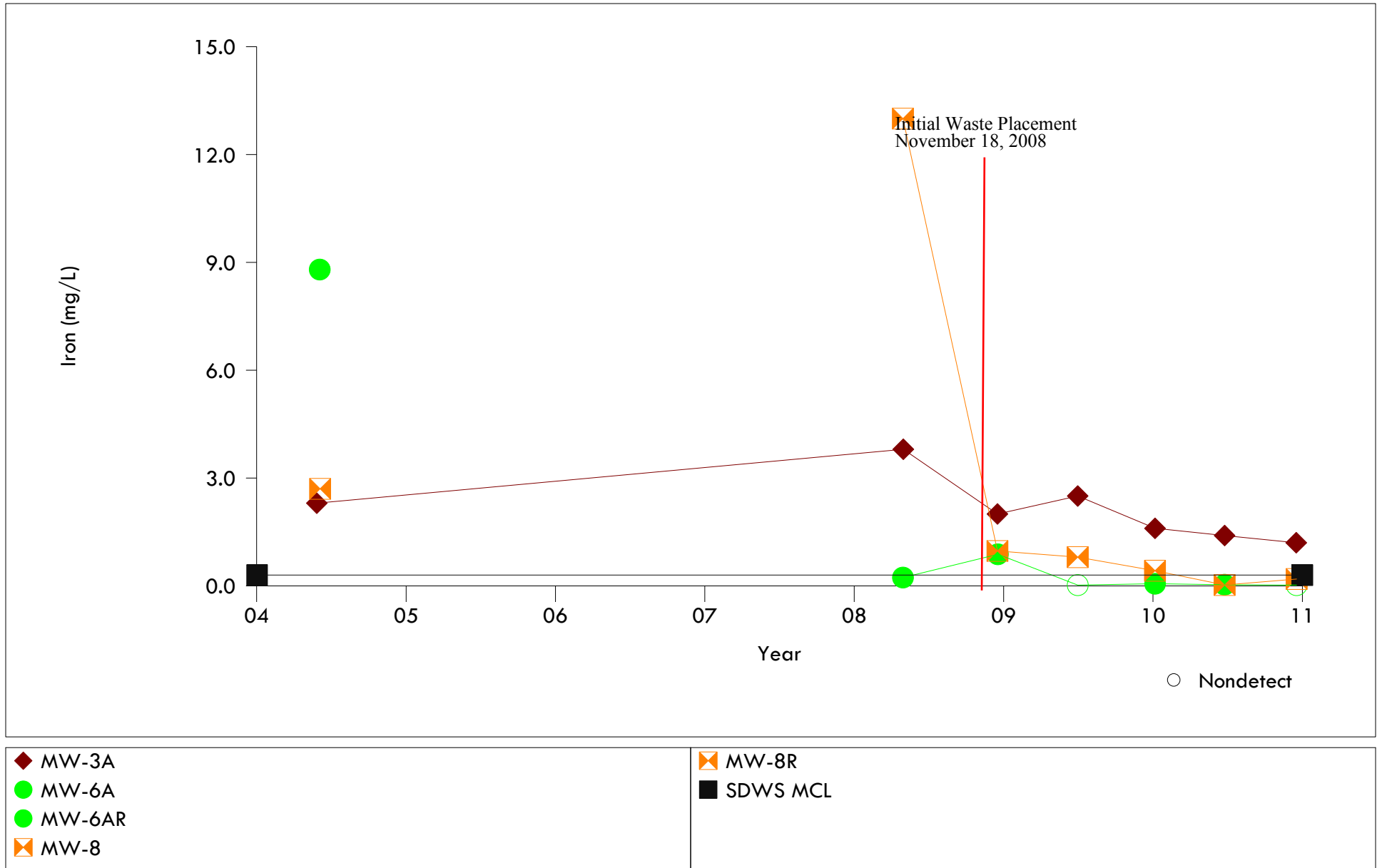
## Vista Landfill

Figure C-3. Time Series Plot for Aluminum in "FL" Wells



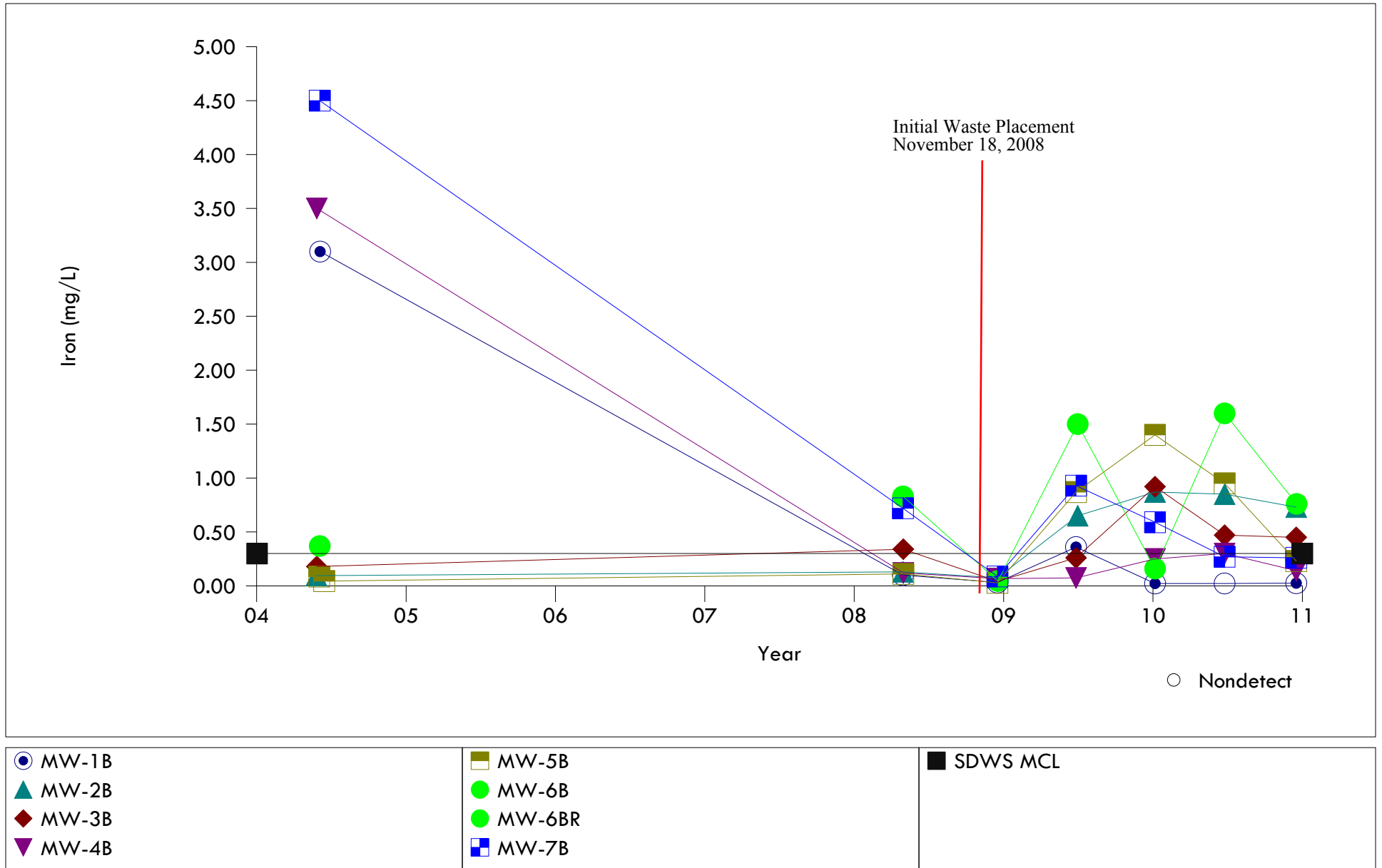
## Vista Landfill

Figure C-4. Time Series Plot for Iron in "A" Wells



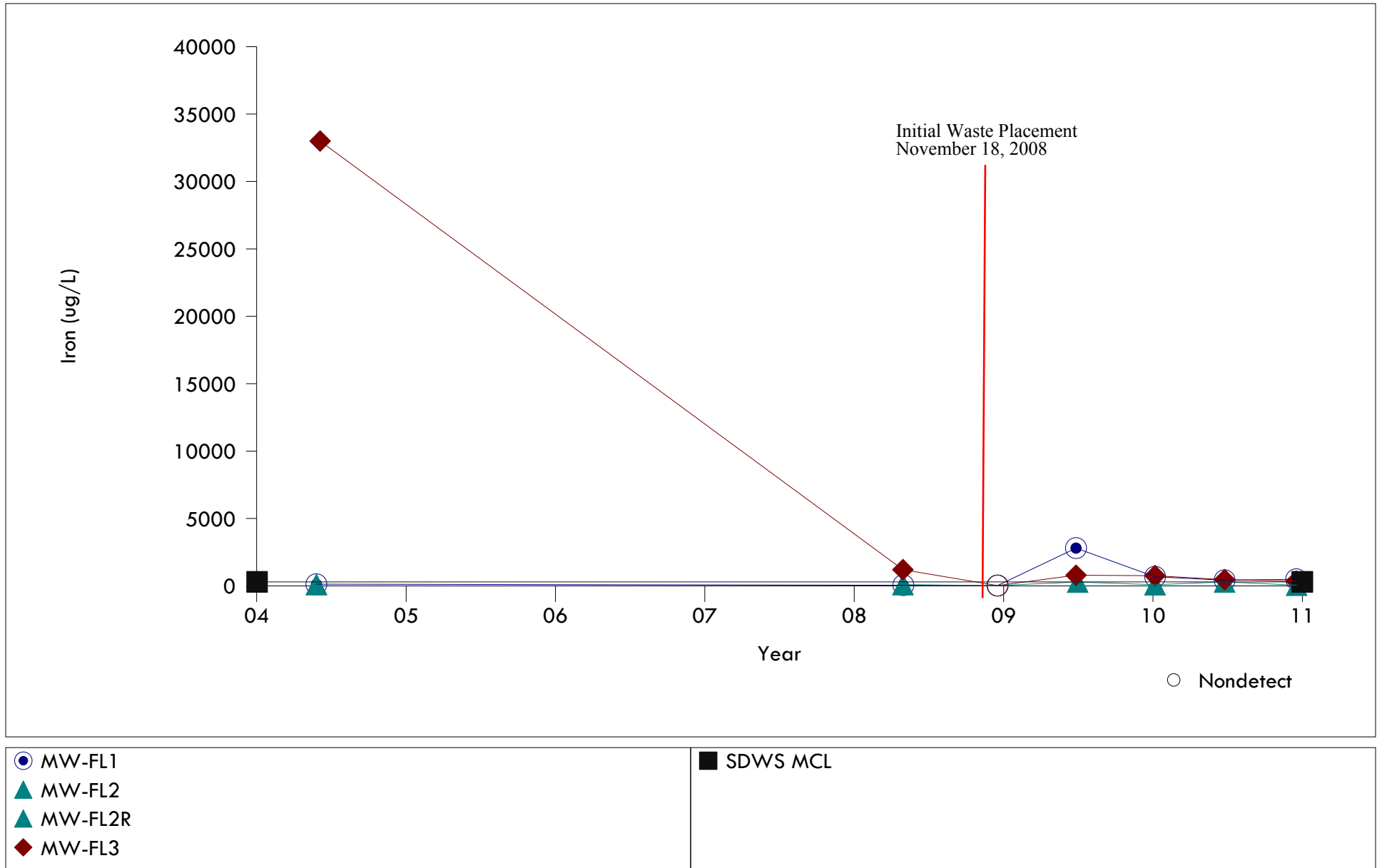
## Vista Landfill

Figure C-5. Time Series Plot for iron in "B" Wells



## Vista Landfill

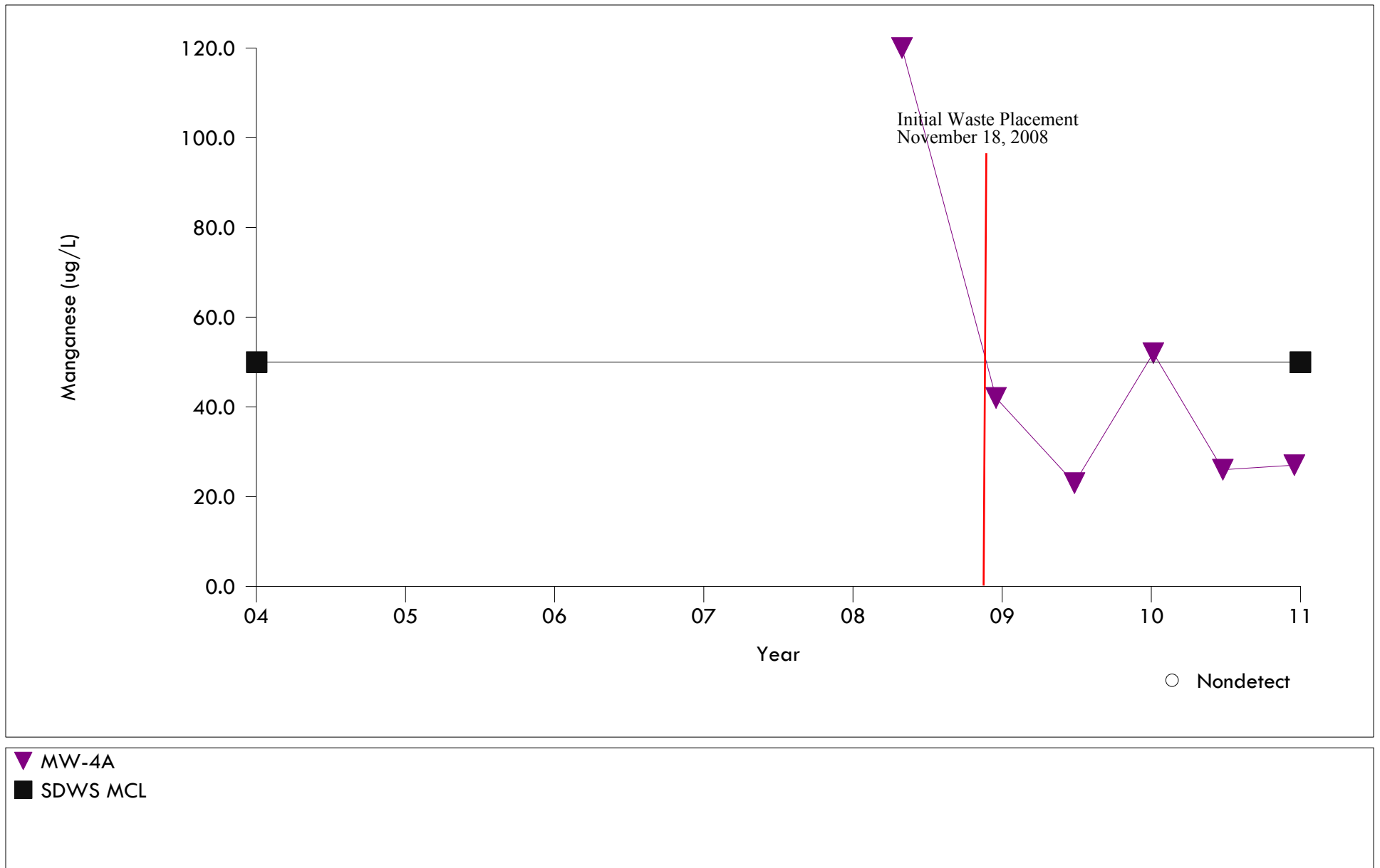
Figure C-6. Time Series Plot for Iron in "FL" Wells





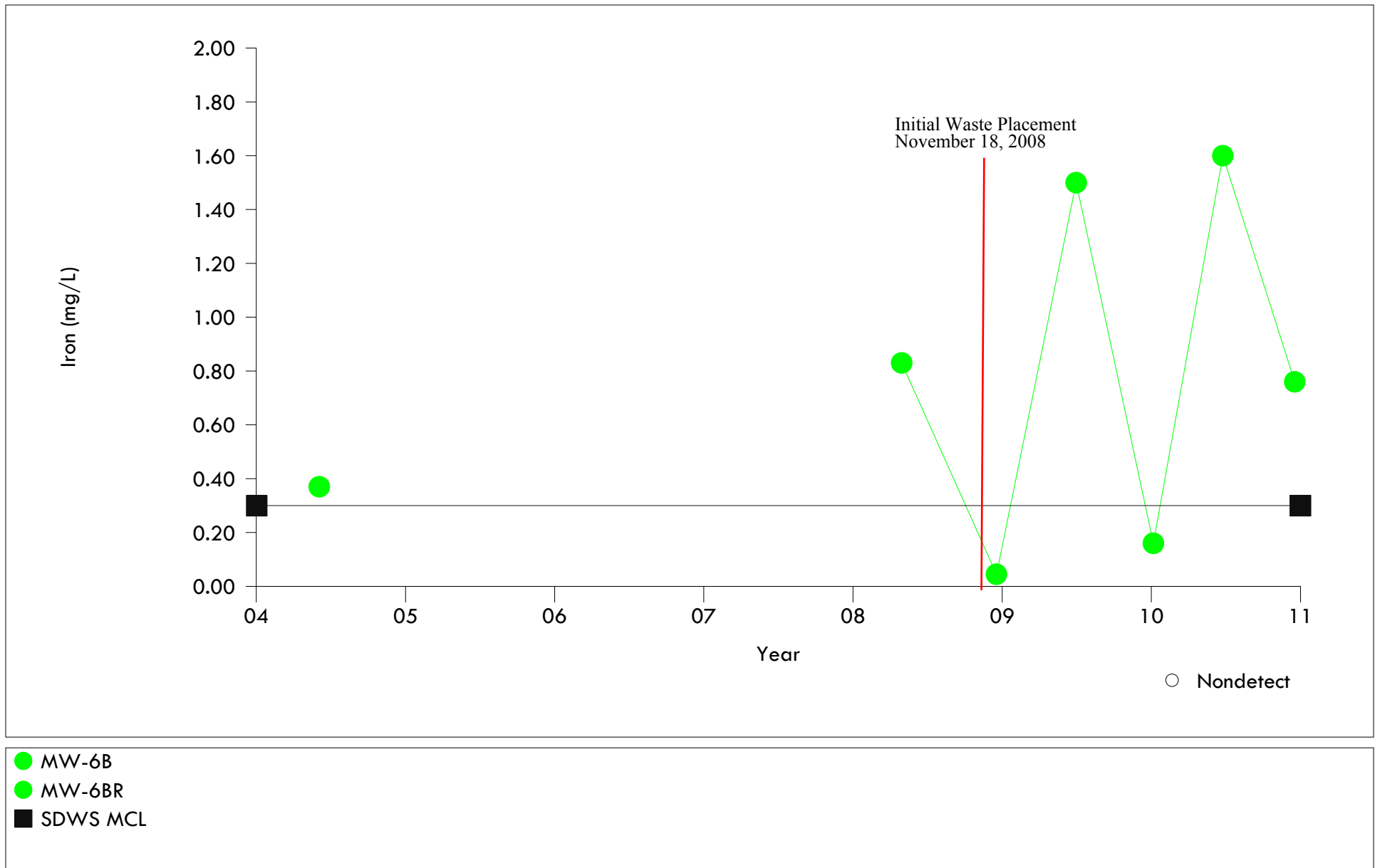
## Vista Landfill

Figure C-7. Time Series Plot for Manganese in "A" Wells



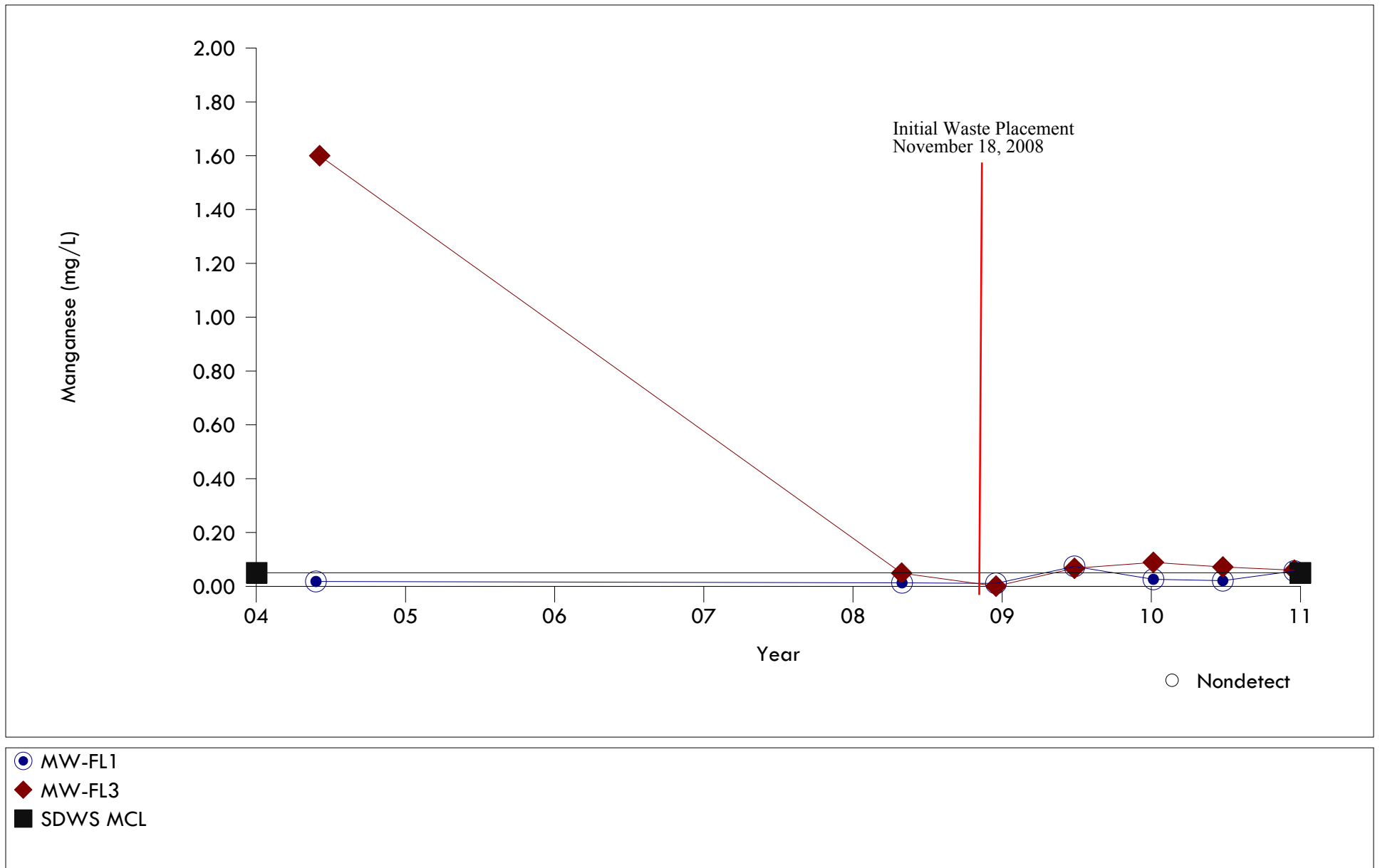
## Vista Landfill

Figure C-8. Time Series Plot for Manganese in "B" Wells



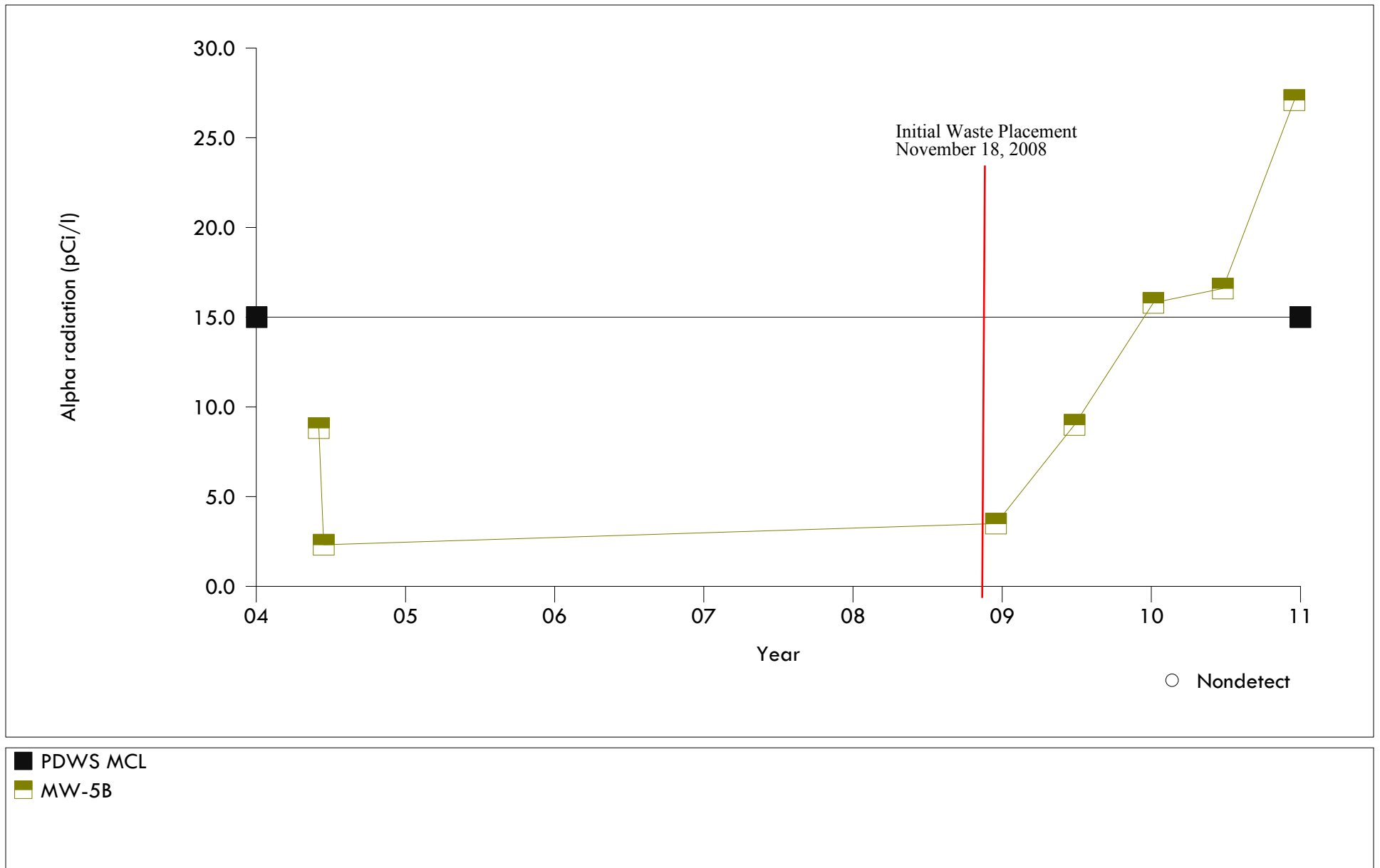
## Vista Landfill

Figure C-9. Time Series Plot for Manganese in "FL" Wells



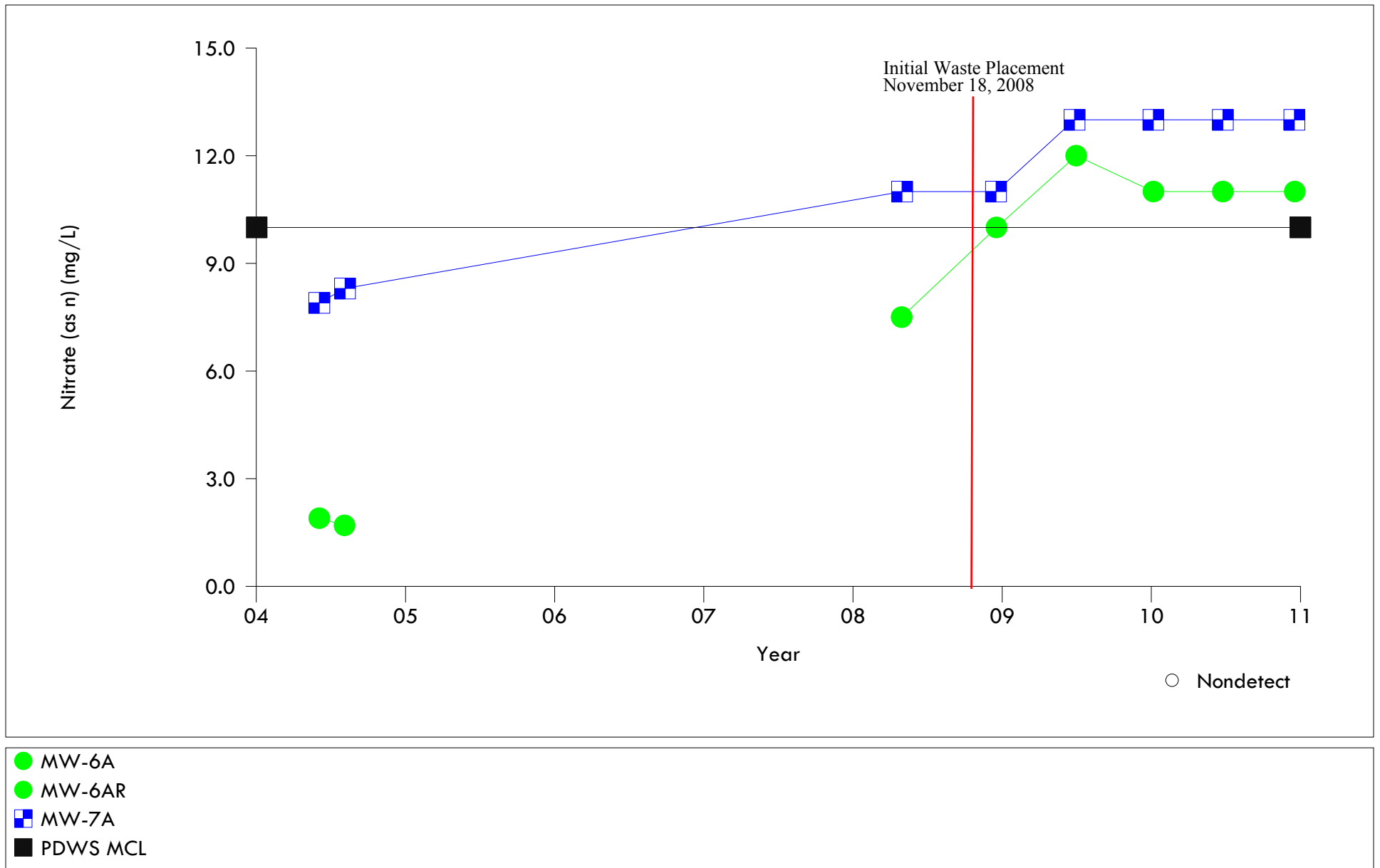
## Vista Landfill

Figure C-10. Time Series Plot for Alpha Radiation in "B" Wells



## Vista Landfill

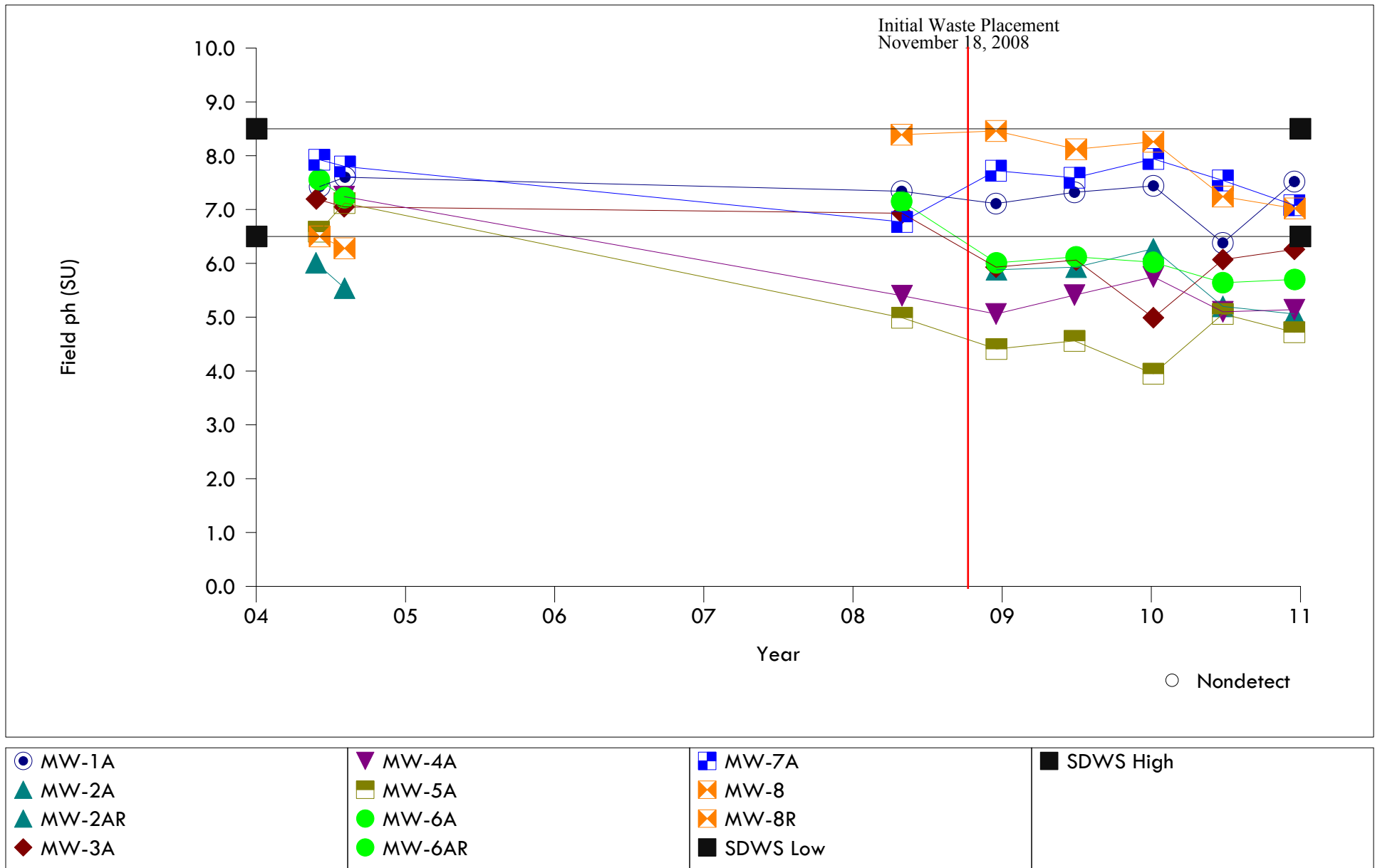
Figure C-11. Time Series Plot for Nitrate in "A" Wells





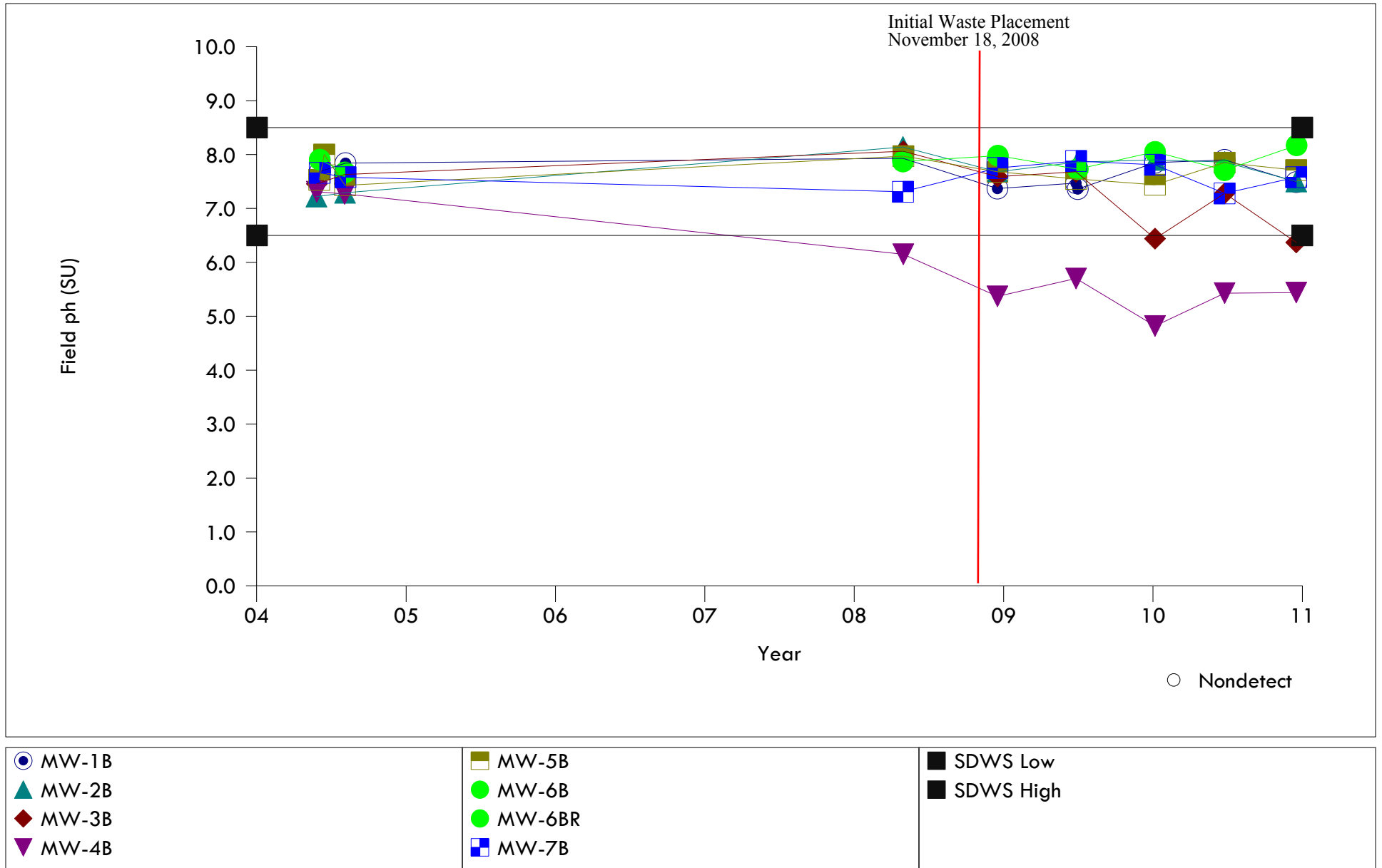
# Vista Landfill

Figure C-12. Time Series Plot for pH in "B" Wells



## Vista Landfill

Figure C-13. Time Series Plot for pH in "B" Wells



## Vista Landfill

Figure C-14. Time Series Plot for pH in "FL" Wells

