

Citrus County, Florida
Citrus County Central Class I Landfill
Facility WACS # SWD/09/39859
Permit# 21375-018-SO/01
Water Quality Monitoring Plan
Evaluation Report
Semester I 2010 – Semester II 2012

May 2013



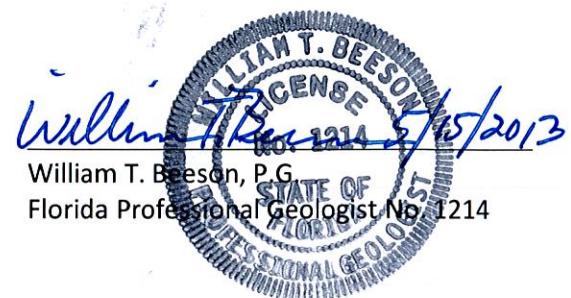
May 2013

**CDM
Smith**

Citrus County, Florida

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May 2013



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Section 1

Introduction

1.1 Background

The Citrus County Central Class I Landfill (site) is located at 230 West Gulf-to-Lake Highway, three miles east of Lecanto, Florida, in central Citrus County. The site, which is located in Section 1, Township 19 South, Range 18 East, is approximately 140 acres in size. The site is permitted to operate and continue post-closure care in accordance with Chapter 62-701, Florida Administrative Code (F.A.C.) and Permit No. 21375-018-SO/01 as modified. The site plan that is Attachment 1 of permit No. 21375-018-SO/01 included with modifications 21375-021-SO/MM and 21375-022-SO/MM dated June 4, 2012 is in **Appendix A**. The site plan shows the property boundary, zone of discharge boundary, location of the closed Class I landfill, locations of Phases 1, 1A, 2, and 3 cells of the active Class I landfill, leachate collection locations, and other features.

The site was an undeveloped portion of the Withlacoochee State Forest before landfill operations began in 1975. The western portion of the site is 60 acres in area and includes the closed Class I landfill. The primary landfilling method from 1975 through the late 1980s was unlined trench and fill. In 1988, approximately seven acres in the northeastern part of the 60-acre property was developed as a single-lined disposal unit with a leachate collection system. The closed landfill is capped with a membrane and soil cover, with the exception of an area in the east central portion of the property. A groundwater monitoring network has been in place since 1985.

The eastern portion of the site is approximately 80 acres in area and includes the active cells. The active cells comprise approximately 33 acres. The active landfill cells are lined and were developed in four phases (Phases 1, 1A, 2, and 3) beginning in 1990. Phase 1 is single-lined. Phase 1A began receiving waste in 1997 and is double-lined with a clay sub-base. Phase 2 began receiving waste in 2005 and is also double-lined with a clay sub-base. Phase 3 began receiving waste in 2011 and is double-lined with a geosynthetic clay liner. A leachate collection, storage, and treatment system serves the seven-acre lined cell on the closed portion of the site and all units on the active portion of the site.

1.2 Water Quality Monitoring Plan

Routine groundwater and leachate monitoring at the facility is performed in accordance with Specific Conditions E.1., E.3., E.4., and E.9. of Permit No. 21375-018-SO/01. Monitor wells MW-3 and MW-7 are designated as background groundwater quality monitoring locations. Wells MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20, and MW-21 are designated as compliance wells. Well MW-6 is designated as an intermediate well and wells MW-18 and MW-19 are designated as assessment wells. Groundwater samples are collected from the background and compliance wells as specified in Specific Condition E.4.b. of the permit and from the assessment wells as specified in Specific Condition E.4.d. of the permit. Groundwater samples are collected from the intermediate well as specified in Specific Condition E.4.c. Well MW-6 is used to monitor the percolation pond for the disposal of treated leachate and is therefore not included in the discussions regarding groundwater quality. **Table 1-1** is

TABLE 1-1
CITRUS COUNTY CENTRAL LANDFILL
WELL CONSTRUCTION DETAILS FOR ACTIVE WELLS AND PIEZOMETERS

Monitor Wel	Well Designation	Well Location		Casing Size (in)	Top of Casing Elev. (NGVD)	Land Surface Elev. (NGVD)	TOC vs. Land Surface (ft)	Total Depth		Filter Pack (silica sand)	Screen Details				
		Northing (ft)	Easting (ft)					(ft bsl)	(ft btoc)		Length (ft)	Depth (ft. bsl) Top	Elevation (NGVD) Top	Depth (ft. bsl) Bottom	Elevation (NGVD) Bottom
MW-AA	Piezometer	514330.1915	1642944.6946	2	106.11	104.7	1.41	116	117.4	NR	10	106	116	-1.30	-11.30
MW-B	Piezometer	515703.188	1641952.201	4	113.46	112.62	0.84	128	128.8	NR	20	108	128	4.62	-15.38
MW-E	Piezometer	514187.411	1642978.872	2	109.51	106.63	2.88	118	120.9	NR	20	98	118	8.63	-11.37
MW-1R	Piezometer	515734.4675	1644075.0314	2	118.08	115.3	2.8	125	127.8	NR	10	115	125	0.3	-9.7
MW-2	Piezometer	517016.947	1644134.0121	2	136.19	133.40	2.79	161	163.8	NR	15	146	161	-12.60	-27.60
MW-3	Background	517026.689	1641528.493	2	120.47	119.7	0.8	119	119.8	NR	15	104	119	15.7	0.7
MW-5	Piezometer	515706.7199	1643027.5870	2	121.14	118.6	2.5	120	122.5	NR	10	110	120	8.6	-1.4
MW-6	Intermediate	515710.8712	1642921.8127	2	118.48	115.8	2.7	122	124.7	NR	10	112	122	3.8	-6.2
MW-7	Background	517032.495	1642518.150	2	128.66	NR	NR	137	139.06	NR	20	117	137	11.7	-8.3
MW-8R	Piezometer	514408.379	1642551.088	2	118.08	NR	NR	128	127.98	NR	20	108	128	10.1	-9.9
MW-9	Piezometer	514411.959	1643276.437	2	113.46	NR	NR	121	120.96	NR	20	101	121	12.6	-7.5
MW-10	Compliance	514808.4751	1643659.0352	2	114.20	114.74	-0.54	120.5	120.0	20/30	20	100.5	120.5	14.24	-5.76
MW-11	Compliance	514299.5523	1643424.8999	2	105.21	105.55	-0.34	112.0	111.7	Gravel	20	92.0	112.0	13.55	-6.45
MW-12	Compliance	514306.5574	1642972.8677	2	104.01	104.50	-0.49	110.0	109.5	20/30	20	90.0	110.0	14.50	-5.50
MW-13	Compliance	514299.7062	1642543.8233	2	112.61	113.12	-0.51	120.0	119.5	20/30	20	100.0	120.0	13.12	-6.88
MW-14	Compliance	514302.3733	1642085.7341	2	109.12	109.58	-0.46	116.0	115.5	20/30	20	96.0	116.0	13.58	-6.42
MW-15	Compliance	514845.7153	1641844.4367	2	124.21	124.65	-0.44	130.0	129.6	20/30	20	110.0	130.0	14.65	-5.35
MW-16	Piezometer	515765.2792	1642292.6040	2	120.31	120.72	-0.41	127.0	126.6	20/30	20	107.0	127.0	13.72	-6.28
MW-17	Compliance	515619.9611	1641846.2474	2	111.55	112.07	-0.52	118.0	117.5	20/30	20	98.0	118.0	14.07	-5.93
MW-18	Assessment	514730.9420	1643746.0676	2	116.41	116.71	-0.30	120.0	119.7	20/30	20	100.0	120.0	16.71	-3.29
MW-19	Assessment	514816.3731	1643660.2048	2	114.16	114.56	-0.40	140.0	139.6	20/30	10	130.0	140.0	-15.44	-25.44
MW-20	Compliance	516104.004	1642999.189	2	119.74	NR	NR	125.7	125.7	20/30	20	105.0	125.0	NR	NR
MW-21	Compliance	515259.800	1643743.909	2	115.63	NR	NR	125.9	125.9	20/30	20	105.0	125.0	NR	NR
PZ-1	Piezometer	514454.2759	1643505.5893	2	111.56	111.86	-0.30	120.0	119.7	20/30	20	100.0	120.0	11.86	-8.14
PZ-2	Piezometer	515020.7612	1643833.4593	2	117.32	117.51	-0.19	120.0	119.8	20/30	20	100.0	120.0	17.51	-2.49

NOTES:

Well Location (Northing and Easting) and Top of Casing (TOC) Elevations from Citrus County Boundary Survey dated 02/10/2011

NGVD - National Geodetic Vertical Datum 1929

Elevations of MW-20 and MW-21 converted to NGVD from NAVD 1988 data from Citrus County Boundary Survey dated 02/10/2011

Total Depths (ft btoc) of MW-20 and MW-21 measured on 01/14/2011 by CDM Smith

Total Depth (ft bsl) and Filter Pack information from Attachment 2 of the Water Quality and Leachate Monitoring Plan (WQLMP) dated 09/22/10

"TOC vs. Land Surface" values calculated using difference between TOC & ground elevation data presented in Attachment 2 of the WQLMP dated 09/22/10

Land Surface Elevations calculated using "TOC vs. Land Surface" values and the TOC Elevations from Citrus County Boundary Survey dated 02/10/2011

Screen Elevations (NGVD) calculated using screen depths (ft bsl) from data presented in Attachment 2 of the WQLMP dated 09/22/10 and revised land surface elevations

NR - Not Recorded

btoc - below top of casing

bsl - below land surface

ft - feet

in - inches

a construction summary of all monitor wells and piezometers from the Well Construction Details table in Attachment 2 of the Water Quality and Leachate Monitoring Plan (WQLMP) September 22, 2010. The well location and well construction information in the table from the WQLMP has been updated in Table 1-1 based on information from the Ground Water Monitoring Well Installation letter and supporting documents dated March 2, 2011, prepared by SCS Engineers.

Groundwater monitoring of the background, compliance, assessment, and intermediate wells is performed semi-annually in accordance with Specific Condition E.4. Surface water monitoring requirements are in Specific Condition E.8. Leachate monitoring requirements are in Specific Condition E.9. Groundwater and leachate samples are collected and analyzed in accordance with quality assurance requirements specified in Specific Condition E.1 of the permit. The samples are collected and analyzed by personnel from TestAmerica Laboratories. Surface water samples were not collected because there were no off-site discharges.

Specific Condition E.3. of the permit designates wells MW-1R, MW-2, MW-5, MW-8R, MW-9, MW-16, MW-AA, MW-B, MW-E, PZ-1, and PZ-2 as piezometers. In accordance with Specific Condition E.4.a, groundwater level measurements are collected from all active monitor wells and piezometers during each routine sampling event.

1.3 Report Contents and Organization

This Water Quality Monitoring Plan Evaluation Report (WQMPER) includes monitoring data from Semester I of 2010 through Semester II of 2012 as specified by Specific Condition E.11 of the permit. As required by Chapter 62-701.510(8)(b) and referenced in Specific Condition E.11 of the permit, this report includes the following:

- Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitor wells and piezometers;
- Trend analyses of any monitoring parameters consistently detected;
- Comparisons among shallow, middle, and deep zone wells, as appropriate;
- Comparisons between background water quality and the water quality in compliance wells;
- Correlations between related parameters;
- Discussion of erratic and/or poorly correlated data;
- An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
- An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

The report is divided into four sections. Section 1 includes an overview of the water quality monitoring program for the Citrus County Central Class I Landfill. Section 2 presents and discusses groundwater level data. Section 3 presents and discusses groundwater quality data, the results of

leachate monitoring, and interpretations of the data. Section 4 presents conclusions and recommendations based on the evaluations.

Section 2

Groundwater Level Data

2.1 Groundwater Levels

Prior to conducting each of the routine groundwater sampling events during the 2010 – 2012 reporting period, groundwater water levels were measured in the wells and piezometers designated in Specific Condition E.4.a. All of the wells and piezometers are screened in the Floridan aquifer or in sediments directly connected to the Floridan aquifer. The groundwater level data are presented in **Table A-1 (Appendix A)**. Hydrographs are presented in **Figures A-1 through A-6** (Appendix A). Groundwater level contour maps of the Floridan aquifer beneath the facility during the 2010 – 2012 reporting period are presented in Appendix A.

The highest groundwater level elevations are typically in wells that are located in the eastern part of the site (MW-2, MW-3, and MW-7). The lowest groundwater level elevations are typically measured in wells that are located in the western and northwestern part of the site (MW-E, MW-11, and PZ-2). Evaluations of the hydrographs indicate that groundwater levels in July 2012 were generally more than two feet higher than in the previous two July sampling events in 2011 and 2010. The seasonal fluctuations before the July 2012 event were less than 0.5 foot in 2010 and 2011. The high groundwater levels in July 2012 are attributed to heavy rainfall associated with Tropical Storms Beryl and Debby.

2.2 Direction and Rate of Groundwater Movement

Groundwater level contour maps of the Floridan aquifer beneath the facility during the 2010 – 2012 reporting period indicate that the general direction of the groundwater water movement in the Floridan aquifer at the site is generally from east to west. However, the high groundwater level elevations in the center of the site (MW-5 and MW-6) also indicate that groundwater moves radially from the approximate center of the site to the north, south, and west. Local gradient reversals shown on the groundwater level contour map for July 2012 are attributed to the heavy rainfall associated with Tropical Storm Beryl and Tropical Storm Debby and the resulting high levels of water in stormwater management facilities.

The disposal of contaminated stormwater from the Phase III cell in detention-retention area DRA 4 also likely contributed to the temporary variations in gradients. The berm in the Phase III cell failed as a result of the heavy rainfall associated with Tropical Storm Beryl. The contaminated stormwater resulting from the failure of the berm in the Phase III cell was disposed of in DRA 4 after Tropical Storm Beryl with FDEP approval and after Tropical Storm Debby in accordance with a State of Emergency declaration.

The hydraulic gradient in the north, south and west directions for each event was estimated by calculating hydraulic gradients for three transects of the site that correlate with each direction of groundwater movement. The three transects are: 1) from the center of the site (MW-6) north to MW-1R; 2) from MW-6 west to MW-AA; and, 3) from MW-6 south to MW-B. The gradients calculated for the July 2012 event were not used to calculate average hydraulic gradients because the data are not representative of typical conditions. The average hydraulic gradient for groundwater movement from

January 2010 to January 2012 in the northward direction was 0.0014, in the westward direction was 0.0011, and in the southward direction was 0.0013.

Slug tests were performed in two Floridan aquifer wells at the site as part of the investigations performed by Jones Edmonds and Associates, Inc. (JEA). Results of the investigations, including the slug test data, were reported in the Citrus County Central Landfill Groundwater Investigative Report (GWIR) dated January 2006 and the Citrus County Central Landfill Request for Additional Information (RAI) response dated September 2006. The hydraulic conductivity values calculated from these test data ranged from a low of 5.53 feet/day to a high of 40.04 feet/day. In addition, an average value for the hydraulic conductivity of the Floridan aquifer at the site of 4.86 feet/day was reported by JEA in the Citrus County Central Landfill Site Assessment Report (SARA) dated October 2007. The data used to calculate this value were obtained from slug tests performed in four wells at the site.

The average horizontal seepage velocities to the north, south and west in the Floridan aquifer beneath the site were estimated using the two-dimensional form of Darcy's Law below:

$$V_s = \frac{K_H i}{n_e}$$

where: V_s = Horizontal seepage velocity (feet/day)

K_H = Horizontal hydraulic conductivity (feet/day)

i = Hydraulic gradient

n_e = Effective porosity

The horizontal seepage rates to the north, south and west in the Floridan aquifer beneath the site were calculated using the average hydraulic gradients calculated for each of these directions and the most conservative values (i.e., the highest) for hydraulic conductivity (40.04 feet/day) and effective porosity (25% as presented in Fetter, 2001, Applied Hydrogeology 4th Edition, Prentice Hall 66-204). Based on these data, the calculated conservative estimates for the rate of groundwater movement in the Floridan aquifer beneath the site for northward groundwater movement is 0.224 foot/day or approximately 6.65 feet/month, for southward groundwater movement is 0.208 foot/day or approximately 6.18 feet/month, and for westward groundwater movement is 0.176 foot/day or approximately 5.23 feet/month.

Section 3

Groundwater and Leachate Quality

3.1 Groundwater Quality

3.1.1 Groundwater Data

Table B-1 (Appendix B) summarizes field parameter measurements and detected analytes from groundwater sampling events conducted during the 2010-2012 reporting period. Concentration versus time graphs (**Figures B-1 through B-86**) for all analytes that were detected consistently (in more than one-half of the samples) in samples from individual wells during the 2010-2012 reporting period are also in Appendix B.

3.1.2 Groundwater Quality in Background Wells

Currently, there are only two wells designated as background wells (MW-3 and MW-7). Monitor wells MW-1R and MW-2, formerly designated as background wells, were re-designated as piezometers in 2011 and 2010, respectively when the permit was renewed or modified and are not included in the discussion of background groundwater quality. **Table 3-1** is a summary of concentrations of analytes detected in groundwater samples from background wells in concentrations exceeding Maximum Contaminant Levels (MCLs) or outside the acceptable pH range established in Chapter 62-550, F.A.C. and/or Groundwater Cleanup Target Levels (GCTLs) established in 62-777, F.A.C.

Iron and lead were the only analytes detected in samples from background wells in concentrations that exceeded MCLs. Average and maximum background concentrations and values for iron and pH from the samples collected from background wells are shown on Table 3-1. Lead was detected above the Primary Drinking Water Standard (PDWS) MCL in the first two groundwater samples collected from background well MW-3 during the 2010 – 2012 reporting period. Average and maximum background concentrations are not included in Table 3-1 because lead was not detected in concentrations that exceeded the PDWS MCL in any samples collected from compliance or assessment wells.

Iron was detected above the Secondary Drinking Water Standard (SDWS) MCL in the groundwater samples collected from background well MW-7 during 2011 and 2012. The concentrations of iron detected in all of the samples collected from background well MW-3 during the 2010 – 2012 reporting period were below the SDWS MCL.

All of the pH values measured in the samples collected from all of the background wells during the 2010-2012 reporting period were below the acceptable value of 6.5 (S.U.). The lowest pH value of 3.64 S.U. in the sample collected from MW-7 in July 2010 was approximately one standard unit below the other values measured in this well during the monitoring period and may be anomalous.

3.1.3 Groundwater Quality in Compliance Wells

Groundwater quality is monitored in nine compliance wells. The results of groundwater quality monitoring performed during the 2010 – 2012 reporting period were compared to established criteria including PDWS and SDWS MCLs and GCTLs. Concentrations of parameters that exceeded the MCLs or GCTLs were also compared to background concentrations. Analytical results for parameters detected at concentrations exceeding MCLs and GCTLs in groundwater samples collected from compliance wells

Table 3-1. Background Wells - Parameters Detected in Groundwater Samples at Concentrations Exceeding Groundwater Quality Criteria

Well	Parameter	Units	GCTL/MCL	Average Background Concentration/Value	Maximum Background Concentration/Value	DATE OF SAMPLE					
						January 2010	July 2010	January 2011	July 2011	January 2012	July 2012
MW-3	Iron	µg/L	300	301	920	150	120	33 U	80 I	130	150
	Lead	µg/L	15	NA	NA	45	17	5.2	8.0	5.6	5.6
	pH	S.U.	6.5 - 8.5	4.76	3.64 †	4.86	4.76	5.00	4.58	4.65	4.69
MW-7	Iron	µg/L	300	301	920	160	200	340	510	840	920
	pH	S.U.	6.5 - 8.5	4.76	3.64 †	5.25	3.64	5.07	4.60	5.10	4.94

NOTES:

Concentration of the parameter exceeds the MCL/GCTL or the value of pH is outside the acceptable MCL range.

† = Because all of the pH values measured in background wells that are outside the acceptable MCL range are below the acceptable range, the minimum value is presented.

µg/L = Microgram per liter

S.U. = Standard Units

MCL = Maximum Contaminant Level established in Chapter 62-550, F.A.C.

GCTL = Groundwater Cleanup Target Level established in Chapter 62-777, F.A.C.

NA = Not applicable because there were no exceedances in samples from compliance wells.

U = Not detected

I = Detected below the Practical Quantitation Limit

during the 2010 – 2012 reporting period are summarized in **Table 3-2**. Analytes detected in concentrations that exceeded MCLs in at least one sample from the compliance wells included benzene, methylene chloride, vinyl chloride and iron. Values of pH below the acceptable SDWS criterion were also measured in samples from seven of the nine compliance wells.

Benzene in samples from MW-10 and MW-21, methylene chloride in samples from MW-10, and vinyl chloride in samples from MW-10 and MW-13 were the only organic compounds detected in concentrations that exceeded PDWS MCLs in the groundwater samples collected from compliance wells during the 2010-2012 monitoring period. The concentrations of benzene that were detected in samples from MW-10 varied from 0.59 µg/L to 2.7 µg/L during this monitoring period.

Concentrations of benzene in samples from well MW-21 varied from 1.8 ug/L to 2.8 ug/L during this monitoring period.

The concentrations of methylene chloride detected in samples from MW-10 varied from not detected (< 4.0 ug/L) to 6.5 µg/L this monitoring period. The concentration of vinyl chloride in samples collected from MW-10 during this monitoring period varied from 0.81 ug/L (estimated) to 3.7 ug/l.

Vinyl chloride concentrations in one sample collected from well MW-13 and in most of the samples from well MW-21 during this monitoring period exceeded the PDWS MCL. The highest reported concentrations in samples from these wells was 1.3 ug/L. Using the rounding method described in the FDEM memo *Rounding Analytical Data for Site Rehabilitation Completion*, dated November 17, 2011, the highest concentrations detected in samples from these wells are not considered to exceed the PDWS MCL.

Iron was detected in concentrations above the SDWS MCL and maximum background concentration in all of the samples collected during the 2010-2012 monitoring period from all compliance wells except MW-11 and MW-14. The highest concentrations of iron were detected in samples from well MW-20. The concentrations of iron detected in the samples collected from MW-20 since the well was first sampled in January 2011 have ranged from 21,000 µg/L in the January 2011 sample to 39,000 µg/L in the July 2012 sample.

Values for pH below the acceptable SDWS range were measured in all of the samples collected during the 2010-2012 monitoring period from all compliance wells except MW-11 and MW-14. The pH value was below the acceptable range in only one of the samples collected from compliance wells MW-12 during the 2010 – 2012 reporting period.

3.1.4 Groundwater Quality in the Assessment Wells

Samples from the assessment wells MW-18 and MW-19 are analyzed for benzene, methylene chloride, and vinyl chloride in accordance with Specific Condition E.4.d. Vinyl chloride was the only analyte detected in concentrations that exceeded the PDWS MCL in samples from these wells. Values for pH were below the acceptable SDWS value in all samples. Results are summarized in Table 3-2.

Vinyl chloride was only detected in the sample collected from MW-18 in January 2011 (1.2 ug/L) and in the sample collected from MW-19 in January 2012 (1.1 ug/l). With the application of the rounding FDEM memorandum entitled “Rounding Analytical Data for Site Rehabilitation Completion” dated November 17, 2011, concentrations of vinyl chloride are not considered to exceed the MCL in the samples collected during this monitoring period.

Table 3-2. Parameters Detected in Citrus County Central Class I Landfill Compliance and Assessment Wells at Concentrations Exceeding Regulatory Criteria

Well No.	Well Designation	Parameter	Units	GCTL/MCL	Average Background Concentration/Value	Maximum Background Concentration/Value	Date of Sample					
							Jan-10	Jul-10	Jan-11	Jul-11	Jan-12	Jul-12
MW-10	Compliance	Benzene	ug/l	1	NA	NA	2.7	2.2	2.4	0.59 I	2.5	1.7
MW-10	Compliance	Iron, total	ug/l	300	301	920	4,200	4,600	8,600	4,600	6,300	6,300
MW-10	Compliance	Methylene chloride	ug/l	5	NA	NA	6.0	5.2 Δ	6.5	4.0 U	5.3 Δ	4.6 I
MW-10	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	4.53	4.06	4.83	4.55	4.51	4.47
MW-10	Compliance	Vinyl Chloride	ug/l	1	NA	NA	3.2	3.4	3.7	0.81 I	2.8	2.5
MW-12	Compliance	Iron, total	ug/l	300	301	920	5,800	4,400	6,300	2,500	4,700	6,900
MW-12	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	6.67	6.67	6.72	6.42	6.58	6.76
MW-13	Compliance	Iron, total	ug/l	300	301	920	2,700	2,400	2,300	2,500	3,000	3,200
MW-13	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	5.31	4.28	5.35	4.85	5.14	5.29
MW-13	Compliance	Vinyl Chloride	ug/l	1	NA	NA	0.88 I	1.0	1.2 Δ	0.93 I	0.91 I	0.72 I
MW-15	Compliance	Iron, total	ug/l	300	301	920	5,400	4,200	5,100	6,200	6,100	8,200
MW-15	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	4.58	3.35	4.70	4.41	4.29	4.56
MW-17	Compliance	Iron, total	ug/l	300	301	920	7,200	6,100	7,500	4,200	7,600	7,700
MW-17	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	5.06	4.11	5.18	4.89	4.92	4.69
MW-20	Compliance	Iron, total	ug/l	300	301	920	NS	NS	21,000	32,000	31,000	39,000
MW-20	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	NS	NS	5.60	5.61	5.58	5.49
MW-21	Compliance	Benzene	ug/l	1	NA	NA	NS	NS	2.6	2.4	2.8	1.8
MW-21	Compliance	Iron, total	ug/l	300	301	920	NS	NS	1,000	2,100	1,500	1,400
MW-21	Compliance	pH	SU	6.5 - 8.5	4.76	3.64†	NS	NS	4.53	4.21	4.56	4.48
MW-21	Compliance	Vinyl Chloride	ug/l	1	NA	NA	NS	NS	1.2 Δ	1.3 Δ	1.1 Δ	0.84 I
MW-18	Assessment	pH	SU	6.5 - 8.5	4.76	3.64†	5.29	4.78	5.26	5.34	4.92	4.90
MW-18	Assessment	Vinyl Chloride	ug/l	1	NA	NA	0.81 I	0.50 U	1.2 Δ	0.50 U	0.50 U	0.50 U
MW-19	Assessment	pH	SU	6.5 - 8.5	4.76	3.64†	6.23	4.96	5.61	5.80	5.25	5.76
MW-19	Assessment	Vinyl Chloride	ug/l	1	NA	NA	0.50 U	0.50 U	0.50 U	0.50 U	1.1 Δ	0.50 U

NOTES:

[Green Box] Concentration exceeds the MCL/GCTL and maximum background concentration
 [Blue Box] Concentration exceeds the MCL/GCTL and the average background concentration
 [Yellow Box] Concentration exceeds the MCL/GCTL

GCTL - Groundwater Cleanup Target level (Chapter 62-777, F.A.C.)

MCL - Maximum Contaminant Target Level (Chapter 62-550, F.A.C.)

ug/l - micrograms per liter

† = Because all of the pH values measured in background wells that are outside the acceptable MCL range are below the acceptable range, the minimum value is presented.

Δ = Although the lab reported this concentration in tenths, using the rounding method described in FDEP Rounding Analytical Data for Site Rehabilitation Completion memo dated November 17, 2011, the value can be rounded to the nearest whole integer.

NA - Not applicable

NS - Either no sample was collected from this well or sample was not analyzed for this parameter

NTU - nephelometric turbidity units

I - analyte detected below the quantitation limit

U = analyte not detected. Concentration shown is the method detection limit

SU - Standard Unit

3.1.5 Trends and Correlations

Figures B-1 through B-86 (Appendix B) are time versus concentration graphs for parameters that were consistently detected in groundwater samples collected during the 2010 – 2012 reporting period. With the exception of several parameters in samples from background wells, there are few strong increasing or decreasing trends in concentrations. In most areas of the site, groundwater quality remained stable.

Concentrations of benzene, arsenic, iron and ethylbenzene increased during the monitoring period in samples from background well MW-7. Concentrations of iron now exceed the SDWS MCL and concentrations of arsenic and benzene are approaching the PDWS MCL. Turbidity values have generally declined during the monitoring period. Concentrations of lead declined in samples from background well MW-3 during the monitoring period and have remained stable below the PDWS MCL since the January 2011 monitoring event.

With the exceptions of iron and arsenic in samples from well MW-20 and iron in samples from well MW-15, there were no strong trends in concentrations of analytes in samples from compliance and assessment wells. The concentrations of iron in samples from MW-20 have remained above the SDWS MCL and have increased since the well was initially sampled in January 2011. Concentrations of arsenic in samples from MW-20 also increased to just below the PDWS MCL during the reporting period. The concentrations of iron in samples from MW-15 have also remained above the SDWS MCL and have increased since the July 2010 monitoring event. Concentrations of benzene, cis-1,2-dichloroethene, methylene chloride, vinyl chloride and xylene in the samples collected from MW-10 and MW-21 decreased slightly during the reporting period.

Neither increasing nor decreasing trends in concentrations or the generally low pH values correlate with concentrations of other leachate indicator parameters such as dissolved chlorides and TDS. Concentrations of dissolved chlorides and TDS have remained stable and below the SDWS MCLs in samples from all wells. These data indicate that the concentrations of iron that exceed the SDWS MCL and the low pH values are naturally occurring.

The absence of leachate indicator parameters such as dissolved chlorides and TDS in samples from well MW-10 also indicate that the presence of organic parameters in samples from well MW-10 may not be directly related to a discharge of landfill leachate. In addition, the presence of a similar suite of organic compounds in samples from background well MW-10 suggests that the organic compounds are not associated with the landfill.

3.2 Leachate Quality

3.2.1 Annual Leachate Monitoring Data

In accordance with Specific Condition E.9.a.(1) of the Permit for the facility, leachate influent sampling and analyses is required to be conducted annually during the monitoring period. Sampling was performed on July 27, 2010, July 20, 2011, and July 18, 2012. **Table B-2** (Appendix B) is a summary of field parameters and analytes detected in leachate influent samples.

3.2.2 Leachate Quality

The annual leachate influent analytical results from the 2010 – 2012 reporting period were compared to established toxicity characteristic values in Table 1 of 40 CFR Part 261.24. None of the analytes in any of the leachate samples exceeded the maximum concentrations for the toxicity characteristic.

Section 4

Conclusions and Recommendations

4.1 Conclusions

The following conclusions are based on evaluation of the data presented in this WQMPER:

- All of the monitor wells and piezometers at the site are screened in the Floridan aquifer or in sediments directly connected to the Floridan aquifer.
- The seasonal fluctuations before the July 2012 event were less than 0.5 foot in 2010 and 2011. The high groundwater levels in July 2012 are attributed to heavy rainfall associated with Tropical Storms Beryl and Debby.
- The general direction of the groundwater water movement in the Floridan aquifer beneath the site is generally from east to west. However, the high groundwater level elevations in the center of the site (MW-5 and MW-6) also indicate that groundwater moves radially from the approximate center of the site to the north, south, and west.
- Local gradient reversals shown on the groundwater level contour map for July 2012 are attributed to the heavy rainfall associated with Tropical Storm Beryl and Tropical Storm Debby and the resulting high levels of water in stormwater management facilities.
- The disposal of contaminated stormwater from the Phase III cell in DRA 4 contributed to the temporary variations in gradients. The berm in the Phase III cell failed as a result of the extraordinary rainfall associated with Tropical Storm Beryl. The contaminated stormwater resulting from the failure of the berm in the Phase III cell was disposed of in DRA 4 after Tropical Storm Beryl with FDEP approval and after Tropical Storm Debby in accordance with a State of Emergency declaration.
- The average hydraulic gradient for groundwater movement from January 2010 to January 2012 in the northward direction was 0.0014, in the westward direction was 0.0011, and in the southward direction was 0.0013.
- The calculated conservative estimates of the rates of groundwater movement in the Floridan aquifer beneath the site are 0.224 foot/day or approximately 6.65 feet/month to the north, 0.208 foot/day or approximately 6.18 feet/month to the south, and 0.176 foot/day or approximately 5.23 feet/month to the west.
- Iron and lead were the only analytes detected in samples from background wells in concentrations that exceeded MCLs.
- Values for pH were below the acceptable range in all of the samples collected from all of the background wells.
- Concentrations of benzene, methylene chloride, vinyl chloride and iron exceeded MCLs in at least one sample from the compliance wells.

- Benzene concentrations in samples from MW-10 and MW-21 exceeded the PDWS MCL.
- Methylene chloride concentrations in samples from MW-10 exceeded the PDWS MCL.
- Vinyl chloride concentrations in one sample collected from well MW-13 and in most of the samples from well MW-21 during this monitoring period exceeded the PDWS MCL. Using the rounding method described in the FDEP memo *Rounding Analytical Data for Site Rehabilitation Completion*, dated November 17, 2011, the highest concentrations of vinyl chloride detected in samples from these wells are not considered to exceed the PDWS MCL.
- Iron was detected above the SDWS MCL and maximum background concentration in all of the samples collected during the 2010-2012 monitoring period from all compliance wells except MW-11 and MW-14.
- Values for pH below the acceptable SDWS range were measured in all of the samples collected during the 2010-2012 monitoring period from all compliance wells except MW-11 and MW-14. The pH value was below the acceptable range in only one of the samples collected from compliance wells MW-12 during the 2010 – 2012 reporting period.
- Vinyl chloride was only detected in the sample collected from assessment well MW-18 in January 2011 (1.2 ug/L) and in the sample collected from assessment well MW-19 in January 2012 (1.1 ug/l). With the application of the rounding FDEP memorandum entitled “Rounding Analytical Data for Site Rehabilitation Completion” dated November 17, 2011, concentrations of vinyl chloride are not considered to exceed the MCL in the samples collected during this monitoring period.
- Values of pH below the SDWS acceptable range were measured in all of the samples collected from both assessment wells during this reporting period.
- There are few strong increasing or decreasing trends in concentrations. In most areas of the site, groundwater quality remained stable.
- Concentrations of benzene, arsenic, iron and ethylbenzene increased during the monitoring period in samples from background well MW-7. Concentrations of iron now exceed the SDWS MCL and concentrations of arsenic and benzene are approaching the PDWS MCL.
- Concentrations of lead declined in samples from background well MW-3 during the monitoring period and have remained stable below the PDWS MCL since the January 2011 monitoring event.
- The concentrations of iron in samples from MW-20 have remained above the SDWS MCL and have increased since the well was initially sampled in January 2011. Concentrations of arsenic in samples from MW-20 also increased to just below the PDWS MCL during the reporting period.
- The concentrations of iron in samples from MW-15 have also remained above the SDWS MCL and have increased since the July 2010 monitoring event.
- Concentrations of benzene, cis-1,2-dichloroethene, methylene chloride, vinyl chloride and xylene in the samples collected from MW-10 and MW-21 decreased slightly during the reporting period.

- Neither increasing nor decreasing trends in concentrations or the generally low pH values correlate with concentrations of other leachate indicator parameters such as dissolved chlorides and TDS.
- Concentrations of dissolved chlorides and TDS have remained stable and below the SDWS MCLs in samples from all wells. These data indicate that the concentrations of iron that exceed the SDWS MCL and the low pH values are naturally occurring.
- The absence of leachate indicator parameters such as dissolved chlorides and TDS in samples from well MW-10 and the presence of a similar suite of organic compounds in samples from background well MW-7 also indicate that the presence of organic parameters in samples from well MW-10 may not be directly related to a discharge of landfill leachate.
- None of the analytes in any of the leachate samples exceeded the maximum concentrations for the toxicity characteristic.
- There is no evidence of a discharge of leachate into the groundwater at the site.
- The groundwater monitoring program is sufficient to detect a release of contaminants into groundwater.

4.2 Recommendations

Routine monitoring of background and compliance wells should continue in accordance with the September 2010 WQLMP. Annual monitoring of assessment wells is recommended instead of semi-annual monitoring. Routine annual leachate monitoring should cease in response to changes in Chapter 62-701.510.

Appendix A

Site Plan and Water Level Data

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

SEP 30 2010

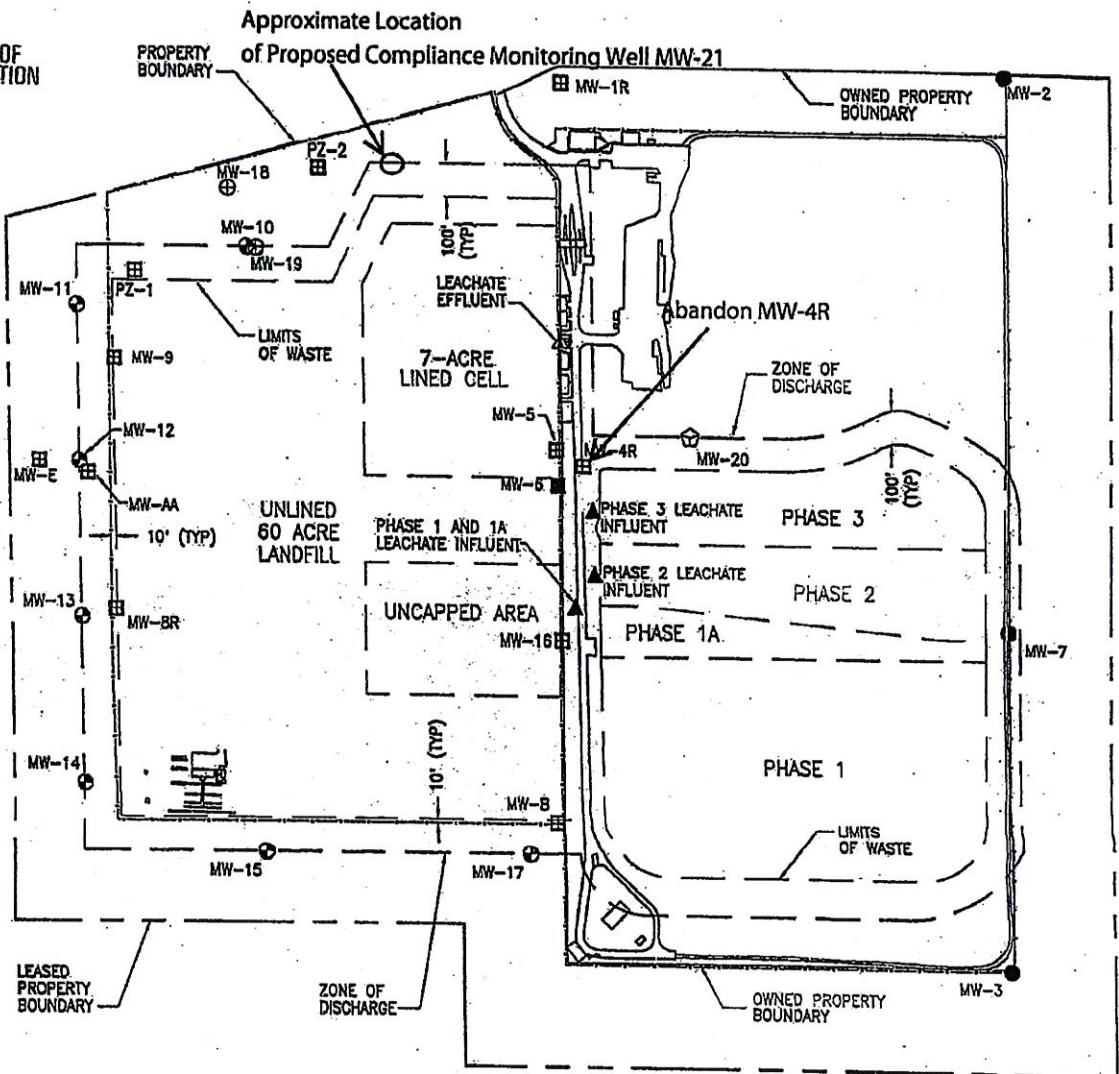
SOUTHWEST DISTRICT
TAMPA

GRAPHIC SCALE
0 125 250 500
SCALE IN FEET

LEGEND

- BACKGROUND WELLS
- COMPLIANCE MONITORING WELL
- ASSESSMENT MONITORING WELL
- INTERMEDIATE WELL
- PIEZOMETERS
- PROPOSED COMPLIANCE WELL
- ▲ LEACHATE INFILTRATION SAMPLING LOCATION
- △ LEACHATE EFFLUENT SAMPLING LOCATION
- ZONE OF DISCHARGE
- PROPERTY BOUNDARY (OWNED BY COUNTY)
- PROPERTY BOUNDARY (LEASED BY COUNTY)
- LIMITS OF WASTE
- PROPERTY BOUNDARY (LEASED BY COUNTY)

NOTE: THIS MAP REFLECTS CHANGES TO THE MONITORING NETWORK PROPOSED WITH THE PHASE 3 EXPANSION



ATTACHMENT 1 SITE PLAN
CITRUS COUNTY CENTRAL LANDFILL

Modified by SCS Engineers to add proposed compliance monitoring well location and proposed piezometer abandonment-September 22, 2010

Table A-1. Static Water Level Elevations From All Monitor Wells and Piezometers From August 2010 To August 2012

Monitor Well or Piezometer	Static Water Level Elevations (FT NGVD 29*)					
	2010		2011		2012	
	1/25/10	7/26/10	1/18/11	7/19/11	1/17/12	7/17/12
MW-AA	5.06	5.52	4.88	5.40	4.75	7.32
MW-B	5.34	5.73	5.09	5.70	5.00	7.68
MW-E	4.95	5.42	4.77	5.36	4.70	7.31
MW-1R	4.93	5.56	4.86	5.24	4.65	8.73
MW-2	6.44	7.33	7.67	6.62	6.28	6.77
MW-3	6.25	7.47	6.95	6.53	5.82	11.02
MW-4R	3.18	4.07	NA	NA	NA	NA
MW-5	6.34	7.25	6.77	6.15	6.06	7.36
MW-6	6.45	7.28	6.77	6.18	6.40	7.46
MW-7	6.23	7.11	6.93	6.23	5.92	7.08
MW-8R	4.99	5.59	4.92	5.37	4.70	7.24
MW-9	4.88	5.39	4.74	5.32	4.61	7.29
MW-10	6.40	7.14	6.91	6.43	6.15	8.81
MW-11	5.25	5.70	5.07	5.61	4.98	7.60
MW-12	5.37	5.84	5.20	5.80	5.13	7.73
MW-13	5.52	6.09	5.56	5.93	5.36	7.40
MW-14	5.37	5.81	5.15	5.73	5.08	7.73
MW-15	5.62	6.28	5.83	6.03	5.53	7.17
MW-16	5.61	6.11	5.48	6.01	5.31	8.07
MW-17	5.57	6.06	5.41	6.02	5.31	8.05
MW-18	6.33	7.22	6.76	6.21	5.93	11.39
MW-19	6.27	7.11	6.75	6.38	6.02	8.68
MW-20	NA	NA	6.25	5.94	5.56	7.65
MW-21	NA	NA	5.92	5.85	5.33	7.88
PZ-1	5.33	5.82	5.18	5.77	5.07	7.72
PZ-2	5.10	5.61	4.96	5.53	4.84	7.43
HG from MW-6 to MW-1R	0.0013	0.0015	0.0017	0.0008	0.0015	-0.0011
HG from MW-6 to MW-AA	0.0010	0.0013	0.0014	0.0006	0.0012	0.0001
HG from MW-6 to MW-B	0.0011	0.0016	0.0017	0.0005	0.0014	-0.0002
Average Hydraulic Gradient	0.0012	0.0015	0.0016	0.0006	0.0014	-0.0004

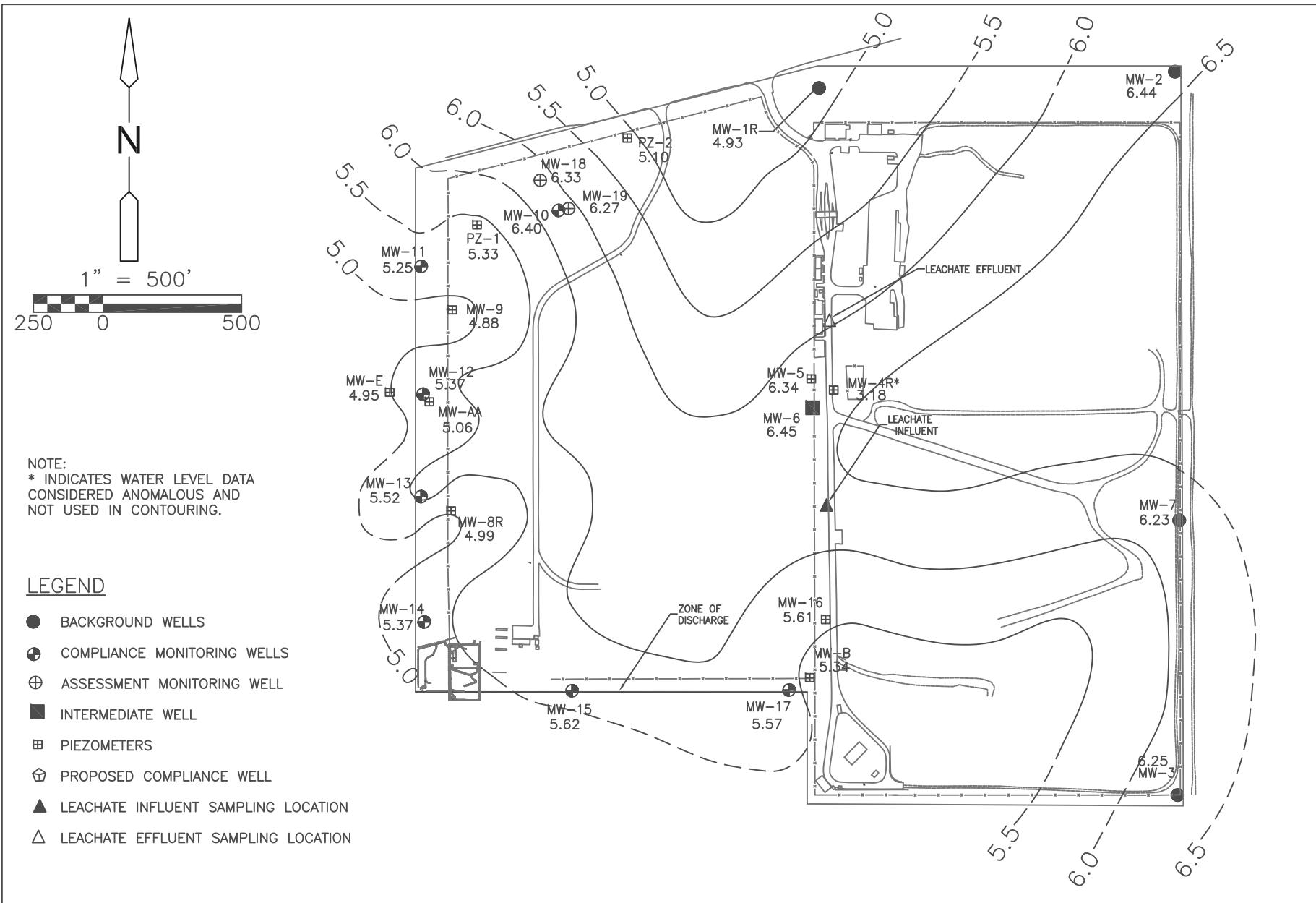
Note:

NA - Well was plugged and abandoned or not yet installed, so a static water level was not available

HG - Hydraulic Gradient

Average hydraulic gradient calculated by averaging hydraulic gradients from three transects within the Citrus County Central Landfill

*National Geodetic Vertical Datum of 1929 (NGVD 29)

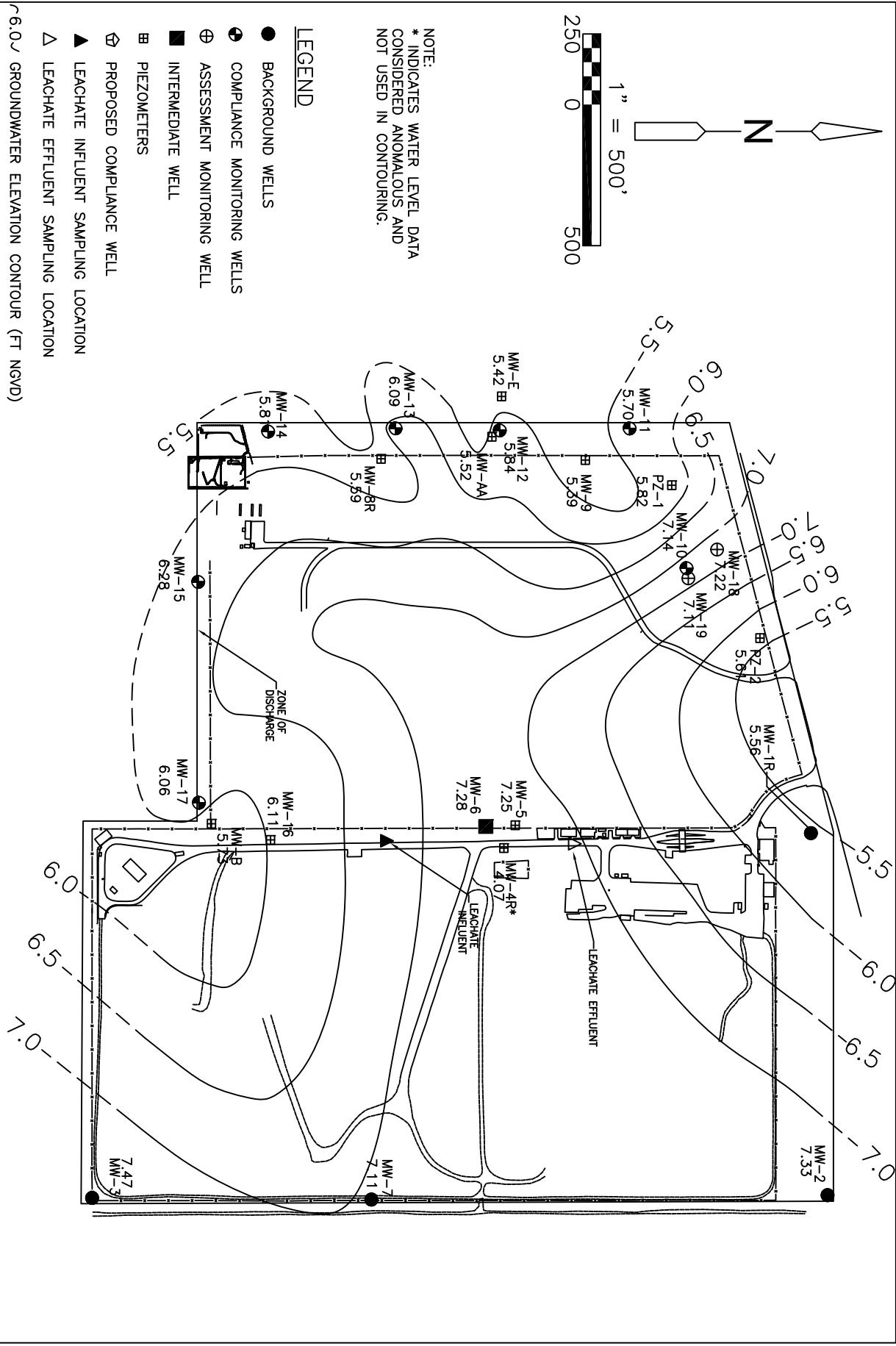


Source: Survey obtained from Jones Edmunds, May 2009

FIGURE NO. 1
GROUNDWATER CONTOUR MAP FLORIDAN AQUIFER
CITRUS COUNTY CENTRAL LANDFILL
WATER LEVEL DATA COLLECTED - JANUARY 25, 2010



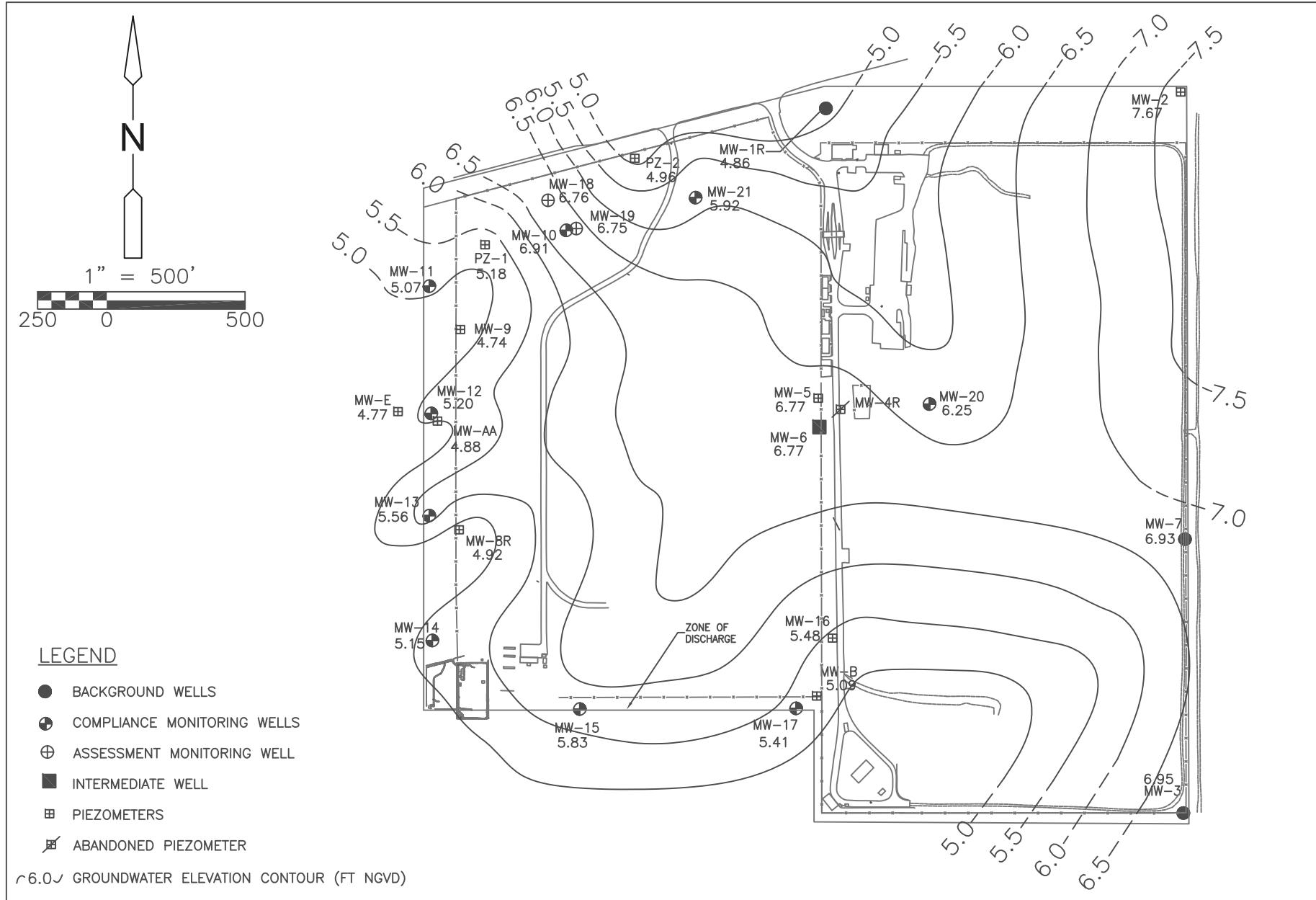
consulting • engineering • construction • operations



Source: Survey obtained from Jones Edmunds, May 2009

FIGURE NO. 1
GROUNDWATER CONTOUR MAP FLORIDAN AQUIFER

CDM
consulting • engineering • construction • operations
Source: Jui



Source: Survey obtained from Jones Edmunds, May 2009.
Monitor wells MW-20 and MW-21 located based on boundary survey map dated February 8, 2011.

FIGURE NO. 3-1
GROUNDWATER CONTOUR MAP FLORIDAN AQUIFER
CITRUS COUNTY CENTRAL LANDFILL
WATER LEVEL DATA COLLECTED - JANUARY 18, 2011

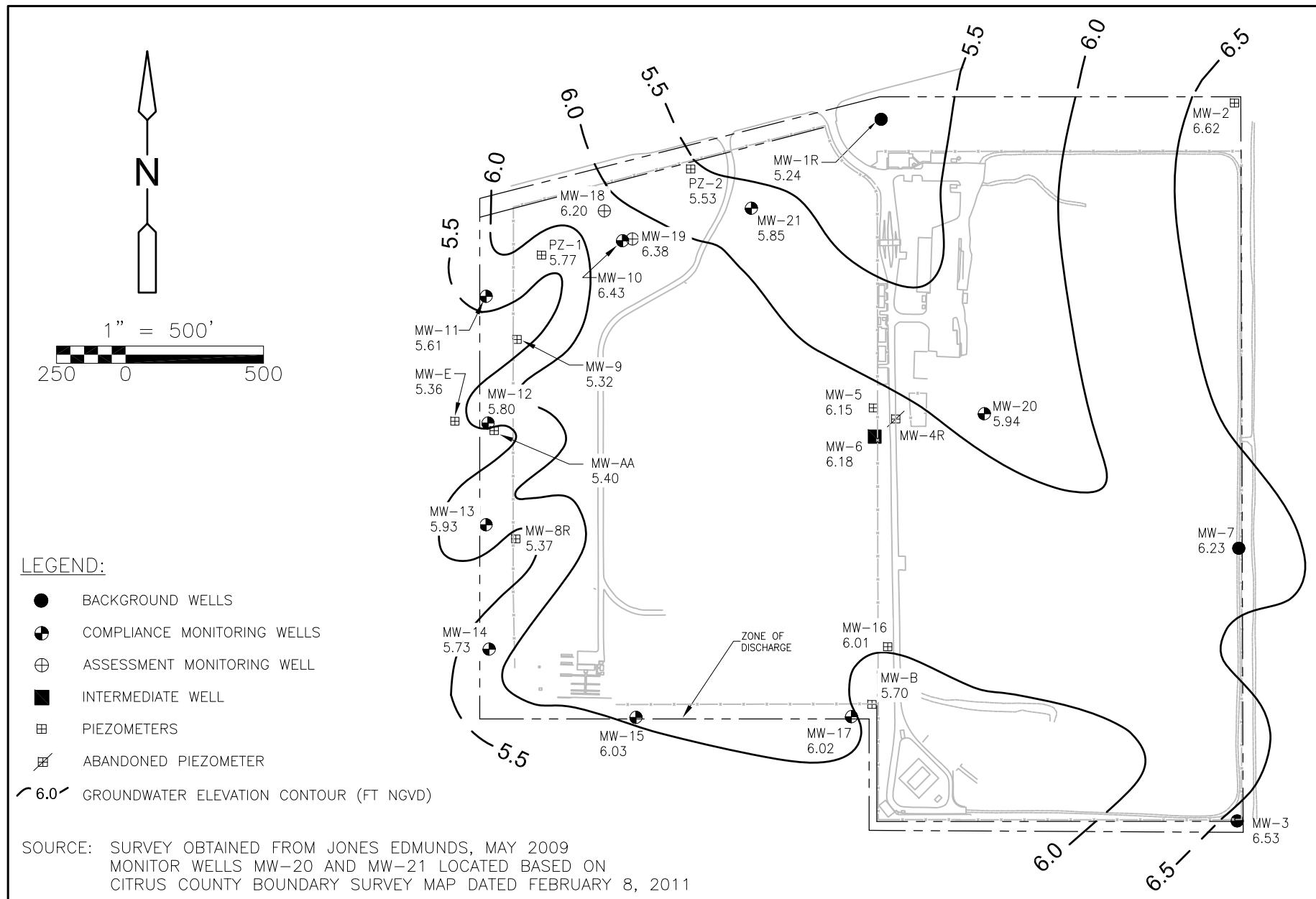
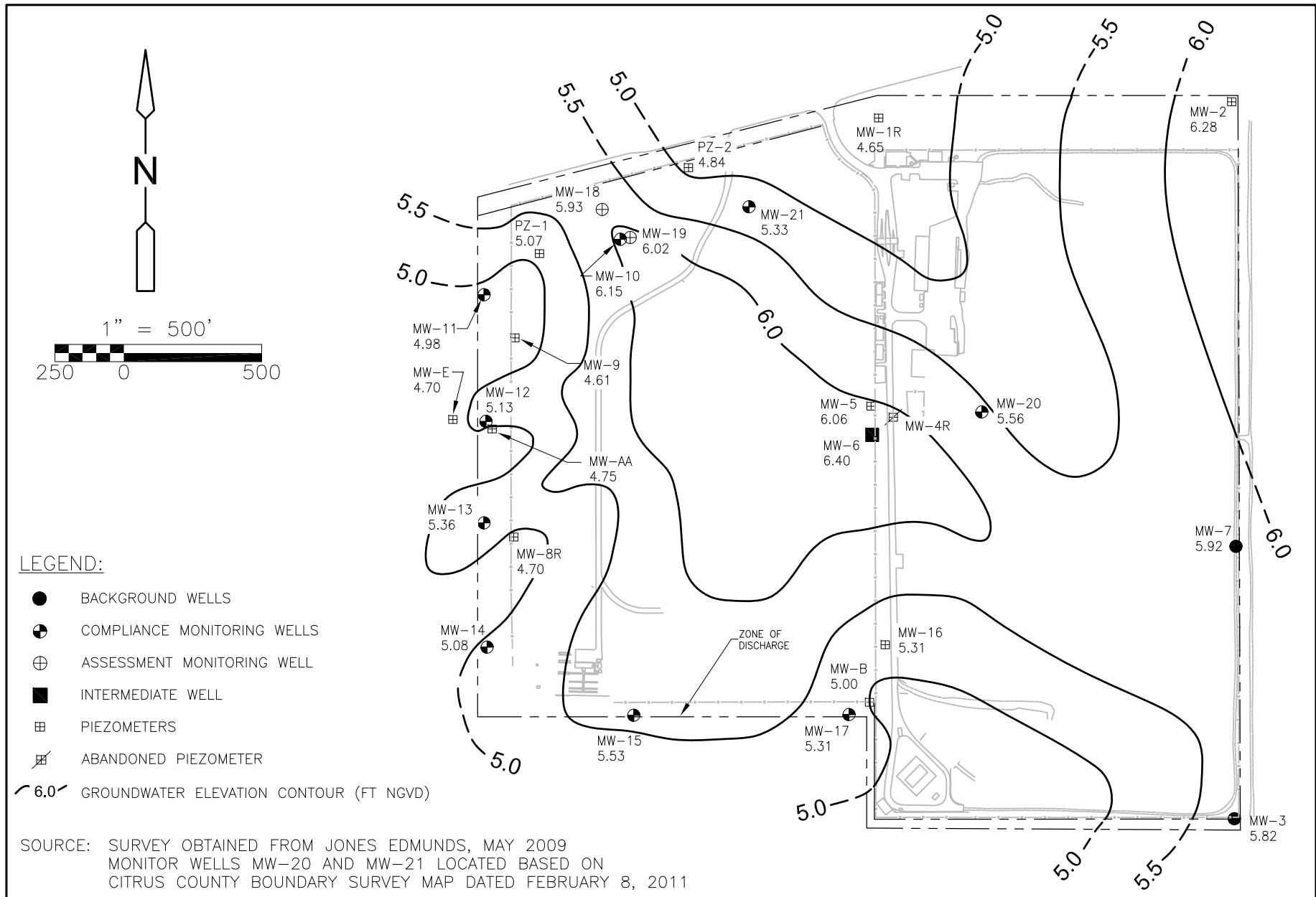


Figure No. 2-1
Groundwater Contour Map of Floridan Aquifer
Citrus County Central Landfill
Water level Data Collected July 19, 2011

USER: nunesal
DATE: Feb 02, 2012 1:53pm

PW_XM1\Documents\71138\85191\03 Reports and Studies\09 CADD Figures and Graphics\10 CADD\FIG 2-1.dwg

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**CDM
Smith**

Figure No. 2-1
Groundwater Contour Map of Floridan Aquifer
Citrus County Central Landfill
Water Level Data Collected January 17, 2012

USER: nunesal

DATE: Aug 30, 2012 5:30pm

PW_XM1\Documents\71138\85191\03 Reports and Studies\09 CADD Figures and Graphics\10 CADD\FIG 2-1_07-17-12.dwg

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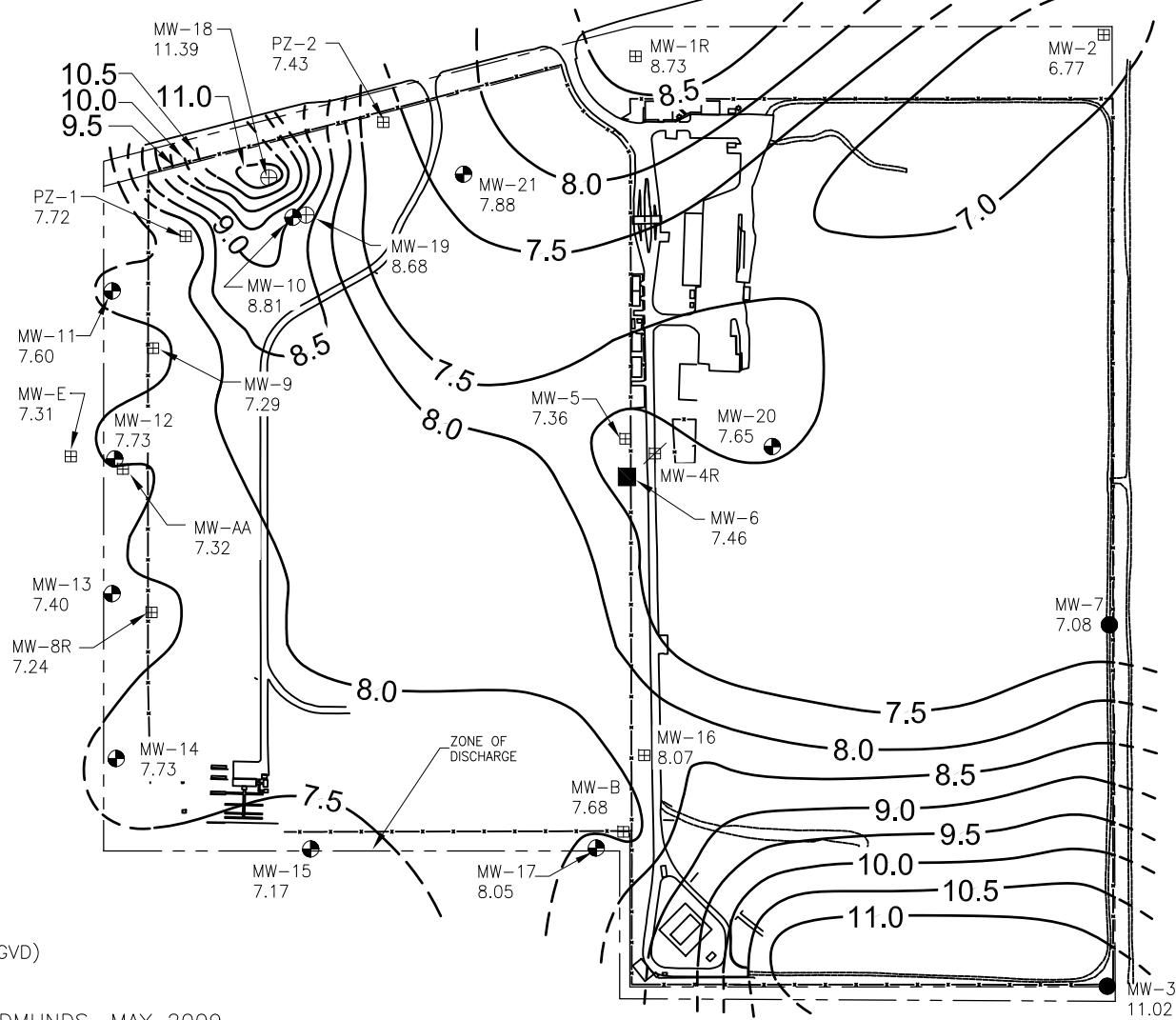


1" = 500'
250 0 500

LEGEND:

- BACKGROUND WELLS
- COMPLIANCE MONITORING WELLS
- ⊕ ASSESSMENT MONITORING WELL
- INTERMEDIATE WELL
- PIEZOMETERS
- ☒ ABANDONED PIEZOMETER
- 8.0' GROUNDWATER ELEVATION CONTOUR (FT NGVD)

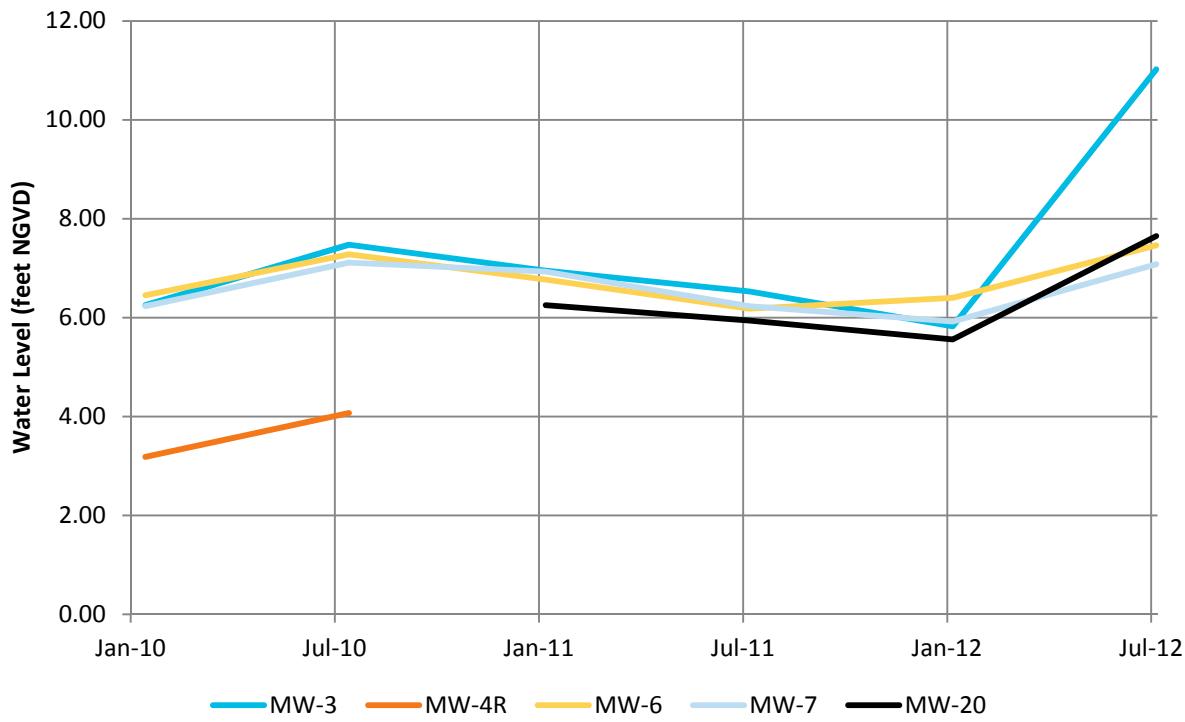
SOURCE: SURVEY OBTAINED FROM JONES EDMUNDS, MAY 2009
MONITOR WELLS MW-20 AND MW-21 LOCATED BASED ON
CITRUS COUNTY BOUNDARY SURVEY MAP DATED FEBRUARY 8, 2011



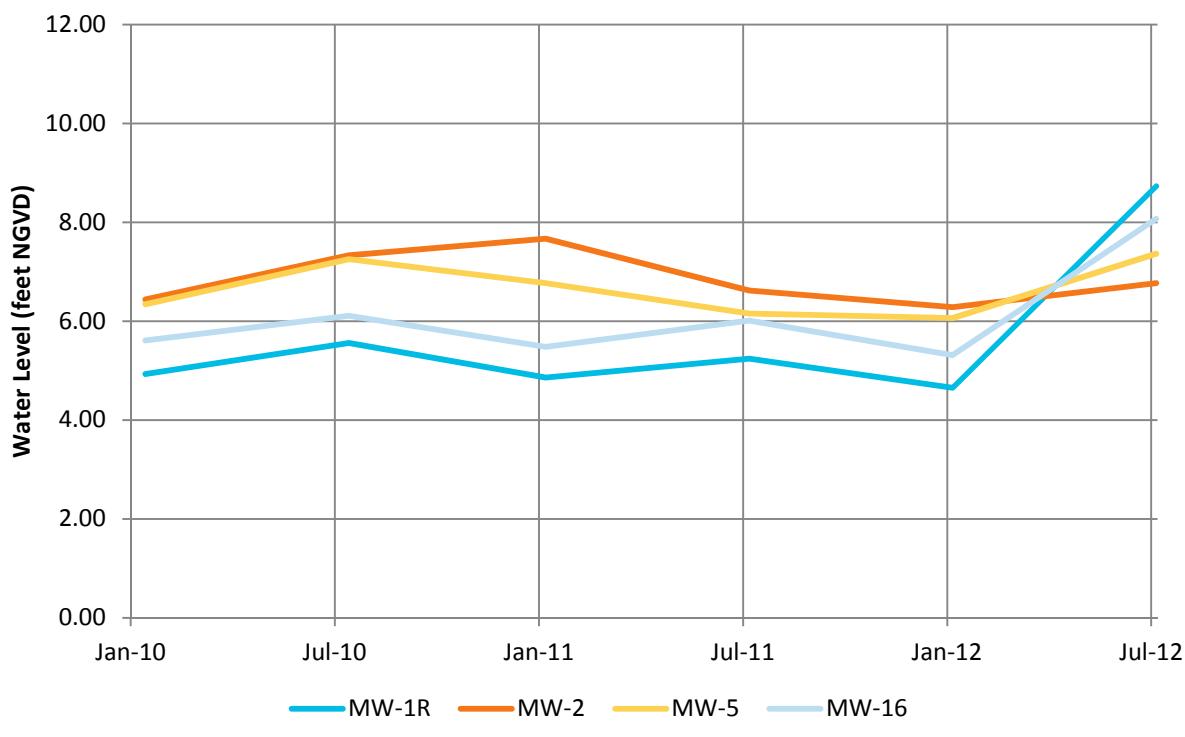
**CDM
Smith**

Figure No. 2-1
Groundwater Contour Map of Floridan Aquifer
Citrus County Central Landfill
Water Level Data Collected July 17, 2012

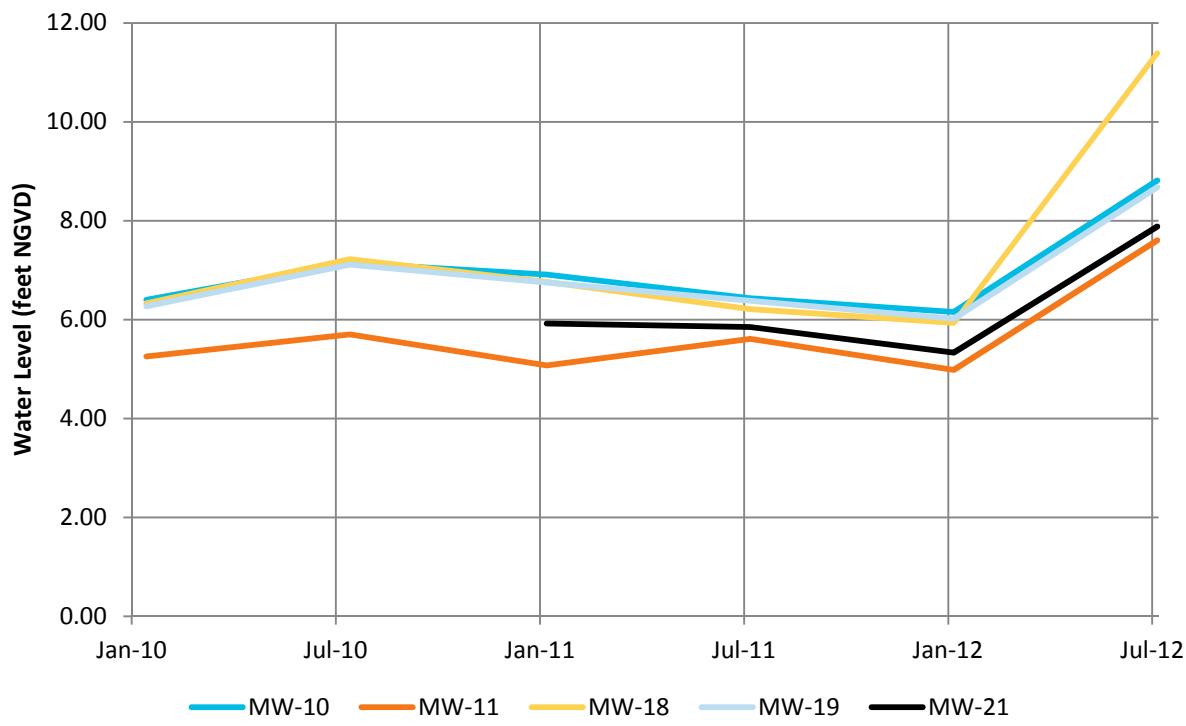
A-1 Water Level for East Monitor Wells



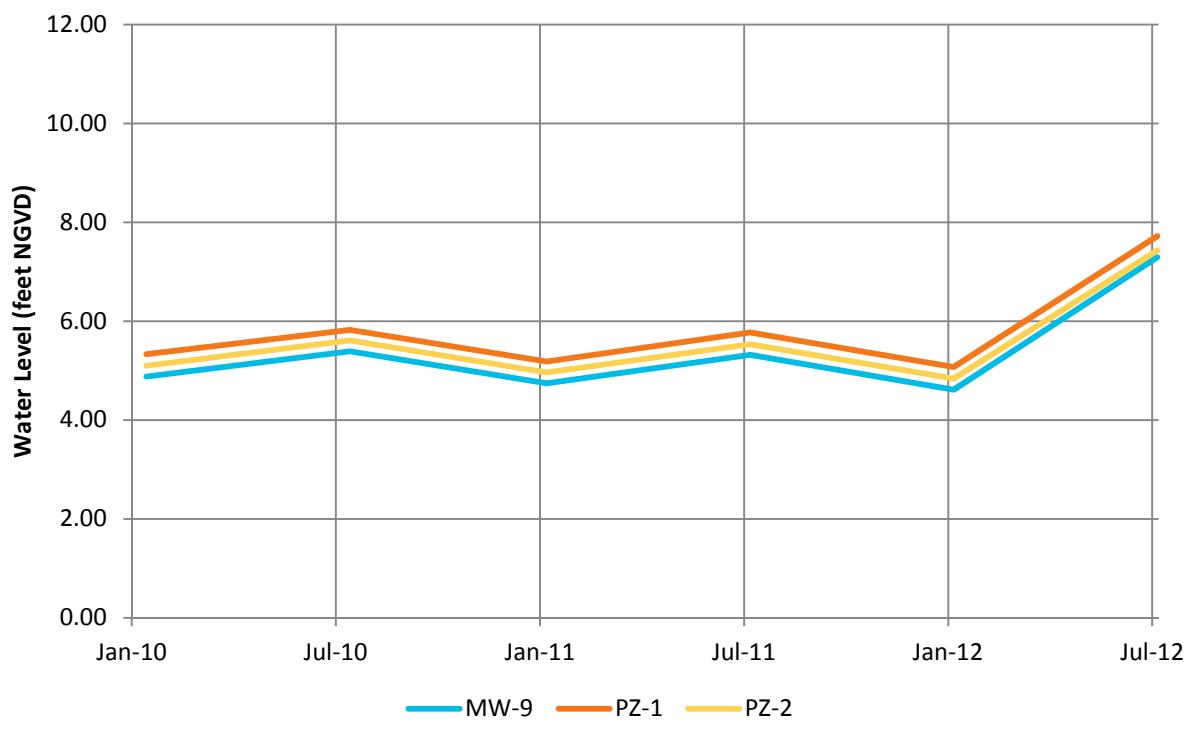
A-2 Water Level for East Piezometers



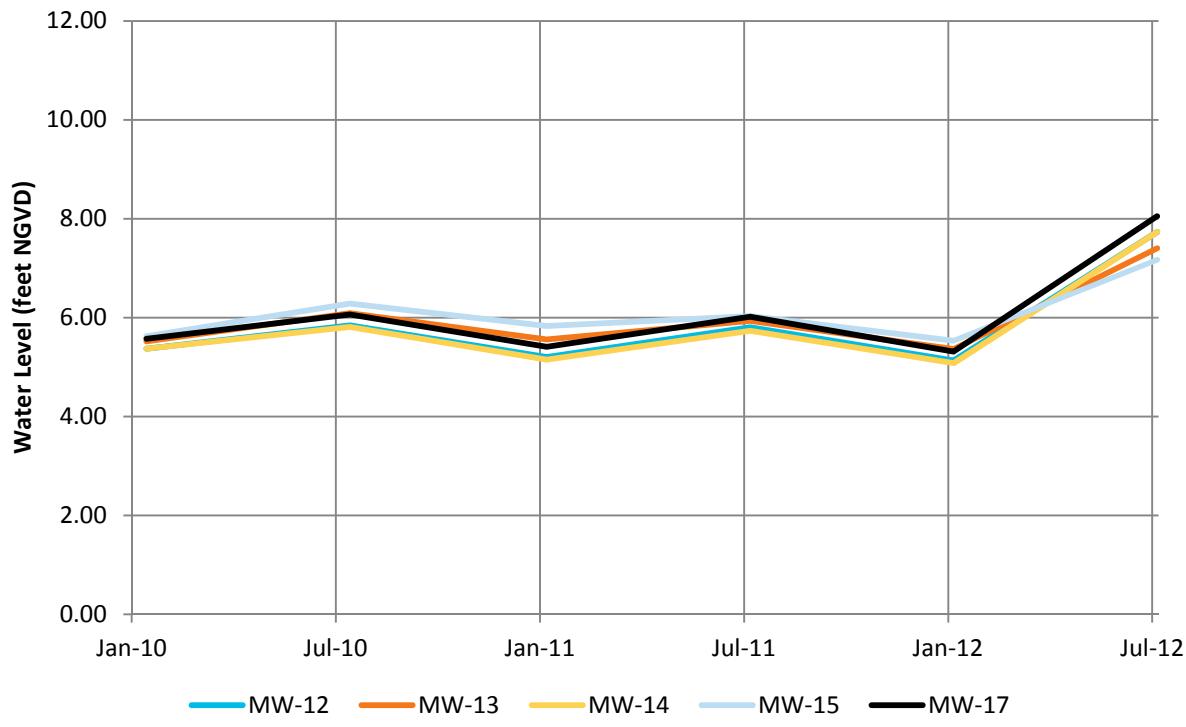
A-3 Water Level for Northwest Monitor Wells



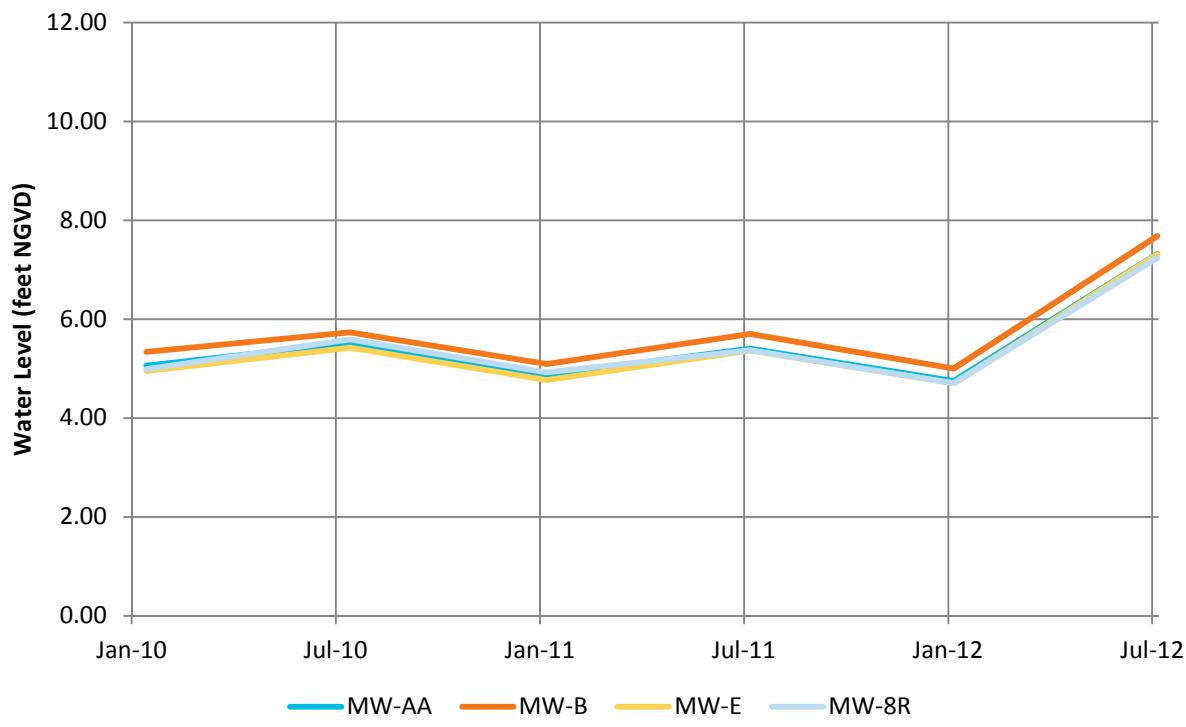
A-4 Water Level for Northwest Piezometers



A-5 Water Level for Southwest Monitor Wells



A-6 Water Level for Southwest Piezometers



Appendix B

Groundwater and Leachate Quality Data

Table B-1 Analyte Detections in Monitor Wells for Citrus County Central Class I Landfill from 2010 to 2012

Well No.	Well Designation	Parameter	Units	GCTL/MCL	Jan-10	Jul-10	Jan-11	Jul-11	Jan-12	Jul-12
MW-1R	Piezometer	Ammonia (N)	mg/l	2.8			0.024	0.059	NA	NA
MW-1R	Piezometer	Barium, total	ug/l	2,000		5.0	4.4 I	4.3 I	NA	NA
MW-1R	Piezometer	Cadmium, total	ug/l	5	0.23 I	0.19 I	0.16 I	0.24 I	NA	NA
MW-1R	Piezometer	Chloride	mg/l	250	3.8	2.7	3.1	2.8	NA	NA
MW-1R	Piezometer	Cobalt, total	ug/l	140	0.57	0.39 I	0.36 I	0.39 I	NA	NA
MW-1R	Piezometer	Color	PCU	15	Clear	Clear	Clear	Clear	NA	NA
MW-1R	Piezometer	Dissolved Oxygen	mg/l		4.12	4.25	4.56	4.36	NA	NA
MW-1R	Piezometer	Iron, total	ug/l	300		35 I			NA	NA
MW-1R	Piezometer	Lead, total	ug/l	15	0.42 I	0.75 I	0.42 I		NA	NA
MW-1R	Piezometer	Nickel, total	ug/l	100	5.3	3.9	3.5 I	4.3 I	NA	NA
MW-1R	Piezometer	Nitrate (N)	mg/l	10	3.8	4.8	3.7	3.2	NA	NA
MW-1R	Piezometer	pH	SU	6.5 - 8.5	5.33	4.83	5.63	5.26	NA	NA
MW-1R	Piezometer	Residues- Filterable (TDS)	mg/l	500	84	42	26	38	NA	NA
MW-1R	Piezometer	Sodium, total	mg/l	160	7.7	6.5	5.9	5.8	NA	NA
MW-1R	Piezometer	Specific Conductance	µmhos/cm		93	81	67	62	NA	NA
MW-1R	Piezometer	Temperature	°C		22.80	25.80	19.00	29.50	NA	NA
MW-1R	Piezometer	Turbidity, unfiltered	NTU		0.5	1.3	3.3	0.4	NA	NA
MW-1R	Piezometer	Zinc, total	ug/l	5,000	12 I		12 I	8.4 I	NA	NA
MW-2	Piezometer	Barium, total	ug/l	2,000	2.3 I	1.6 I	NA	NA	NA	NA
MW-2	Piezometer	Chloride	mg/l	250	4.0	6.3	NA	NA	NA	NA
MW-2	Piezometer	Chloroform	ug/l	70	2.00	1.90	NA	NA	NA	NA
MW-2	Piezometer	Cobalt, total	ug/l	140	0.44 I	0.55	NA	NA	NA	NA
MW-2	Piezometer	Color	PCU	15	Clear	Clear	Clear	NA	NA	NA
MW-2	Piezometer	Copper, total	ug/l	1,000		1.5 I	NA	NA	NA	NA
MW-2	Piezometer	Dissolved Oxygen	mg/l		4.39	3.44	3.55	NA	NA	NA
MW-2	Piezometer	Iron, total	ug/l	300	41 I		NA	NA	NA	NA
MW-2	Piezometer	Lead, total	ug/l	15	1.10 I	0.74 I	NA	NA	NA	NA
MW-2	Piezometer	pH	SU	6.5 - 8.5	4.62	4.27	4.65	NA	NA	NA
MW-2	Piezometer	Residues- Filterable (TDS)	mg/l	500	34		NA	NA	NA	NA
MW-2	Piezometer	Sodium, total	mg/l	160	3.3	3.6	NA	NA	NA	NA
MW-2	Piezometer	Specific Conductance	µmhos/cm		24	28	35	NA	NA	NA
MW-2	Piezometer	Temperature	°C		21.70	22.20	21.00	NA	NA	NA
MW-2	Piezometer	Trihalomethane (THMs)	ug/l	80	2.00	1.90	NA	NA	NA	NA
MW-2	Piezometer	Turbidity, unfiltered	NTU		1.1	0.7	2.5	NA	NA	NA
MW-2	Piezometer	Zinc, total	ug/l	5,000	19 I	15 I	NA	NA	NA	NA
MW-3	Background	Ammonia (N)	mg/l	2.8					0.026	0.470
MW-3	Background	Barium, dissolved	ug/l	2,000	NA	21.0	NA	NA	NA	NA
MW-3	Background	Barium, total	ug/l	2,000	16.0	25.0	12.0	8.8	12.0	32.0
MW-3	Background	Cadmium, dissolved	ug/l	5	NA	0.13 I	NA	NA	NA	NA
MW-3	Background	Cadmium, total	ug/l	5	0.20 I	0.16 I	0.21 I	0.49 I	0.13 I	0.32 I
MW-3	Background	Chloride	mg/l	250	6.7	8.4	9.8	5.5	6.0	13.0
MW-3	Background	Cobalt, dissolved	ug/l	140	NA	0.53	NA	NA	NA	NA
MW-3	Background	Cobalt, total	ug/l	140	0.57	0.54	0.30 I	0.29 I	0.42 I	0.38 I
MW-3	Background	Color	PCU	15	Clear	Cloudy	Clear	Clear	Clear	Clear
MW-3	Background	Copper, dissolved	ug/l	1,000	NA	32.0	NA	NA	NA	NA
MW-3	Background	Copper, total	ug/l	1,000	36.0	35.0	19.0	17.0	22.0	71.0
MW-3	Background	Dissolved Oxygen	mg/l		3.79	3.15	4.35	4.85	5.13	3.34
MW-3	Background	Iron, total	ug/l	300	150	120		80 I	130	150
MW-3	Background	Lead, dissolved	ug/l	15	NA	9.10	NA	NA	NA	NA
MW-3	Background	Lead, total	ug/l	15	45.00	17.00	5.20	8.00	5.60	5.60
MW-3	Background	Mercury, total	ug/l	2		0.120 I			0.190 I	
MW-3	Background	Nickel, dissolved	ug/l	100	NA	4.5 I	NA	NA	NA	NA
MW-3	Background	Nickel, total	ug/l	100	3.3 I	4.5 I	2.7 I	3.5 I	2.8 I	7.9
MW-3	Background	Nitrate (N)	mg/l	10	1.4	1.7	4.1	0.5	0.8	5.9
MW-3	Background	pH	SU	6.5 - 8.5	4.86	4.76	5.00	4.58	4.65	4.69
MW-3	Background	Residues- Filterable (TDS)	mg/l	500	50	18	28	10		80
MW-3	Background	Selenium, total	ug/l	50					1.6 I	
MW-3	Background	Sodium, dissolved	mg/l	160	NA	7.0	NA	NA	NA	NA
MW-3	Background	Sodium, total	mg/l	160	6.0	6.7	4.9	4.1	4.3	11.0
MW-3	Background	Specific Conductance	µmhos/cm		37	43	61	58	48	107
MW-3	Background	Temperature	°C		20.70	24.20	20.40	24.80	20.30	23.20
MW-3	Background	Turbidity, filtered	NTU		NA	0.5	NA	NA	NA	NA
MW-3	Background	Turbidity, unfiltered	NTU		1.1	16.3	2.2	2.1	0.9	0.9
MW-3	Background	Zinc, dissolved	ug/l	5,000	NA	55.0	NA	NA	NA	NA
MW-3	Background	Zinc, total	ug/l	5,000	50	55	47	38	42	75
MW-6	Intermediate	1,1-Dichloroethane	ug/l	70				0.64 I	0.57 I	
MW-6	Intermediate	1,4-dichlorobenzene	ug/l	75		0.60 I	0.64 I	0.71 I	0.66 I	0.61 I
MW-6	Intermediate	Ammonia (N)	mg/l	2.8	1.2	1.2	0.91	1.0	0.96	1.9
MW-6	Intermediate	Barium, total	ug/l	2,000	86.0	72.0	70.0	60.0	90.0	72.0
MW-6	Intermediate	Benzene	ug/l	1.0	0.63 I	0.56 I	0.72 I	0.69 I	0.69 I	0.65 I
MW-6	Intermediate	Beryllium, total	ug/l	4	0.58	0.35 I	0.45 I	0.29 I	0.53	0.34 I
MW-6	Intermediate	Bromodichloromethane	ug/l	0.6	1.10	1.70	1.40	1.10	0.75 I	1.20
MW-6	Intermediate	Cadmium, total	ug/l	5	0.27 I	0.40 I	0.25 I	0.27 I	0.34 I	0.21 I
MW-6	Intermediate	Chloride	mg/l	250	220	220	220	13	250	240
MW-6	Intermediate	Chloroform	ug/l	70	1.90	2.00	2.70	1.90	1.30	1.90
MW-6	Intermediate	Cis-1,2-Dichloroethene	ug/l	70	0.82 I	0.76 I	0.89 I	0.98 I	0.86 I	0.85 I
MW-6	Intermediate	Cobalt, total	ug/l	140	2.40	2.10	1.70	1.70	2.40	1.90
MW-6	Intermediate	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-6	Intermediate	Copper, total	ug/l	1,000	10.0	8.9	7.7	7.6	9.5	8.3
MW-6	Intermediate	Dibromochloromethane	ug/l	0.4	3.90	2.10	1.30	0.70 I	0.51 I	0.81 I
MW-6	Intermediate	Dissolved Oxygen	mg/l		0.56	0.38	0.33	0.32	0.21	0.30

Table B-1 Analyte Detections in Monitor Wells for Citrus County Central Class I Landfill from 2010 to 2012

Well No.	Well Designation	Parameter	Units	GCTL/MCL	Jan-10	Jul-10	Jan-11	Jul-11	Jan-12	Jul-12	
MW-6	Intermediate	Fecal Coliform	CFU/100ml	1						2	
MW-6	Intermediate	Iron, total	ug/l	300	220	1,400	710	130	700	2,400	
MW-6	Intermediate	Lead, total	ug/l	15	1.40 I	1.10 I	1.10 I	1.50	2.90	3.80	
MW-6	Intermediate	Mercury, total	ug/l	2		0.120 I				0.260	
MW-6	Intermediate	Nickel, total	ug/l	100	31	26	21	20	28	26	
MW-6	Intermediate	Nitrate (N)	mg/l	10	4.8	5.4	6.0	3.8	2.2	2.3	
MW-6	Intermediate	pH	SU	6.5 - 8.5	4.04	3.65	4.38	3.47	4.15	3.99	
MW-6	Intermediate	Residues- Filterable (TDS)	mg/l	500	400	400	380	370	350	420	
MW-6	Intermediate	Silver, total	ug/l	100	0.28 I						
MW-6	Intermediate	Sodium, total	mg/l	160	120.0	100.0	100.0	90.0	110.0	120.0	
MW-6	Intermediate	Specific Conductance	µmhos/cm		819	745	734	550	792	782	
MW-6	Intermediate	Temperature	°C		23.00	24.70	23.10	24.40	23.30	24.70	
MW-6	Intermediate	Trihalomethane (THMs)	ug/l	80	4.40	6.10	5.40	3.70	2.85	3.91	
MW-6	Intermediate	Turbidity, unfiltered	NTU		0.9	0.9	1.0	1.4	1.2	0.6	
MW-6	Intermediate	Vinyl Chloride	ug/l	1	1.90	1.70	1.90	2.10	2.00	1.20	
MW-6	Intermediate	Zinc, total	ug/l	5,000	17 I	15 I	14 I	16 I	15 I	13 I	
MW-7	Background	Ammonia (N)	mg/l	2.8						0.084	
MW-7	Background	Arsenic, total	ug/l	10	1.9 I	4.9	7.3	7.9	8.7	7.1	
MW-7	Background	Barium, total	ug/l	2,000	17.0	14.0	17.0	15.0	18.0	16.0	
MW-7	Background	Benzene	ug/l	1.0		0.51 I	0.59 I	0.76 I	0.81 I	0.96 I	
MW-7	Background	Cadmium, total	ug/l	5	0.20 I	0.11 I	0.11 I	0.18 I	0.19 I	0.12 I	
MW-7	Background	Chloride	mg/l	250	6.3	5.9	5.9	4.4	4.0	4.0	
MW-7	Background	Cobalt, total	ug/l	140	0.46 I	0.50	0.49 I	0.62	0.80	0.81	
MW-7	Background	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear	
MW-7	Background	Dissolved Oxygen	mg/l		0.39	0.08	0.19	0.23	0.22		
MW-7	Background	Ethylbenzene	ug/l	30	0.61 I	4.20	4.50	9.70	9.00	9.20	
MW-7	Background	Iron, total	ug/l	300	160	200	340	510	840	920	
MW-7	Background	Lead, total	ug/l	15	2.00	0.86 I	2.20	1.00 I	0.82 I	0.37 I	
MW-7	Background	Nickel, total	ug/l	100	3.6 I	3.7 I	4.8 I	5.2	5.3	6.6	
MW-7	Background	pH	SU	6.5 - 8.5	5.25	3.64	5.07	4.60	5.10	4.94	
MW-7	Background	Residues- Filterable (TDS)	mg/l	500	78	40	40	46	44	52	
MW-7	Background	Selenium, total	ug/l	50				1.3 I	1.3 I		
MW-7	Background	Sodium, total	mg/l	160	16.0 J	12.0	13.0	12.0	11.0	10.0	
MW-7	Background	Specific Conductance	µmhos/cm		100	90	112	83	86	80	
MW-7	Background	Temperature	°C			22.10	24.90	22.20	25.20	22.80	23.70
MW-7	Background	Turbidity, unfiltered	NTU			4.5	2.8	5.0	2.2	2.5	1.4
MW-7	Background	Vinyl Chloride	ug/l	1				0.51 I			
MW-7	Background	Xylenes, Total	ug/l			2.70 I	1.70 I	1.20 I	1.30 I	1.30 I	3.30
MW-7	Background	Zinc, total	ug/l	5,000	23	19 I	22	22	30	22	
MW-10	Compliance	1,1-Dichloroethane	ug/l	70	1.6	1.5	1.7	1.0	1.6	1.5	
MW-10	Compliance	1,4-dichlorobenzene	ug/l	75	8.3	7.9	6.8	3.5	7.8	7.6	
MW-10	Compliance	Ammonia (N)	mg/l	2.8				0.041	0.041	0.390	
MW-10	Compliance	Arsenic, dissolved	ug/l	10	2.2 I	1.9 I	2.4 I	2.1 I	2.4 I	2.6	
MW-10	Compliance	Arsenic, total	ug/l	10	2.6	2.5	3.4	2.0	2.8	2.6	
MW-10	Compliance	Barium, dissolved	ug/l	2,000	12.0	4.7 I	7.0	4.1 I	4.0 I	5.7	
MW-10	Compliance	Barium, total	ug/l	2,000	81.0	68.0	140.0	91.0	69.0	110.0	
MW-10	Compliance	Benzene	ug/l	1.0	2.70	2.20	2.40	0.59 I	2.50	1.70	
MW-10	Compliance	Beryllium, total	ug/l	4			0.28 I	0.28 I			
MW-10	Compliance	Cadmium, total	ug/l	5			0.35 I	4.90		0.60	
MW-10	Compliance	Chloride	mg/l	250	7.0	7.2	7.2	7.6	6.4	4.2	
MW-10	Compliance	Chlorobenzene	ug/l	100		0.78 I	0.69 I			0.66 I	
MW-10	Compliance	Chromium, dissolved	ug/l	100				0.1 I			
MW-10	Compliance	Chromium, total	ug/l	100	4.7 I	4.1 I	9.2	9.8	4.7 I	7.3	
MW-10	Compliance	Cis-1,2-Dichloroethene	ug/l	70	8.90	7.30	8.10	2.10	6.90	6.10	
MW-10	Compliance	Cobalt, dissolved	ug/l	140	0.60	0.56	0.74	0.58	0.61	0.61	
MW-10	Compliance	Cobalt, total	ug/l	140	0.58	0.55	0.89	0.75	0.61	0.56	
MW-10	Compliance	Color	PCU	15	Cloudy	Clear	Cloudy	Cloudy	Cloudy	Cloudy	
MW-10	Compliance	Copper, total	ug/l	1,000				6.3			
MW-10	Compliance	Dissolved Oxygen	mg/l		1.16	0.38	0.69	0.25	0.37	0.31	
MW-10	Compliance	Iron, dissolved	ug/l	300	3,100	3,600	6,600	3,900	6,200	6,300	
MW-10	Compliance	Iron, total	ug/l	300	4,200	4,600	8,600	4,600	6,300	6,300	
MW-10	Compliance	Lead, dissolved	ug/l	15	0.40 I						
MW-10	Compliance	Lead, total	ug/l	15	2.60	2.40	5.20	5.50	2.20	4.10	
MW-10	Compliance	Methylene chloride	ug/l	5	6.0	5.2	6.5		5.3	4.6 I	
MW-10	Compliance	Nickel, dissolved	ug/l	100		2.0 I	3.0 I	3.4 I	2.9 I	3.3 I	
MW-10	Compliance	Nickel, total	ug/l	100		2.3 I	4.6 I	7.9	2.9 I	4.2 I	
MW-10	Compliance	Nitrate (N)	mg/l	10				0.1 I	0.1 I		
MW-10	Compliance	pH	SU	6.5 - 8.5	4.53	4.06	4.83	4.55	4.51	4.47	
MW-10	Compliance	Residues- Filterable (TDS)	mg/l	500	24	14	26	18	22	24	
MW-10	Compliance	Selenium, total	ug/l	50						1.2	
MW-10	Compliance	Silver, total	ug/l	100				4.30			
MW-10	Compliance	Sodium, dissolved	mg/l	160	4.7	4.5	4.2	4.9	4.6	5.0	
MW-10	Compliance	Sodium, total	mg/l	160	5.5	5.2	5.0	5.2	4.5	5.0	
MW-10	Compliance	Specific Conductance	µmhos/cm		53	44	56	43	53	51	
MW-10	Compliance	Temperature	°C		21.80	24.20	22.80	23.60	22.60	23.70	
MW-10	Compliance	Trichloroethene	ug/l	3		0.53 I	0.54 I				
MW-10	Compliance	Turbidity, filtered	NTU		4.7	0.8	4.4	0.5	0.7	3.0	
MW-10	Compliance	Turbidity, unfiltered	NTU		83.0	15.2	36.2	52.1	75.1	38.7	
MW-10	Compliance	Vinyl Chloride	ug/l	1	3.20	3.40	3.70	0.81 I	2.80	2.50	
MW-10	Compliance	Xylenes, Total	ug/l		9.20	7.90	6.00	1.70 I	5.60	3.00	
MW-10	Compliance	Zinc, dissolved	ug/l		5,000	11.0 I	12.0 I	32.0	10.0 I	16.0 I	

Table B-1 Analyte Detections in Monitor Wells for Citrus County Central Class I Landfill from 2010 to 2012

Well No.	Well Designation	Parameter	Units	GCTL/MCL	Jan-10	Jul-10	Jan-11	Jul-11	Jan-12	Jul-12
MW-10	Compliance	Zinc, total	ug/l	5,000	10 I	8.3 I	14 I	64	10 I	14 I
MW-11	Compliance	Ammonia (N)	mg/l	2.8						0.350
MW-11	Compliance	Barium, total	ug/l	2,000	17.0	18.0	20.0	18.0	22.0	19.0
MW-11	Compliance	Cadmium, total	ug/l	5						0.16 I
MW-11	Compliance	Chloride	mg/l	250	5.1	5.1	5.3	4.9	4.8	5.0
MW-11	Compliance	Cobalt, total	ug/l	140	0.17 I					
MW-11	Compliance	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-11	Compliance	Copper, total	ug/l	1,000		1.6 I				
MW-11	Compliance	Dissolved Oxygen	mg/l		0.67	0.68	0.29	0.67	0.38	0.41
MW-11	Compliance	Iron, total	ug/l	300	64 I	34 I		38 I	33 I	40 I
MW-11	Compliance	Lead, total	ug/l	15	0.28 I					
MW-11	Compliance	Mercury, total	ug/l	2		0.120 I				
MW-11	Compliance	Nitrate (N)	mg/l	10	0.2 I	0.4 I	0.5 I	0.3 I	0.2 I	1.1
MW-11	Compliance	pH	SU	6.5 - 8.5	7.17	6.90	7.04	6.79	7.04	6.75
MW-11	Compliance	Residues- Filterable (TDS)	mg/l	500	190	230	230	220	220	200
MW-11	Compliance	Sodium, total	mg/l	160	3.6	4.0	3.3	3.5	3.3	3.5
MW-11	Compliance	Specific Conductance	umhos/cm		331	365	433	297	389	383
MW-11	Compliance	Temperature	°C		23.20	23.50	22.80	23.80	22.80	23.30
MW-11	Compliance	Thallium, total	ug/l	2		0.80 I	0.60 I	0.62 I	0.71 I	0.95 I
MW-11	Compliance	Turbidity, unfiltered	NTU		3.9	1.4	0.7	2.8	1.8	0.7
MW-12	Compliance	1,4-dichlorobenzene	ug/l	75	1.60		1.50	1.10	1.20	1.20
MW-12	Compliance	Ammonia (N)	mg/l	2.8	0.330	0.450	0.360	0.320	0.200	0.940
MW-12	Compliance	Arsenic, total	ug/l	10	3.8	2.8	3.5	3.2	3.3	4.1
MW-12	Compliance	Barium, total	ug/l	2,000	16.0	13.0	18.0	6.4	16.0	19.0
MW-12	Compliance	Cadmium, total	ug/l	5						0.14 I
MW-12	Compliance	Chloride	mg/l	250	4.5	3.9	3.9	3.9	4.0	3.4
MW-12	Compliance	Cobalt, total	ug/l	140	1.10	0.97	1.20	6.50	0.89	1.20
MW-12	Compliance	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-12	Compliance	Dissolved Oxygen	mg/l		3.12	0.44	0.21	0.39	0.12	0.32
MW-12	Compliance	Iron, total	ug/l	300	5,800	4,400	6,300	2,500	4,700	6,900
MW-12	Compliance	Lead, total	ug/l	15	0.25 I			0.21 I		
MW-12	Compliance	Nickel, total	ug/l	100				4.6 I		2.2 I
MW-12	Compliance	pH	SU	6.5 - 8.5	6.67	6.67	6.72	6.42	6.58	6.76
MW-12	Compliance	Residues- Filterable (TDS)	mg/l	500	330	270	320	300	280	310
MW-12	Compliance	Sodium, total	mg/l	160	3.2	2.5	2.8	3.1	2.7	2.9
MW-12	Compliance	Specific Conductance	umhos/cm		611	449	620	410	679	544
MW-12	Compliance	Temperature	°C		23.20	25.00	23.20	24.40	23.10	24.60
MW-12	Compliance	Turbidity, filtered	NTU		NA	NA	NA	NA	NA	1.8
MW-12	Compliance	Turbidity, unfiltered	NTU		4.8	3.7	4.6	2.4	1.7	11.3
MW-13	Compliance	1,1-Dichloroethane	ug/l	70		0.73 I		0.69 I	0.55 I	0.67 I
MW-13	Compliance	1,4-dichlorobenzene	ug/l	75	3.70	3.30	3.10	2.80	2.80	3.00
MW-13	Compliance	Ammonia (N)	mg/l	2.8						0.100
MW-13	Compliance	Arsenic, total	ug/l	10	3.8	3.5	3.9	3.2	4.0	4.8
MW-13	Compliance	Barium, total	ug/l	2,000	3.3 I	4.6 I	4.9 I	6.4	3.3 I	6.4
MW-13	Compliance	Benzene	ug/l	1.0	0.61 I	0.52 I	0.55 I			
MW-13	Compliance	Cadmium, total	ug/l	5						0.11 I
MW-13	Compliance	Chloride	mg/l	250	5.7	5.4	6.0	5.3	6.2	5.0
MW-13	Compliance	Chromium, total	ug/l	100					0.3 I	
MW-13	Compliance	Cis-1,2-Dichloroethene	ug/l	70	2.60	2.20	2.40	2.50	2.10	2.20
MW-13	Compliance	Cobalt, total	ug/l	140	6.20	6.40	7.40	6.50	6.60	8.20
MW-13	Compliance	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-13	Compliance	Dissolved Oxygen	mg/l		2.78	0.23	0.20	0.50	0.46	0.26
MW-13	Compliance	Iron, total	ug/l	300	2,700	2,400	2,300	2,500	3,000	3,200
MW-13	Compliance	Lead, total	ug/l	15				0.21 I		0.25 I
MW-13	Compliance	Nickel, total	ug/l	100	4.2 I	4.3 I	5.7	4.6 I	4.4 I	4.3 I
MW-13	Compliance	pH	SU	6.5 - 8.5	5.31	4.28	5.35	4.85	5.14	5.29
MW-13	Compliance	Residues- Filterable (TDS)	mg/l	500	34	40	14	24	36	50
MW-13	Compliance	Silver, total	ug/l	100	0.49 I					
MW-13	Compliance	Sodium, total	mg/l	160	3.5	3.3	3.1	3.1	3.1	3.6
MW-13	Compliance	Specific Conductance	umhos/cm		86	77	78	60	77	82
MW-13	Compliance	Temperature	°C		22.60	24.10	22.80	23.90	23.20	23.90
MW-13	Compliance	Turbidity, unfiltered	NTU		4.9	3.6	3.8	4.0	4.7	4.3
MW-13	Compliance	Vinyl Chloride	ug/l	1	0.88 I	1.00	1.20	0.93 I	0.91 I	0.72 I
MW-13	Compliance	Zinc, total	ug/l	5,000	10 I					
MW-14	Compliance	Ammonia (N)	mg/l	2.8						0.160
MW-14	Compliance	Barium, total	ug/l	2,000	24.0	16.0	16.0	14.0	15.0	18.0
MW-14	Compliance	Cadmium, total	ug/l	5	0.22 I	0.17 I	0.27 I	0.13 I	0.55	0.60
MW-14	Compliance	Chloride	mg/l	250	3.7	3.1	3.5	3.3	4.4	3.6
MW-14	Compliance	Cobalt, total	ug/l	140	1.30	1.80	2.10	1.20	0.89	1.10
MW-14	Compliance	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-14	Compliance	Dissolved Oxygen	mg/l		1.93	0.26	0.31	0.35	0.36	0.23
MW-14	Compliance	Iron, total	ug/l	300	81 I	160	300	120	81 I	220
MW-14	Compliance	Lead, total	ug/l	15	0.21 I					2.0 I
MW-14	Compliance	Nickel, total	ug/l	100						
MW-14	Compliance	pH	SU	6.5 - 8.5	6.87	6.58	6.69	6.58	6.72	6.79
MW-14	Compliance	Residues- Filterable (TDS)	mg/l	500	320	290	280	270	230	280
MW-14	Compliance	Sodium, total	mg/l	160	3.2	2.7	3.0	2.8	3.1	3.2
MW-14	Compliance	Specific Conductance	umhos/cm		510	457	512	362	471	466
MW-14	Compliance	Temperature	°C		21.50	23.60	22.60	23.60	23.00	23.40
MW-14	Compliance	Turbidity, unfiltered	NTU		4.9	1.9	1.0	0.8	2.2	4.9
MW-15	Compliance	1,4-dichlorobenzene	ug/l	75		0.63 I		0.69 I		

Table B-1 Analyte Detections in Monitor Wells for Citrus County Central Class I Landfill from 2010 to 2012

Well No.	Well Designation	Parameter	Units	GCTL/MCL	Jan-10	Jul-10	Jan-11	Jul-11	Jan-12	Jul-12
MW-15	Compliance	Acetone	ug/l	6,300			0.014 I			
MW-15	Compliance	Ammonia (N)	mg/l	2.8	0.018 I			0.045	0.025	0.190
MW-15	Compliance	Arsenic, total	ug/l	10	6.7	5.0	5.4	2.6	5.6	4.9
MW-15	Compliance	Barium, total	ug/l	2,000	3.7 I	2.4 I	8.4	6.9	2.0 I	6.7
MW-15	Compliance	Benzene	ug/l	1.0	0.55 I				0.54 I	
MW-15	Compliance	Cadmium, total	ug/l	5						0.69
MW-15	Compliance	Chloride	mg/l	250	3.0	2.7	3.0	2.5	3.0	2.8
MW-15	Compliance	Cis-1,2-Dichloroethene	ug/l	70	4.00	3.10	3.40		3.10	3.00
MW-15	Compliance	Cobalt, total	ug/l	140	0.45 I	0.36 I	0.39 I	6.40	0.29 I	0.33 I
MW-15	Compliance	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-15	Compliance	Copper, total	ug/l	1,000			2.0 I			1.7 I
MW-15	Compliance	Dissolved Oxygen	mg/l		5.00	0.27	0.33	0.73	0.14	0.15
MW-15	Compliance	Iron, total	ug/l	300	5,400	4,200	5,100	6,200	6,100	8,200
MW-15	Compliance	Lead, total	ug/l	15			0.43 I	0.21 I		0.44 I
MW-15	Compliance	Nickel, total	ug/l	100	2.5 I	2.4 I	3.2 I	2.6 I		4.0 I
MW-15	Compliance	pH	SU	6.5 - 8.5	4.58	3.35	4.70	4.41	4.29	4.56
MW-15	Compliance	Residues- Filterable (TDS)	mg/l	500	44	10	14	12	6	14
MW-15	Compliance	Selenium, total	ug/l	50	7.1	2.9	2.6			1.1 I
MW-15	Compliance	Silver, total	ug/l	100						0.27 I
MW-15	Compliance	Sodium, total	mg/l	160	2.2	1.7	2.1	3.3	1.8	1.9
MW-15	Compliance	Specific Conductance	μmhos/cm		44	37	50	43	41	47
MW-15	Compliance	Temperature	°C		20.90	23.80	21.40	23.40	22.10	22.50
MW-15	Compliance	Trichloroethene	ug/l	3	1.20	1.10	1.20		0.94 I	0.88 I
MW-15	Compliance	Turbidity, unfiltered	NTU		2.7	1.1	4.9	1.6	1.1	3.9
MW-15	Compliance	Vinyl Chloride	ug/l	1	0.65 I	0.86 I	0.68 I		0.59 I	
MW-15	Compliance	Xylenes, Total	ug/l		0.63 I	0.66 I				
MW-15	Compliance	Zinc, total	ug/l	5,000	24	15 I	75		13 I	30
MW-17	Compliance	1,4-dichlorobenzene	ug/l	75	1.60	1.50	0.83 I	0.53 I		0.74 I
MW-17	Compliance	Ammonia (N)	mg/l	2.8	0.017 I		0.042			0.047
MW-17	Compliance	Arsenic, dissolved	ug/l	10	3.0	NA	NA	NA	NA	NA
MW-17	Compliance	Arsenic, total	ug/l	10	3.3	2.9	3.2	3.7	2.7	3.9
MW-17	Compliance	Barium, dissolved	ug/l	2,000	2.8 I	NA	NA	NA	NA	NA
MW-17	Compliance	Barium, total	ug/l	2,000	5.0 I	7.9	7.6	15.0	4.4 I	10.0
MW-17	Compliance	Chloride	mg/l	250	3.4	3.2	4.3	2.5	3.5	5.2
MW-17	Compliance	Cis-1,2-Dichloroethene	ug/l	70				2.80		
MW-17	Compliance	Cobalt, dissolved	ug/l	140	7.80	NA	NA	NA	NA	NA
MW-17	Compliance	Cobalt, total	ug/l	140	8.40	6.80	7.10	0.24 I	5.80	5.20
MW-17	Compliance	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-17	Compliance	Copper, total	ug/l	1,000			2.3 I			
MW-17	Compliance	Dissolved Oxygen	mg/l		5.11	0.18	0.16	0.12	0.12	0.24
MW-17	Compliance	Iron, dissolved	ug/l	300	6,100	NA	NA	NA	NA	NA
MW-17	Compliance	Iron, total	ug/l	300	7,200	6,100	7,500	4,200	7,600	7,700
MW-17	Compliance	Lead, total	ug/l	15	0.23 I		0.25 I		0.24 I	
MW-17	Compliance	Nickel, dissolved	ug/l	100	2.5 I	NA	NA	NA	NA	NA
MW-17	Compliance	Nickel, total	ug/l	100	2.6 I		2.7 I	2.7 I	2.5 I	2.5 I
MW-17	Compliance	pH	SU	6.5 - 8.5	5.06	4.11	5.18	4.89	4.92	4.69
MW-17	Compliance	Residues- Filterable (TDS)	mg/l	500	46	20	20	10	22	18
MW-17	Compliance	Sodium, dissolved	mg/l	160	3.1	NA	NA	NA	NA	NA
MW-17	Compliance	Sodium, total	mg/l	160	3.7	2.9	5.0	1.8	3.1	2.3
MW-17	Compliance	Specific Conductance	μmhos/cm		61	51	63	43	55	50
MW-17	Compliance	Temperature	°C		22.80	23.90	22.80	23.70	23.30	23.70
MW-17	Compliance	Trichloroethene	ug/l	3				1.00	1.00	
MW-17	Compliance	Turbidity, filtered	NTU		0.2	NA	NA	NA	NA	NA
MW-17	Compliance	Turbidity, unfiltered	NTU		8.5	4.9	4.6	4.2	3.5	4.1
MW-17	Compliance	Zinc, dissolved	ug/l	5,000	9.6 I	NA	NA	NA	NA	NA
MW-17	Compliance	Zinc, total	ug/l	5,000	9.5 I		11 I	11 I		
MW-18	Assessment	Benzene	ug/l	1.0	0.53 I		0.65 I			
MW-18	Assessment	Color	PCU	15	Clear	Cloudy	Cloudy	Clear	Clear	Clear
MW-18	Assessment	Dissolved Oxygen	mg/l		1.25	2.11	1.81	1.93	1.08	2.04
MW-18	Assessment	pH	SU	6.5 - 8.5	5.29	4.78	5.26	5.34	4.92	4.90
MW-18	Assessment	Specific Conductance	μmhos/cm		73	71	69	67	59	61
MW-18	Assessment	Temperature	°C		21.50	26.30	21.20	28.30	22.70	23.50
MW-18	Assessment	Turbidity, unfiltered	NTU		31.0	54.5	59.6	28.9	13.1	7.2
MW-18	Assessment	Vinyl Chloride	ug/l	1	0.81 I		1.20			
MW-19	Assessment	Color	PCU	15	Clear	Clear	Clear	Clear	Clear	Clear
MW-19	Assessment	Dissolved Oxygen	mg/l		4.15	4.32	5.30	0.82	0.82	1.90
MW-19	Assessment	pH	SU	6.5 - 8.5	6.23	4.96	5.61	5.80	5.25	5.76
MW-19	Assessment	Specific Conductance	μmhos/cm		59	54	63	49	64	88
MW-19	Assessment	Temperature	°C		22.80	24.30	22.10	23.40	22.80	23.70
MW-19	Assessment	Turbidity, unfiltered	NTU		5.6	4.0	15.9	3.7	4.1	4.9
MW-19	Assessment	Vinyl Chloride	ug/l	1					1.10	
MW-20	Compliance	Ammonia (N)	mg/l	2.8	NS	NS	1.300	2.000	1.200	1.800
MW-20	Compliance	Arsenic, total	ug/l	10	NS	NS	2.5	6.4	7.5	9.1
MW-20	Compliance	Barium, total	ug/l	2,000	NS	NS	25.0	11.0	9.5	10.0
MW-20	Compliance	Cadmium, total	ug/l	5	NS	NS	0.16 I			
MW-20	Compliance	Chloride	mg/l	250	NS	NS	23.0	28.0	25.0	26.0
MW-20	Compliance	Cobalt, total	ug/l	140	NS	NS	5.70	3.60	2.80	2.50
MW-20	Compliance	Color	PCU	15	NS	NS	Clear	Clear	Clear	Clear
MW-20	Compliance	Copper, total	ug/l	1,000	NS	NS	5.0			
MW-20	Compliance	Dissolved Oxygen	mg/l		NS	NS	0.54	0.15	0.22	0.21
MW-20	Compliance	Iron, total	ug/l	300	NS	NS	21,000	32,000	31,000	39,000

Table B-1 Analyte Detections in Monitor Wells for Citrus County Central Class I Landfill from 2010 to 2012

Well No.	Well Designation	Parameter	Units	GCTL/MCL	Jan-10	Jul-10	Jan-11	Jul-11	Jan-12	Jul-12
MW-20	Compliance	Mercury, total	ug/l	2	NS	NS	0.250			0.096 I
MW-20	Compliance	Nickel, total	ug/l	100	NS	NS	3.9 I			
MW-20	Compliance	pH	SU	6.5 - 8.5	NS	NS	5.60	5.61	5.58	5.49
MW-20	Compliance	Residues- Filterable (TDS)	mg/l	500	NS	NS	210	170	150	180
MW-20	Compliance	Selenium, total	ug/l	50	NS	NS				1.4 I
MW-20	Compliance	Sodium, total	mg/l	160	NS	NS	9.3	10.0	8.5	9.9
MW-20	Compliance	Specific Conductance	umhos/cm		NS	NS	485	332	411	369
MW-20	Compliance	Temperature	°C		NS	NS	23.10	25.50	22.00	24.80
MW-20	Compliance	Turbidity, unfiltered	NTU		NS	NS	4.9	4.6	4.9	4.8
MW-20	Compliance	Zinc, total	ug/l	5,000	NS	NS	47			
MW-21	Compliance	1,1-Dichloroethane	ug/l	70	NS	NS	0.56 I		0.53 I	
MW-21	Compliance	1,4-dichlorobenzene	ug/l	75	NS	NS	6.90	16.00	13.00	10.00
MW-21	Compliance	Ammonia (N)	mg/l	2.8	NS	NS	1.200	1.700	1.700	1.500
MW-21	Compliance	Arsenic, dissolved	ug/l	10	NS	NS	NA	2.3 I	2.5	2.4 I
MW-21	Compliance	Arsenic, total	ug/l	10	NS	NS	3.0	3.1	2.7	2.0 I
MW-21	Compliance	Barium, dissolved	ug/l	2,000	NS	NS	NA	4.1 I	1.3 I	3.5 I
MW-21	Compliance	Barium, total	ug/l	2,000	NS	NS	2.0 I	58.0	35.0	36.0
MW-21	Compliance	Benzene	ug/l	1.0	NS	NS	2.60	2.40	2.80	1.80
MW-21	Compliance	Beryllium, total	ug/l	4	NS	NS			0.28 I	0.26 I
MW-21	Compliance	Cadmium, total	ug/l	5	NS	NS		0.11 I		0.18 I
MW-21	Compliance	Chloride	mg/l	250	NS	NS	5.4	4.3	4.1	4.2
MW-21	Compliance	Chlorobenzene	ug/l	100	NS	NS	2.10	2.00		1.50
MW-21	Compliance	Chromium, total	ug/l	100	NS	NS		7.7	5.2	3.7 I
MW-21	Compliance	Cis-1,2-Dichloroethene	ug/l	70	NS	NS	2.60	2.50	2.20	1.80
MW-21	Compliance	Cobalt, dissolved	ug/l	140	NS	NS	NA	0.75	0.60	0.50
MW-21	Compliance	Cobalt, total	ug/l	140	NS	NS	2.50	1.10	0.77	0.49 I
MW-21	Compliance	Color	PCU	15	NS	NS	Clear	Cloudy	Cloudy	Cloudy
MW-21	Compliance	Copper, total	ug/l	1,000	NS	NS		1.6 I	1.8 I	1.1 I
MW-21	Compliance	Dissolved Oxygen	mg/l		NS	NS	0.55	0.50	0.41	0.31
MW-21	Compliance	Ethylbenzene	ug/l	30	NS	NS	5.90	3.80	1.70	1.30
MW-21	Compliance	Iron, dissolved	ug/l	300	NS	NS	NA	870	990	1,100
MW-21	Compliance	Iron, total	ug/l	300	NS	NS	1,000	2,100	1,500	1,400
MW-21	Compliance	Lead, dissolved	ug/l	15	NS	NS	NA	0.25 I		
MW-21	Compliance	Lead, total	ug/l	15	NS	NS		3.20	1.90	1.80
MW-21	Compliance	Naphthalene	ug/l	14	NS	NS	0.77			
MW-21	Compliance	pH	SU	6.5 - 8.5	NS	NS	4.53	4.21	4.56	4.48
MW-21	Compliance	Residues- Filterable (TDS)	mg/l	500	NS	NS	20	18	24	20
MW-21	Compliance	Selenium, total	ug/l	50	NS	NS		1.1 I		
MW-21	Compliance	Sodium, dissolved	mg/l	160	NS	NS	NA	2.5	1.8	2.0
MW-21	Compliance	Sodium, total	mg/l	160	NS	NS	2.5	2.8	1.8	2.0
MW-21	Compliance	Specific Conductance	umhos/cm		NS	NS	83	56	79	66
MW-21	Compliance	Temperature	°C		NS	NS	23.30	24.00	23.10	24.50
MW-21	Compliance	Turbidity, filtered	NTU		NS	NS	NA	4.8	8.9	0.6
MW-21	Compliance	Turbidity, unfiltered	NTU		NS	NS	4.9	64.1	55.9	30.9
MW-21	Compliance	Vanadium, total	ug/l	49	NS	NS		4.7 I		
MW-21	Compliance	Vinyl Chloride	ug/l	1	NS	NS	1.20	1.30	1.10	0.84 I
MW-21	Compliance	Xylenes, Total	ug/l		NS	NS	3.70	1.10 I		2.20 I
MW-21	Compliance	Zinc, total	ug/l	5,000	NS	NS	11 I	11 I		

NOTES:

GCTL - Groundwater Cleanup Target level (Chapter 62-777, F.A.C.)

MCL - Maximum Contaminant Target Level (Chapter 62-550, F.A.C.)

mg/l - milligrams per liter

ug/L - micrograms per liter

umhos/cm - micromhos per centimeter

NA - sample not analyzed for this parameter

NS - no sample was collected from this well

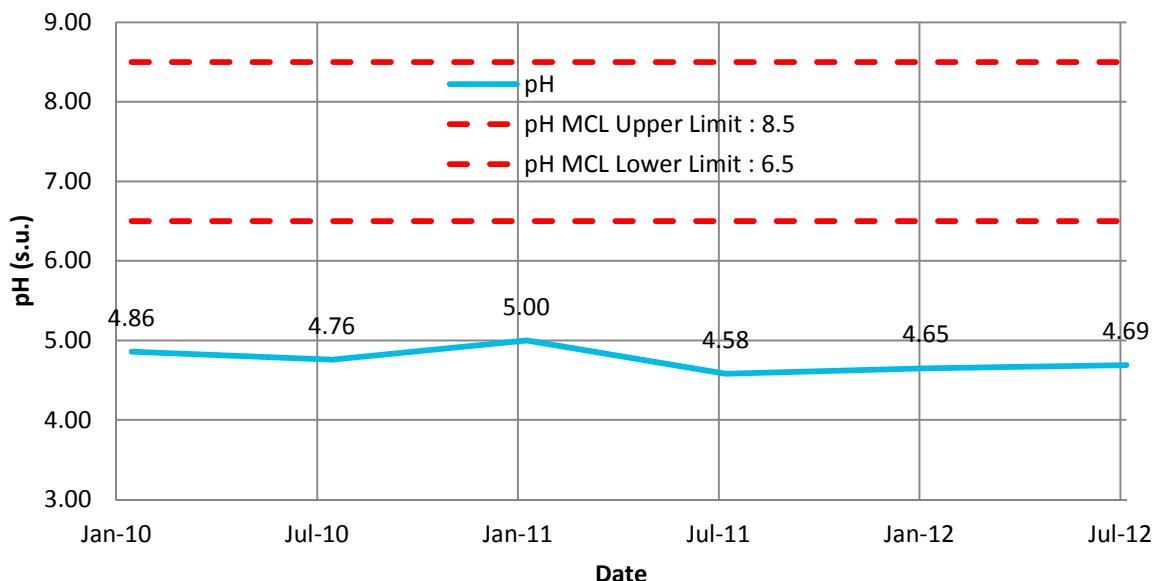
NTU - nephelometric turbidity units

°C - degrees Centigrade

I - analyte detected below the quantitation limit

SU - Standard Unit

MW-3 : pH



MW-3 : Nitrate

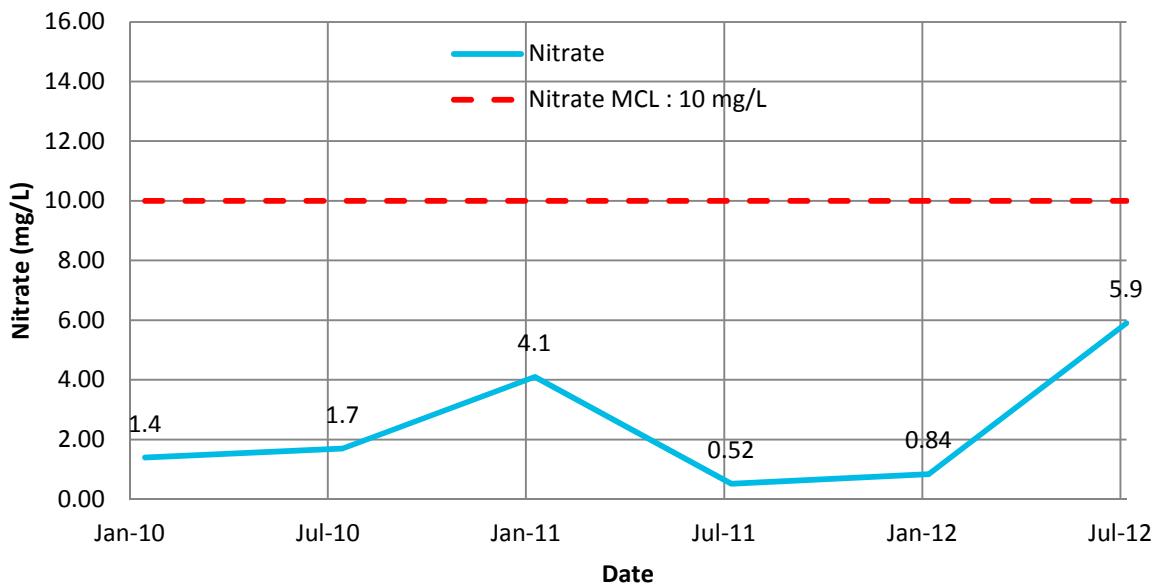
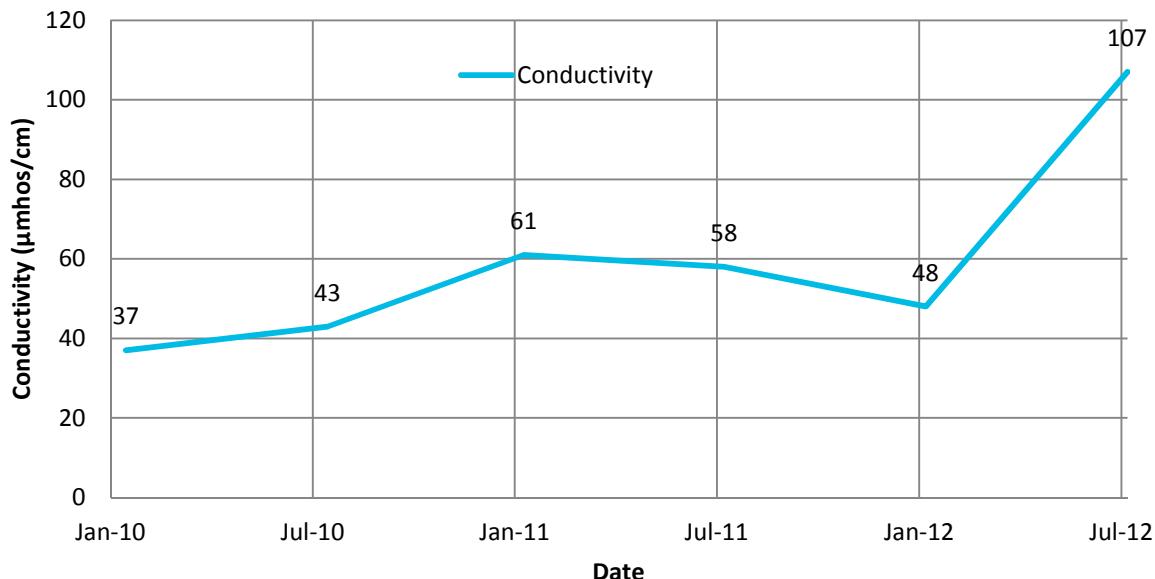


Figure B-1 pH and Nitrate Trends for MW-3

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-3 : Conductivity



MW-3 : TDS

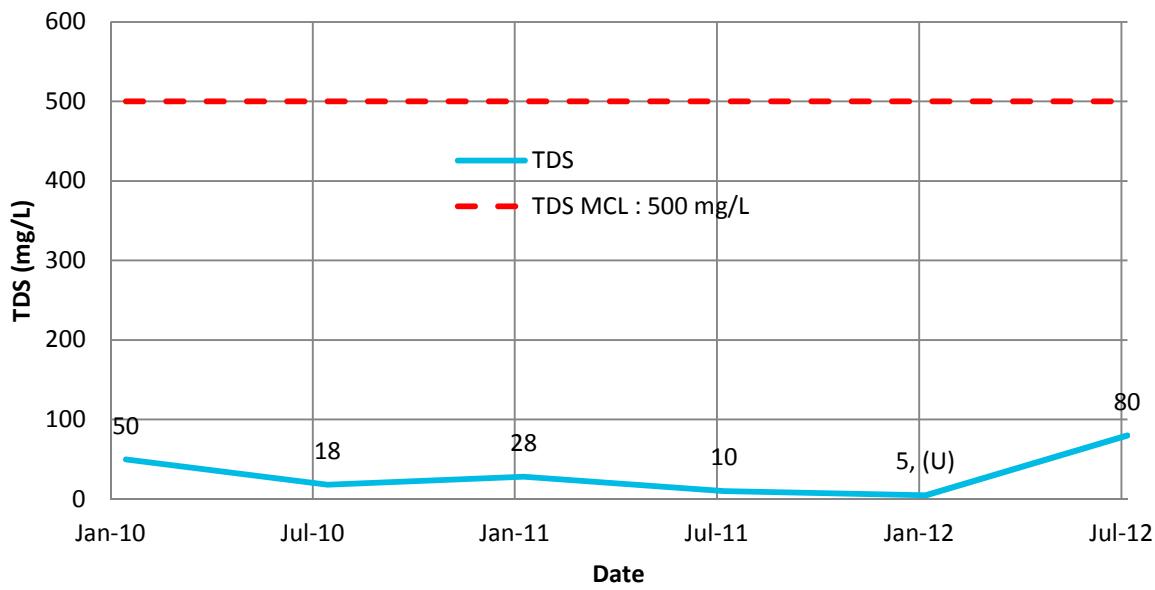


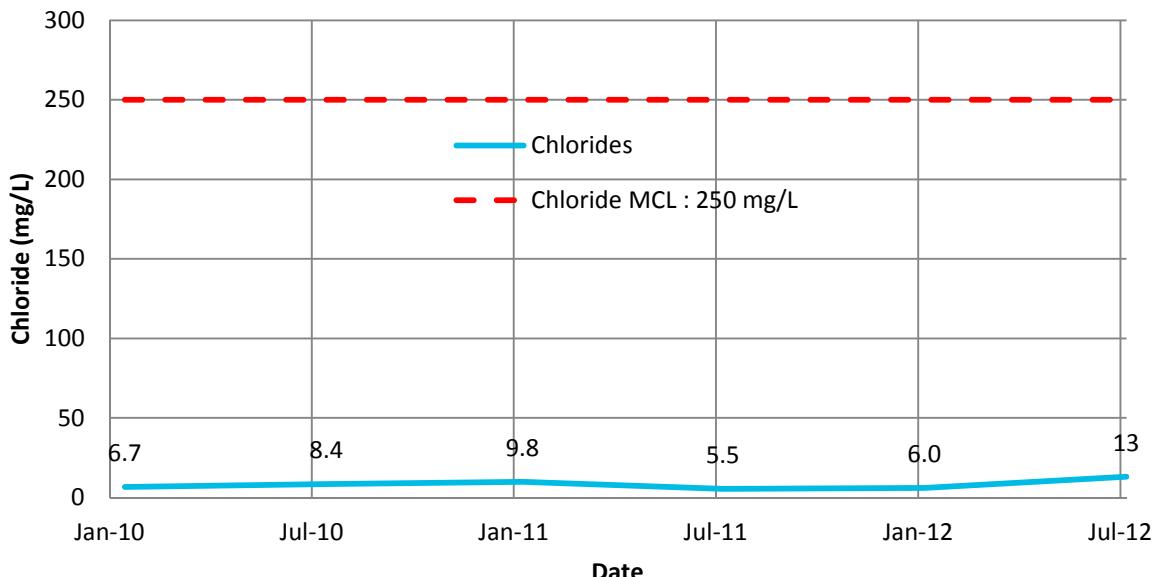
Figure B-2 Conductivity and TDS Trends for MW-3

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(U) Analyte concentration detected below method detection limit

MW-3 : Chloride



MW-3 : Barium

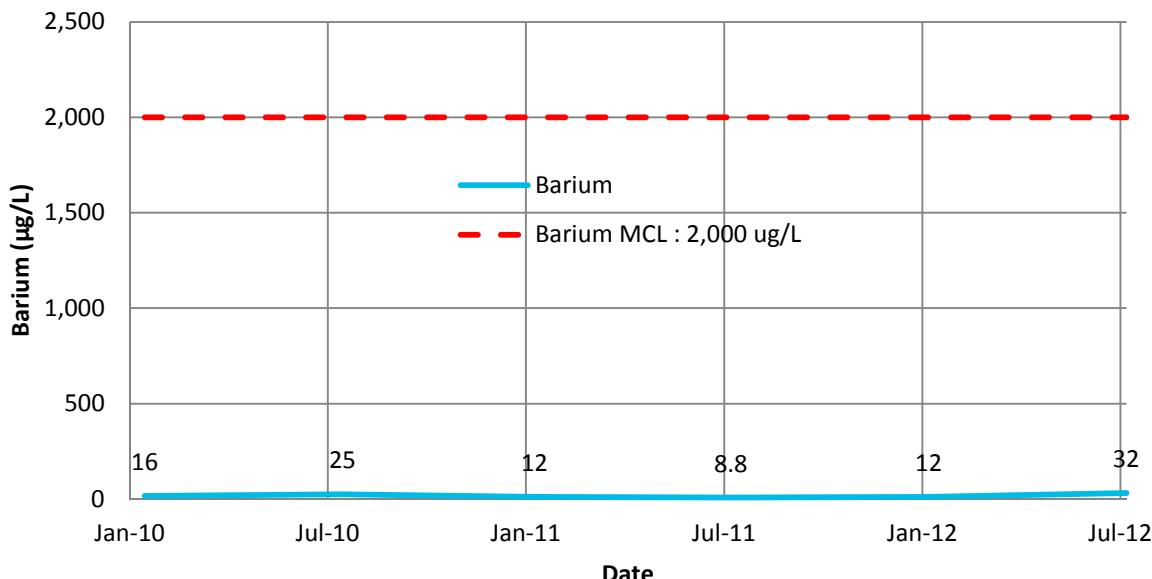


Figure B-3 Chloride and Barium Trends for MW-3

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

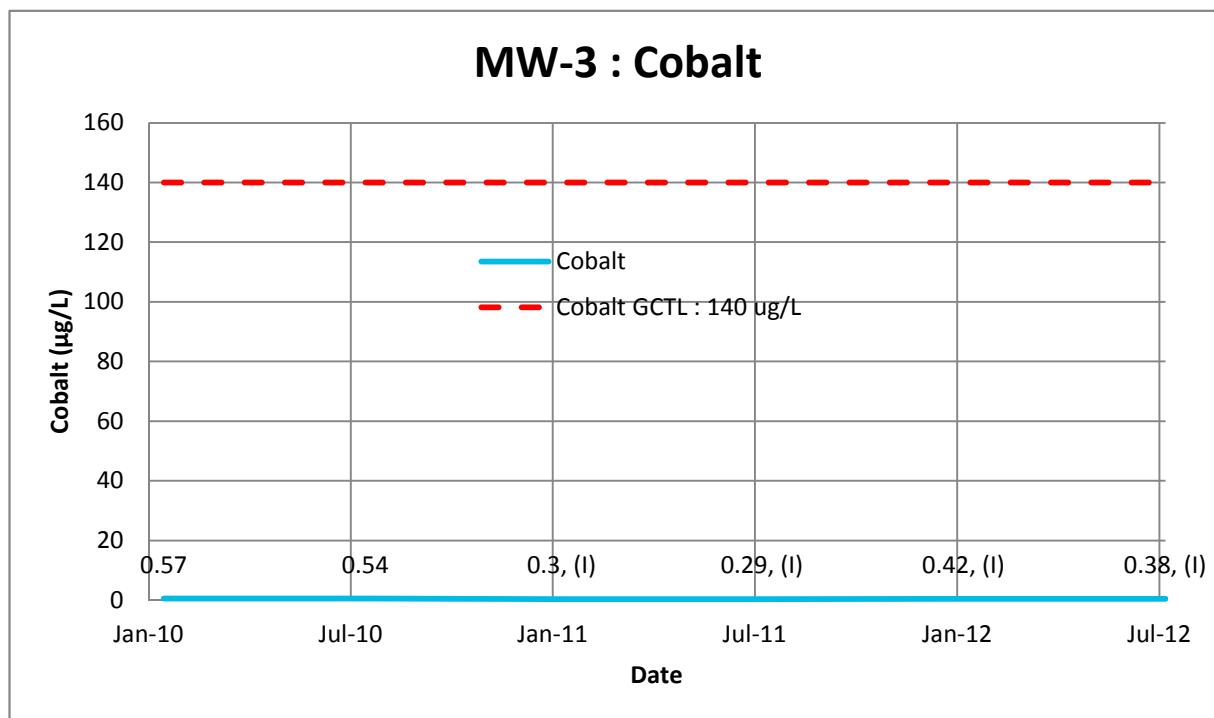
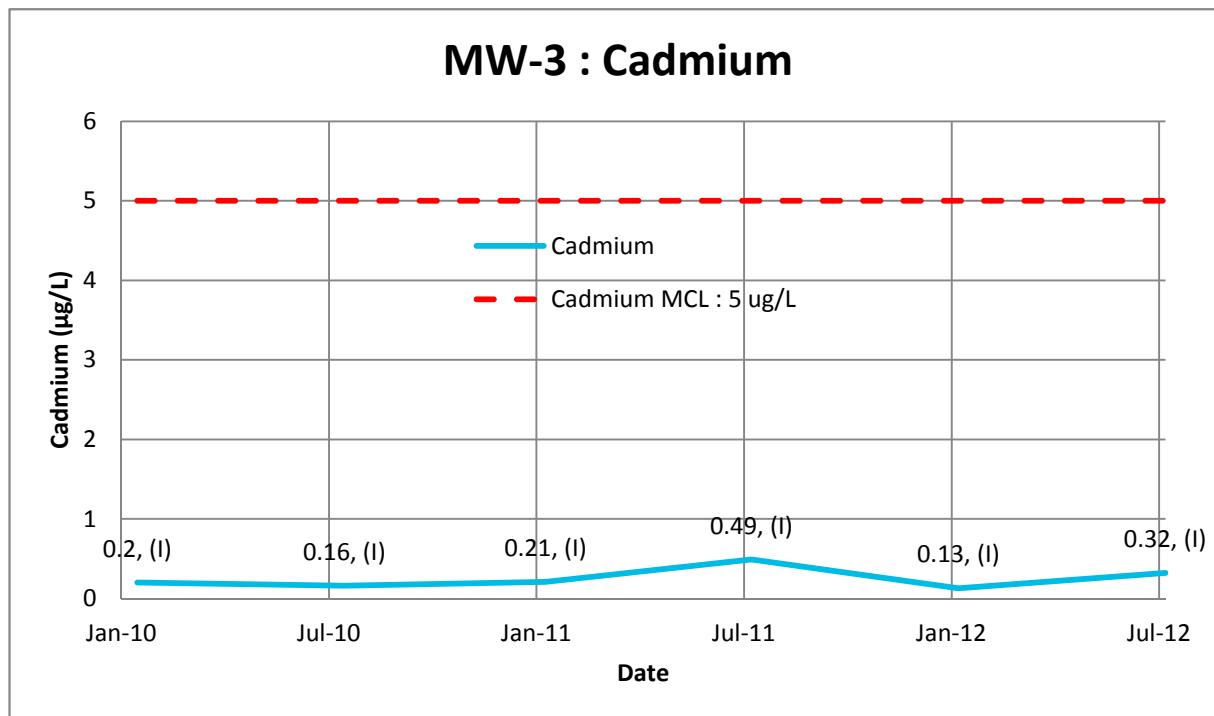


Figure B-4 Cadmium and Cobalt Trends for MW-3

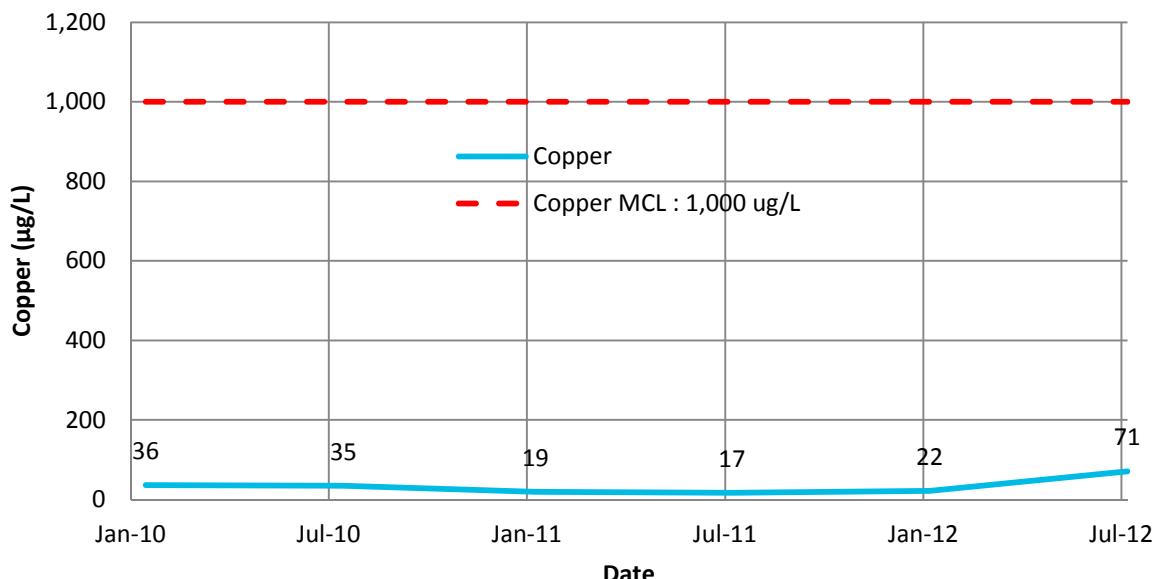
GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

(I) Analyte concentration detected below quantitation limit

MCL - Maximum Contaminant Level per 62-550 F.A.C.

Based on data provided by TestAmerica Laboratories, Inc.

MW-3 : Copper



MW-3 : Lead

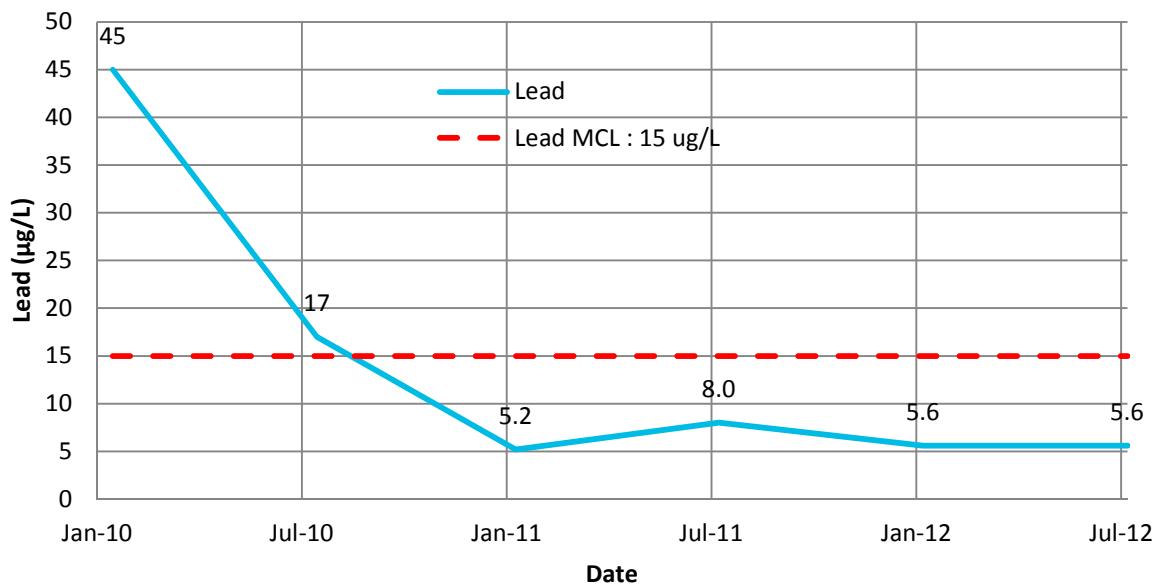


Figure B-5 Copper and Lead Trends for MW-3

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

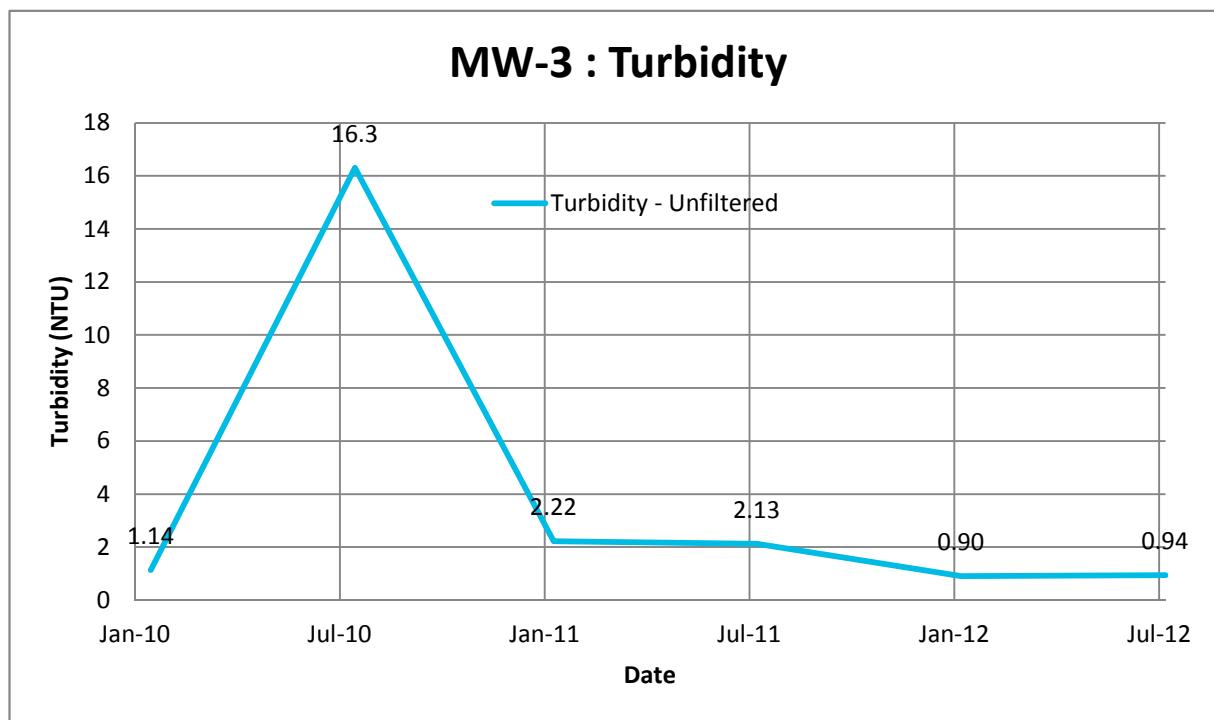
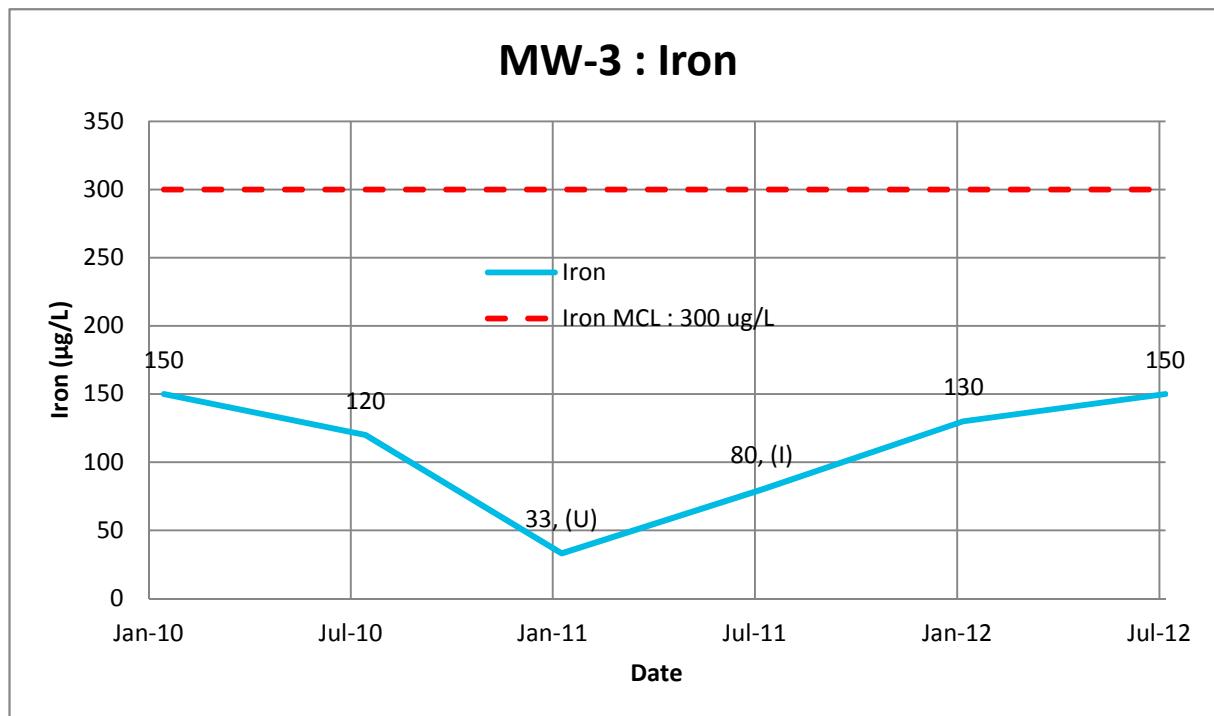


Figure B-6 Iron and Turbidity Trends for MW-3

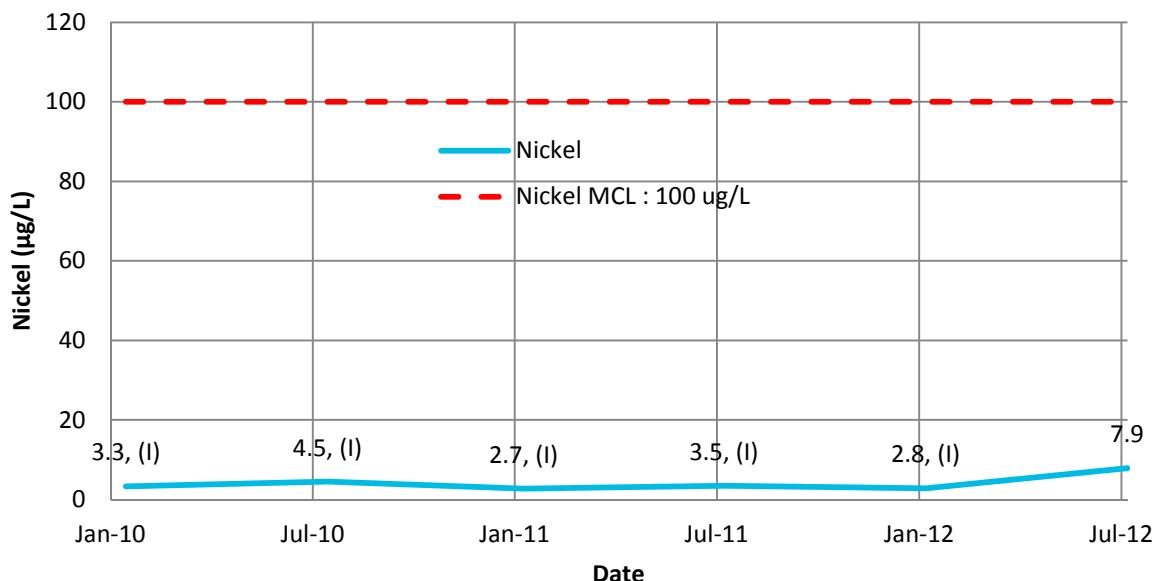
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration detected below method detection limit

MW-3 : Nickel



MW-3 : Sodium

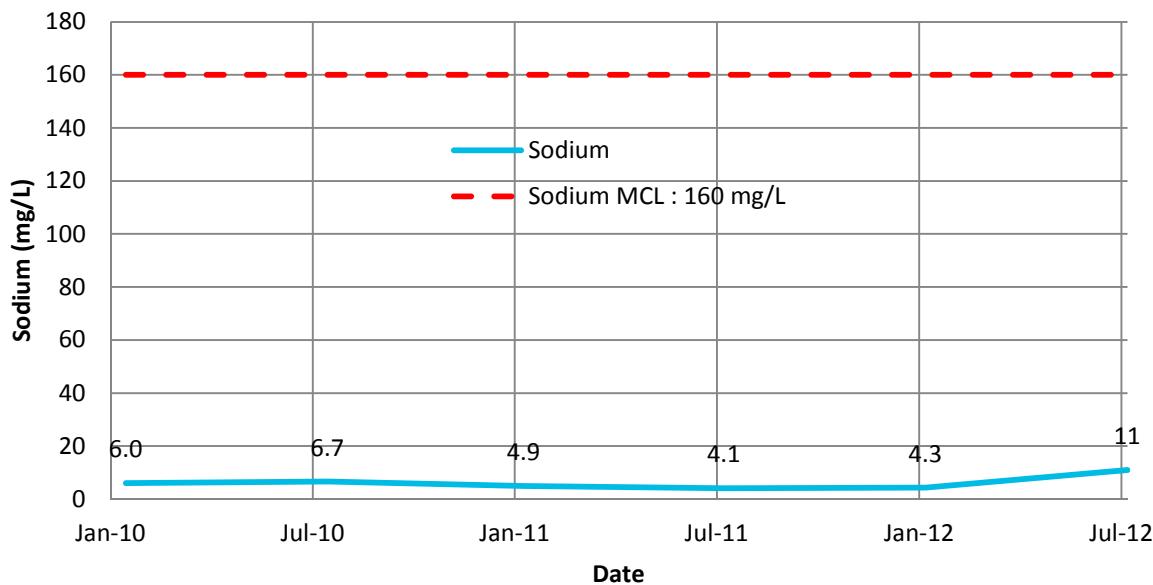


Figure B-7 Nickel and Sodium Trends for MW-3

MCL - Maximum Contaminant Level per 62-550 F.A.C.

(I) Analyte concentration detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

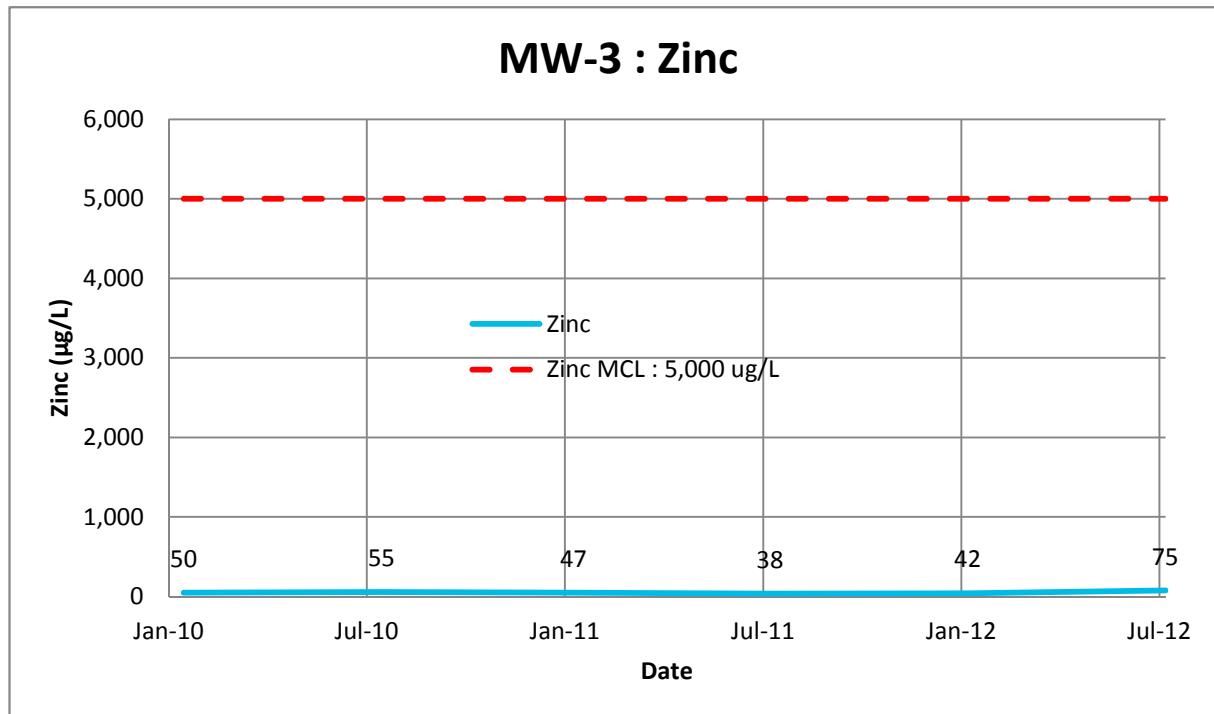


Figure B-8 Zinc Trend for MW-3

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

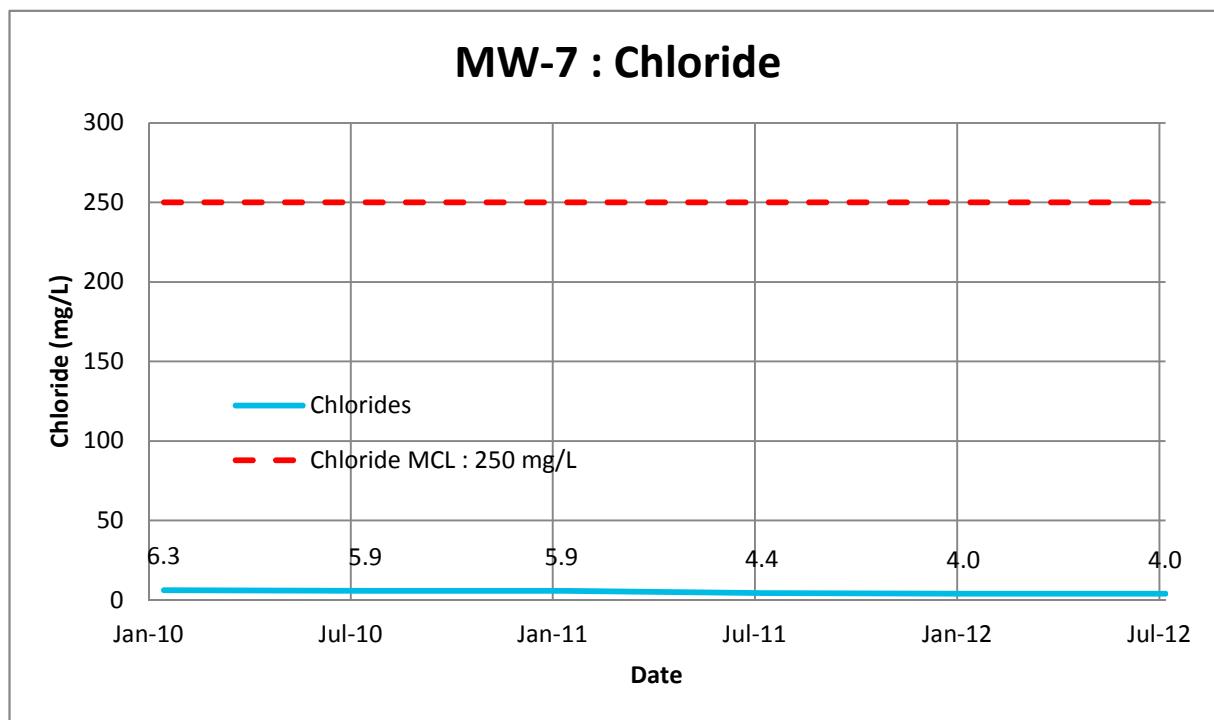
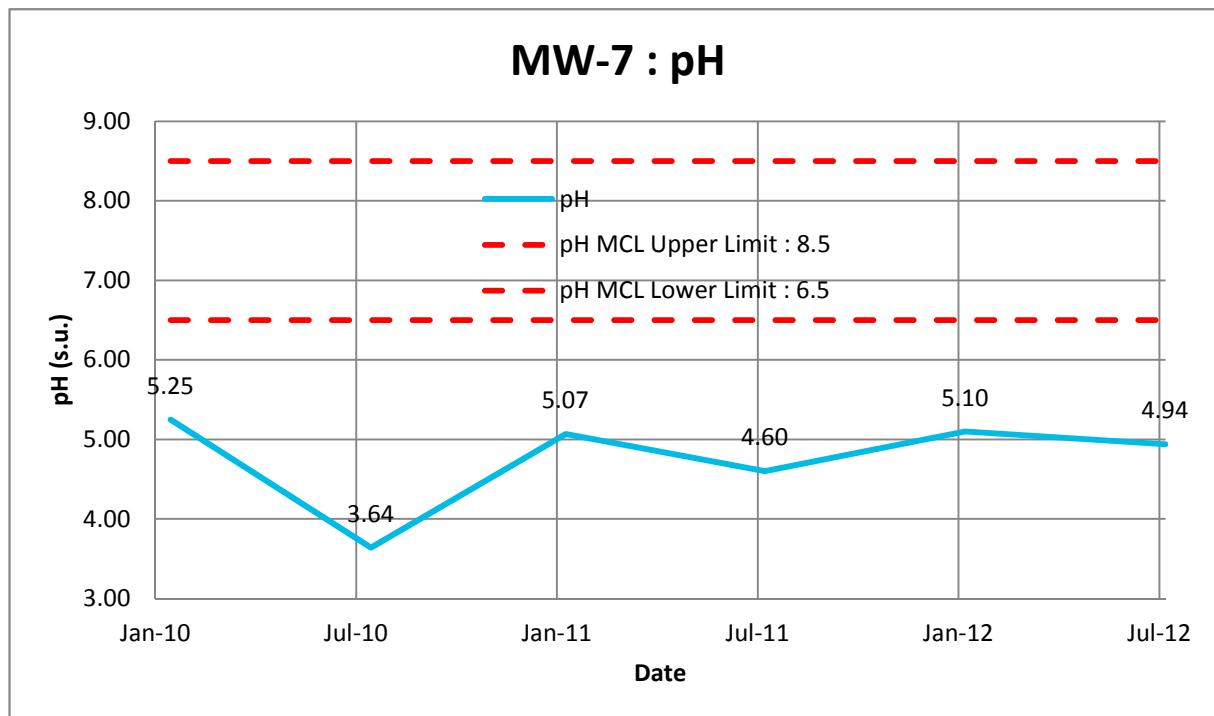


Figure B-9 pH and Chloride Trends for MW-7

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

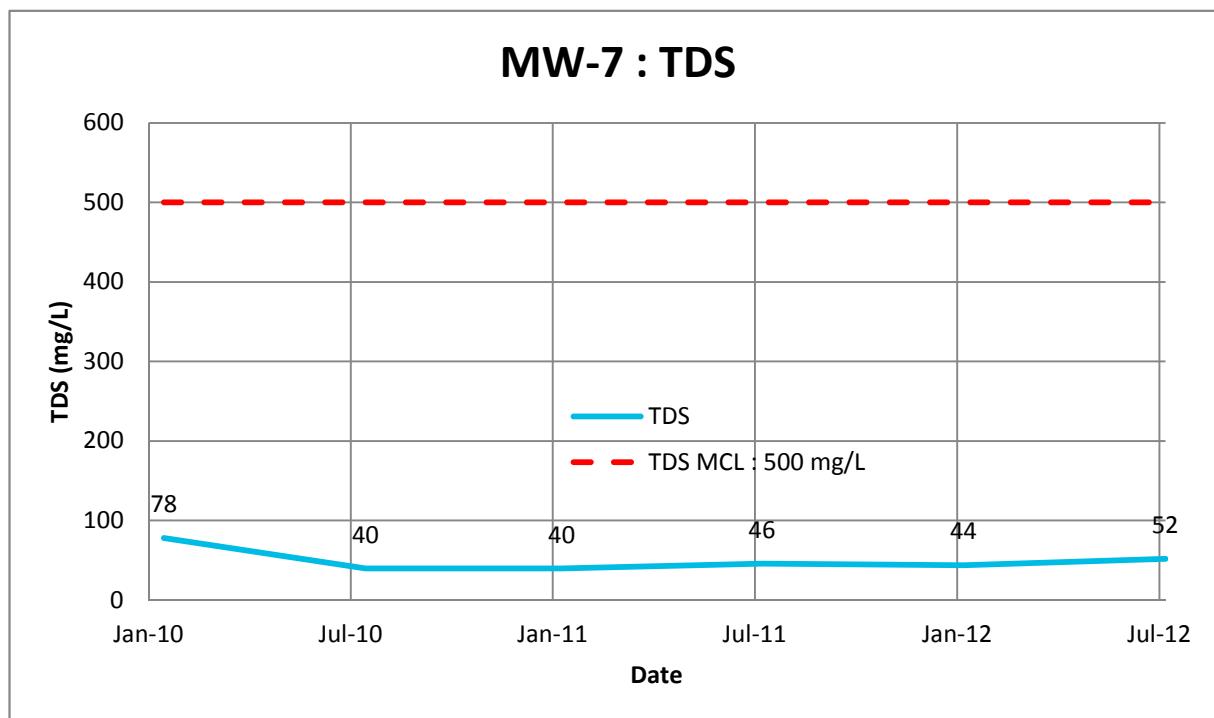
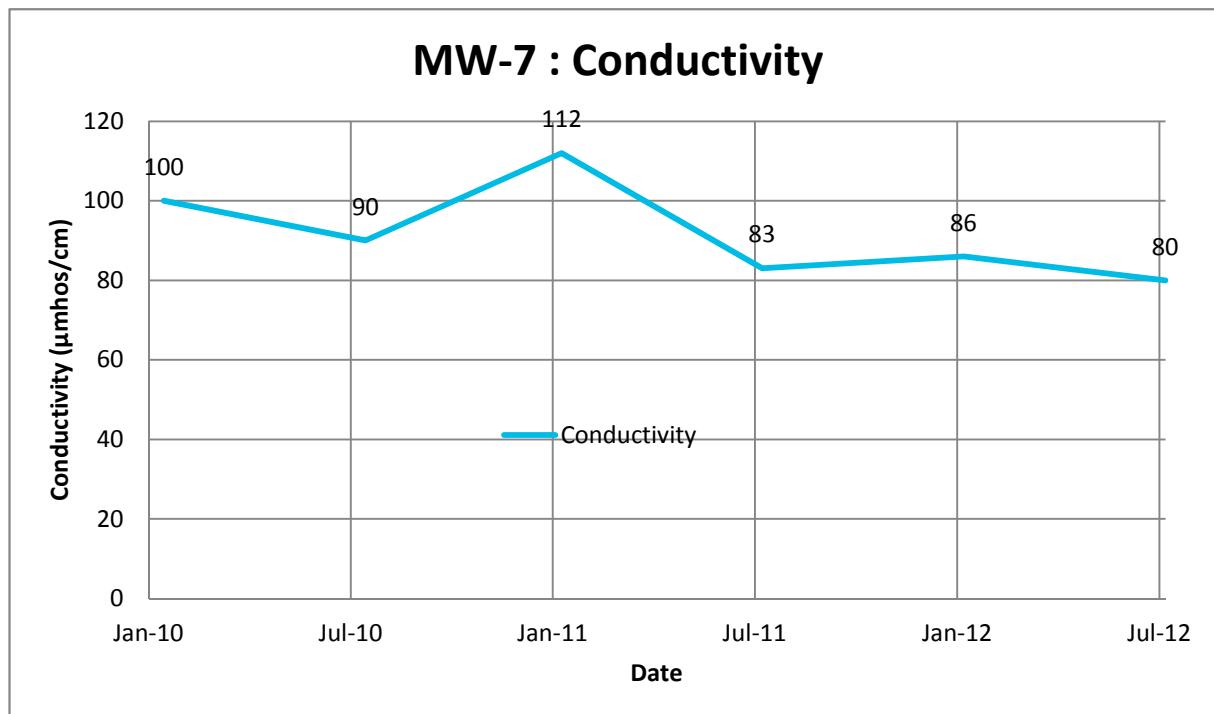
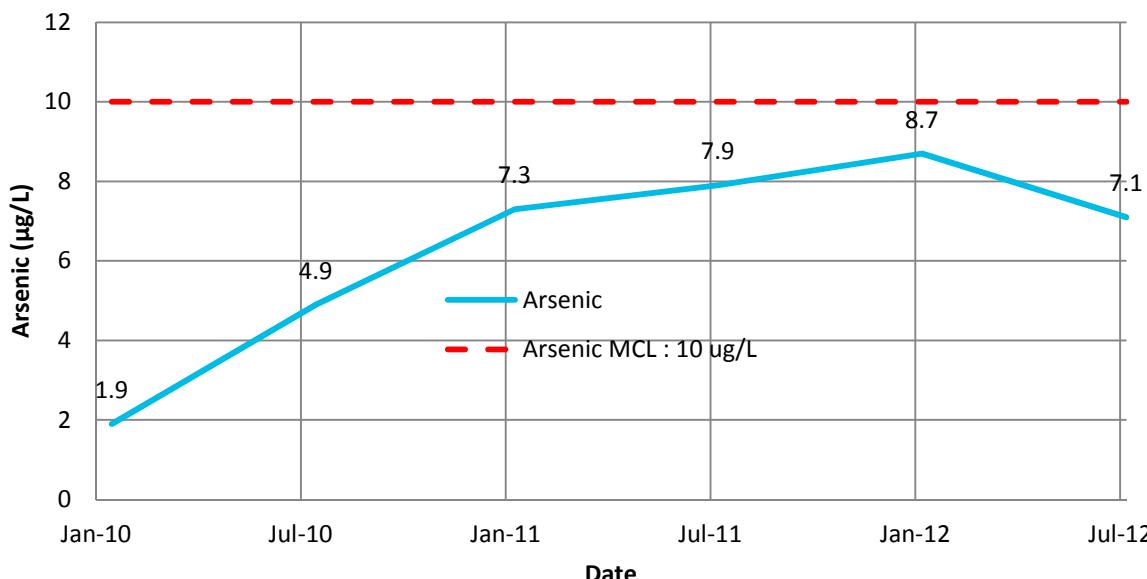


Figure B-10 Conductivity and TDS Trends for MW-7

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-7 : Arsenic



MW-7 : Barium

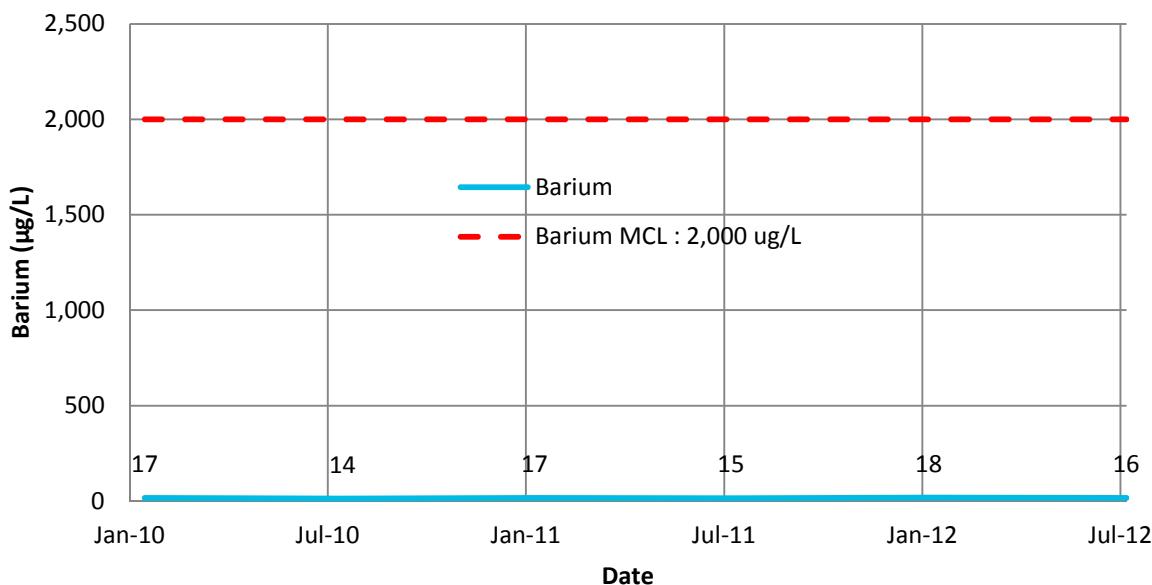


Figure B-11 Arsenic and Barium Trends for MW-7

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

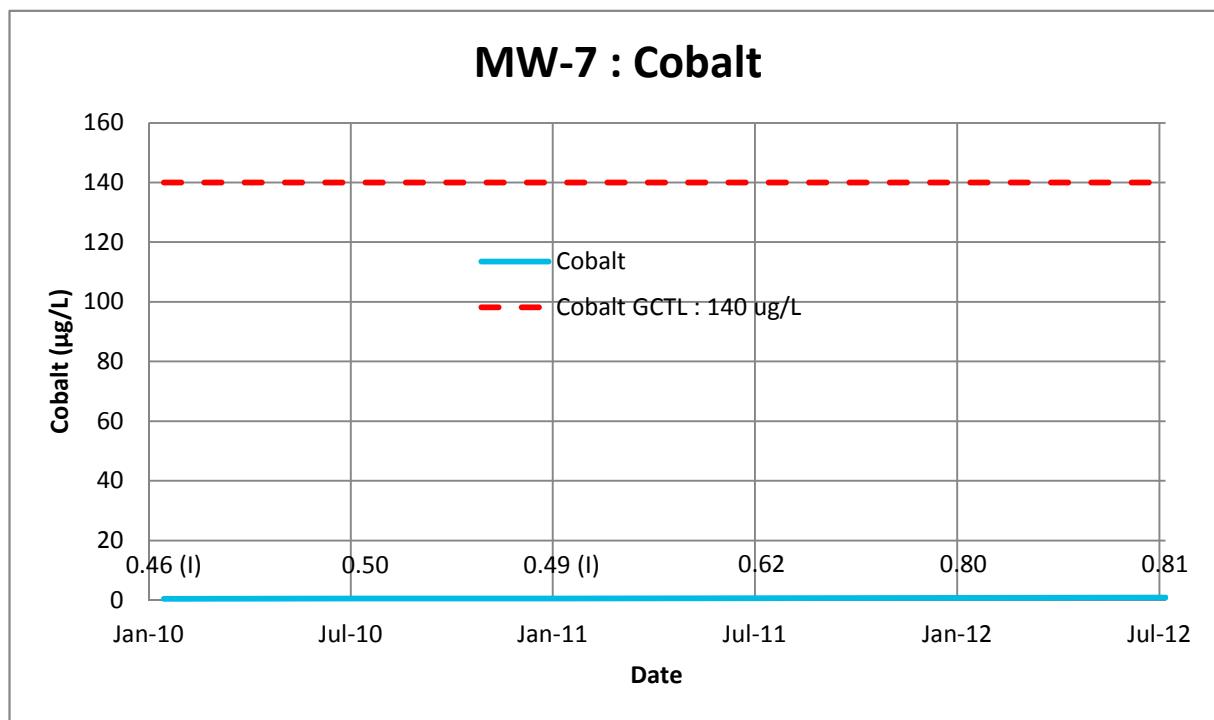
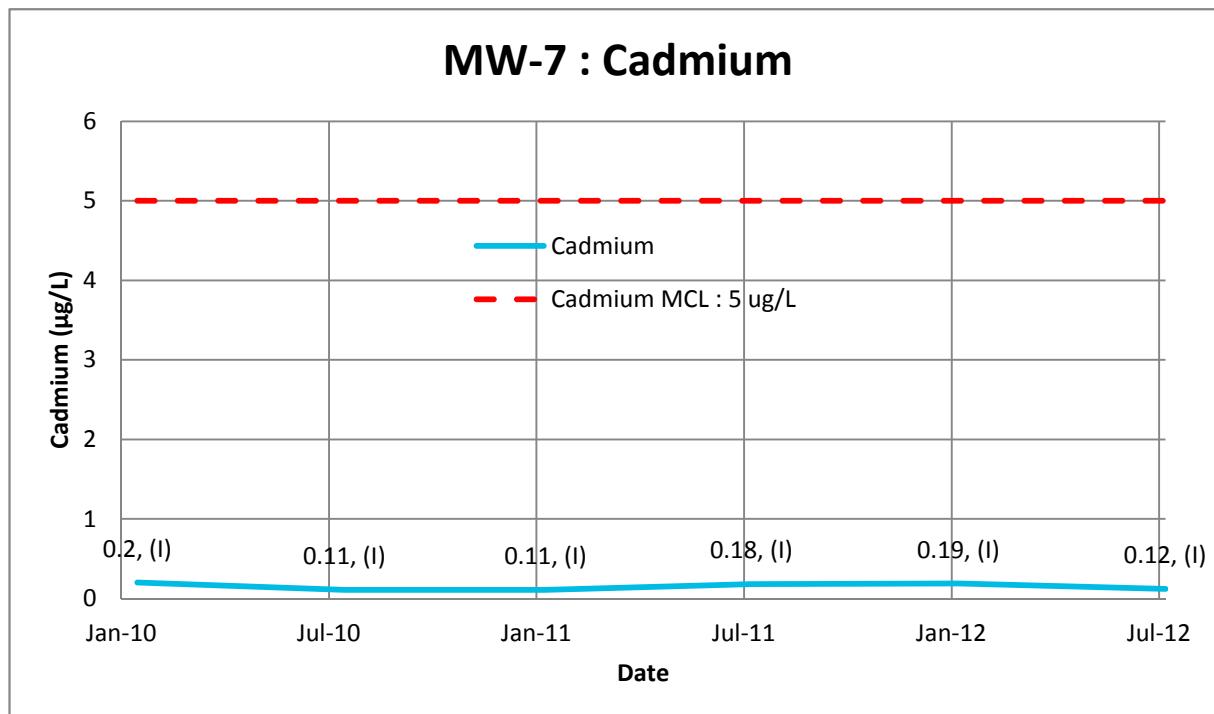


Figure B-12 Cadmium and Cobalt Trends for MW-7

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

(I) Analyte concentration detected below quantitation limit

MCL - Maximum Contaminant Level per 62-550 F.A.C.

Based on data provided by TestAmerica Laboratories, Inc.

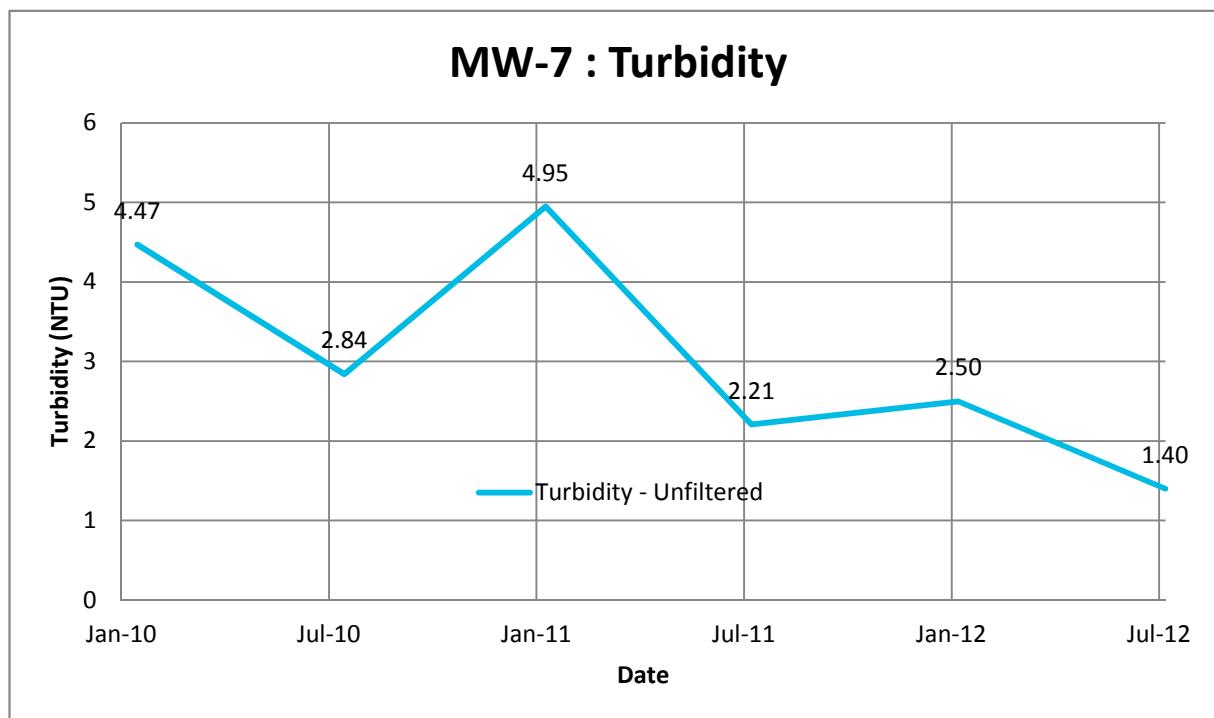
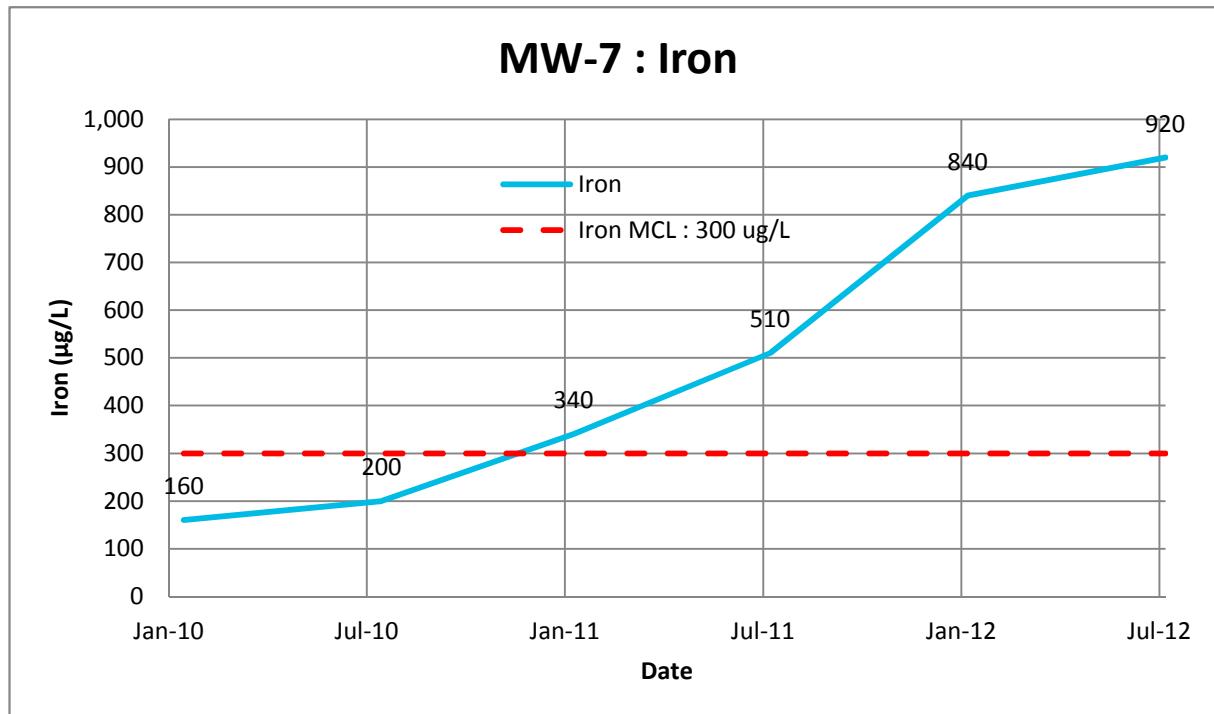
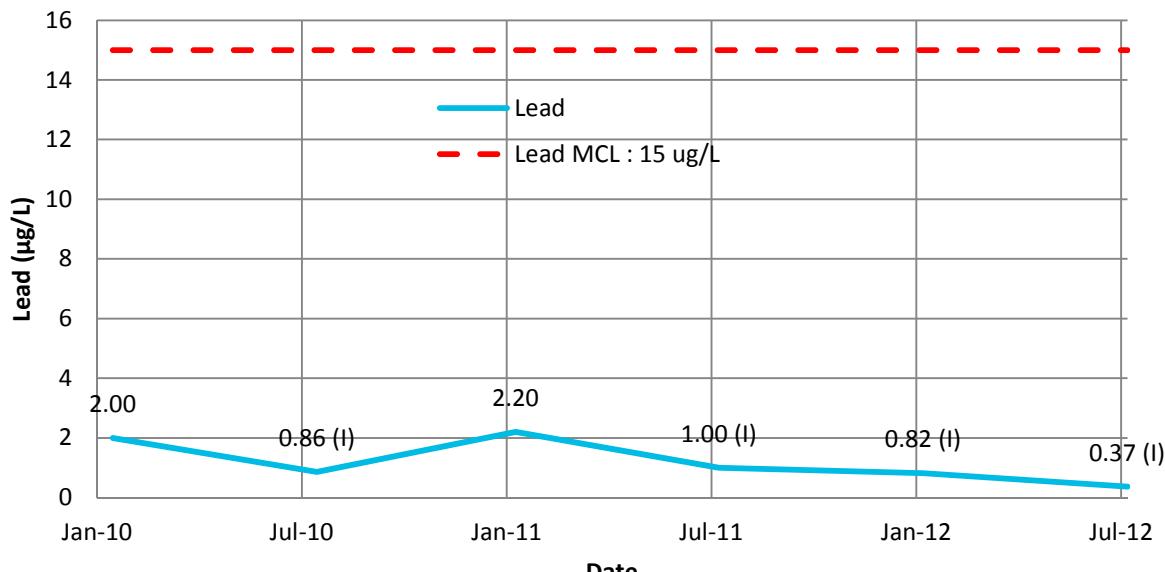


Figure B-13 Iron and Turbidity Trends for MW-7

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-7 : Lead



MW-7 : Nickel

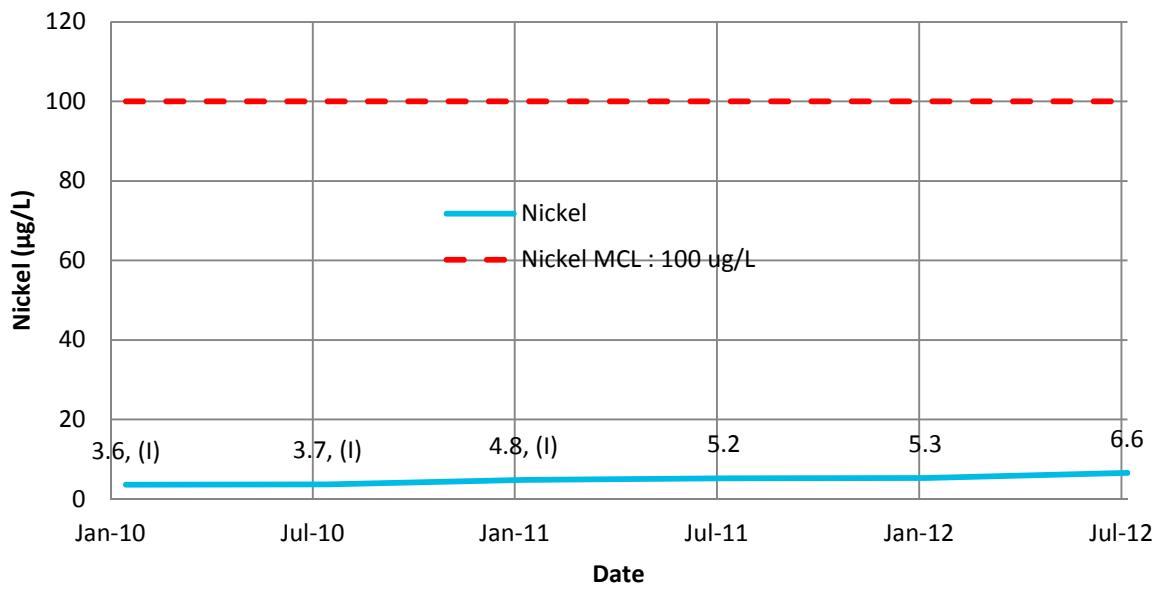


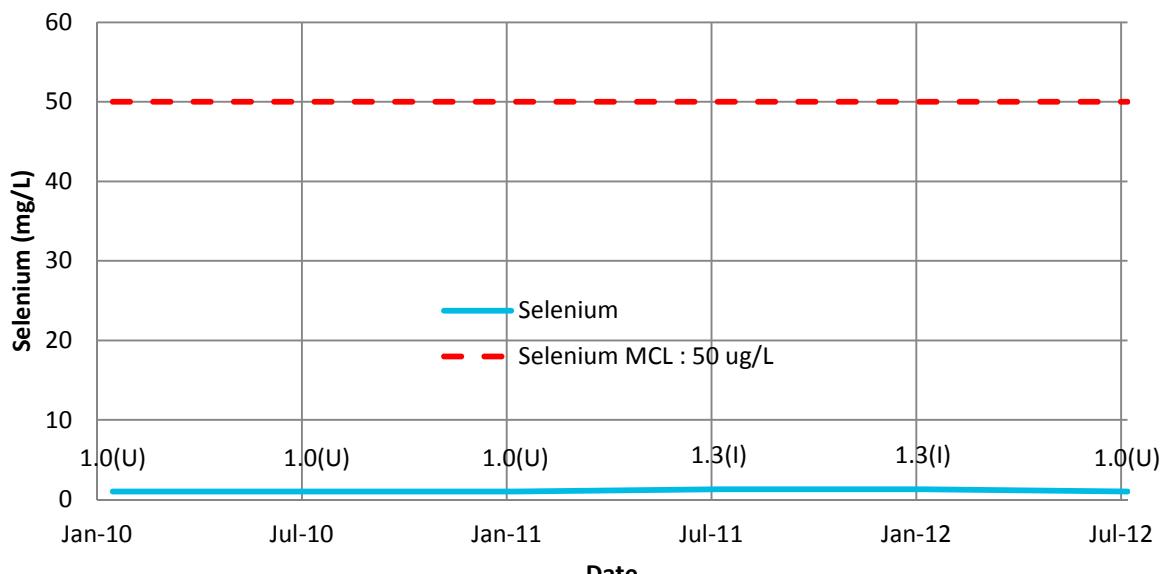
Figure B-14 Lead and Nickel Trends for MW-7

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

MW-7 : Selenium



MW-7 : Sodium

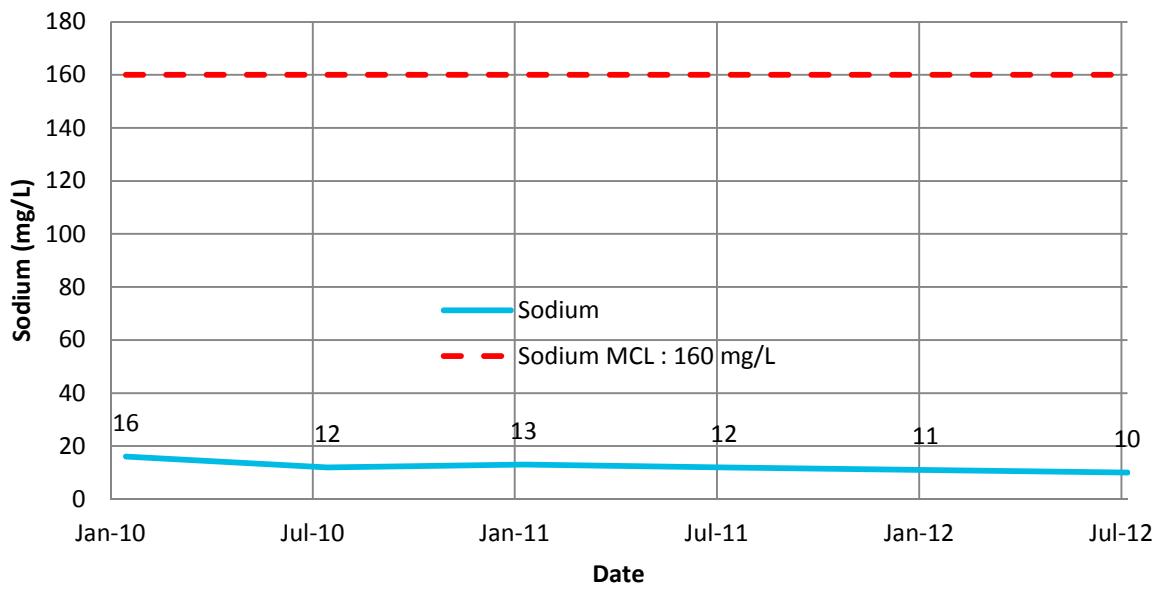


Figure B-15 Selenium and Sodium Trends for MW-7

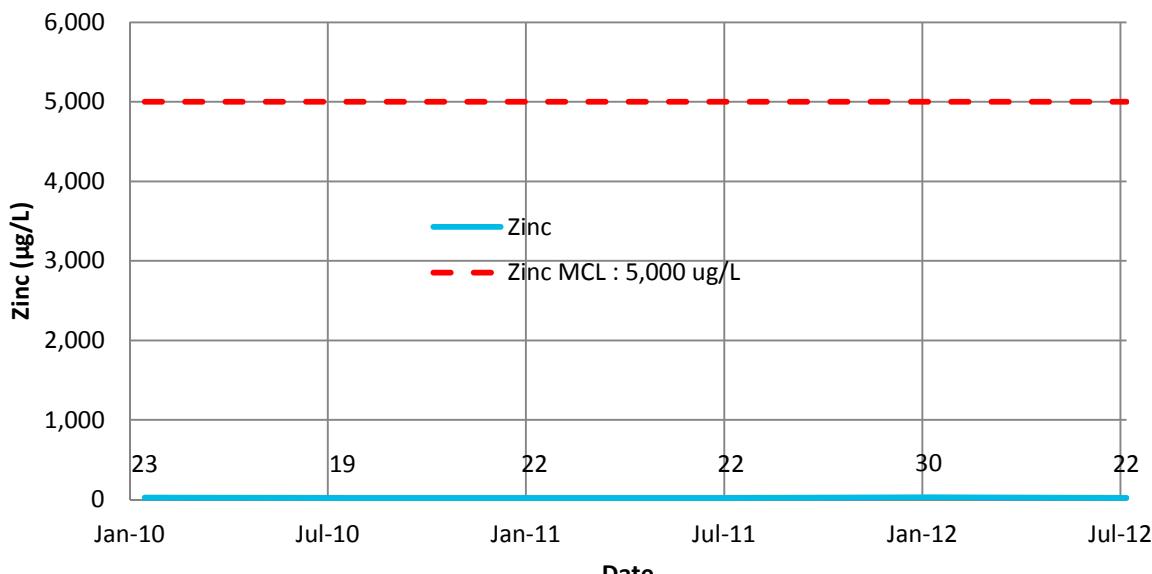
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-7 : Zinc



MW-7 : Benzene

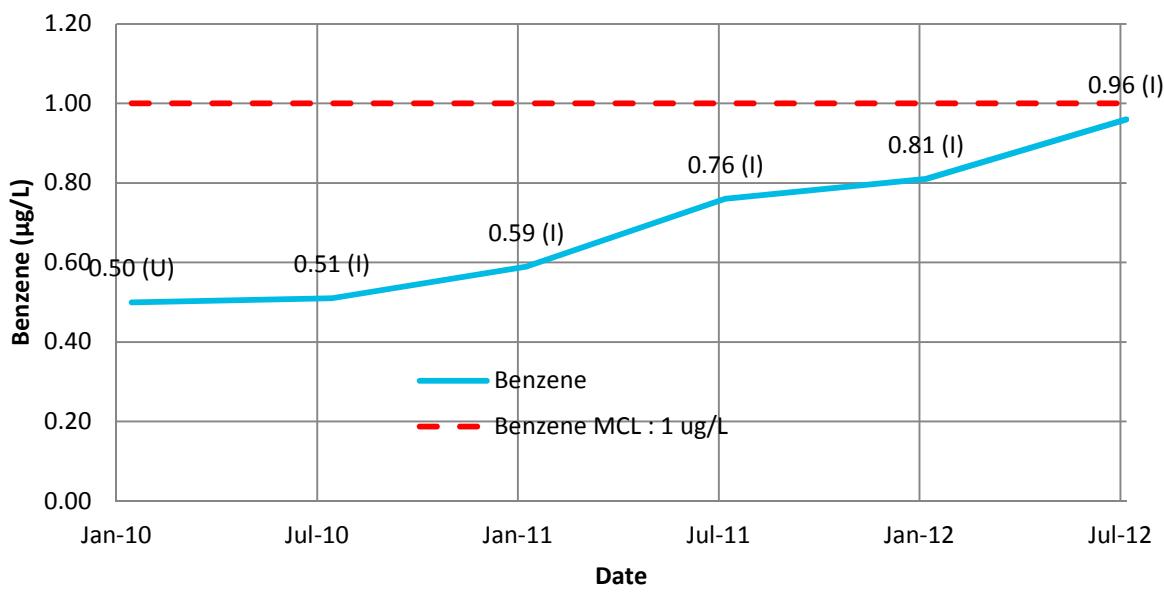


Figure B-16 Zinc and Benzene Trend for MW-7

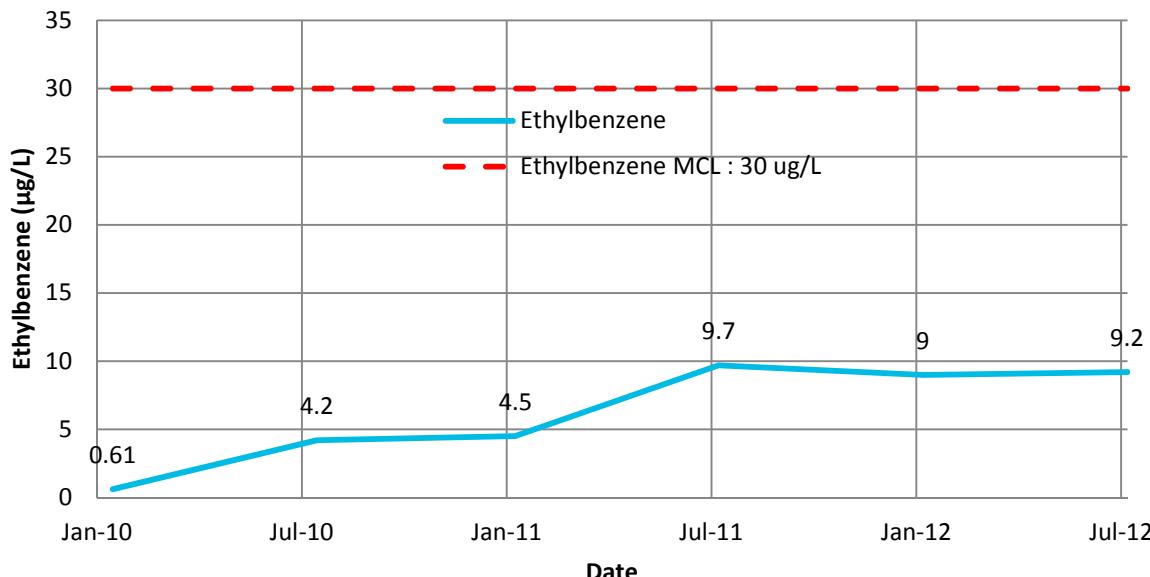
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-7 : Ethylbenzene



MW-7 : Xylene

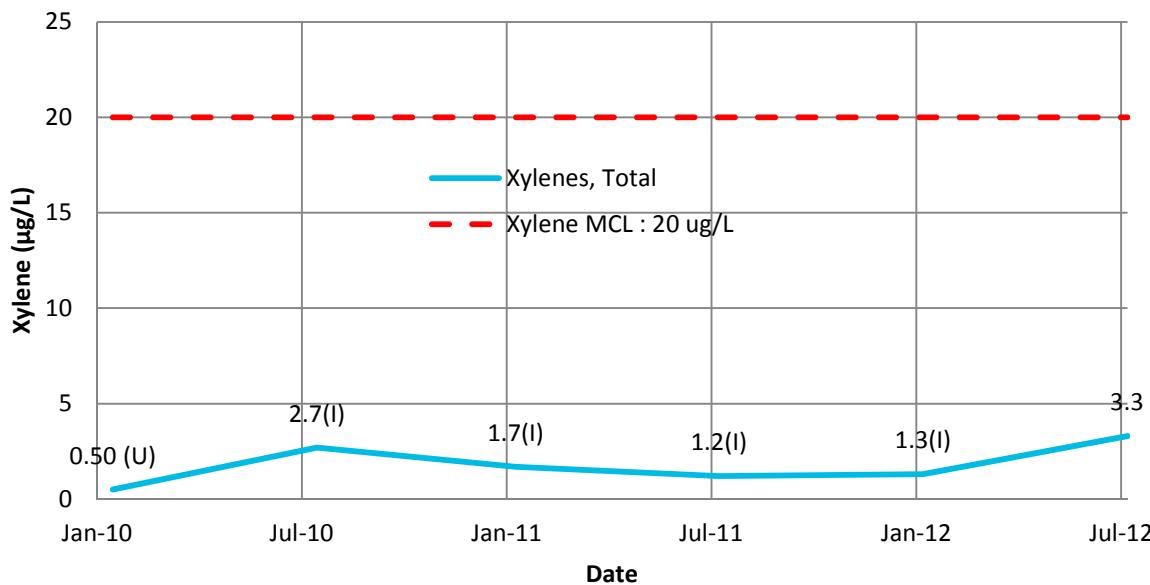


Figure B-17 Ethylbenzene and Xylene Trends for MW-7

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

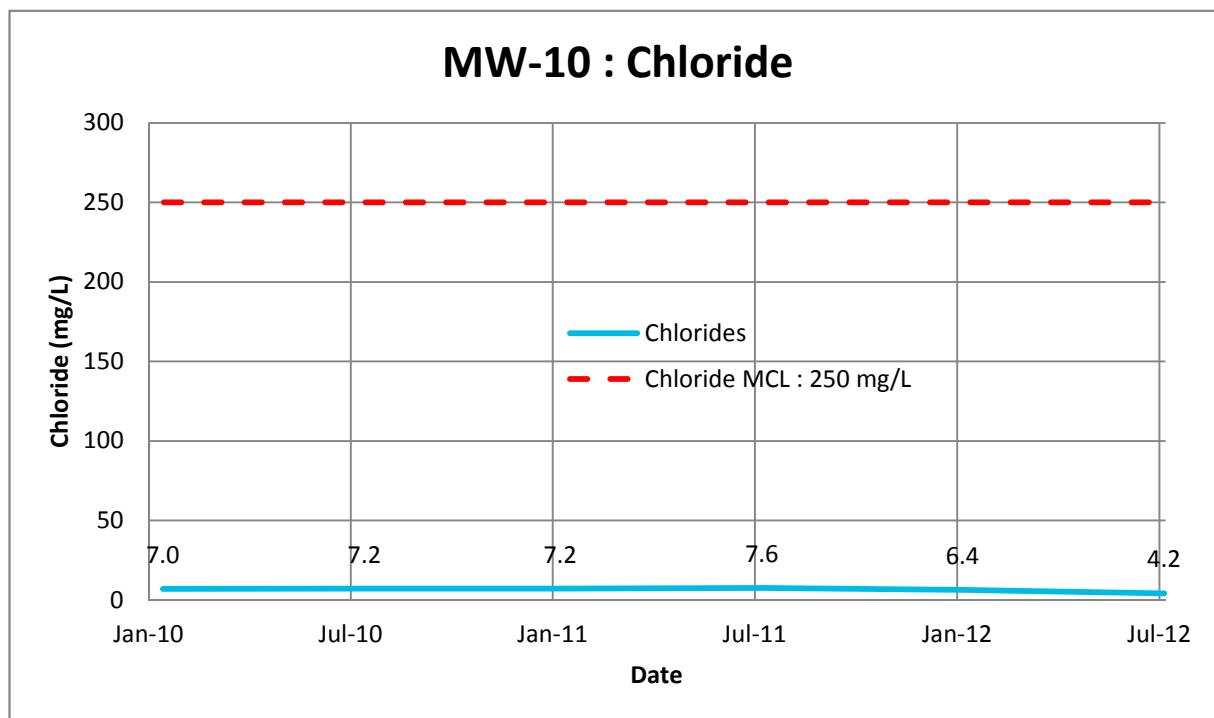
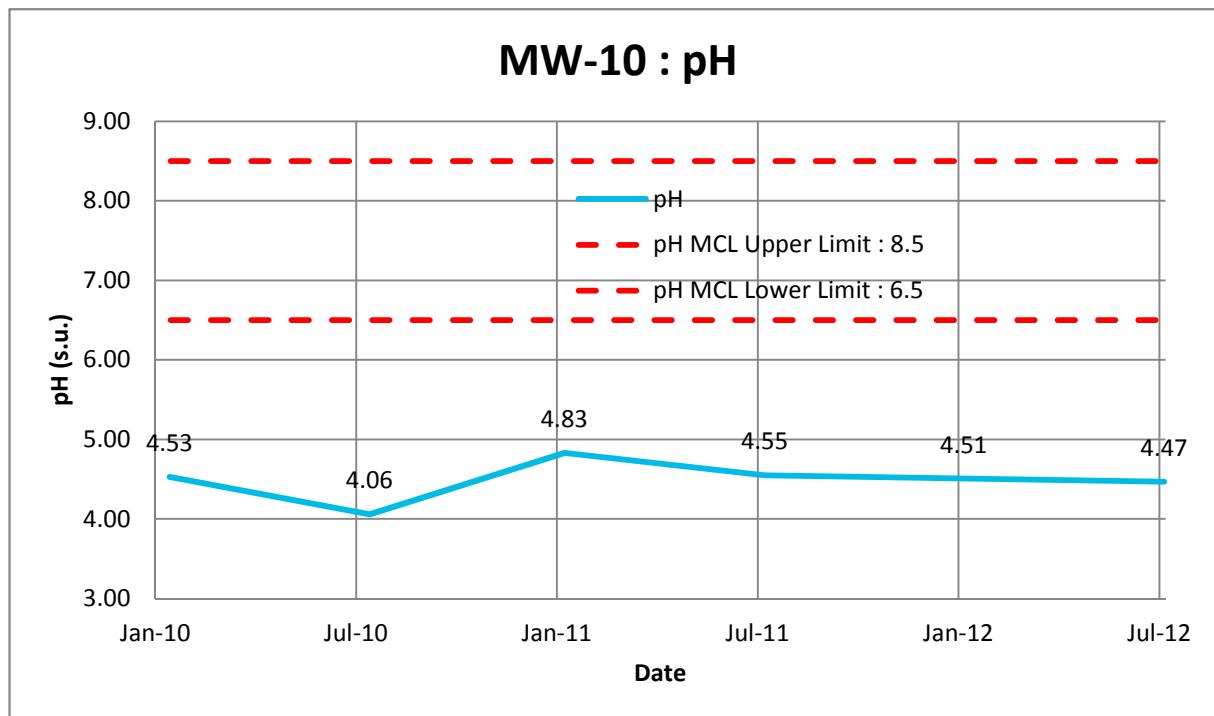


Figure B-18 pH and Chloride Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

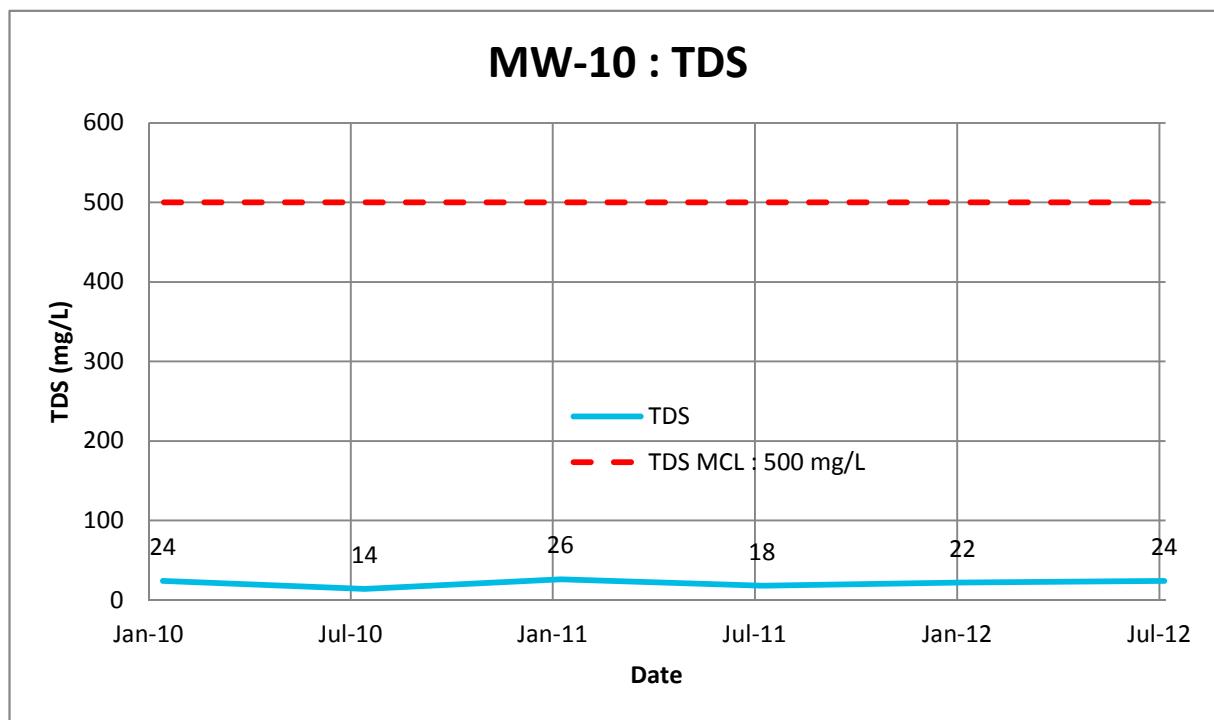
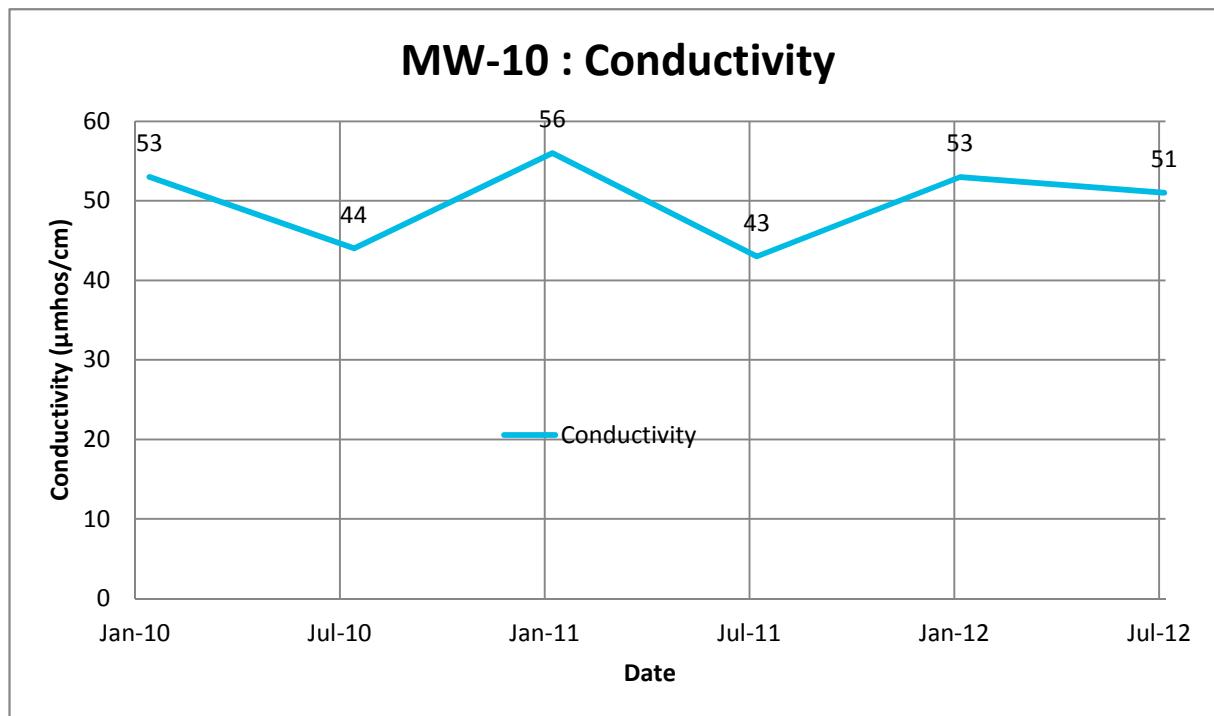
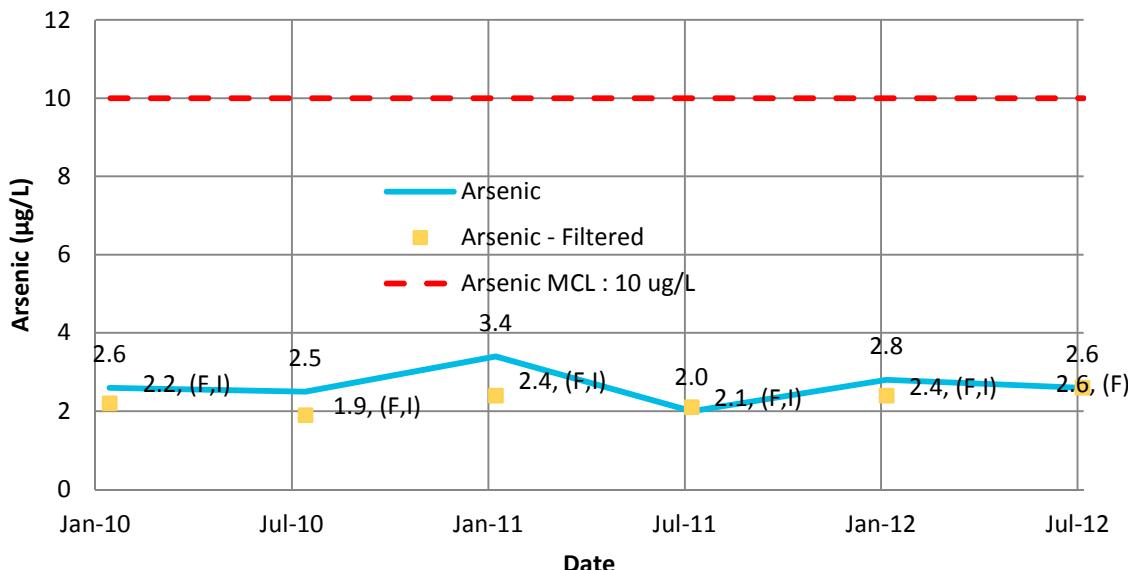


Figure B-19 Conductivity and TDS Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-10 : Arsenic



MW-10 : Barium

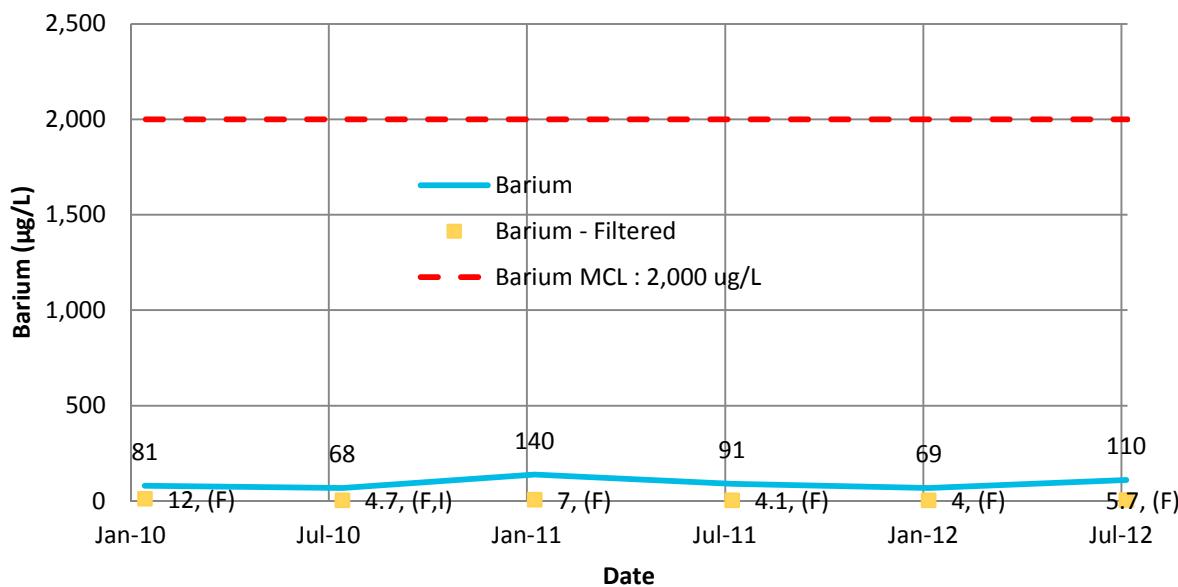


Figure B-20 Arsenic and Barium Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(F) Filtered Sample

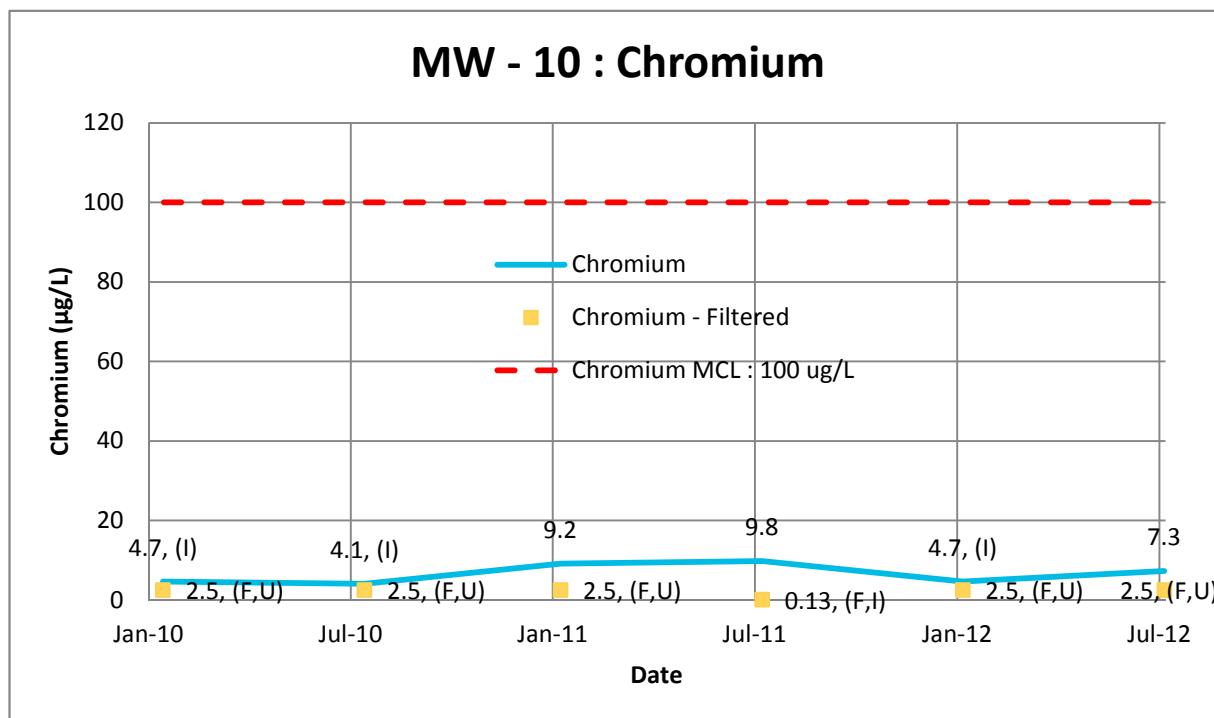
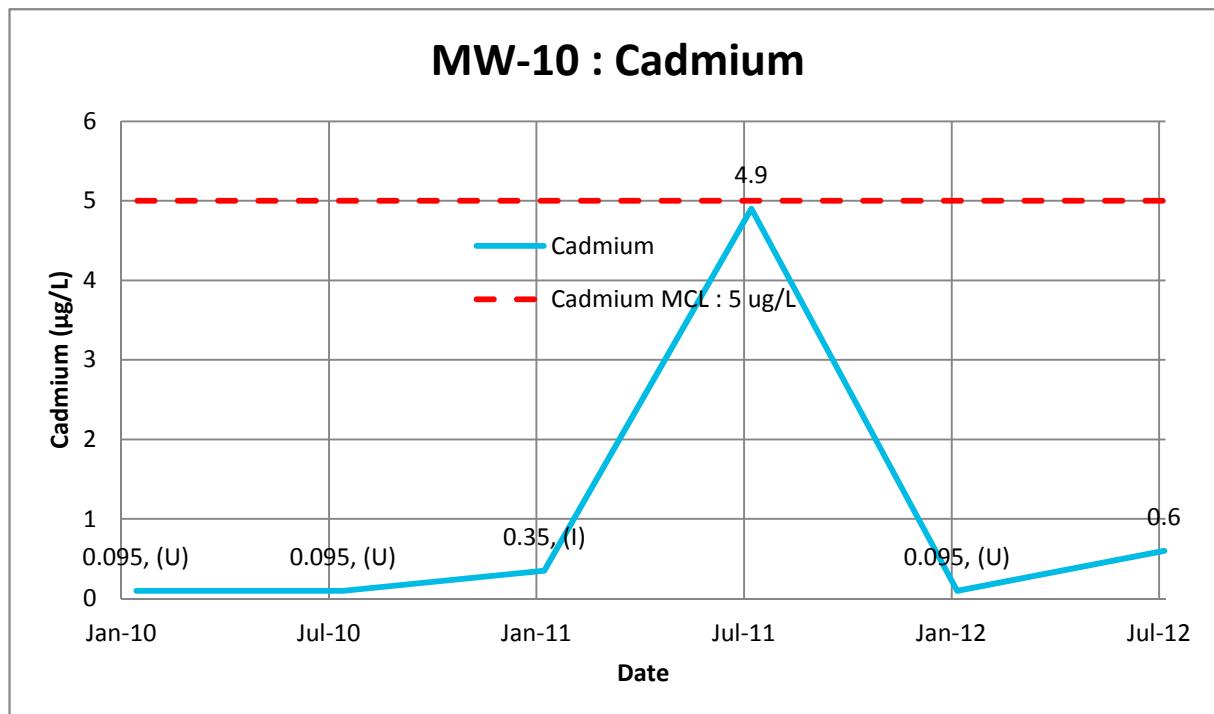


Figure B-21 Cadmium and Chromium Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C.

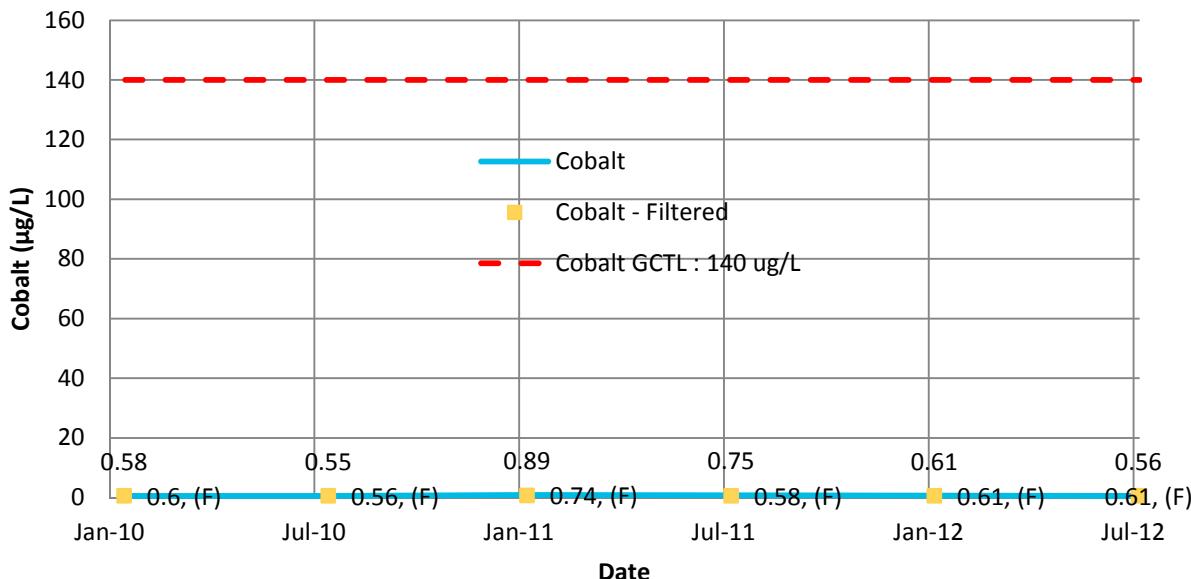
Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration below method detection limit

(F) Filtered Sample

MW-10 : Cobalt



MW-10 : Lead

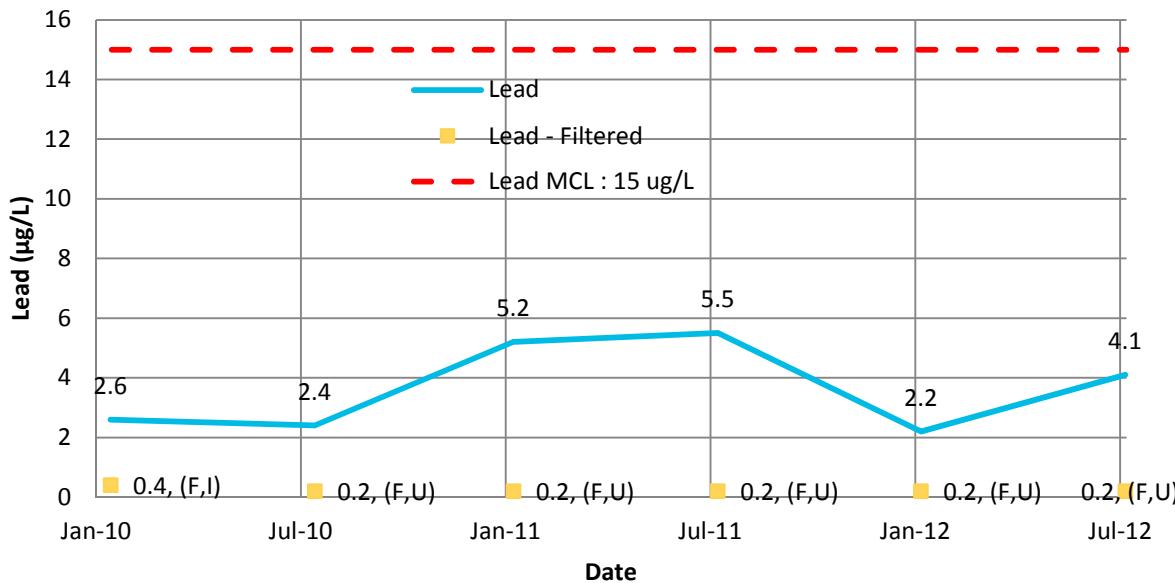


Figure B-22 Cobalt and Lead Trends for MW-10

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

MCL - Maximum Contaminant Level per 62-550 F.A.C.

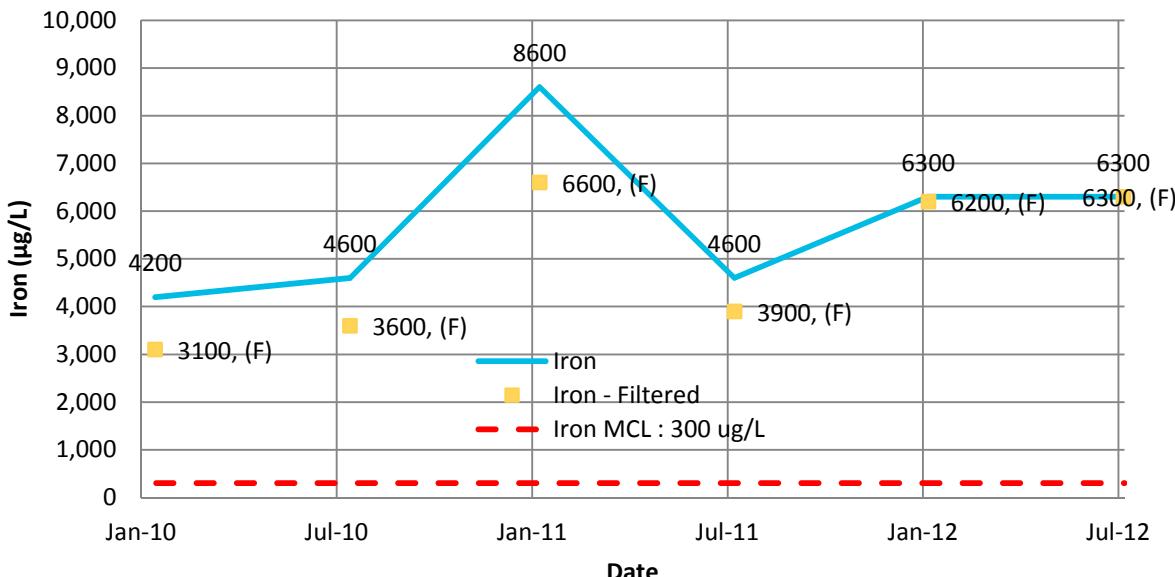
Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration below method detection limit

(F) Filtered Sample

MW-10 : Iron



MW-10 : Turbidity

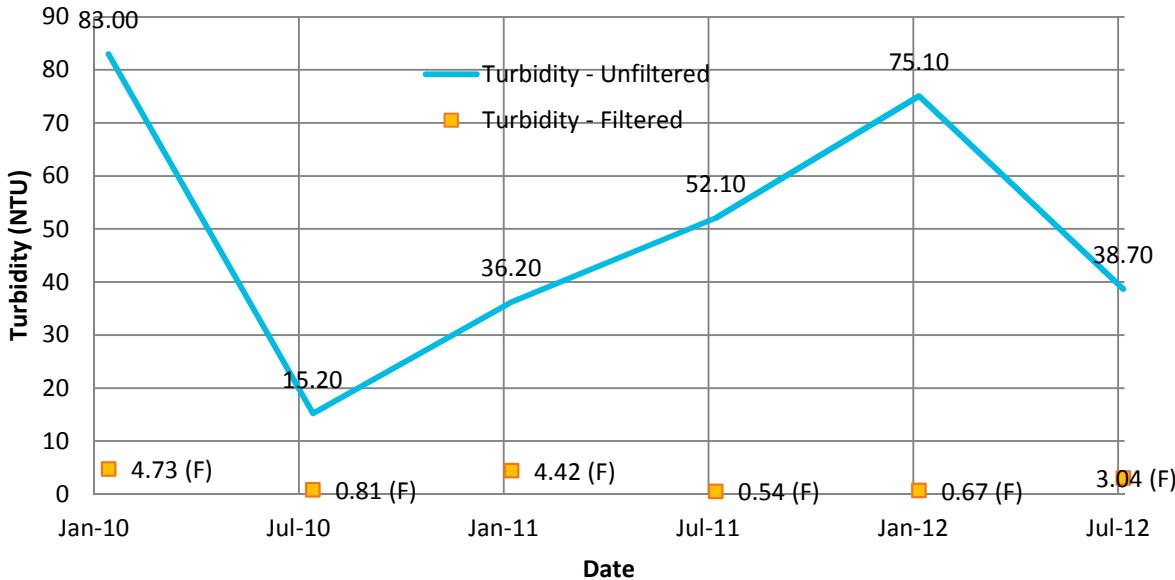


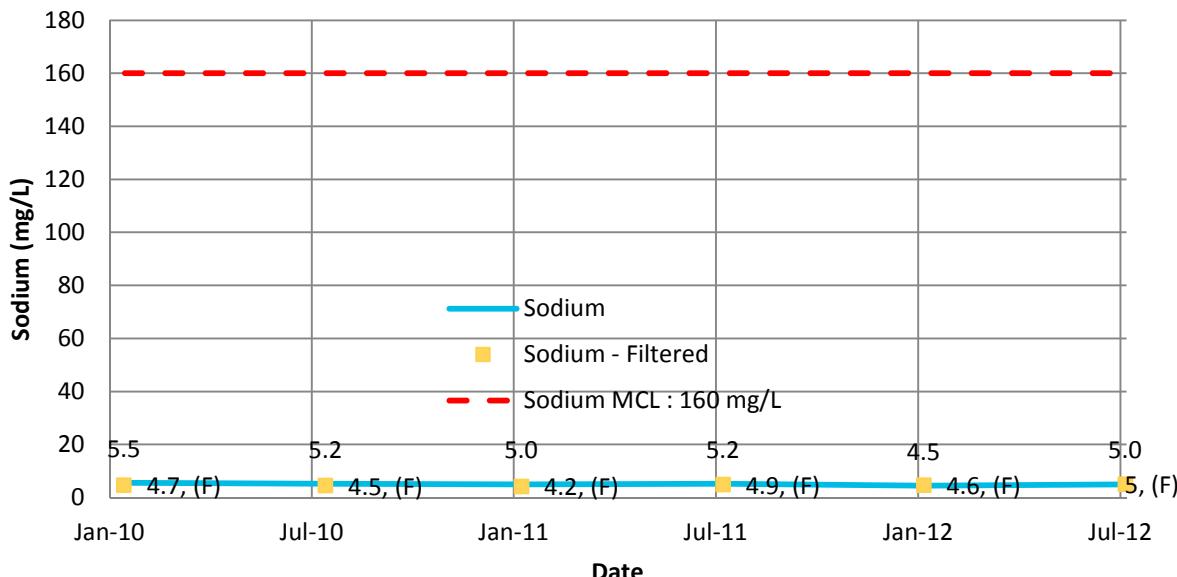
Figure B-23 Iron and Turbidity Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

(F) Filtered Sample

Based on data provided by TestAmerica Laboratories, Inc.

MW-10 : Sodium



MW-10 : Nickel

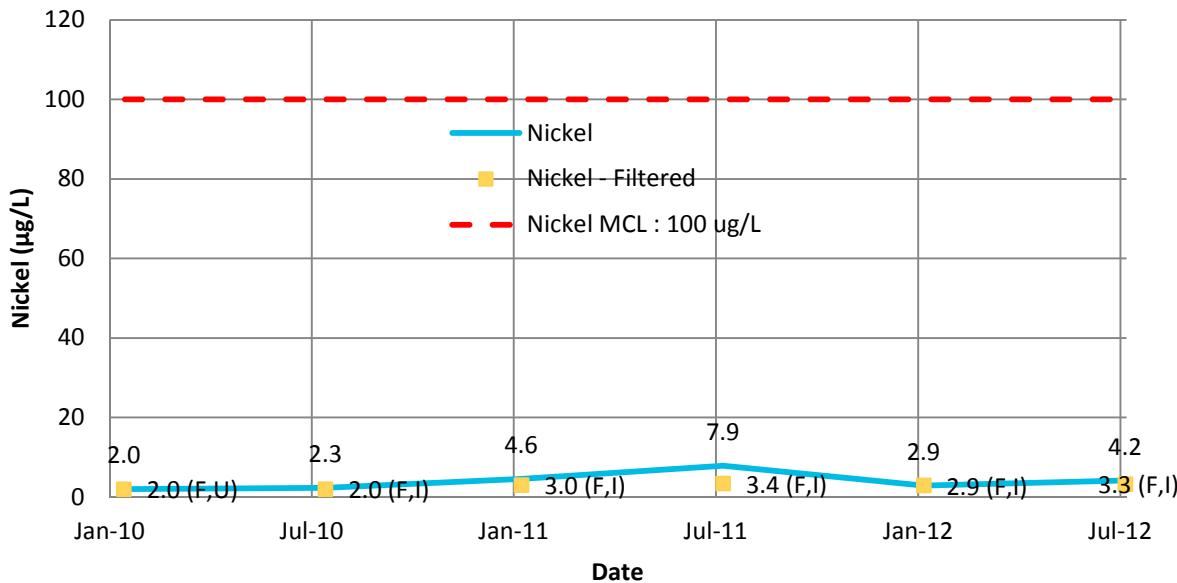


Figure B-24 Sodium and Nickel Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

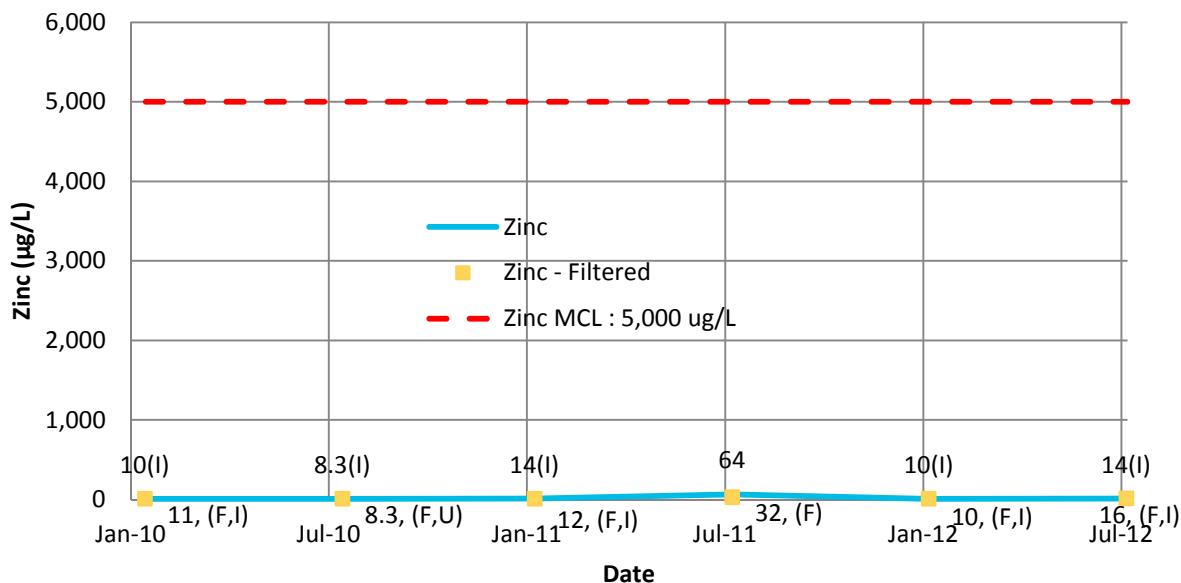
Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration detected below method detection limit

(F) Filtered Sample

MW-10 : Zinc



MW-10 : 1,1-Dichloroethane

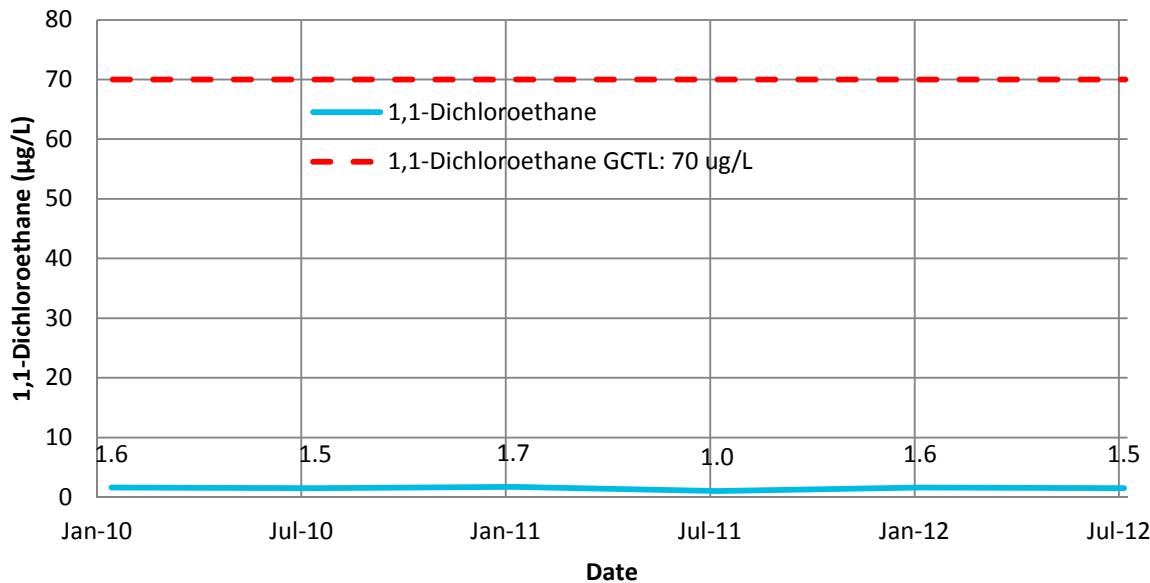


Figure B-25 Zinc and 1,1-Dichloroethane Trends for MW-10

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

(I) Analyte detected below quantitation limit

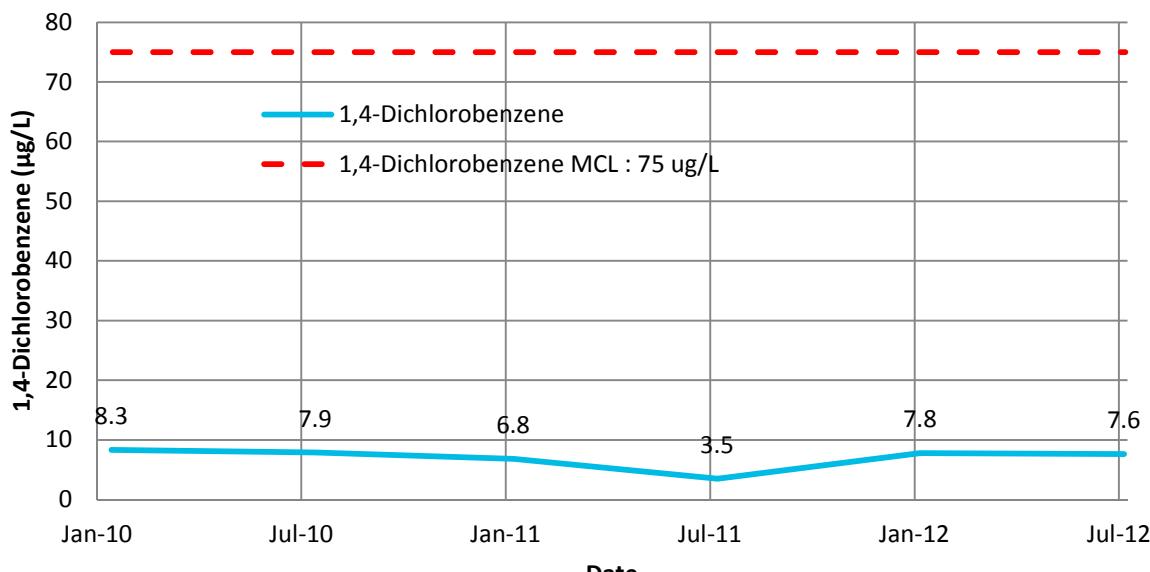
MCL - Maximum Contaminant Level per 62-550 F.A.C.

(U) Analyte concentration below method detection limit

Based on data provided by TestAmerica Laboratories, Inc.

(F) Filtered Sample

MW-10 : 1,4-Dichlorobenzene



MW-10 : Benzene

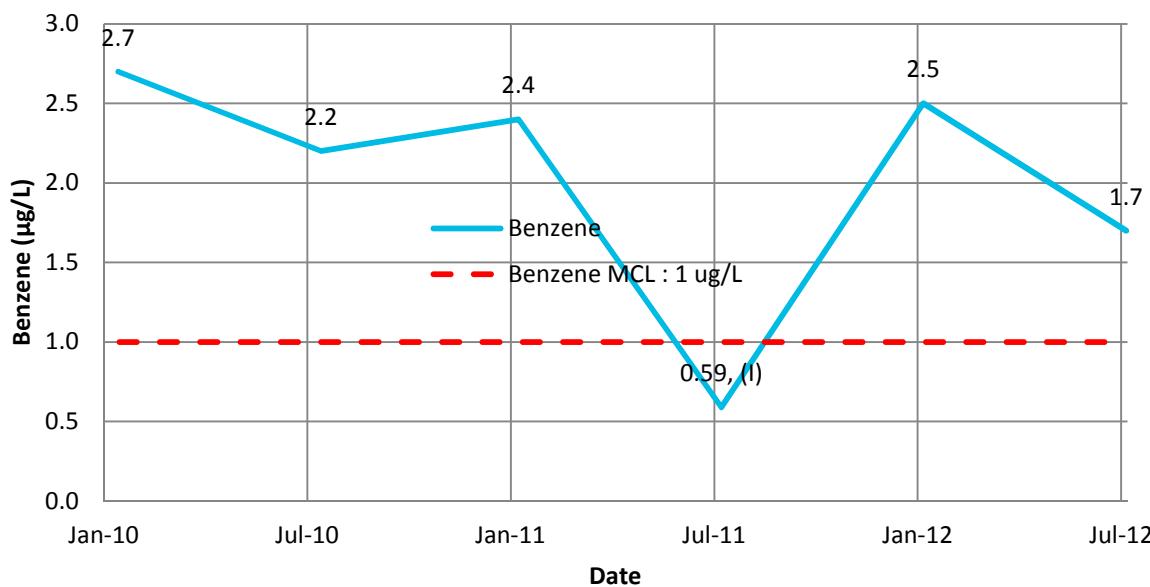


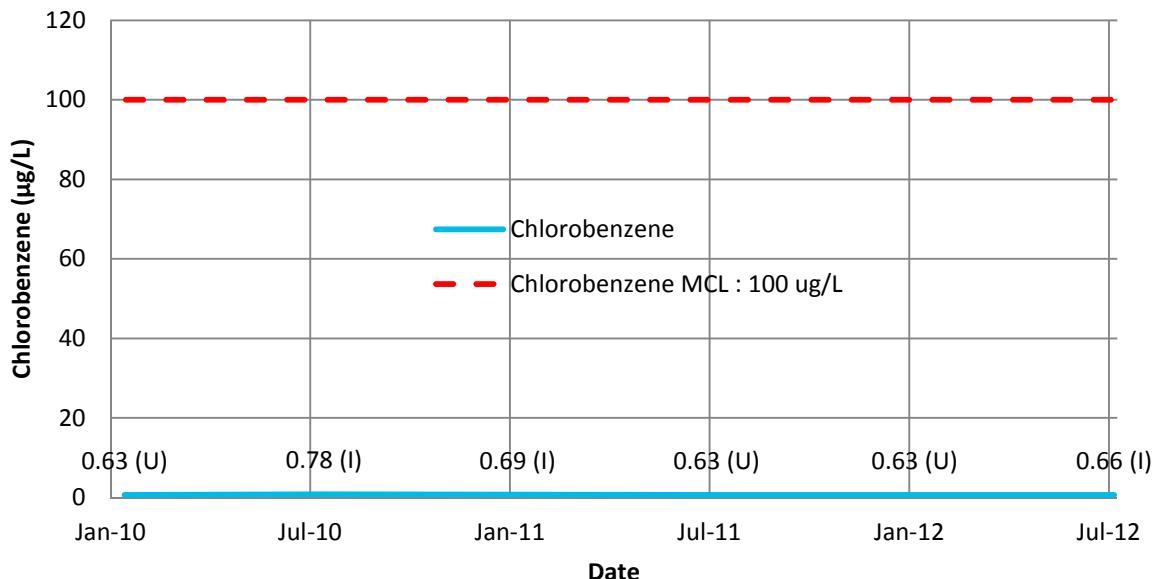
Figure B-26 1,4-Dichlorobenzene and Benzene Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

(l) Analyte detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-10 : Chlorobenzene



MW-10 : Cis-1,2-Dichloroethene

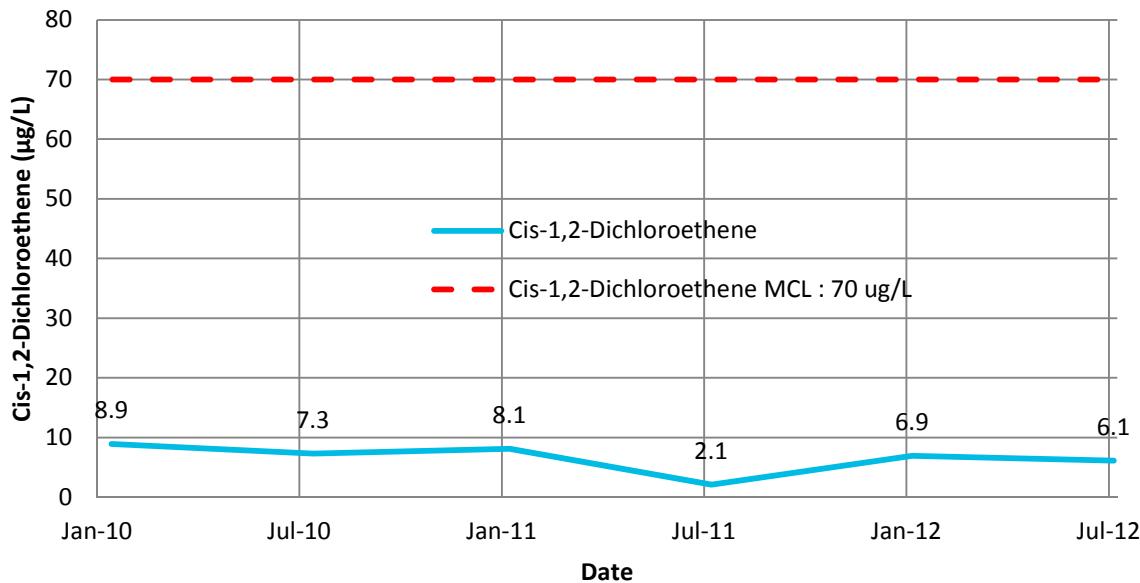


Figure B-27 Chlorobenzene and Cis-1,2-Dichloroethene Trends for MW-10

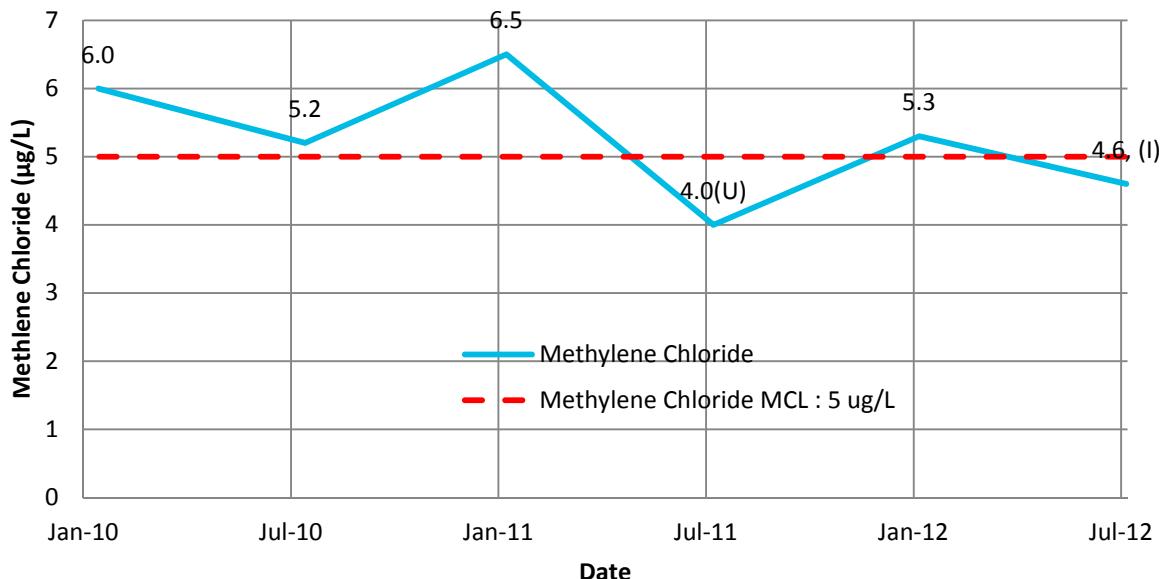
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-10 : Methylene Chloride



MW-10 : Vinyl Chloride

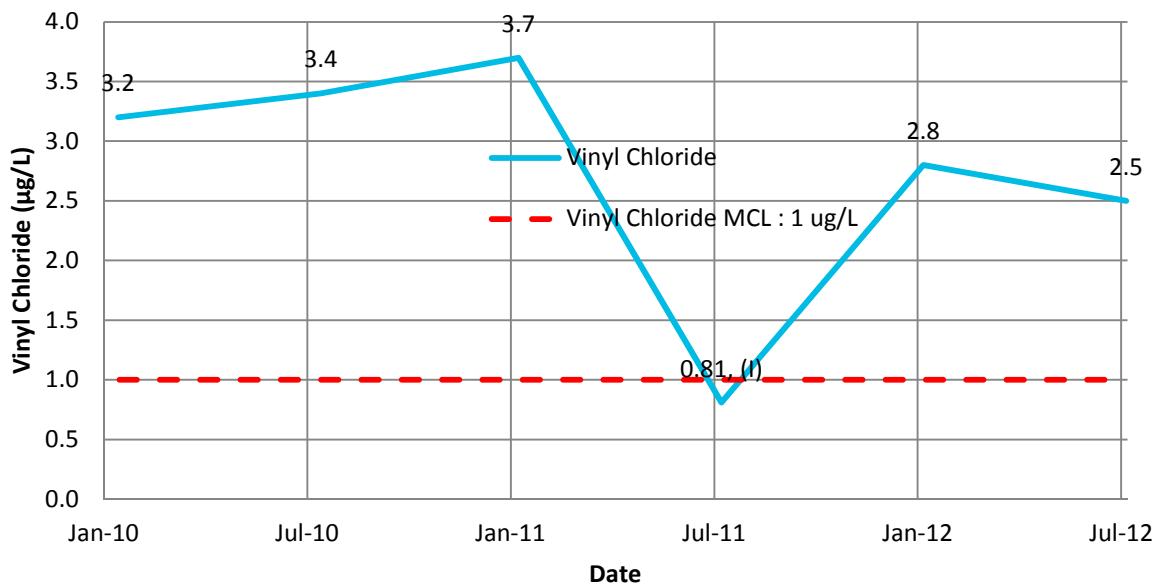


Figure B-28 Methylene Chloride and Vinyl Chloride Trends for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

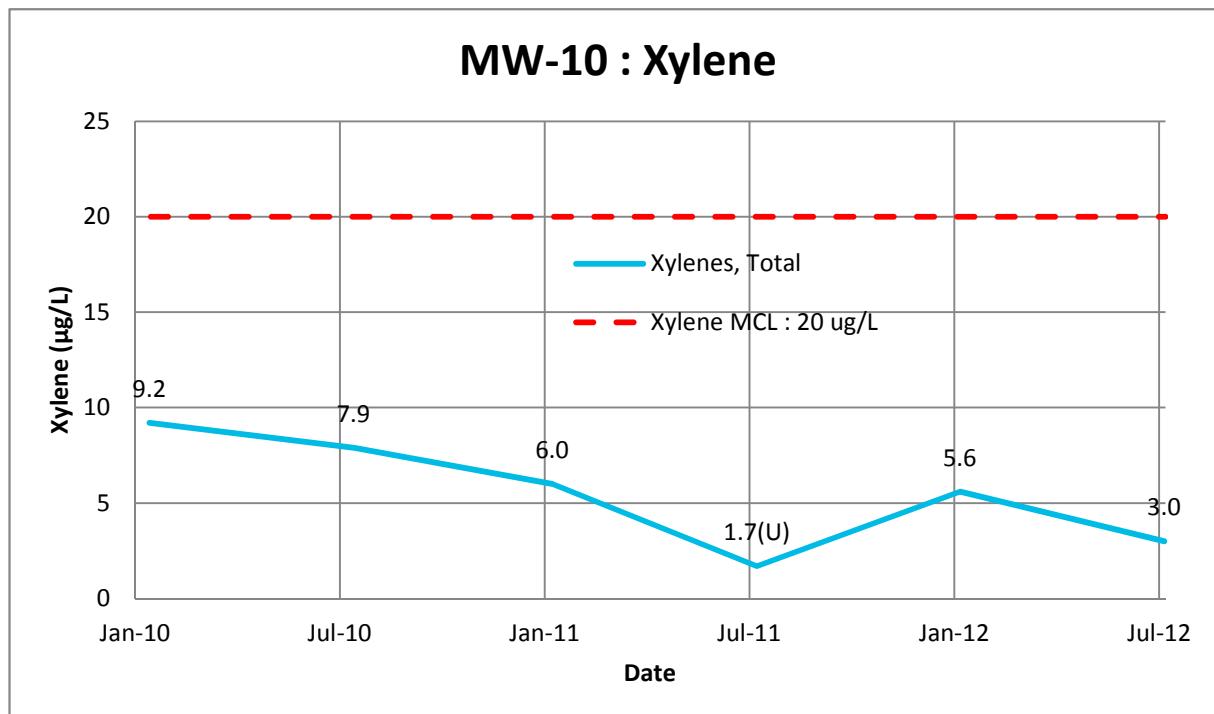


Figure B-29 Xylene Trend for MW-10

MCL - Maximum Contaminant Level per 62-550 F.A.C

(U) Analyte concentration below method detection limit

Based on data provided by TestAmerica Laboratories, Inc.

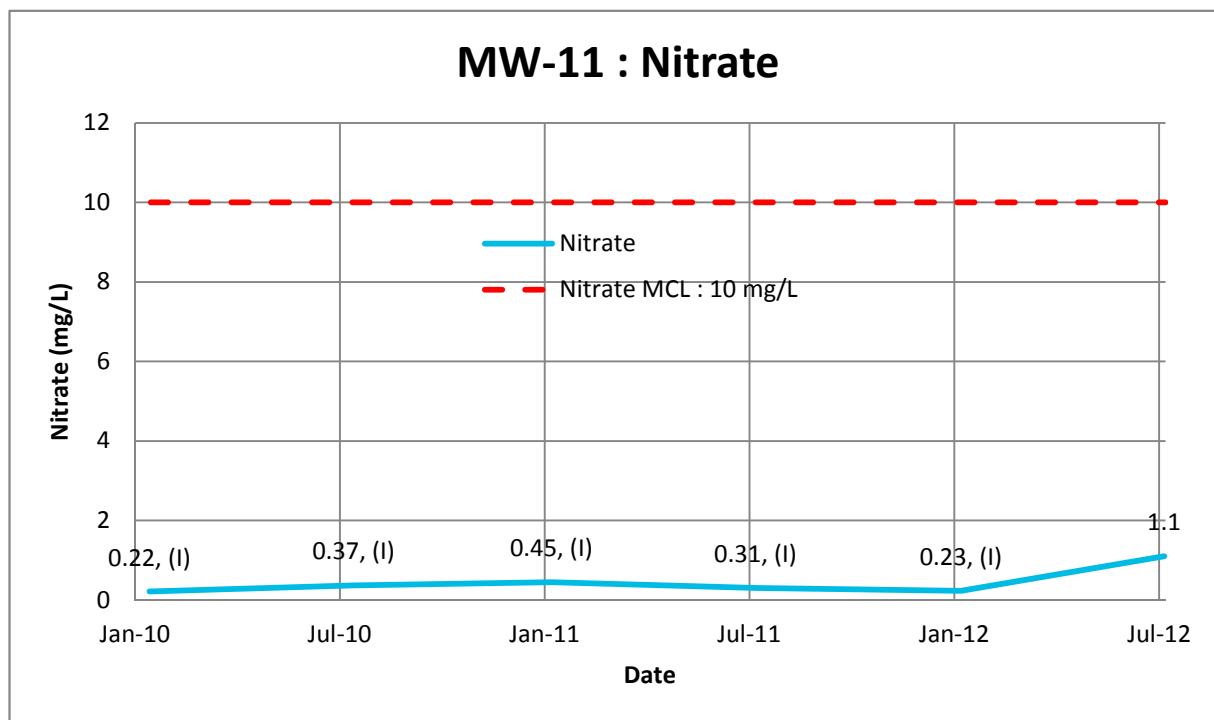
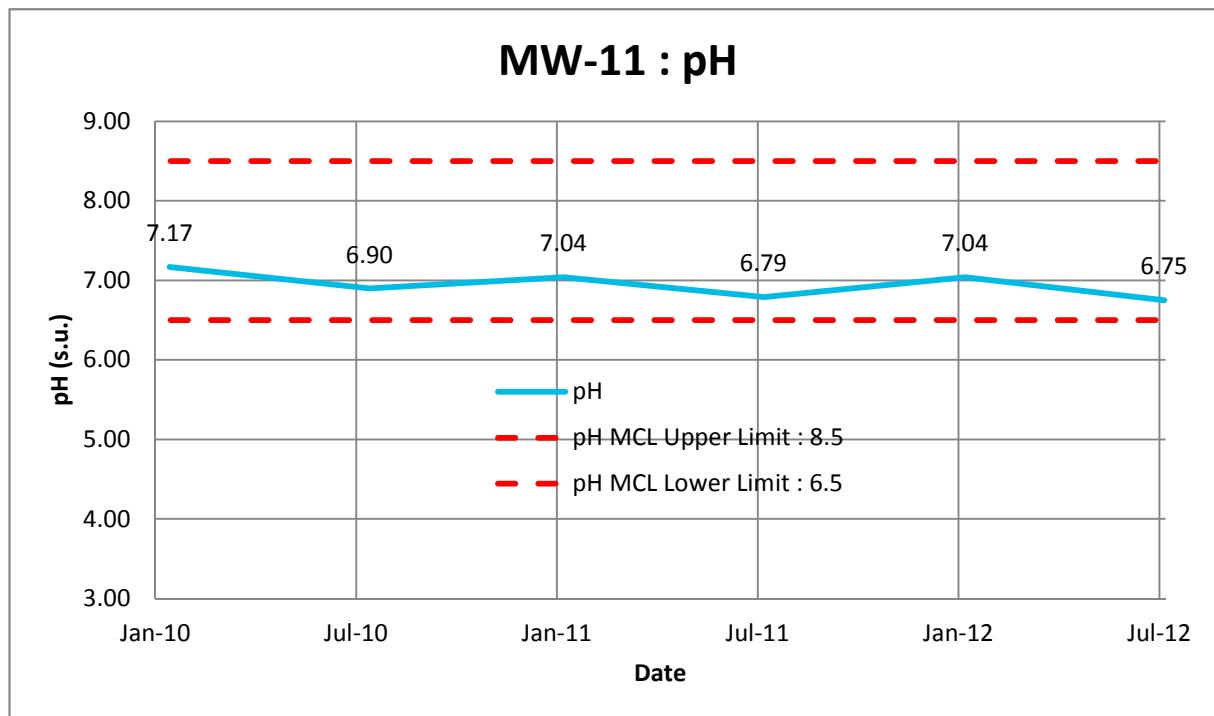


Figure B-30 pH and Nitrate Trends for MW-11

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

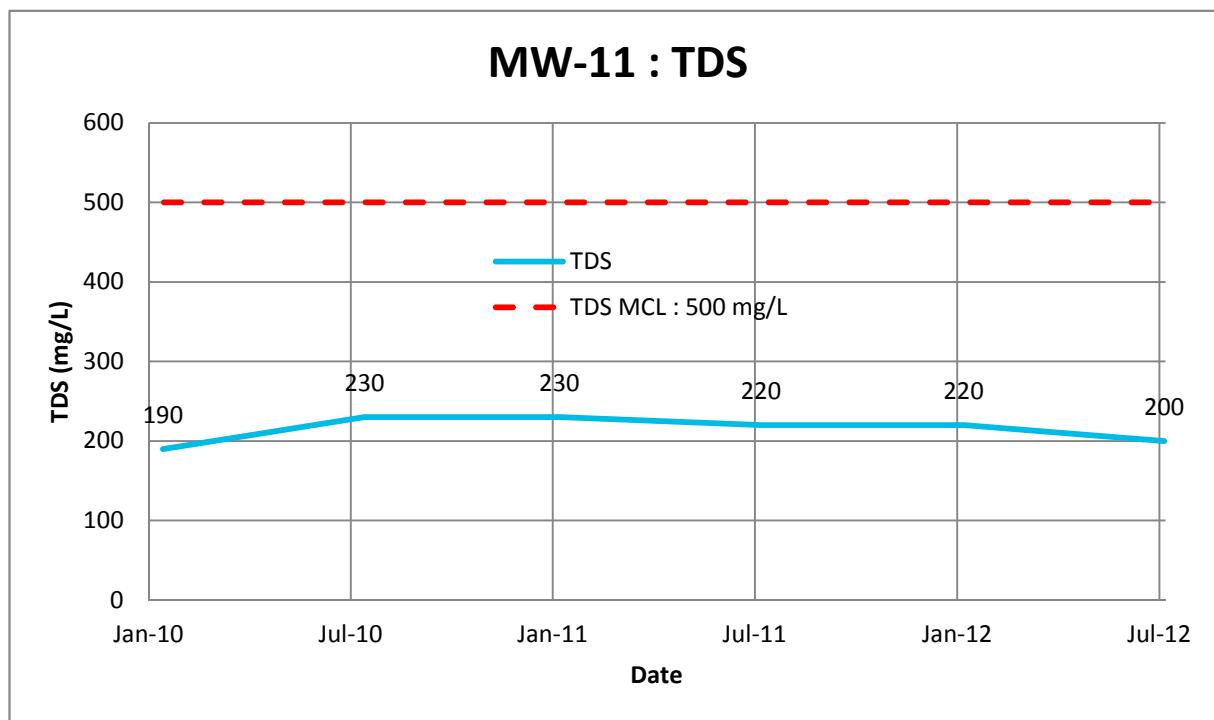
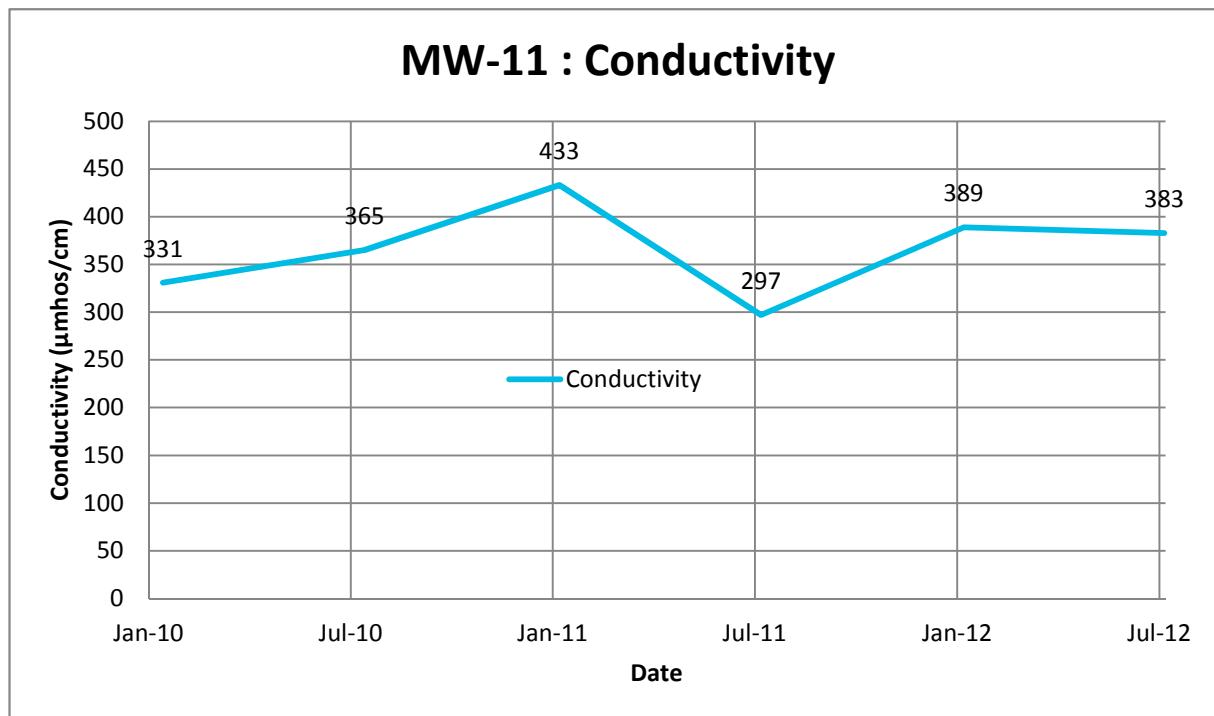
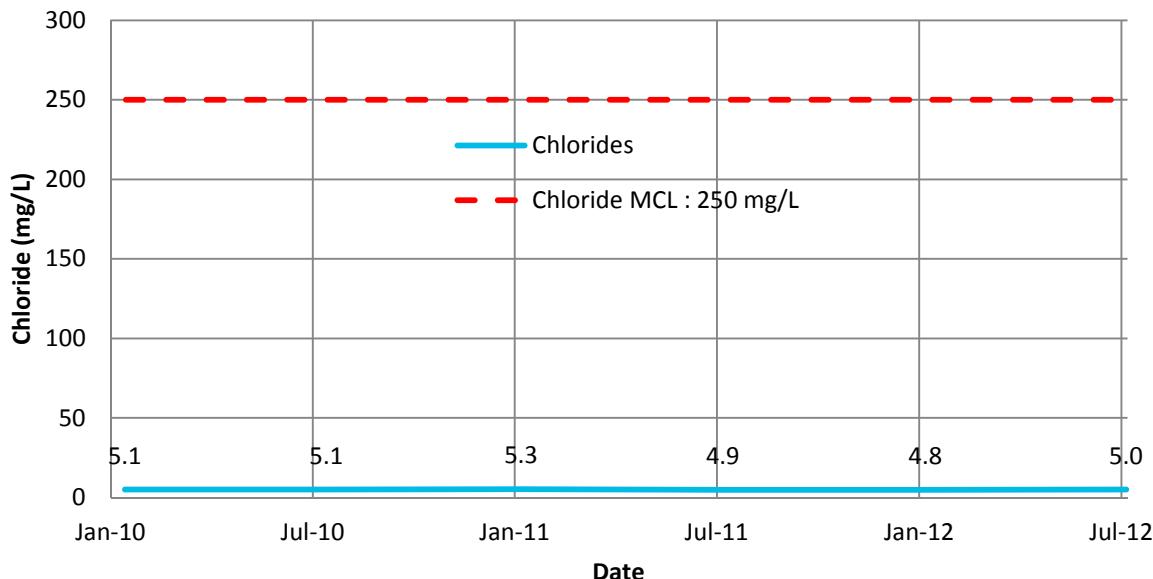


Figure B-31 Conductivity and TDS Trends for MW-11

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-11 : Chloride



MW-11 : Sodium

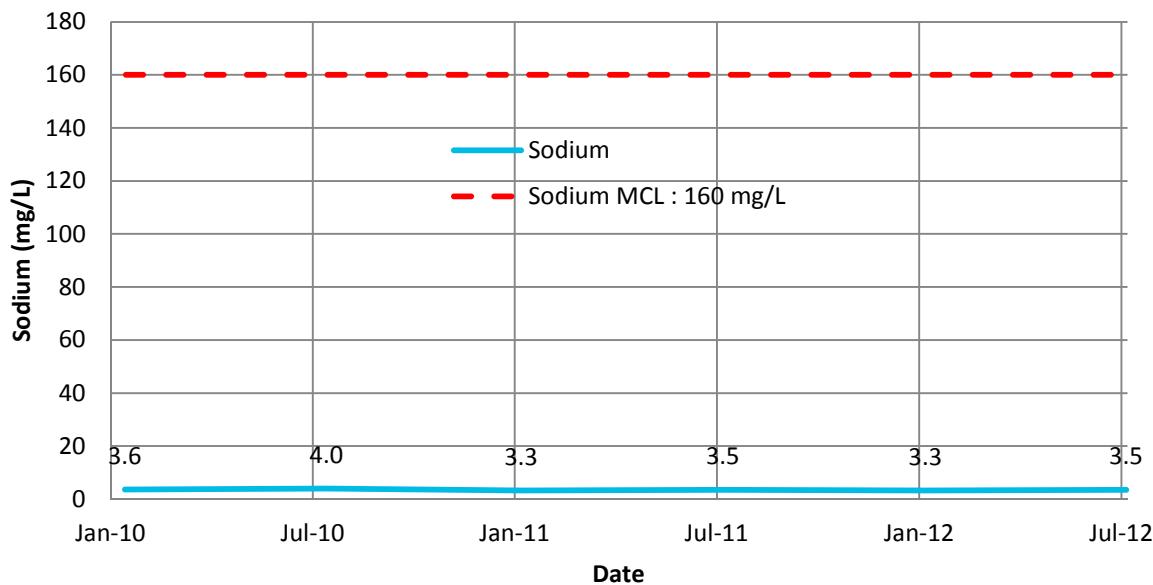
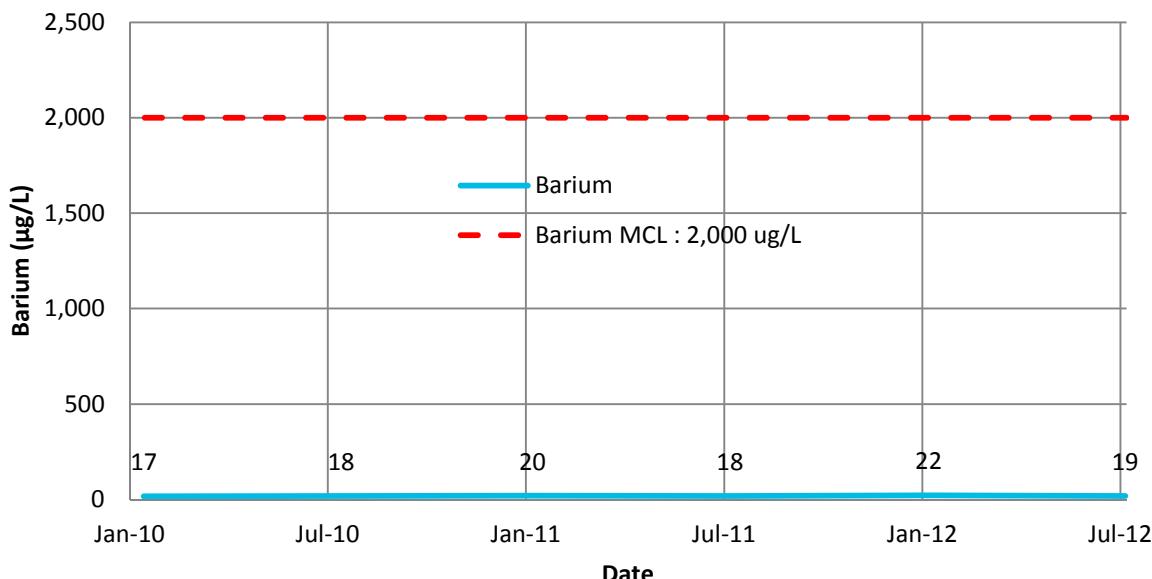


Figure B-32 Chloride and Sodium Trends for MW-11

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-11 : Barium



MW-11 : Thallium

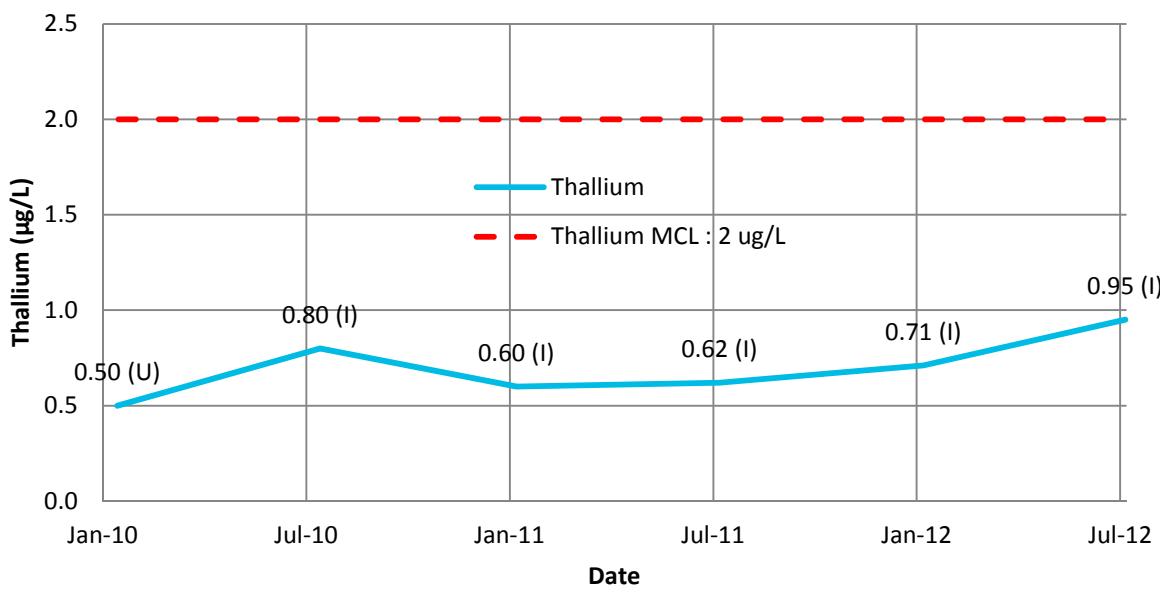


Figure B-33 Barium and Thallium Trends for MW-11

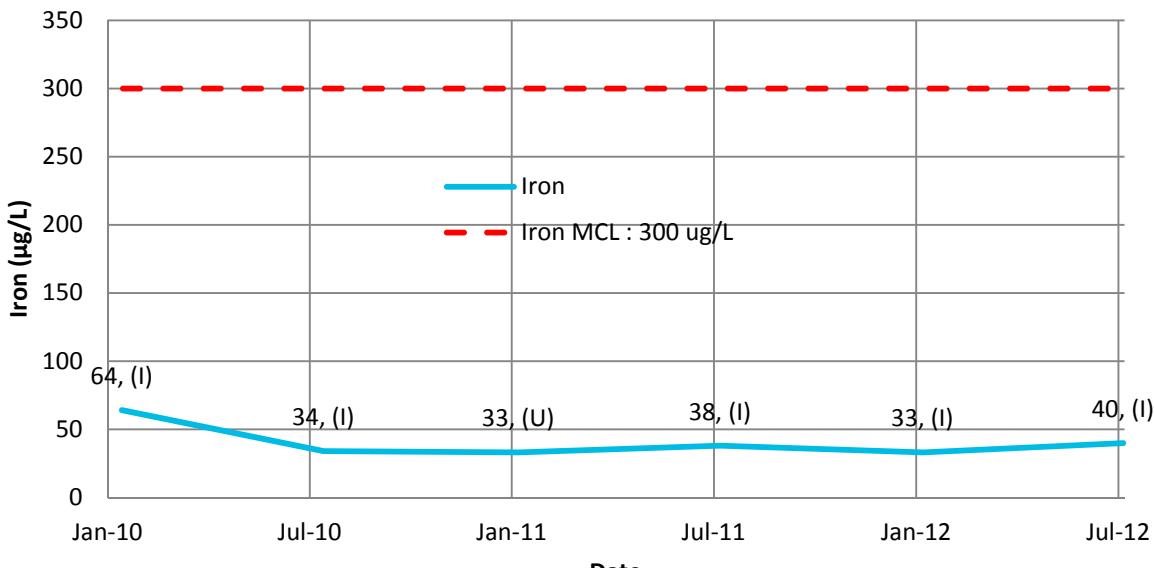
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-11 : Iron



MW-11 : Turbidity

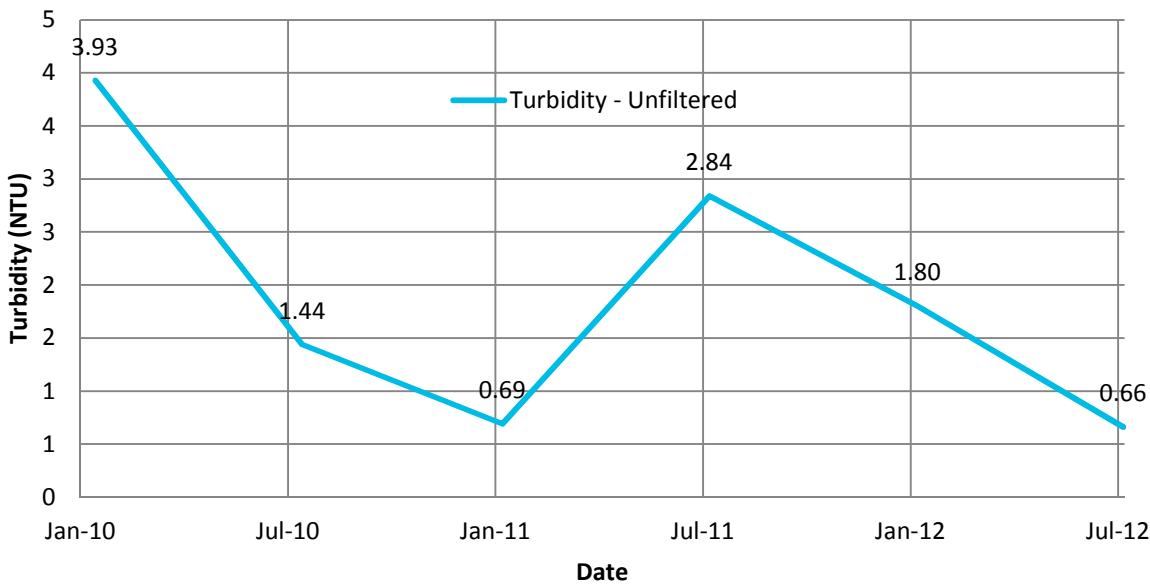


Figure B-34 Iron and Turbidity Trends for MW-11

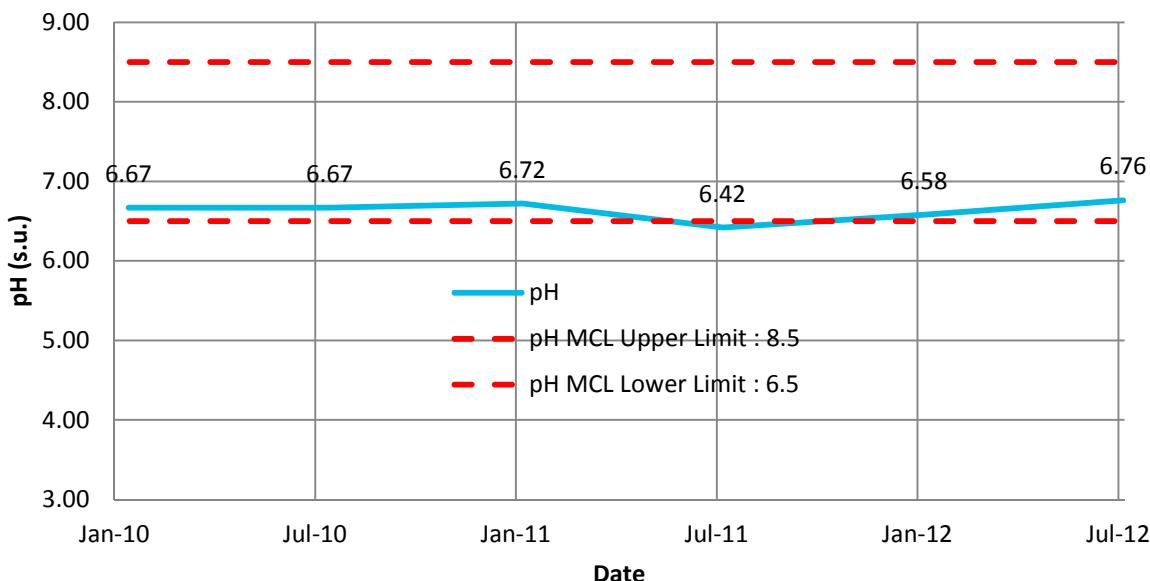
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-12 : pH



MW-12 : Ammonia

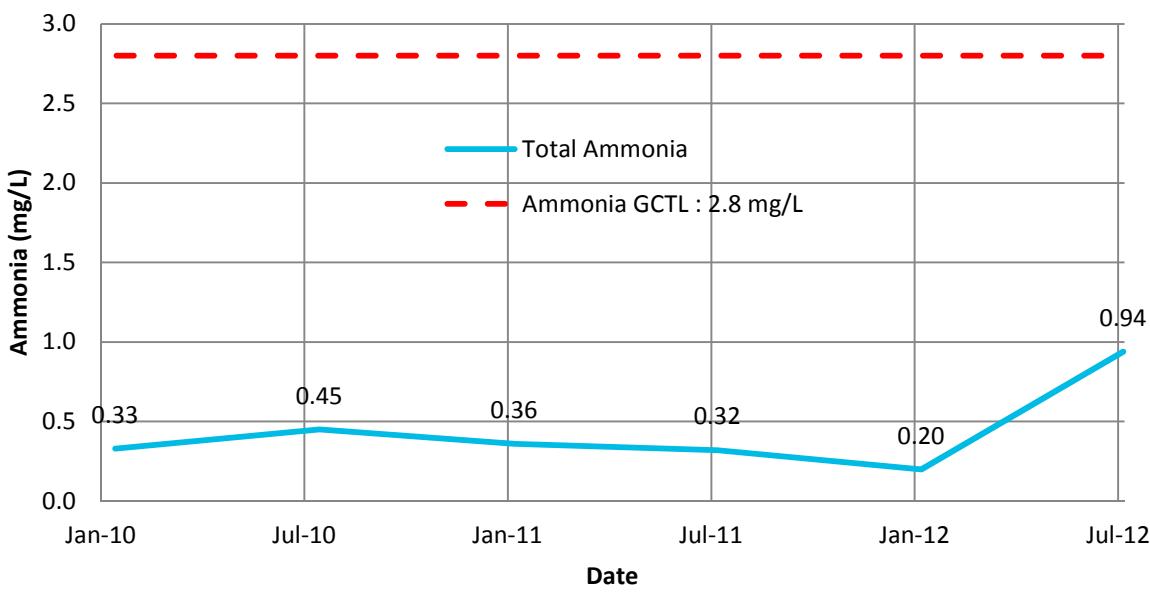


Figure B-35 pH and Ammonia Trends for MW-12

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

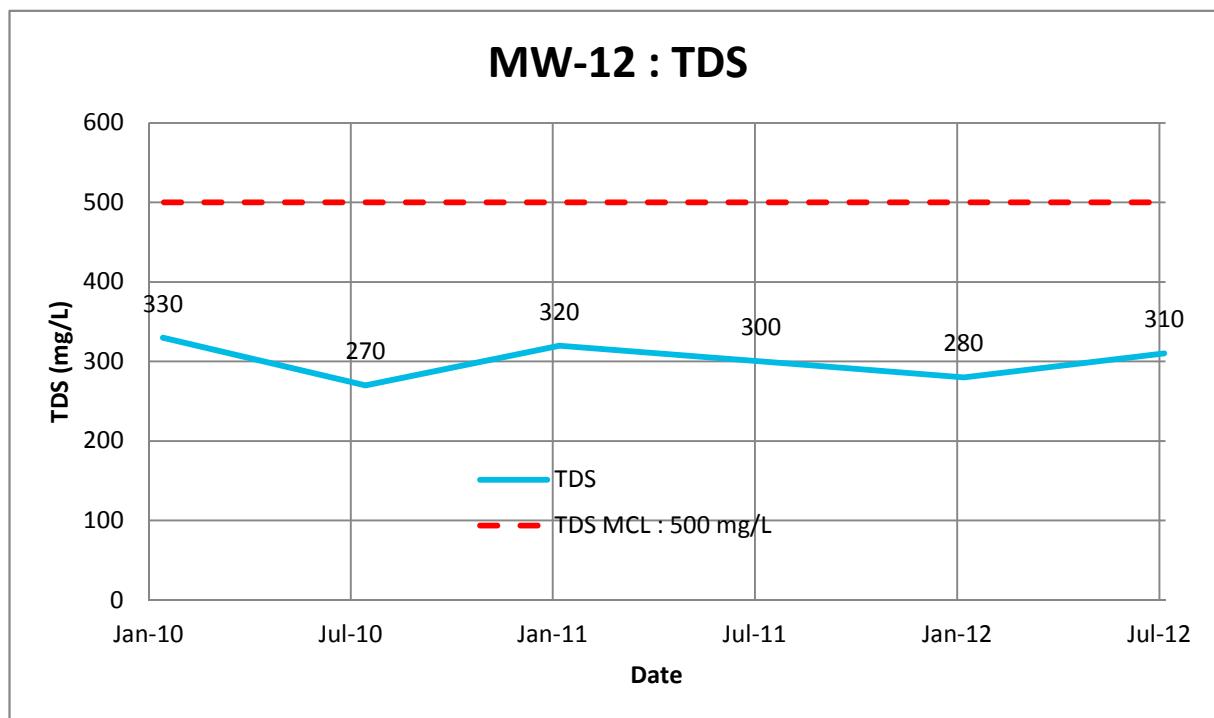
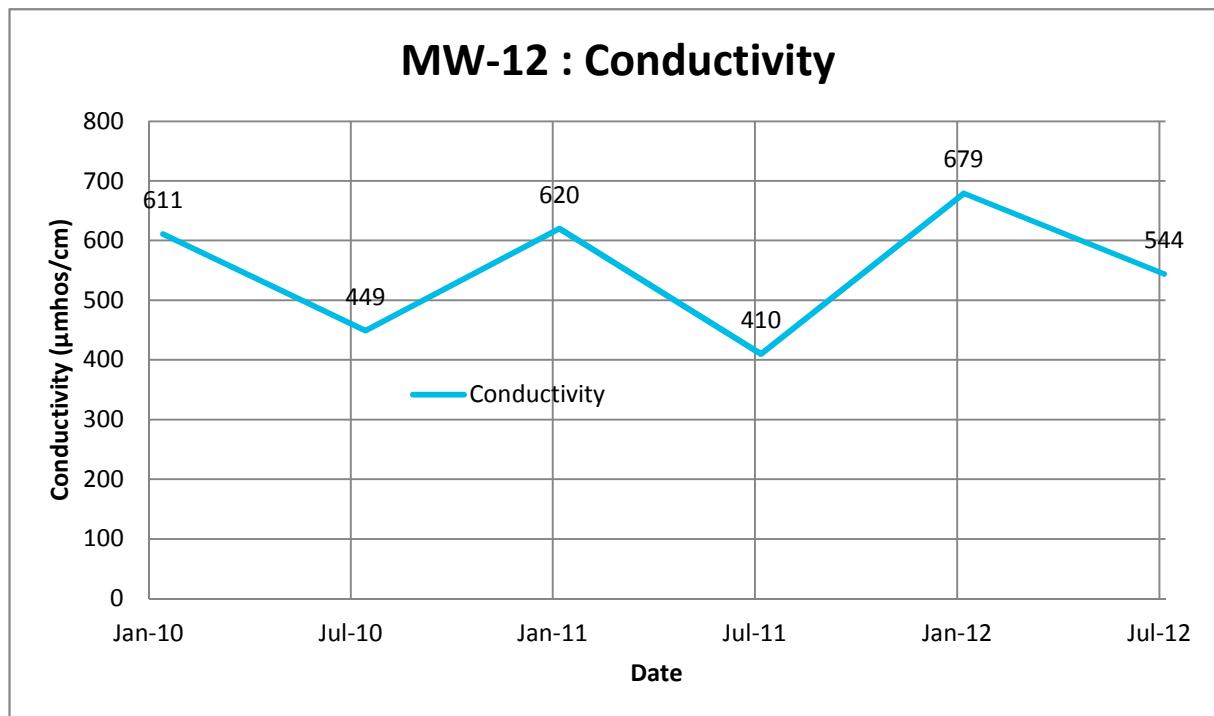
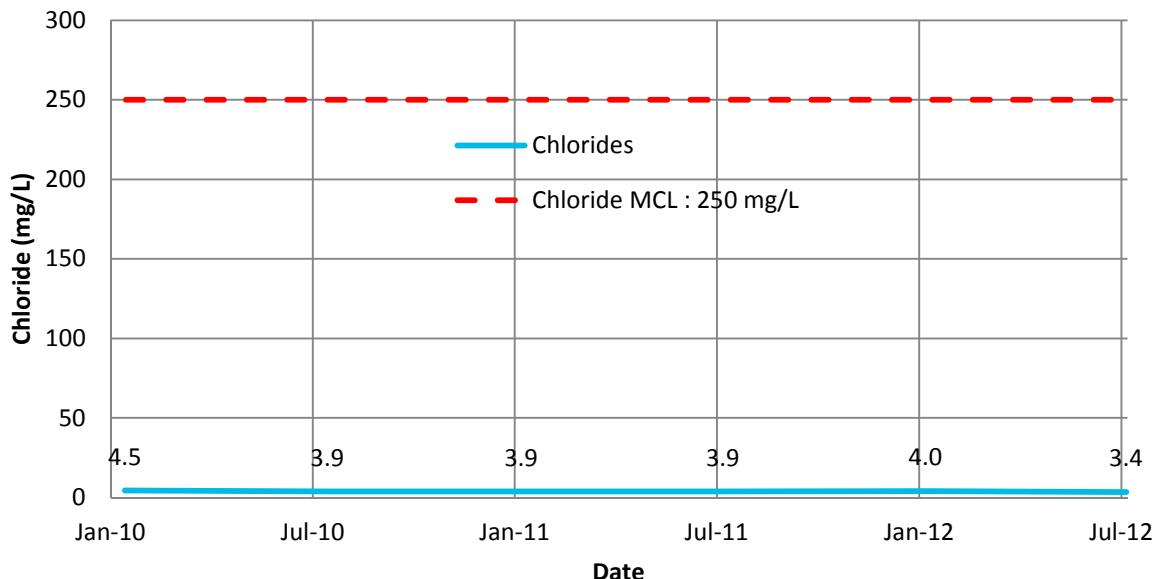


Figure B-36 Conductivity and TDS Trends for MW-12

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-12 : Chloride



MW-12 : Sodium

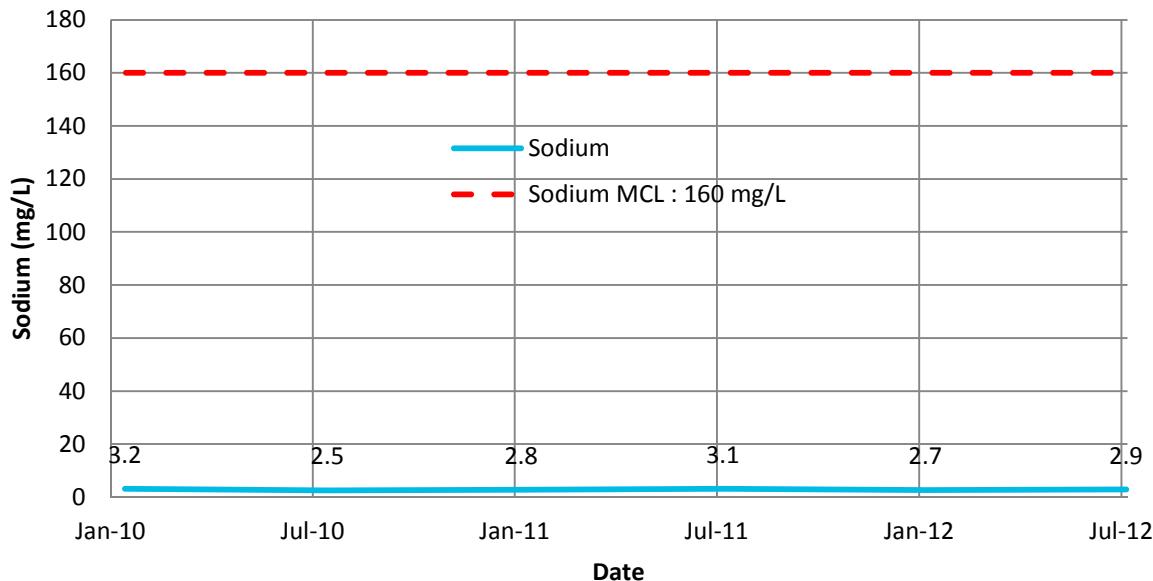


Figure B-37 Chloride and Sodium Trends for MW-12

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

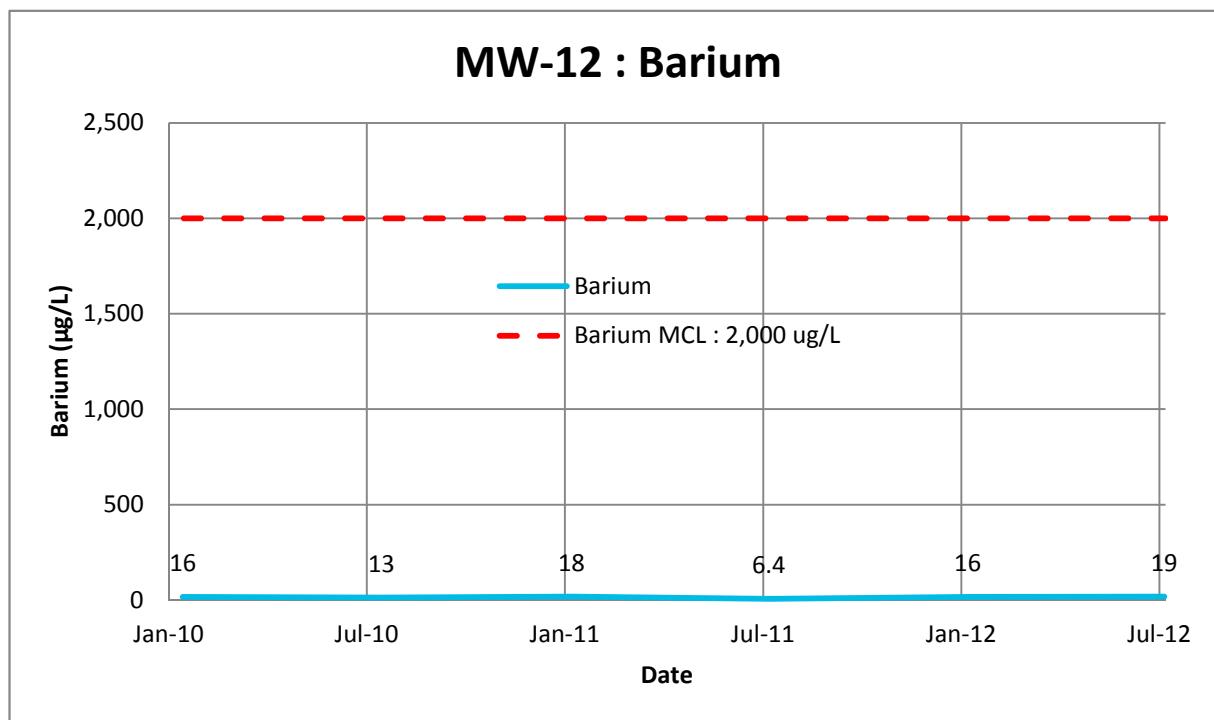
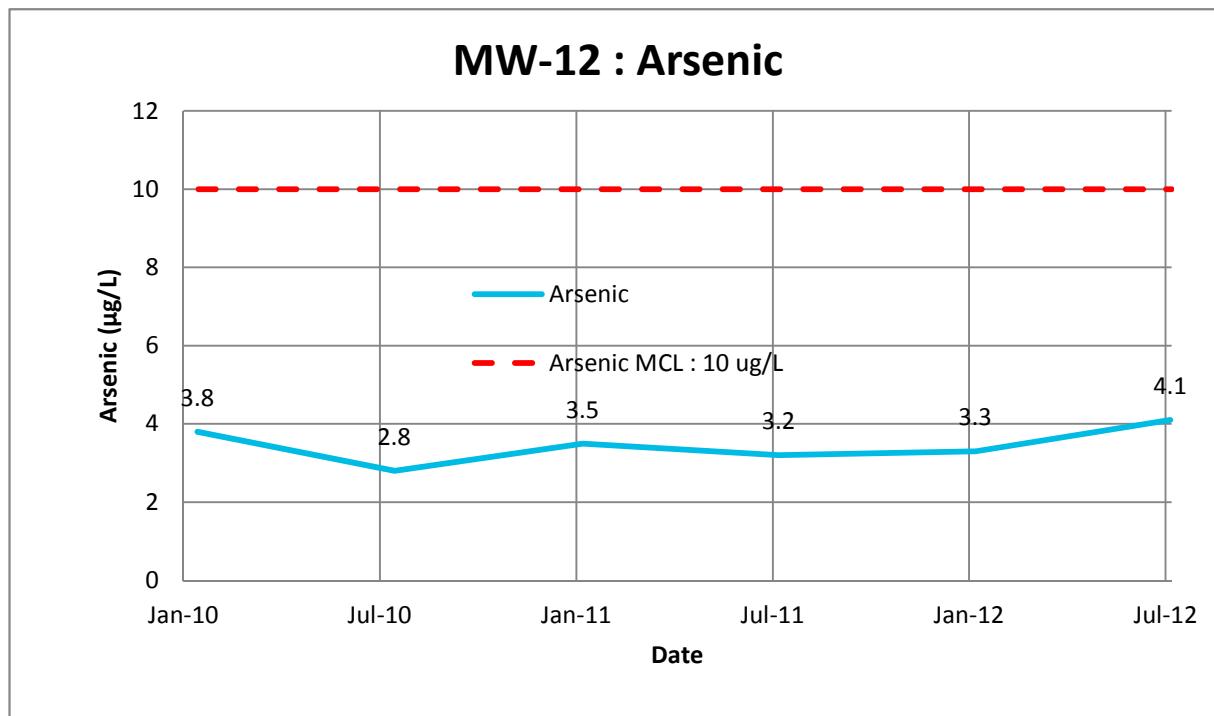
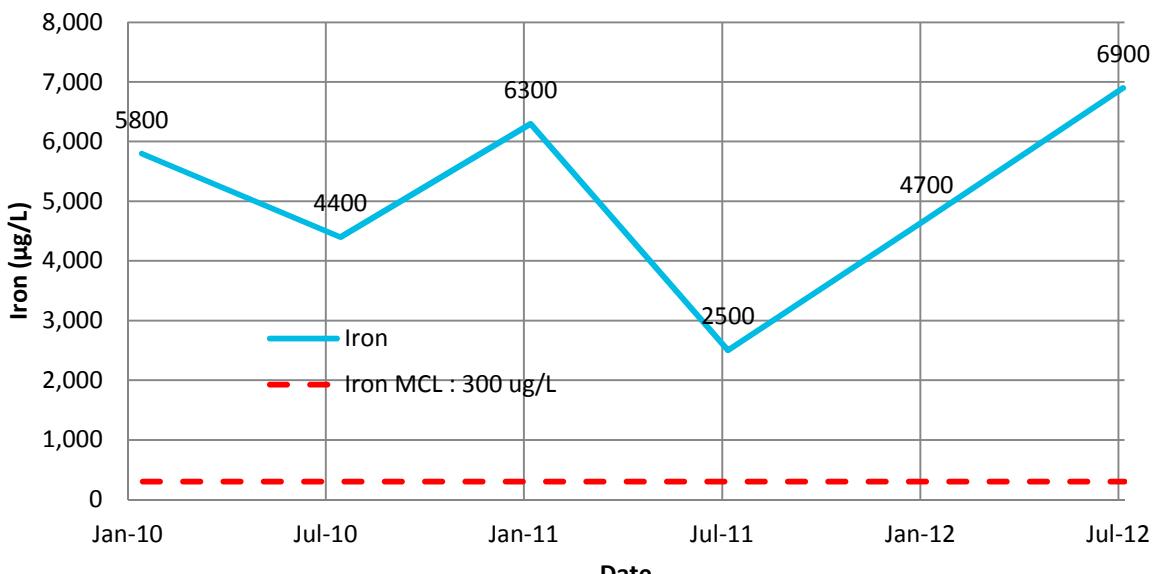


Figure B-38 Arsenic and Barium Trends for MW-12

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-12 : Iron



MW-12 : Turbidity

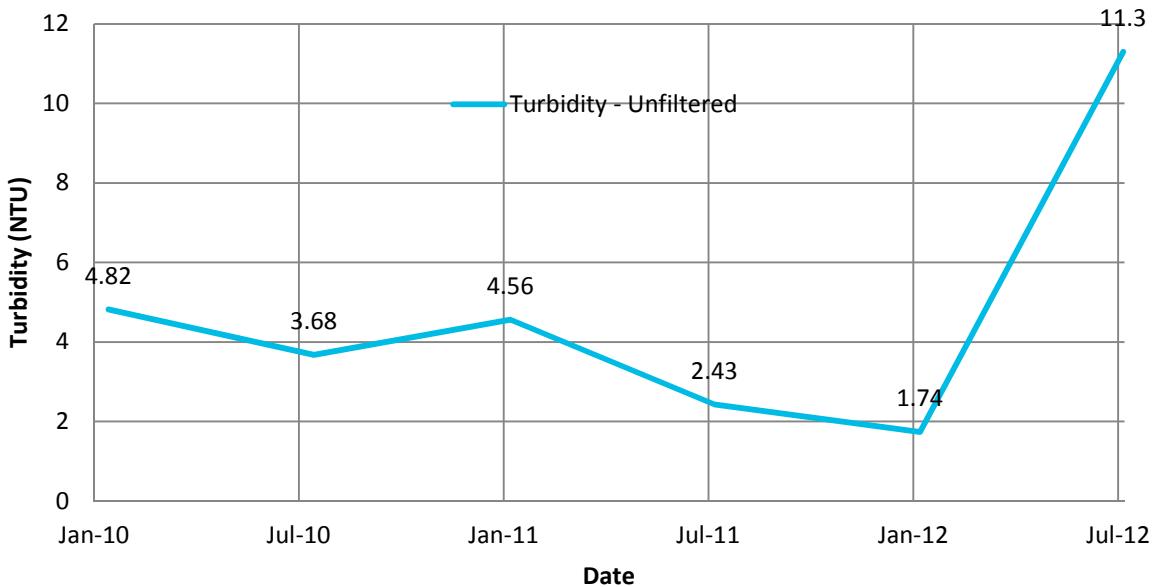


Figure B-39 Iron and Turbidity Trends for MW-12

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

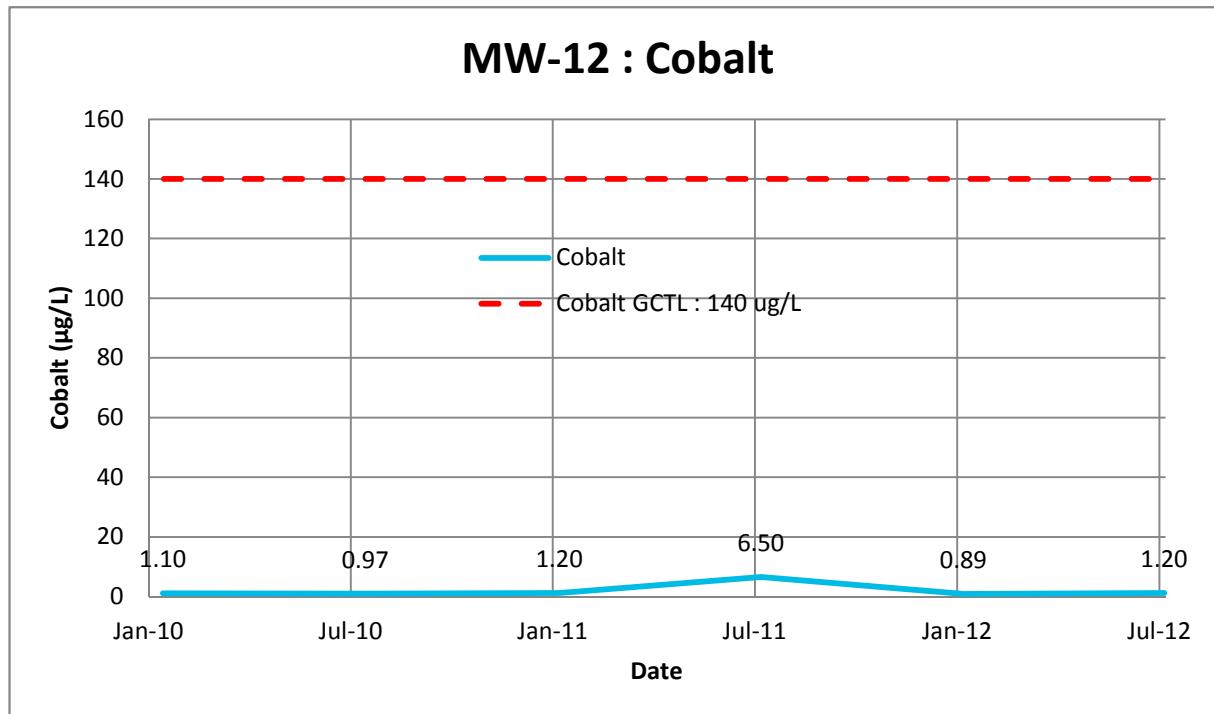


Figure B-40 Cobalt Trend for MW-12

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

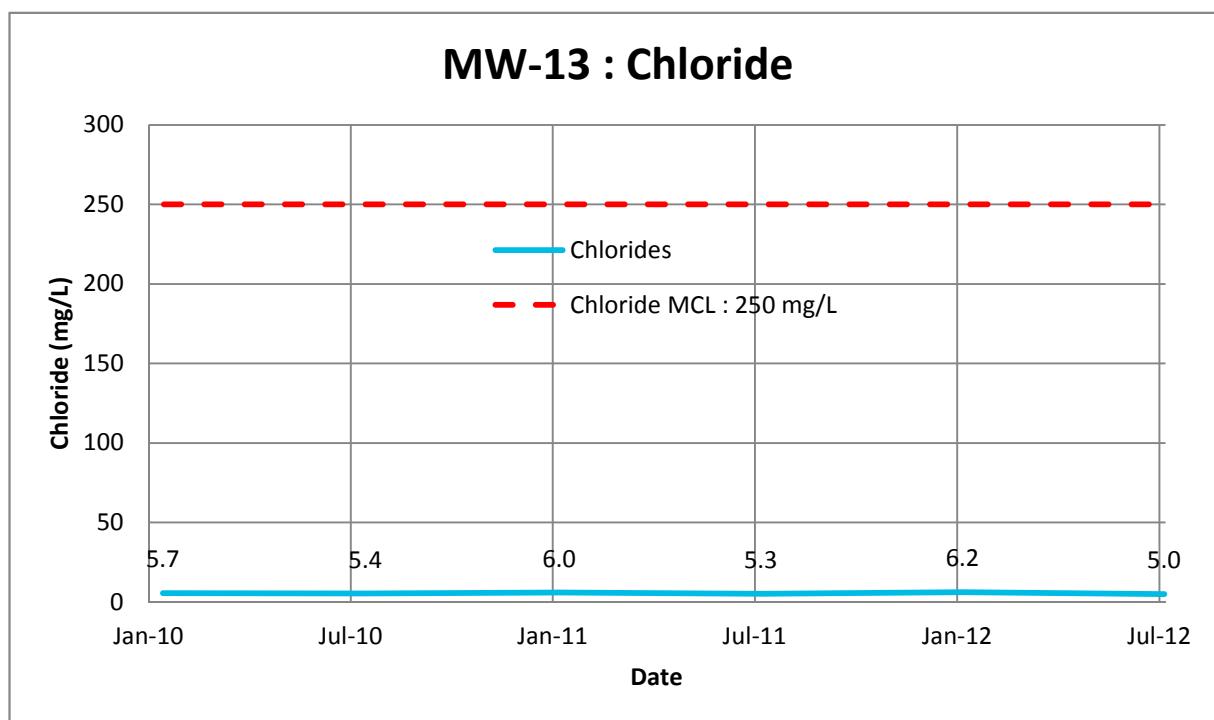
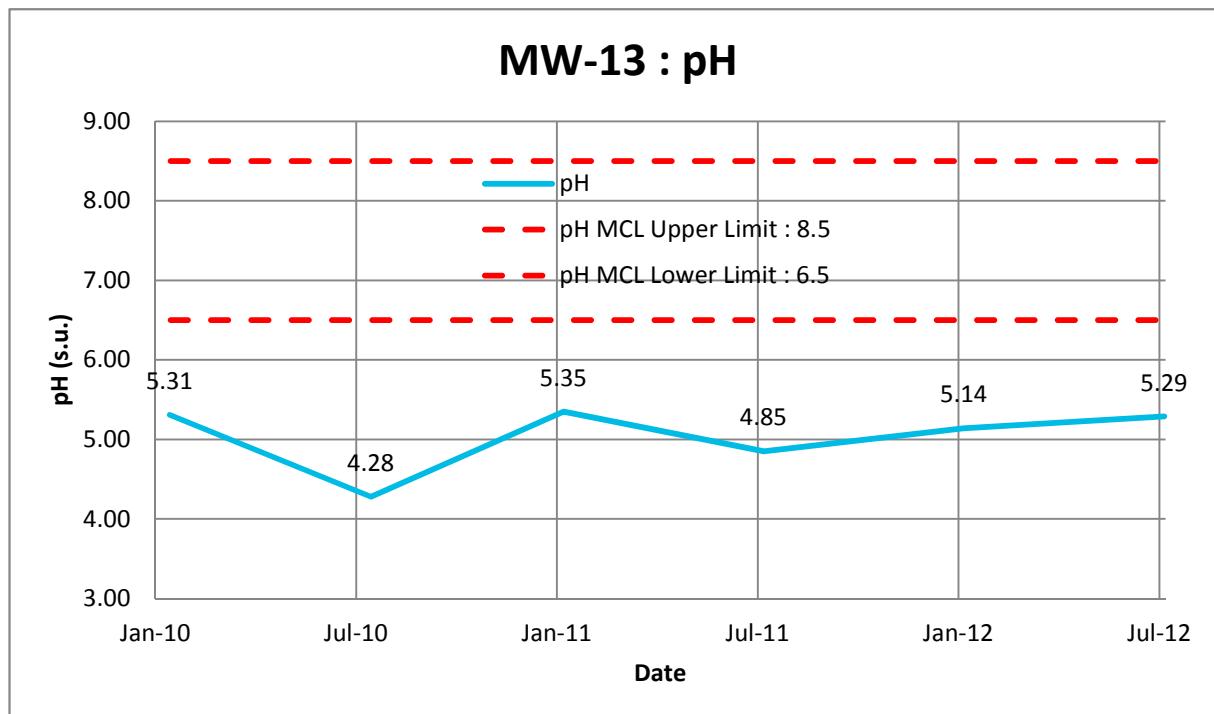
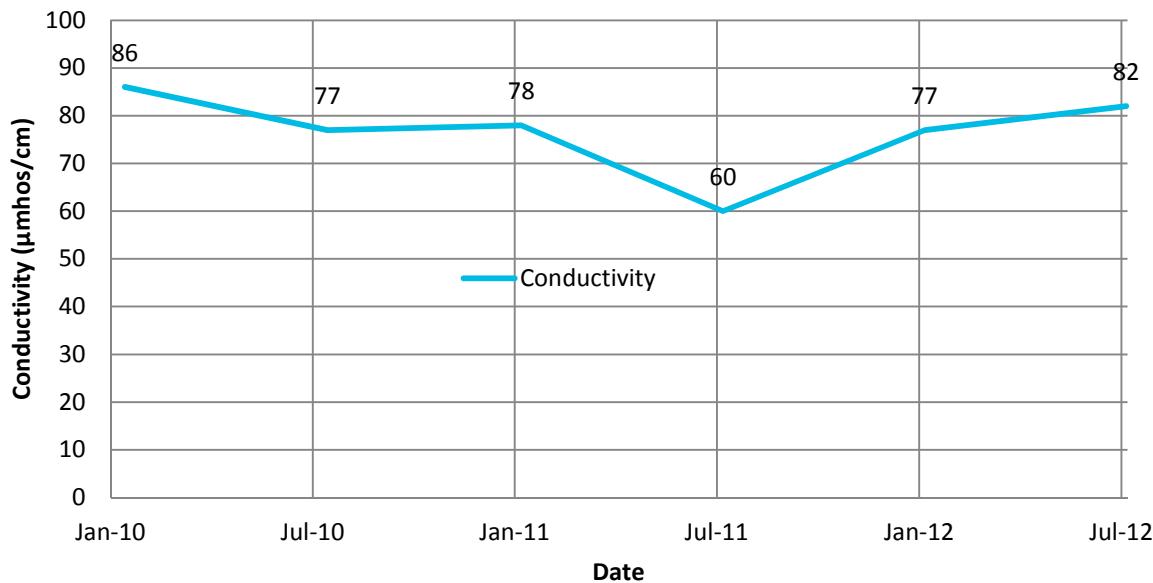


Figure B-41 pH and Chloride Trends for MW-13

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-13 : Conductivity



MW-13 : TDS

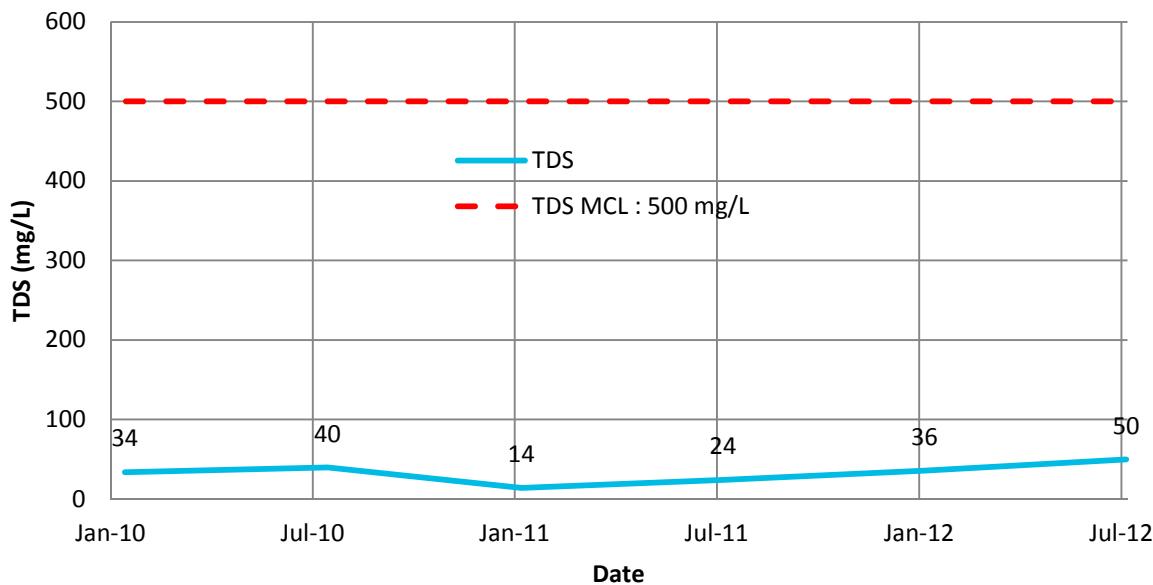
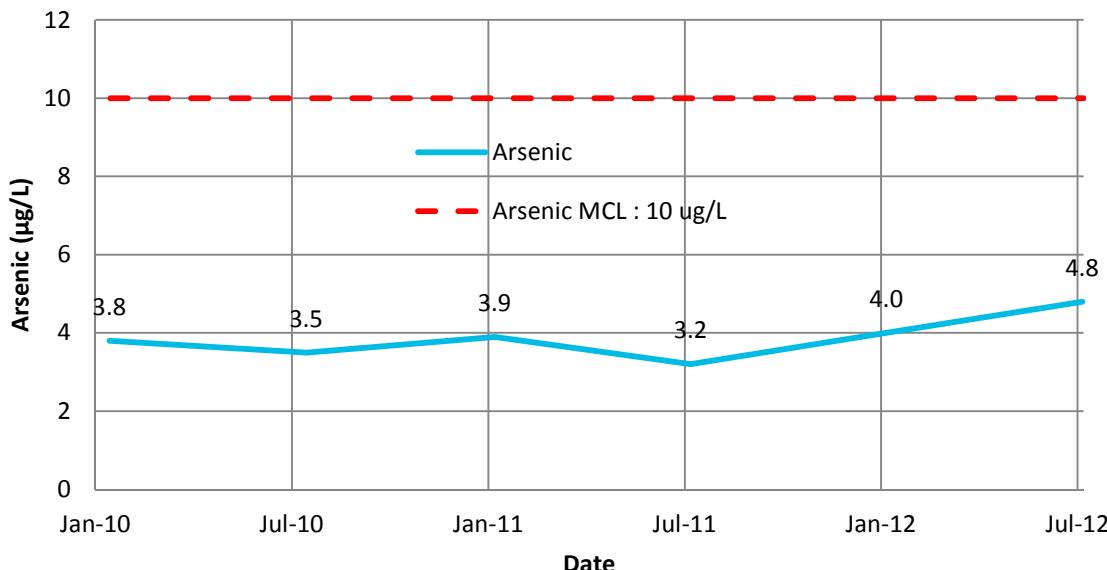


Figure B-42 Conductivity and TDS Trends for MW-13

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-13 : Arsenic



MW-13 : Barium

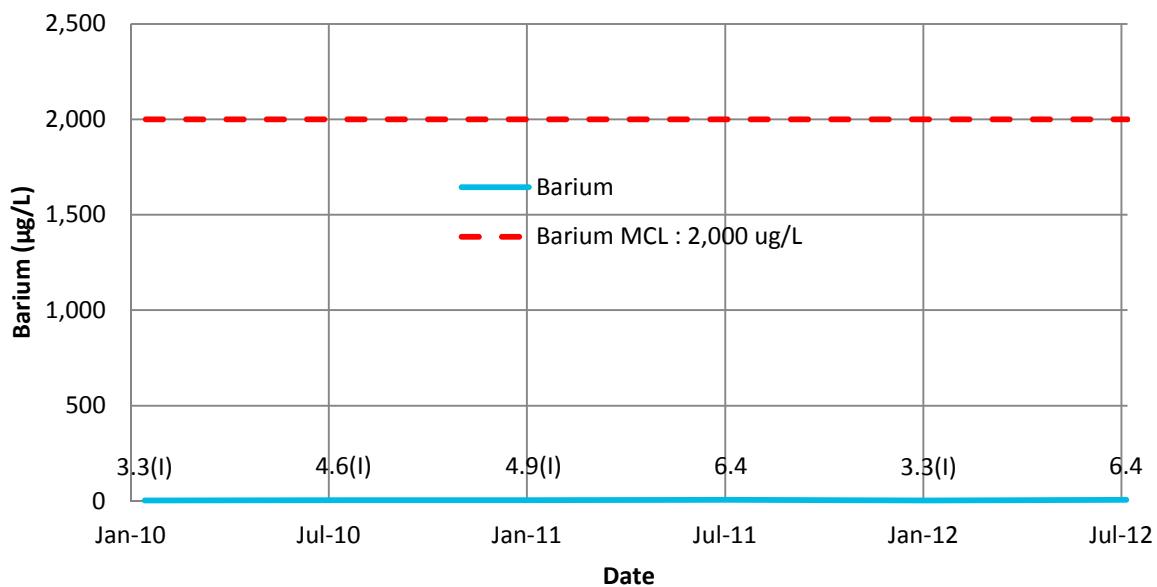


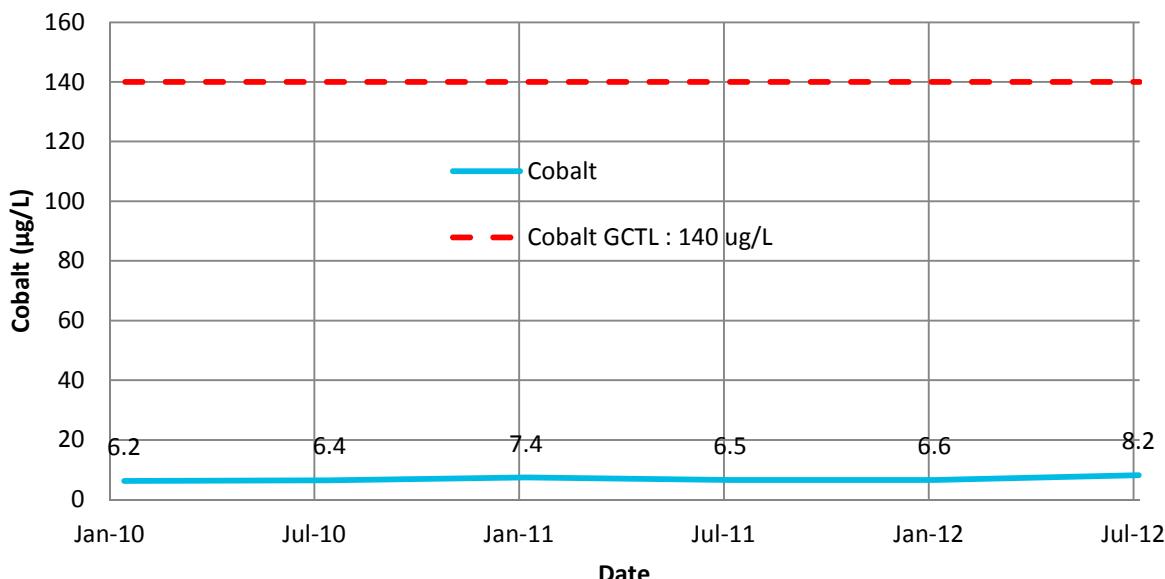
Figure B-43 Arsenic and Barium Trends for MW-13

MCL - Maximum Contaminant Level per 62-550 F.A.C

(I) Analyte concentration detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-13 : Cobalt



MW-13 : Nickel

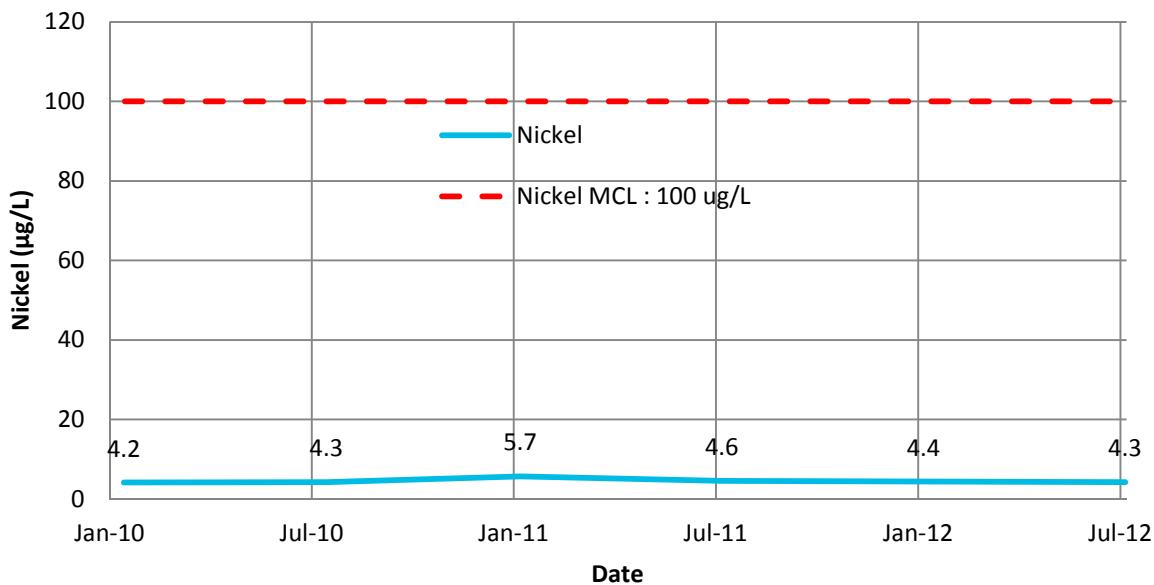


Figure B-44 Cobalt and Nickel Trends for MW-13

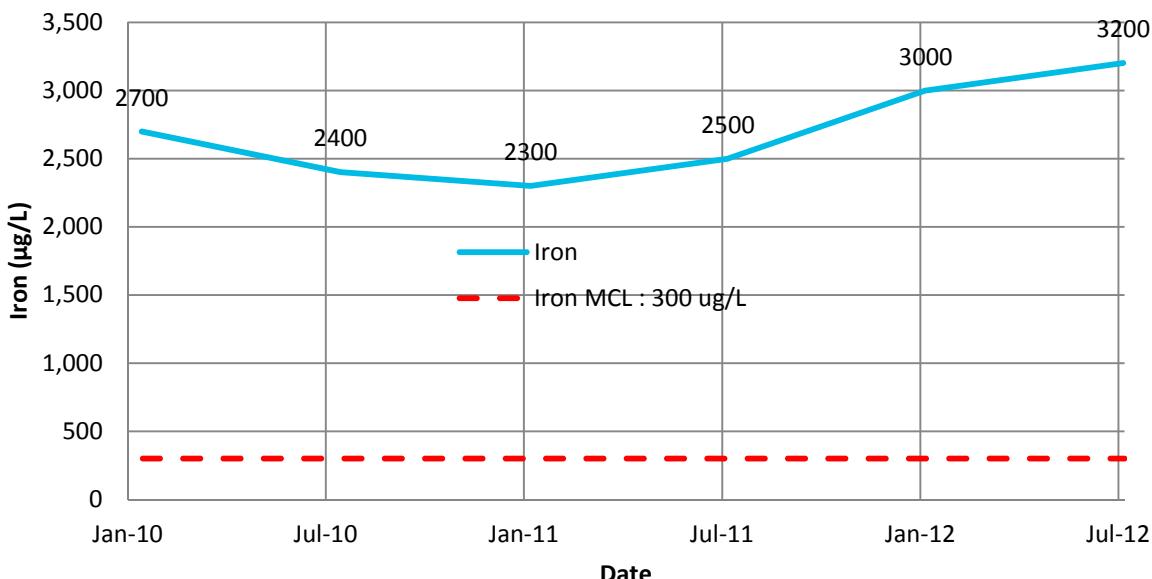
GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

(l) Analyte concentration detected below quantitation limit

MCL - Maximum Contaminant Level per 62-550 F.A.C.

Based on data provided by TestAmerica Laboratories, Inc.

MW-13 : Iron



MW-13 : Turbidity

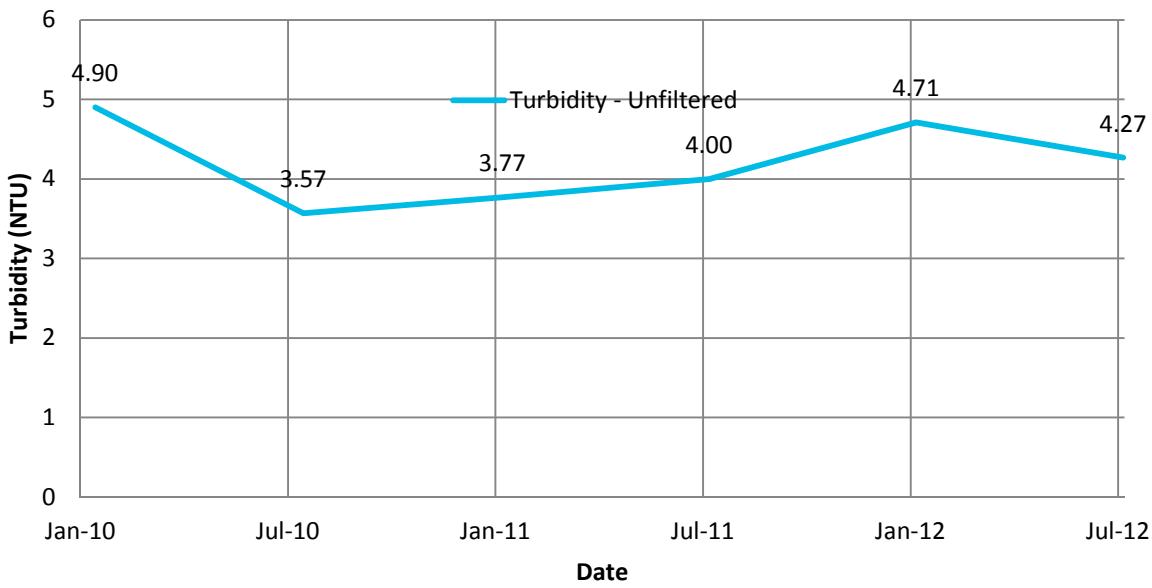
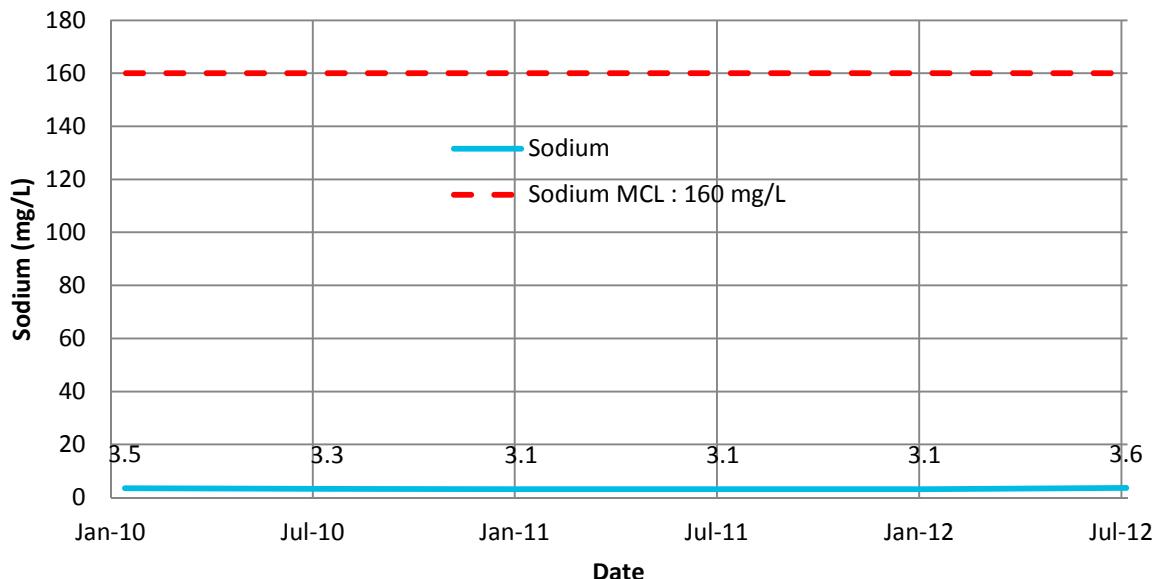


Figure B-45 Iron and Turbidity Trends for MW-13

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-13 : Sodium



MW-13 : 1,1-Dichloroethane

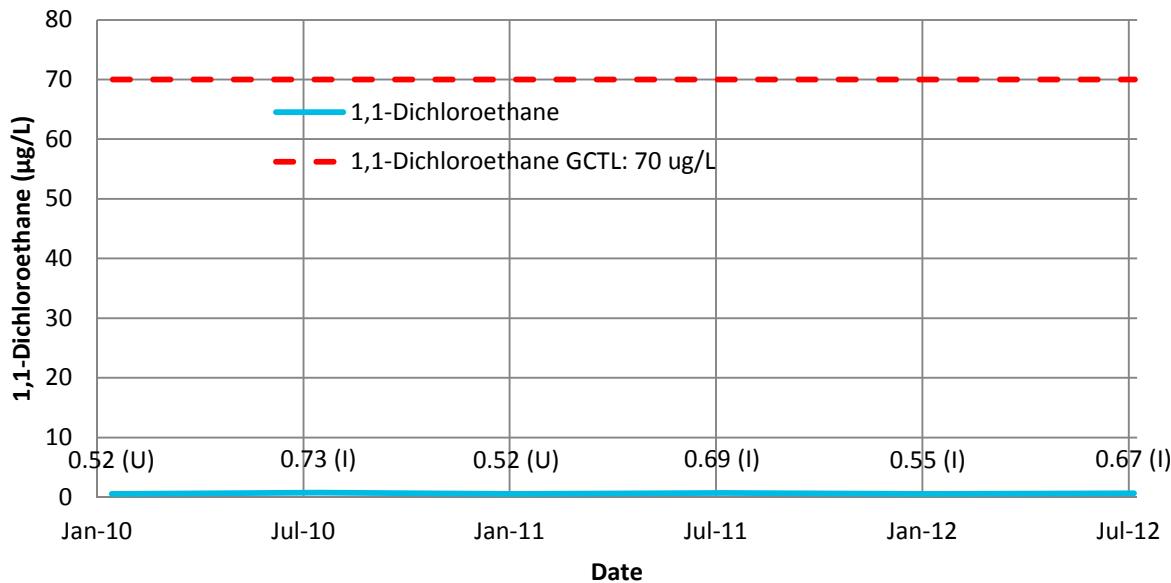


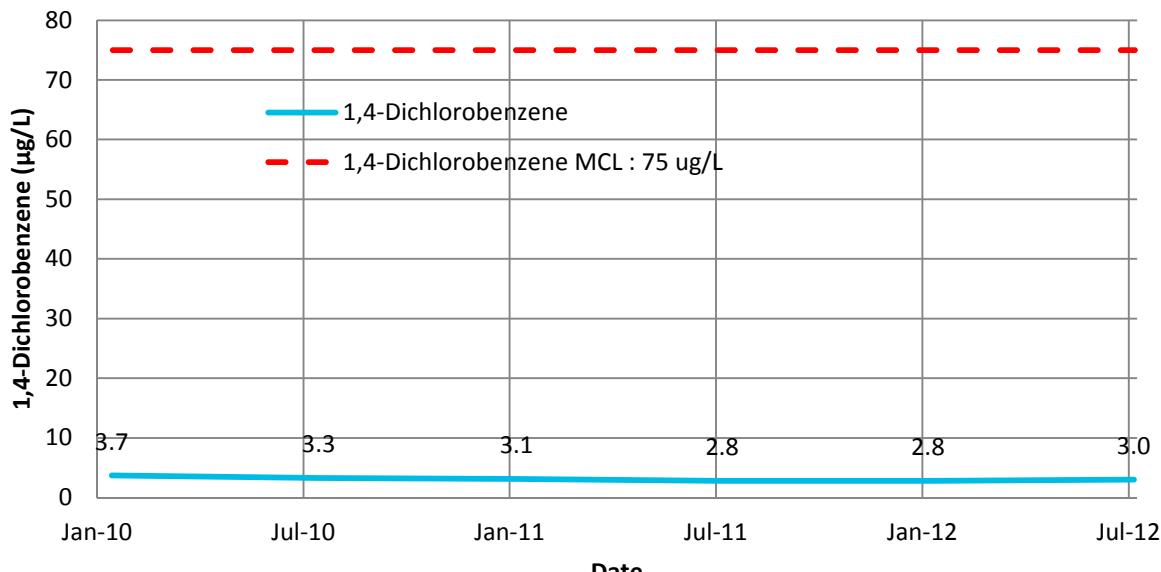
Figure B-46 Sodium and 1,1-Dichloroethane Trends for MW-13

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

MCL - Maximum Contaminant Level per 62-550 F.A.C.

Based on data provided by TestAmerica Laboratories, Inc.

MW-13 : 1,4-Dichlorobenzene



MW-13 : Benzene

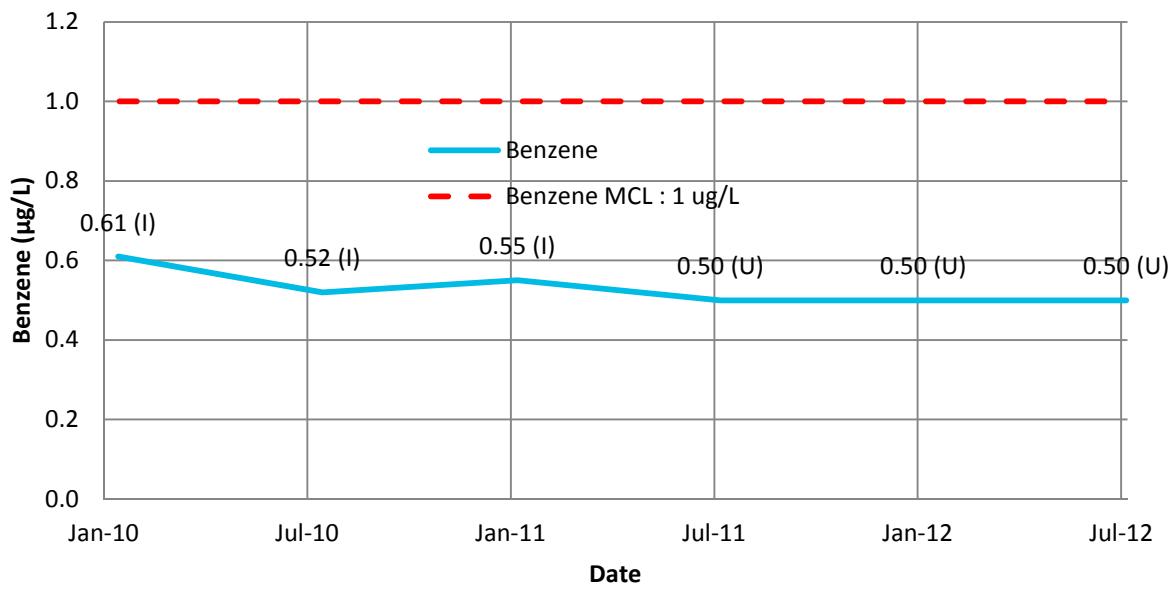


Figure B-47 1,4-Dichlorobenzene and Benzene Trends for MW-13

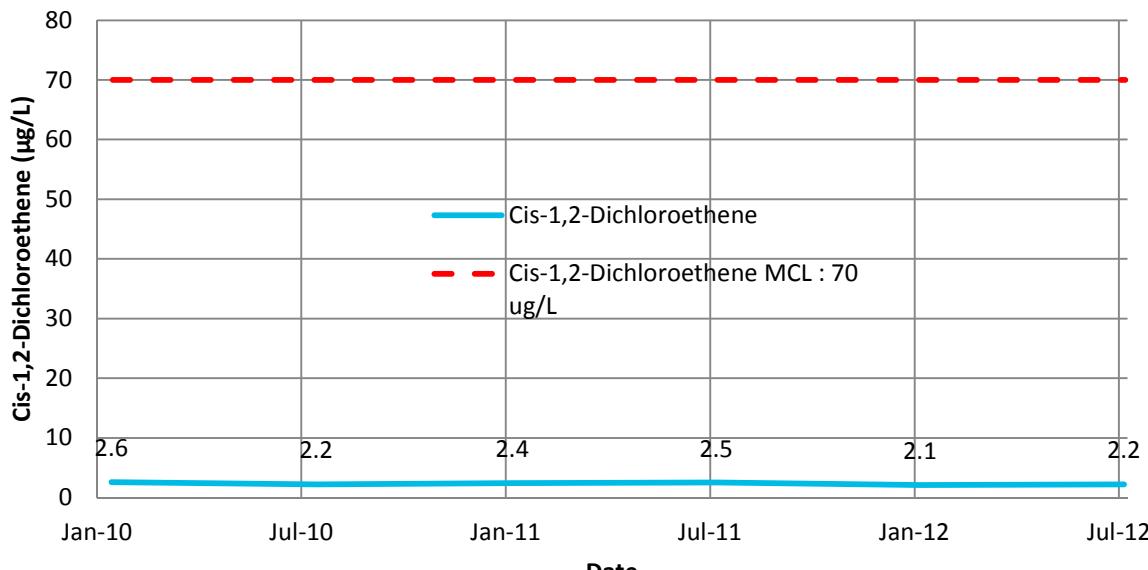
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-13 : Cis-1,2-Dichloroethene



MW-13 : Vinyl Chloride

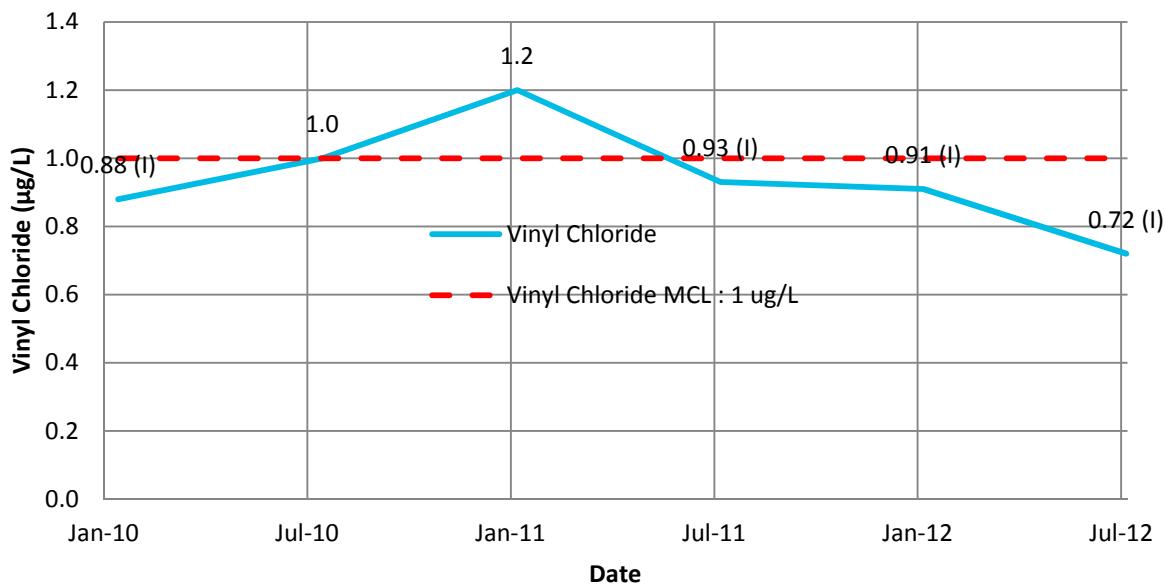


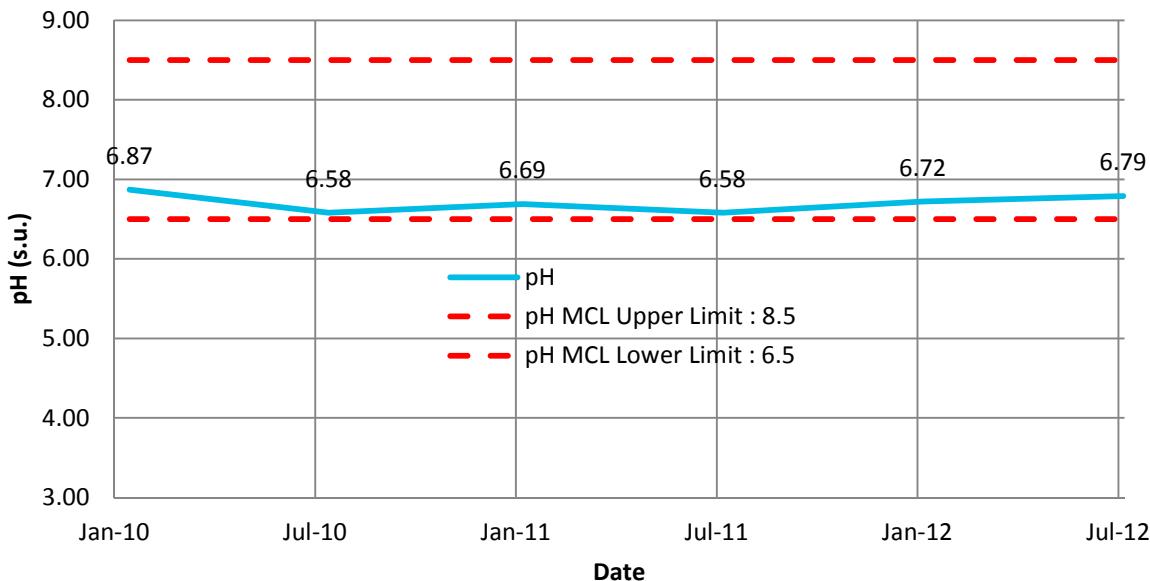
Figure B-48 Cis-1,2-Dichloroethene and Vinyl Chloride Trends for MW-13

MCL - Maximum Contaminant Level per 62-550 F.A.C

(I) Analyte detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-14 : pH



MW-14 : Chloride

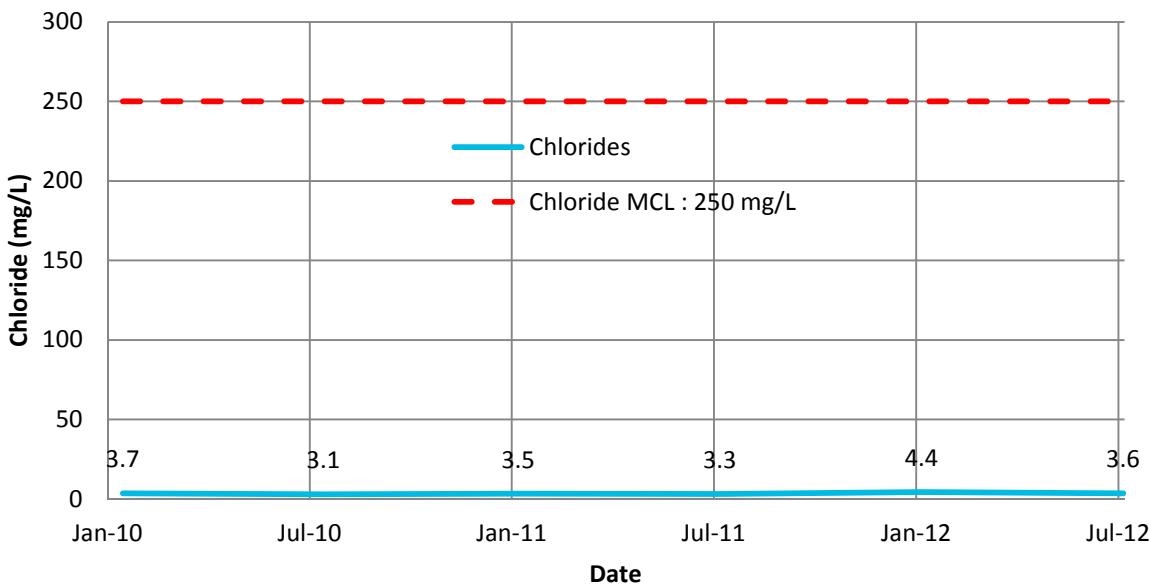
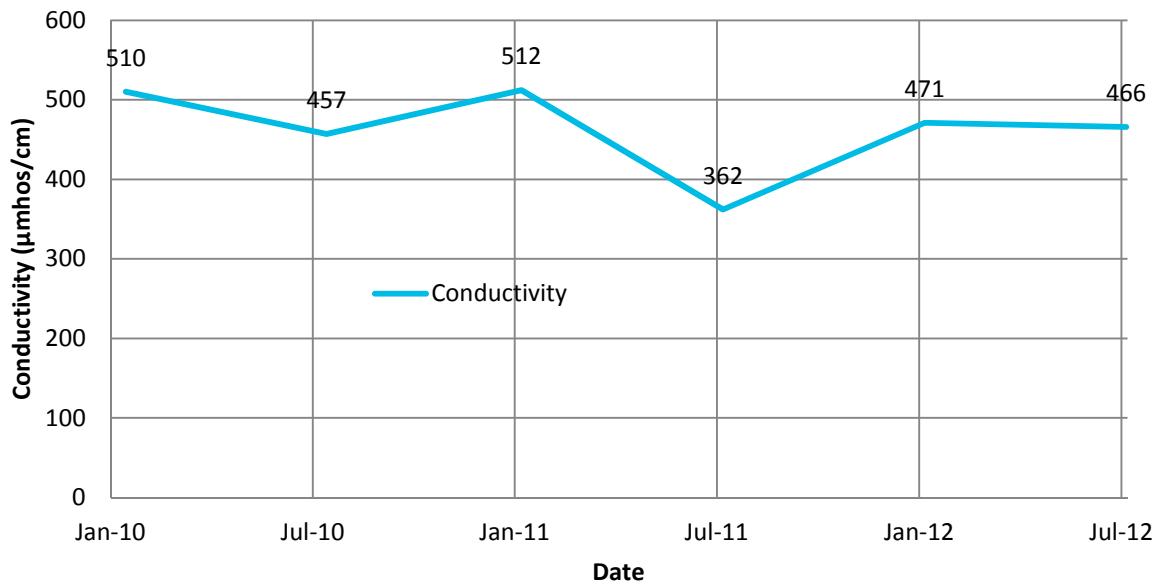


Figure B-49 pH and Chloride Trends for MW-14

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-14 : Conductivity



MW-14 : TDS

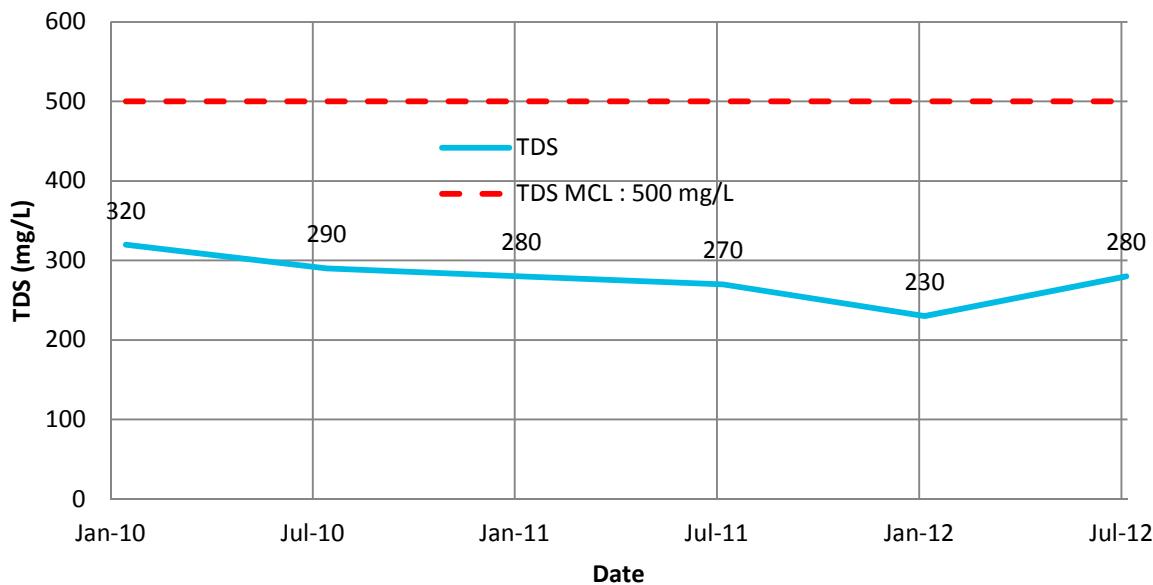
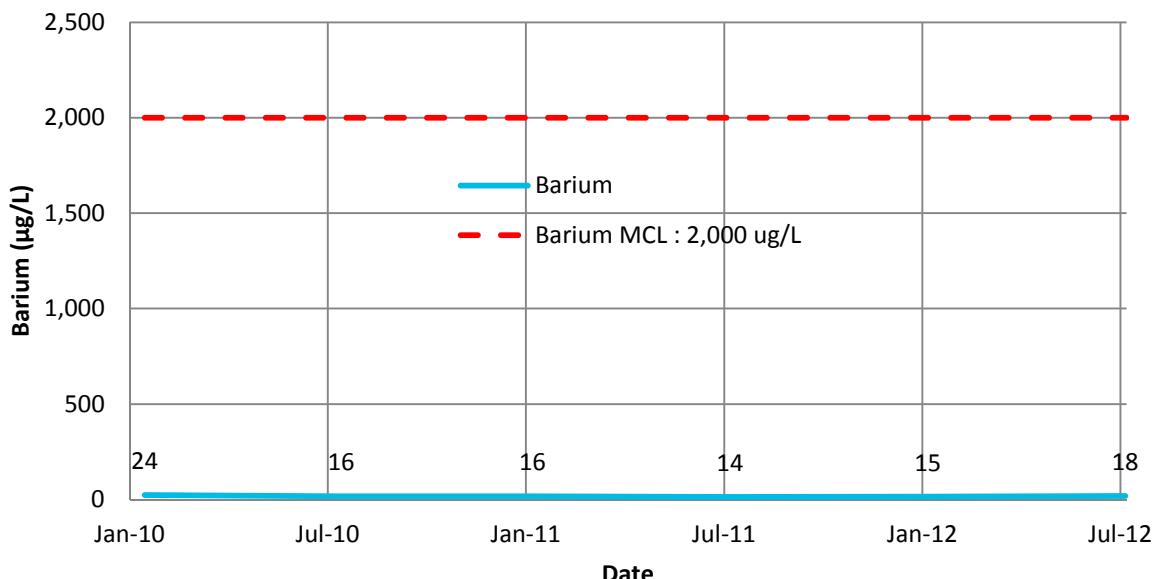


Figure B-50 Conductivity and TDS Trends for MW-14

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-14 : Barium



MW-14 : Cadmium

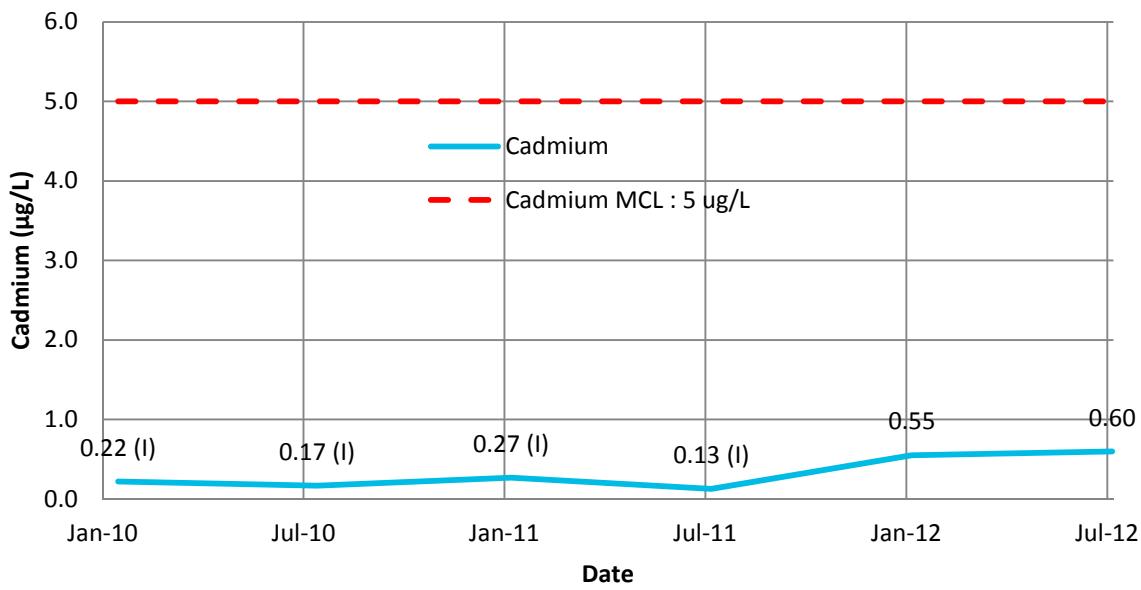


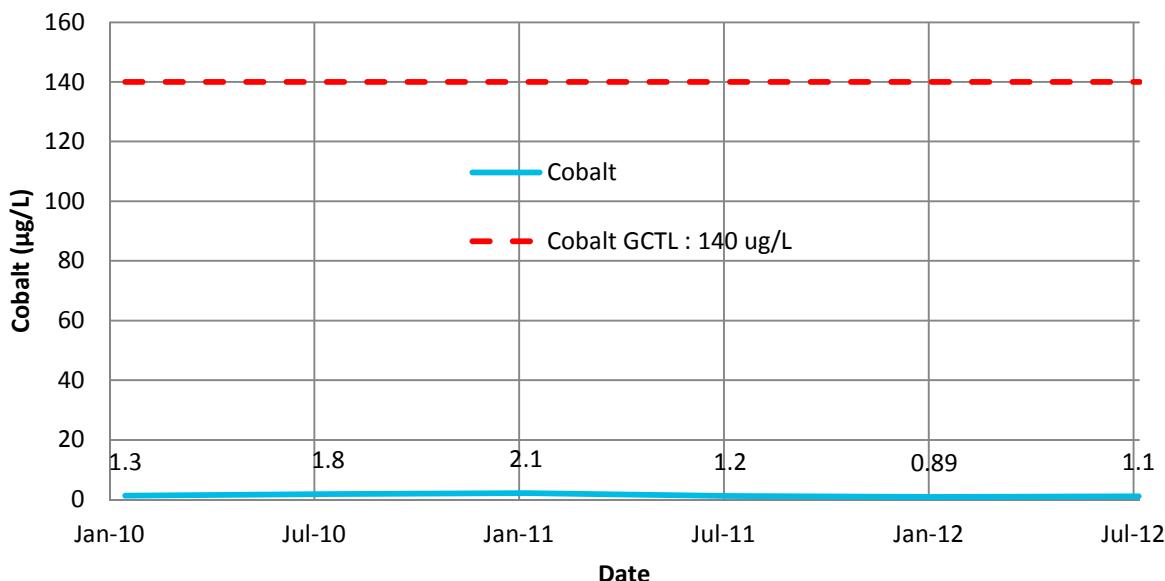
Figure B-51 Barium and Cadmium Trends for MW-14

MCL - Maximum Contaminant Level per 62-550 F.A.C.

(I) Analyte concentration detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-14 : Cobalt



MW-14 : Sodium

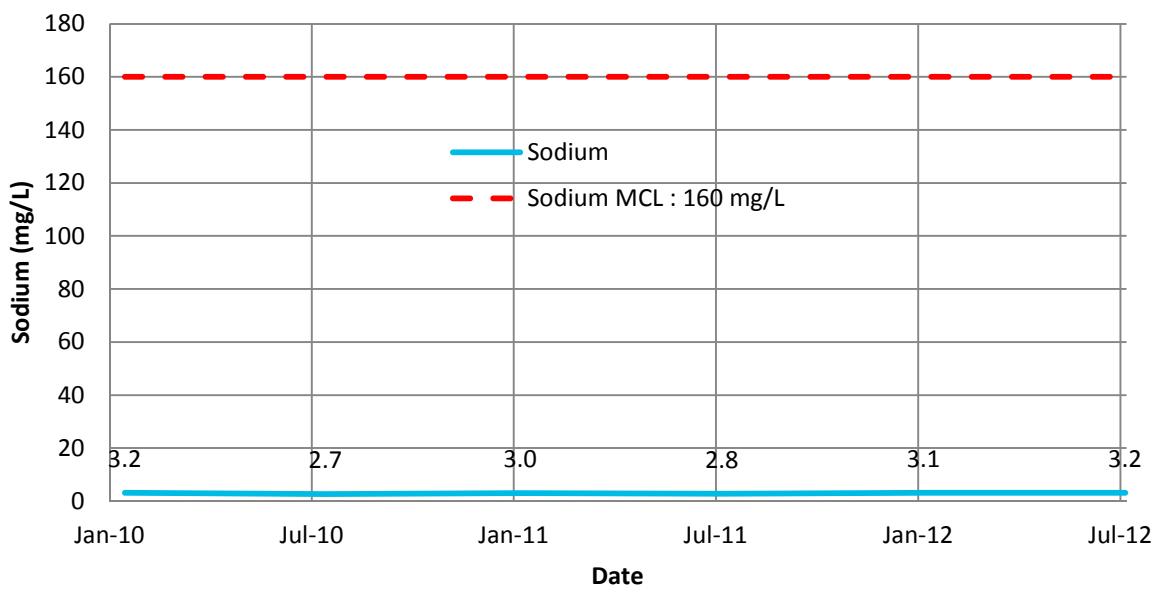


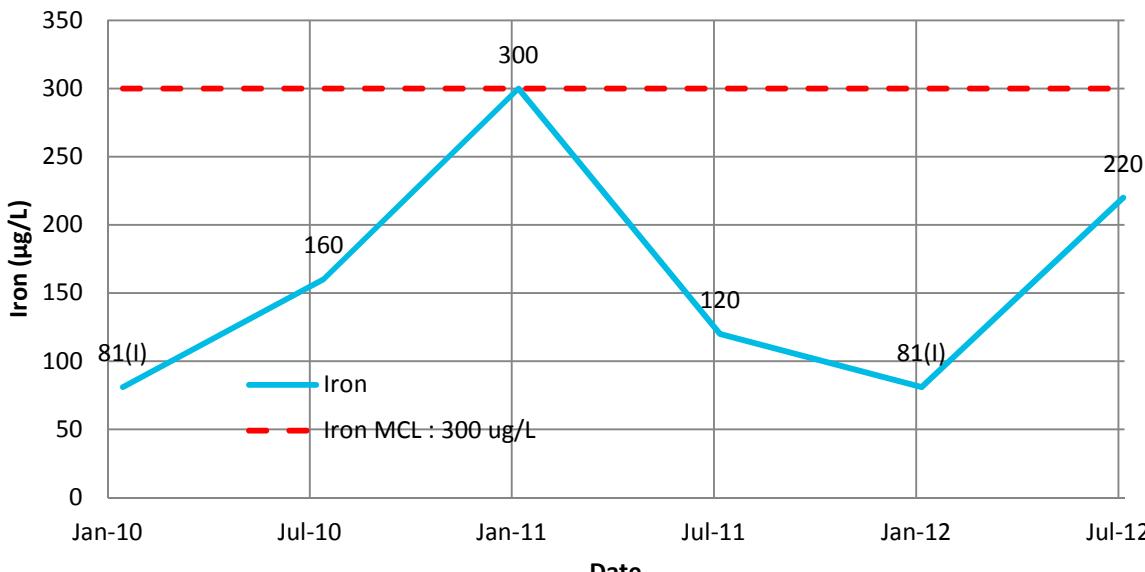
Figure B-52 Cobalt and Sodium Trends for MW-14

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-14 : Iron



MW-14 : Turbidity

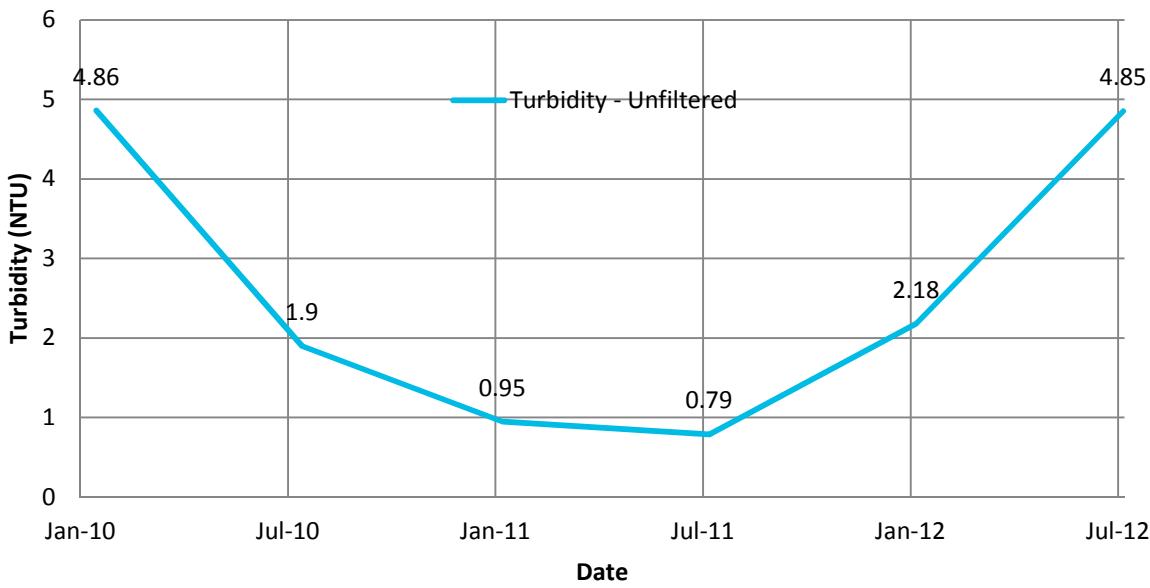


Figure B-53 Iron and Turbidity Trends for MW-14

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

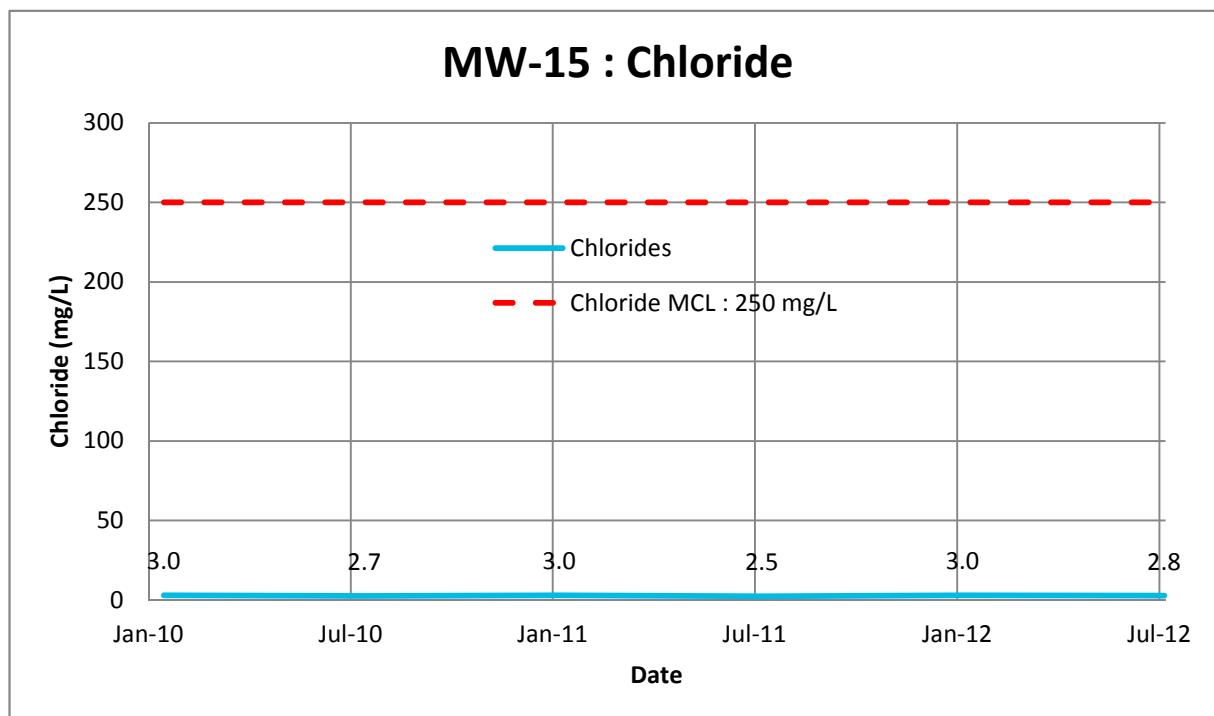
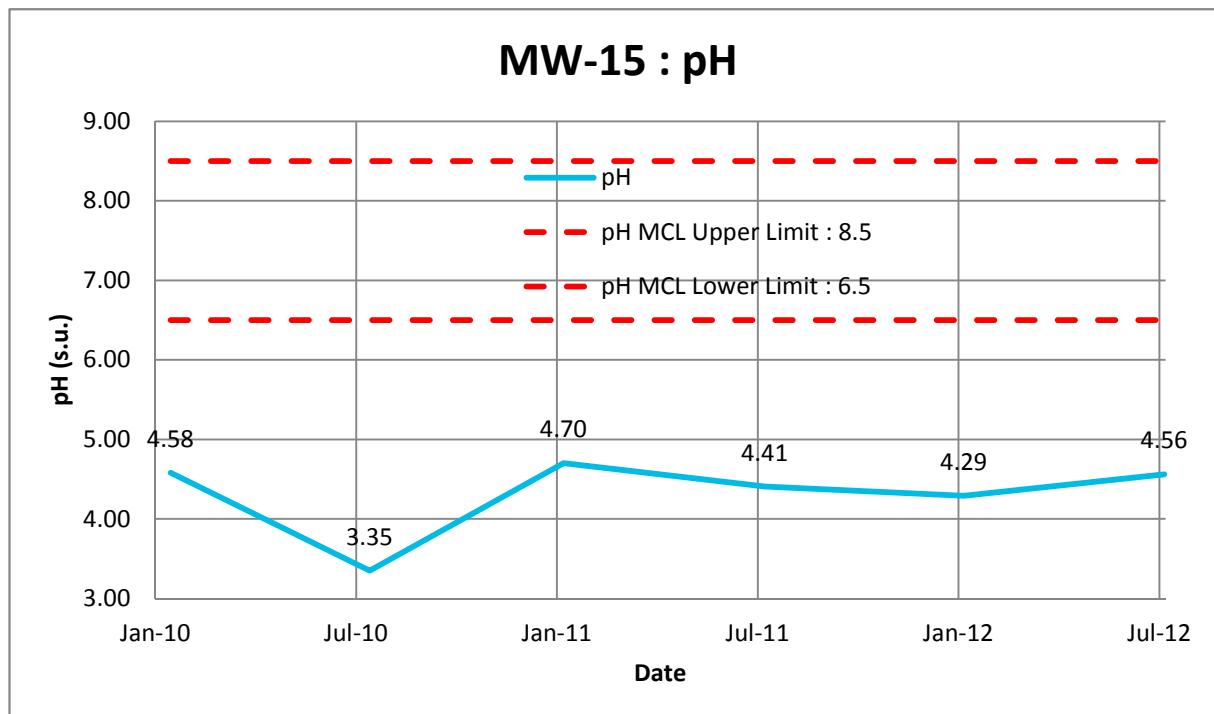
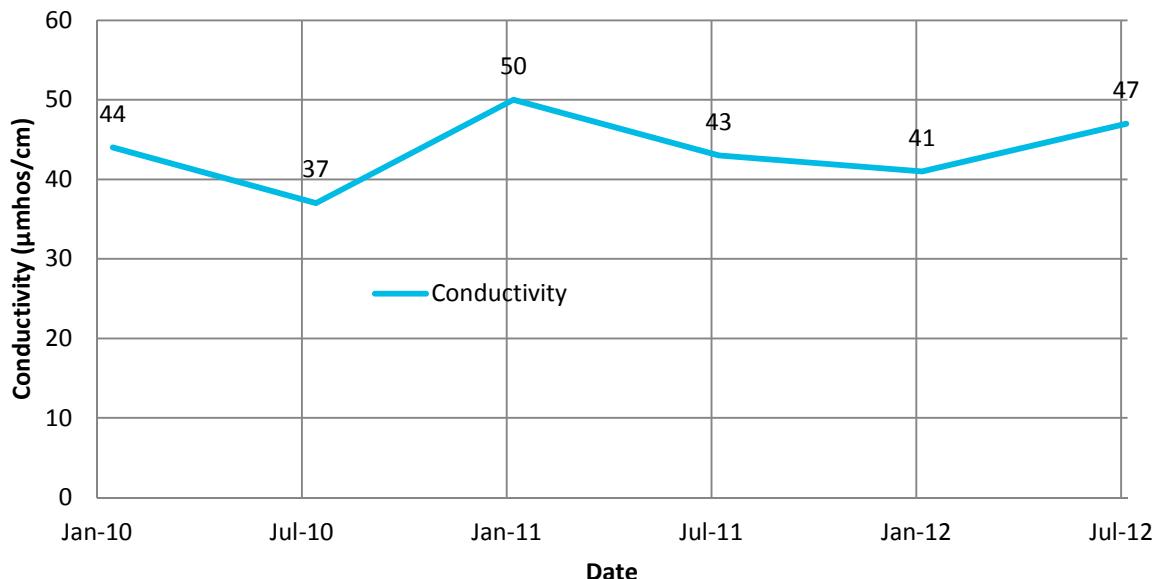


Figure B-54 pH and Chloride Trends for MW-15

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-15 : Conductivity



MW-15 : TDS

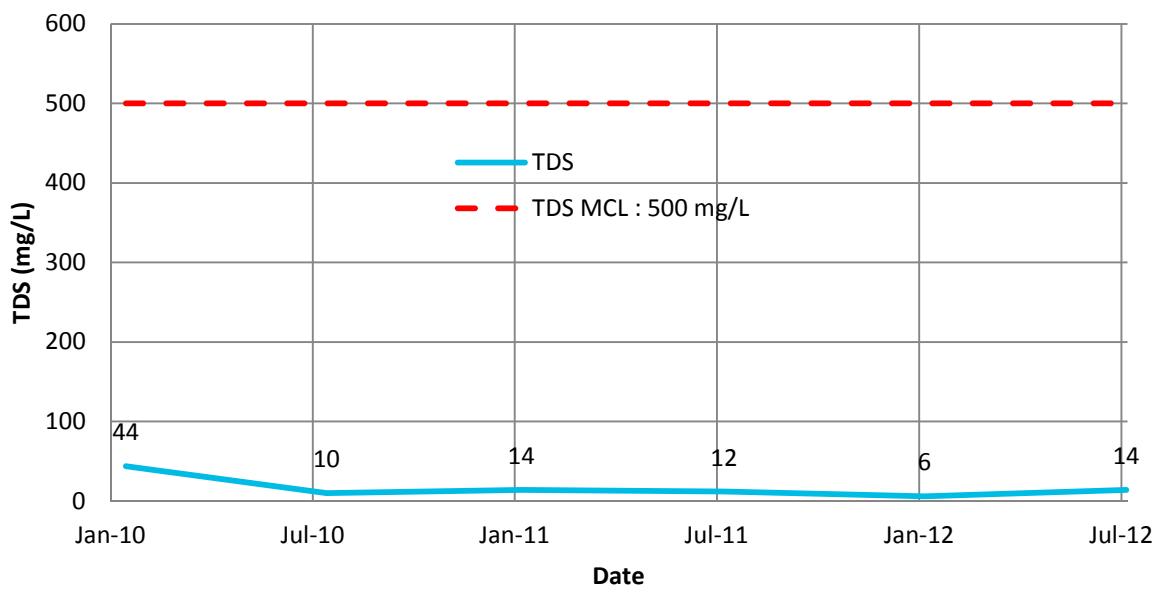


Figure B-55 Conductivity and TDS Trends for MW-15

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

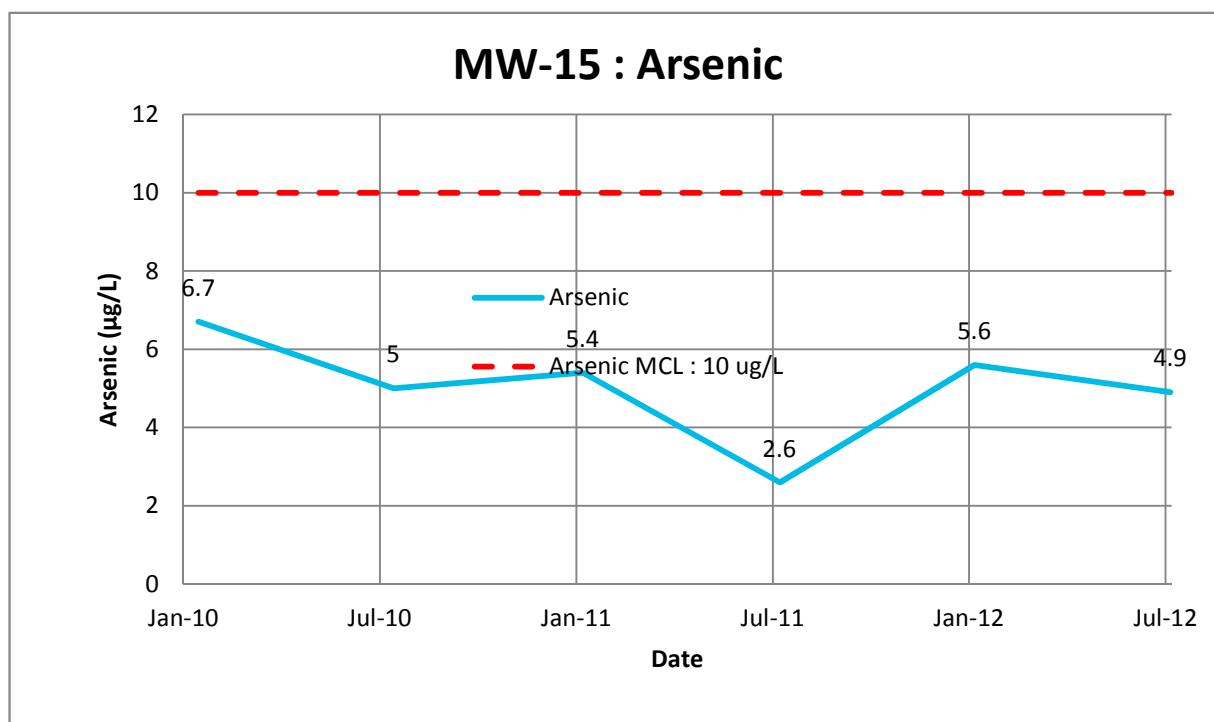
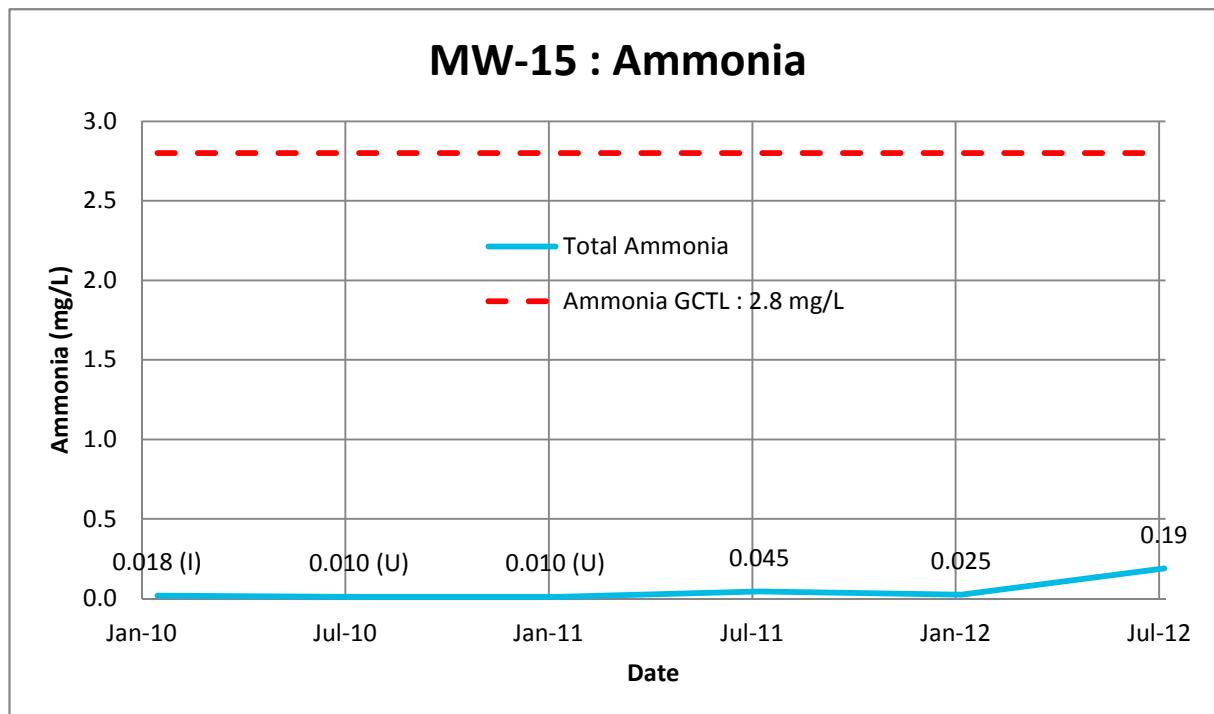


Figure B-56 Ammonia and Arsenic Trends for MW-15

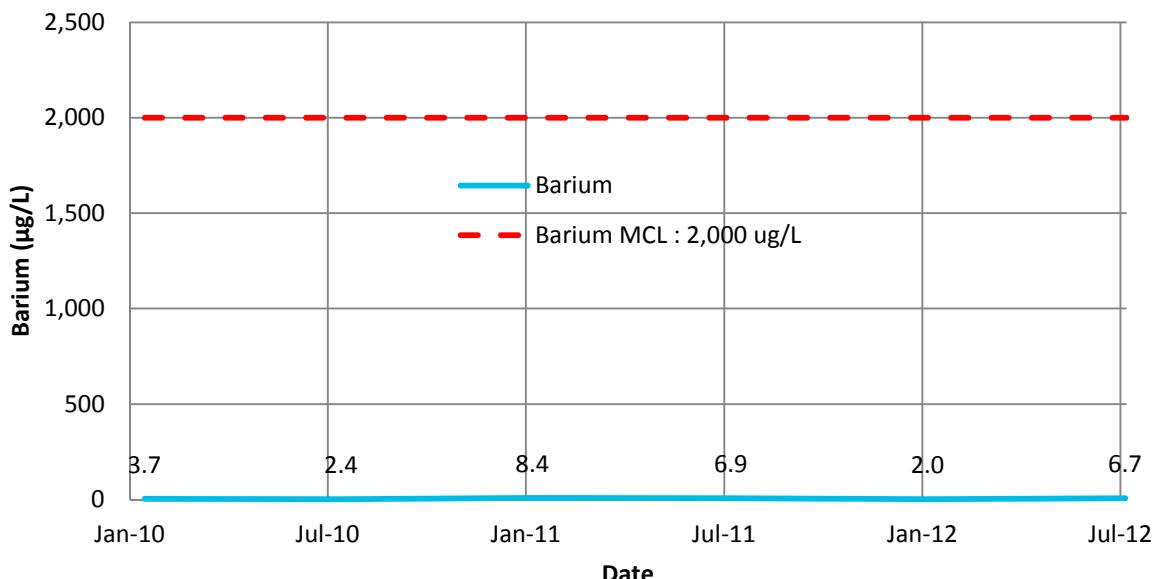
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(U) Analyte concentration detected below method detection limit

(I) Analyte concentration detected below quantitation limit

MW-15 : Barium



MW-15 : Cobalt

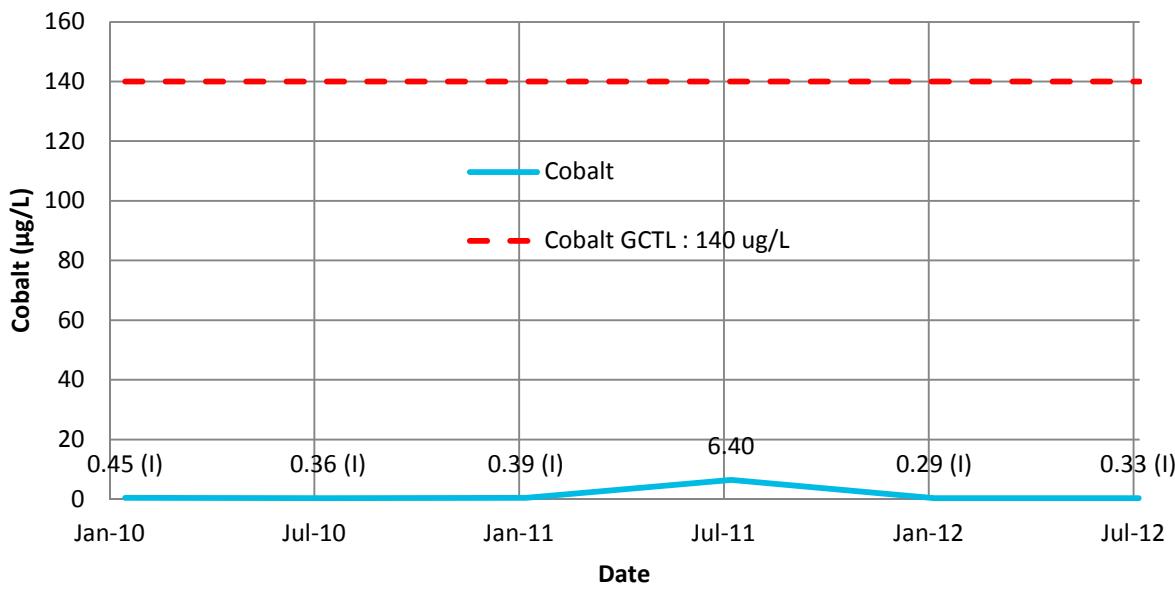


Figure B-57 Barium and Cobalt Trends for MW-15

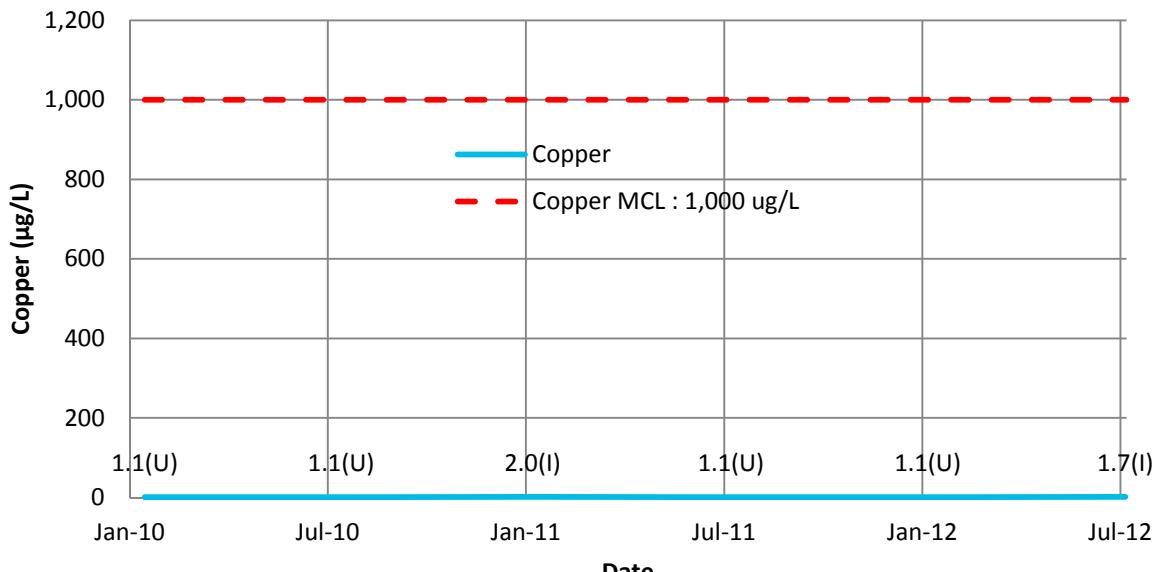
GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

(I) Analyte concentration detected below quantitation limit

MCL - Maximum Contaminant Level per 62-550 F.A.C.

Based on data provided by TestAmerica Laboratories, Inc.

MW-15 : Copper



MW-15 : Nickel

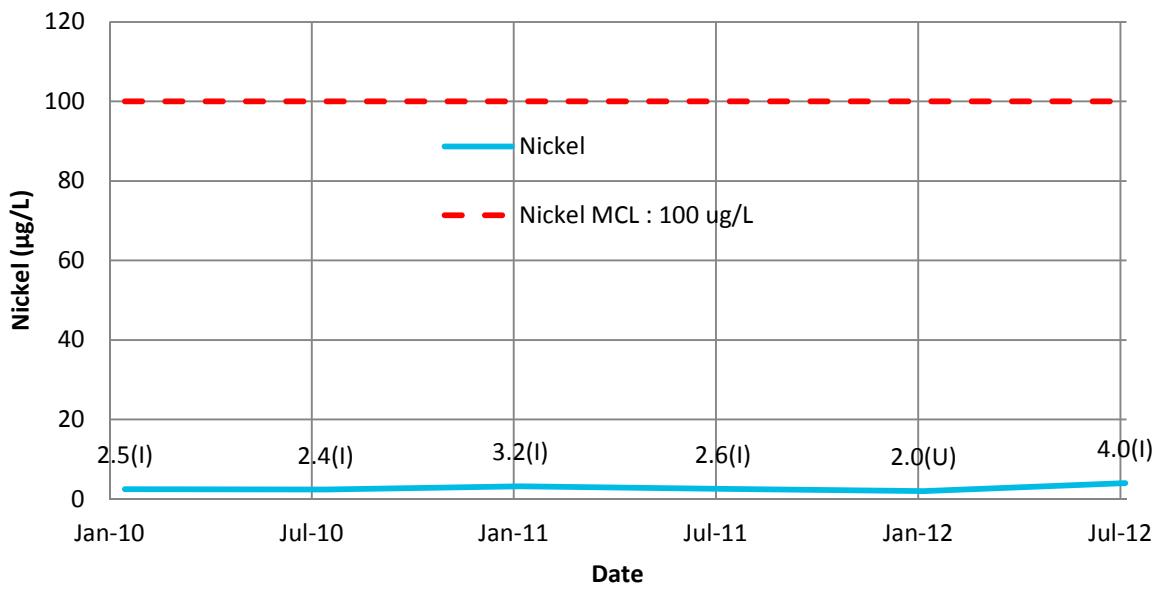


Figure B-58 Copper and Nickel Trends for MW-15

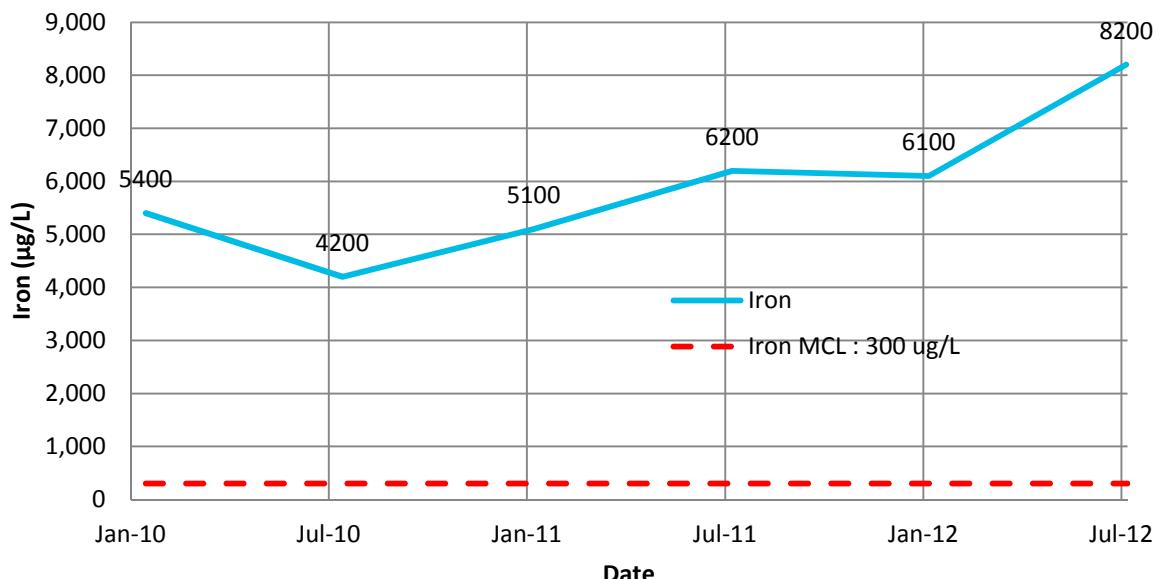
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-15 : Iron



MW-15 : Turbidity

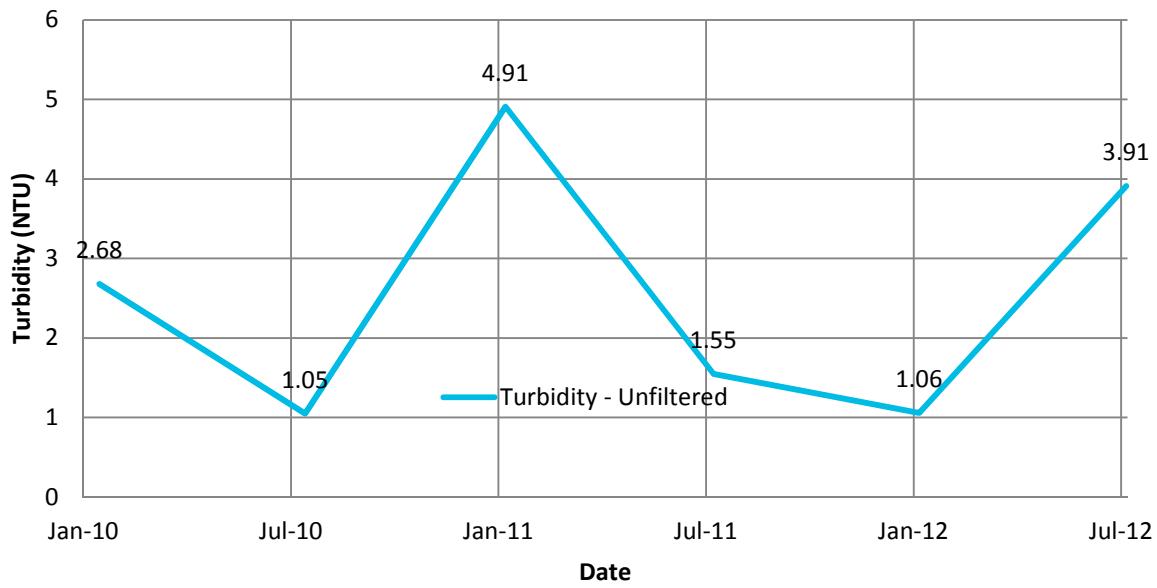
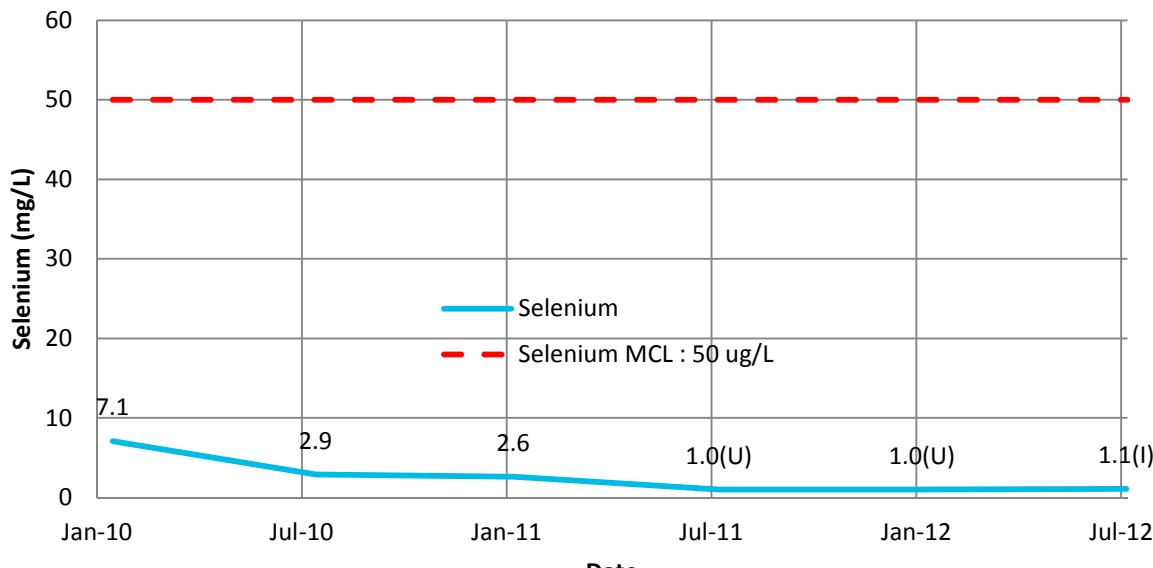


Figure B-59 Iron and Turbidity Trends for MW-15

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-15 : Selenium



MW-15 : Sodium

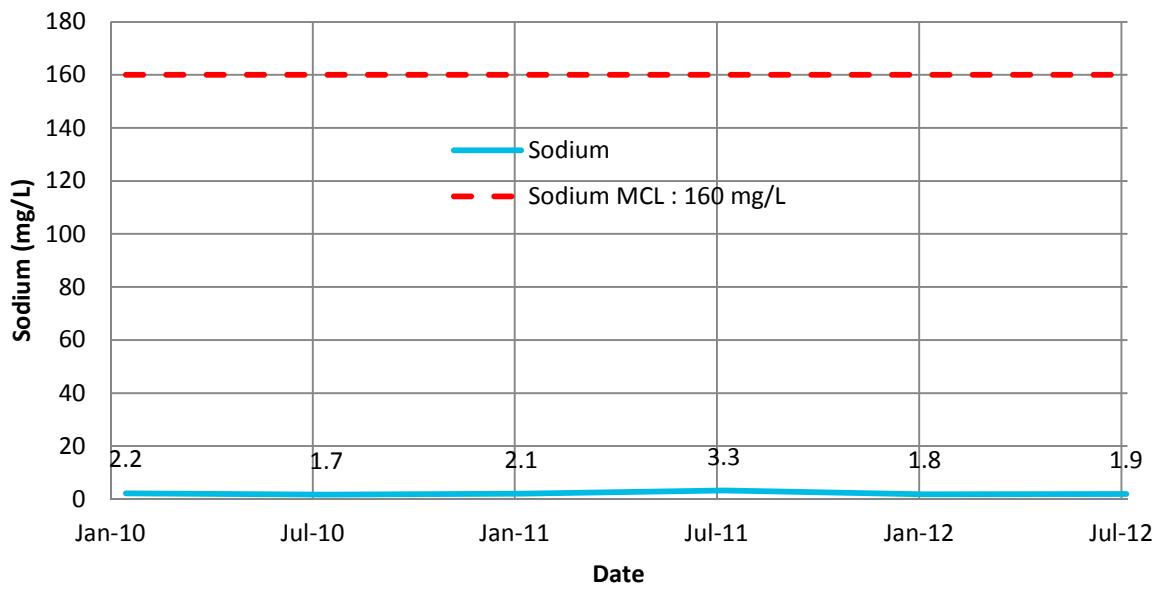


Figure B-60 Selenium and Sodium Trends for MW-15

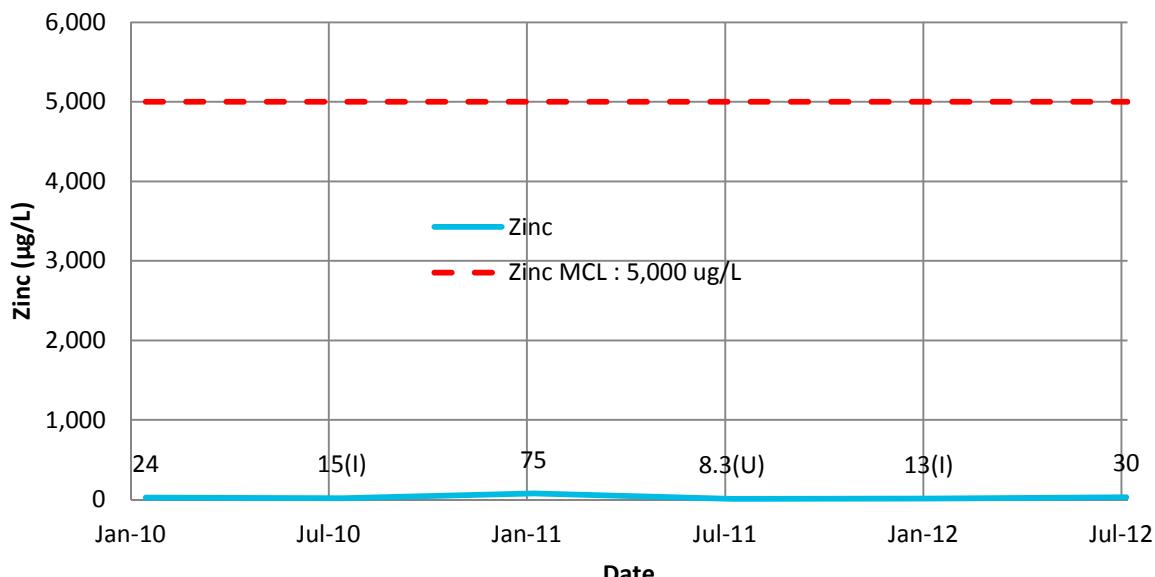
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(U) Analyte concentration below method detection limit

(I) Analyte concentration detected below quantitation limit

MW-15 : Zinc



MW-15 : Trichloroethene

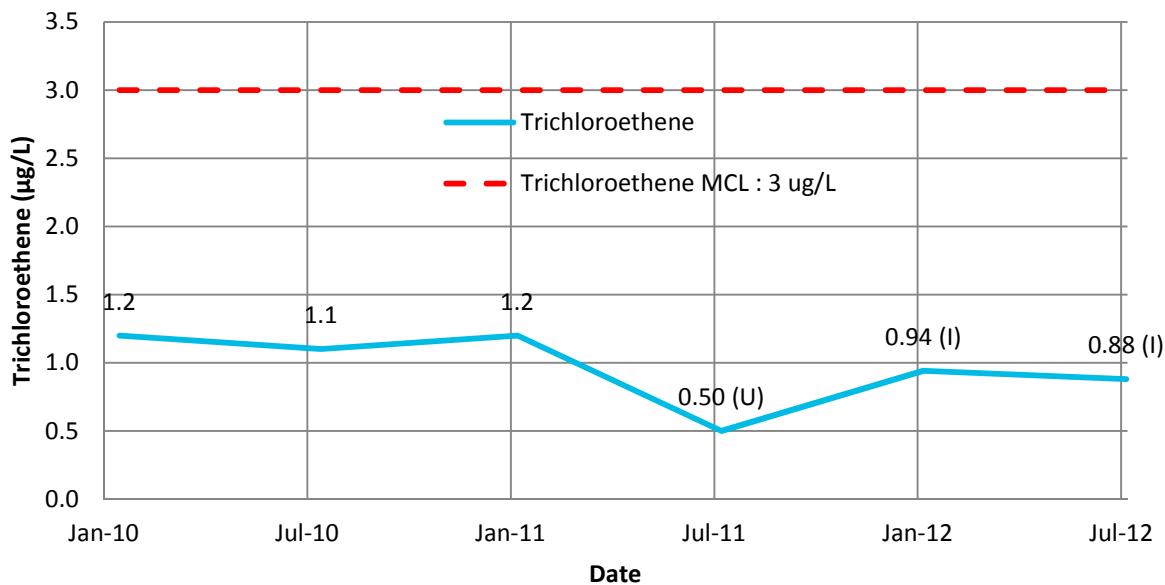


Figure B-61 Zinc and Trichloroethene Trends for MW-15

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-15 : Vinyl Chloride

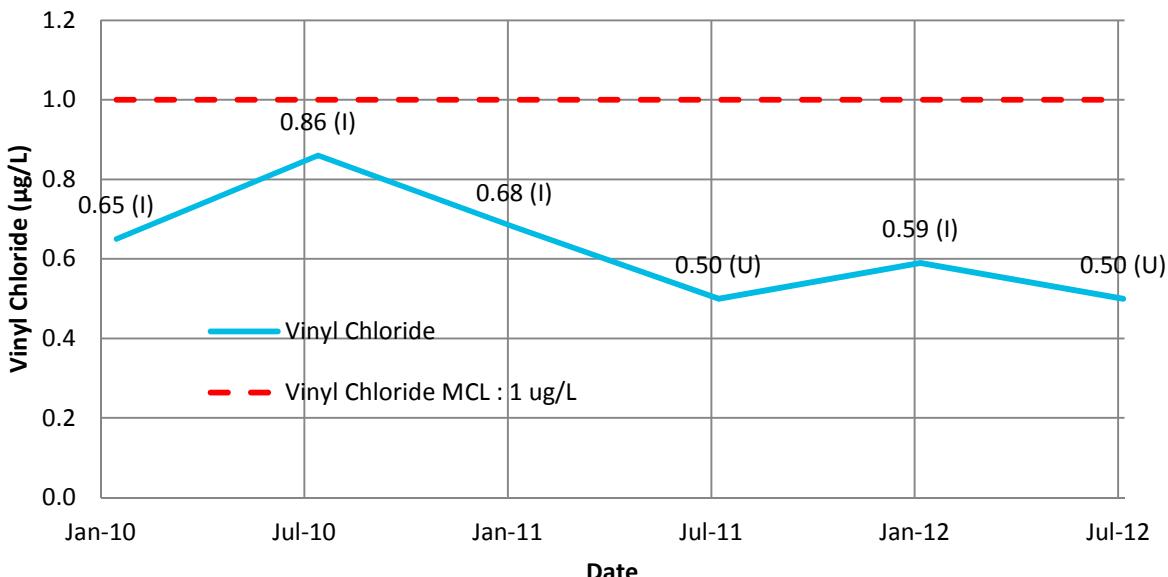


Figure B-62 Vinyl Chloride Trend for MW-15

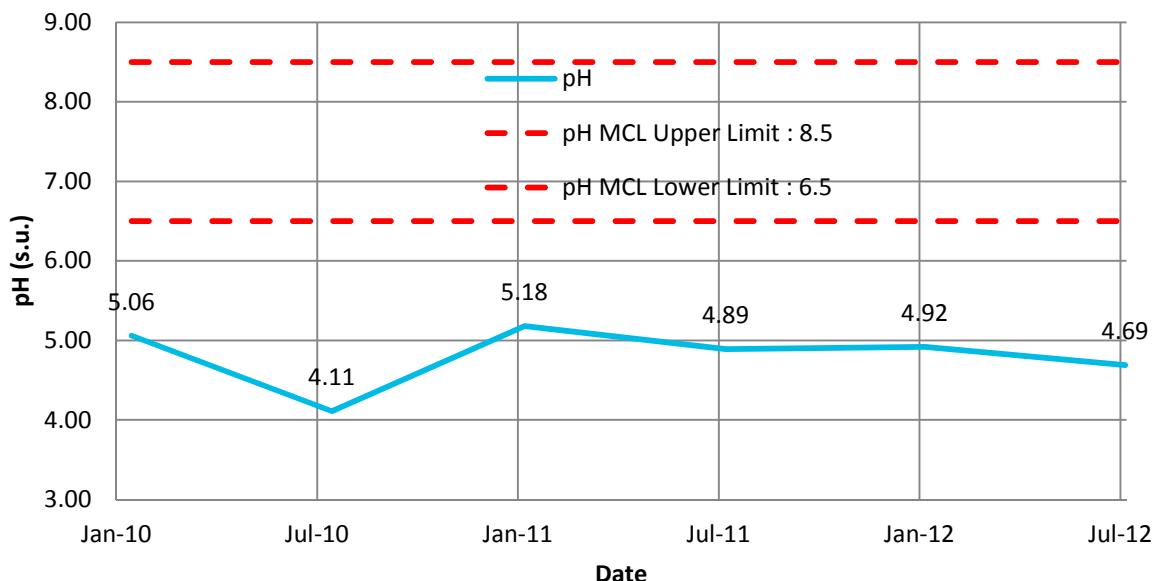
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-17 : pH



MW-17 : Chloride

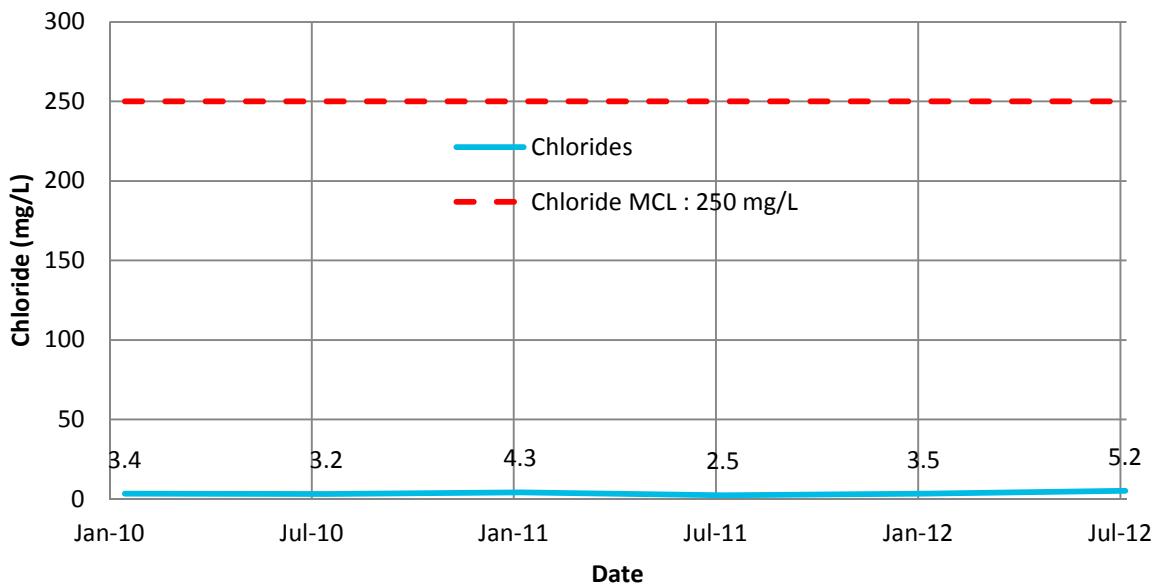
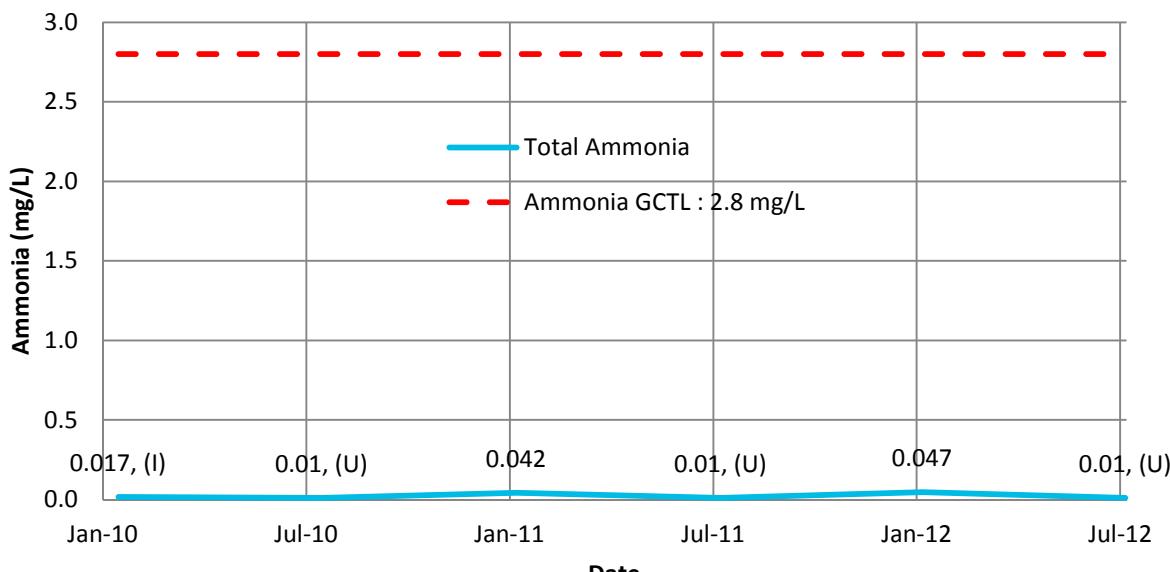


Figure B-63 pH and Chloride Trends for MW-17

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-17 : Ammonia



MW-17 : Sodium

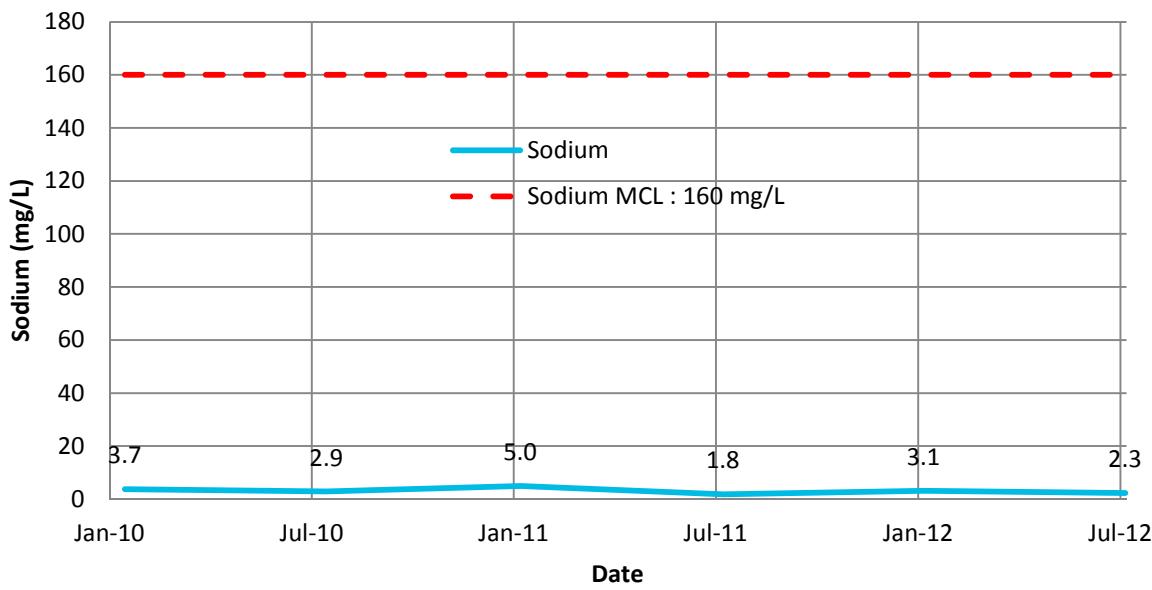


Figure B-64 Ammonia and Sodium Trends for MW-17

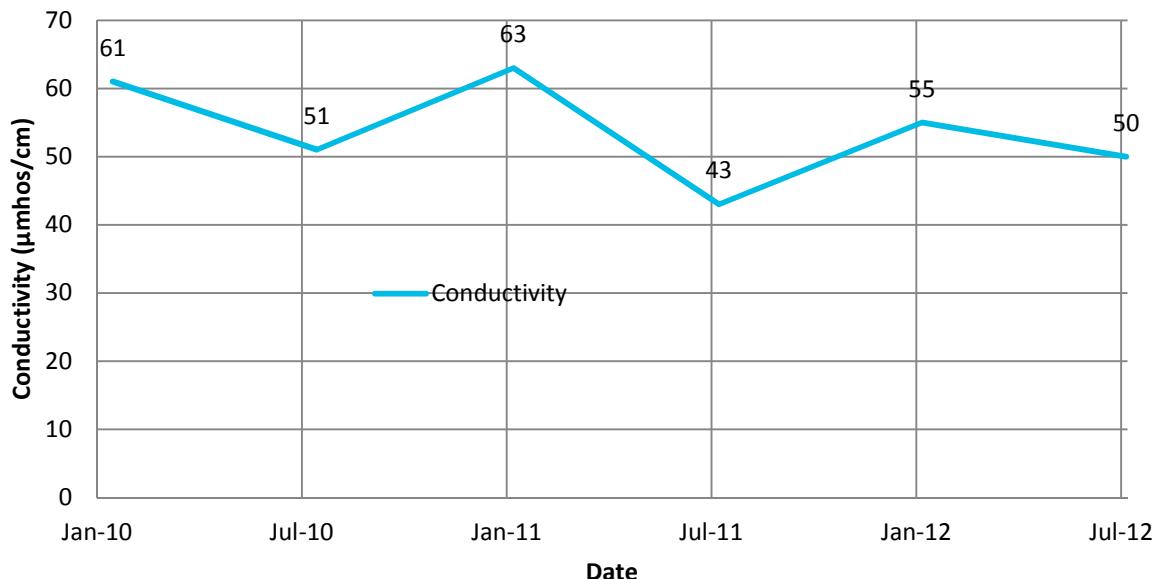
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-17 : Conductivity



MW-17 : TDS

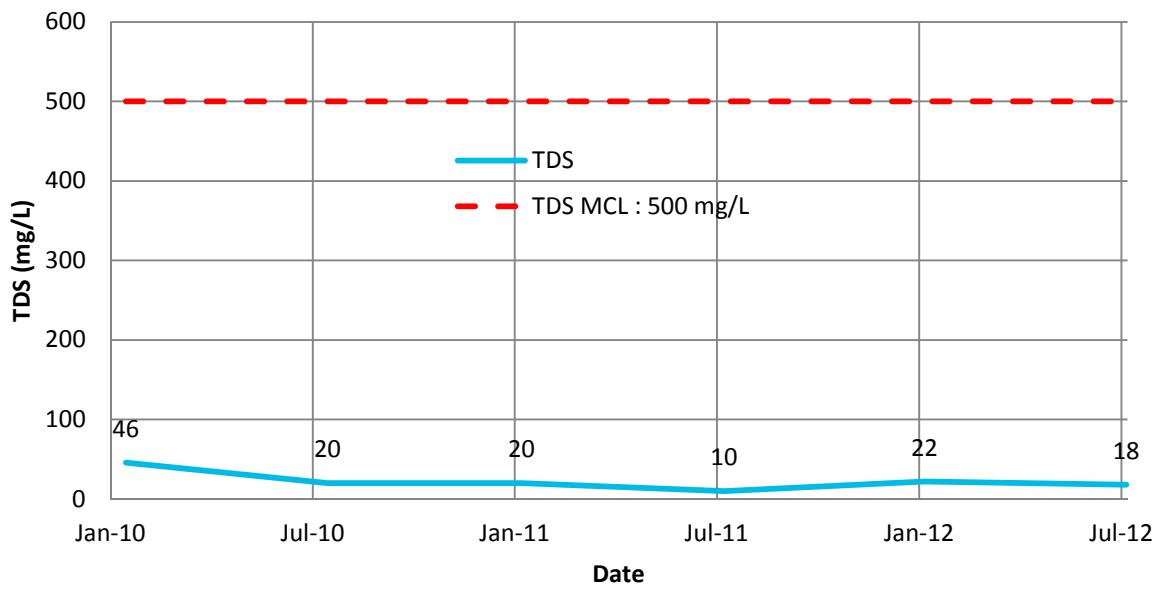
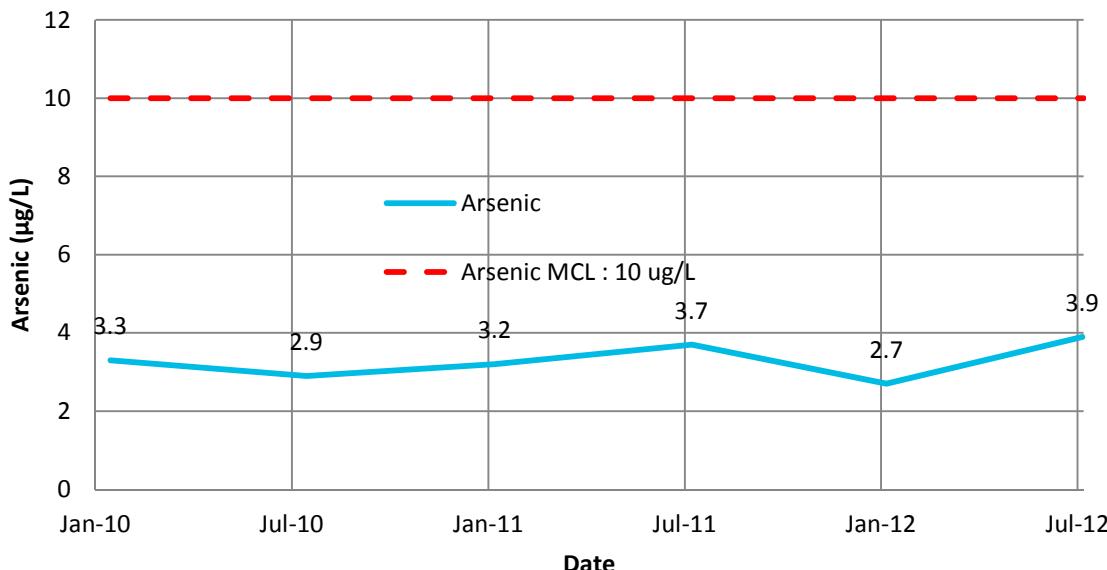


Figure B-65 Conductivity and TDS Trends for MW-17

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-17 : Arsenic



MW-17 : Barium

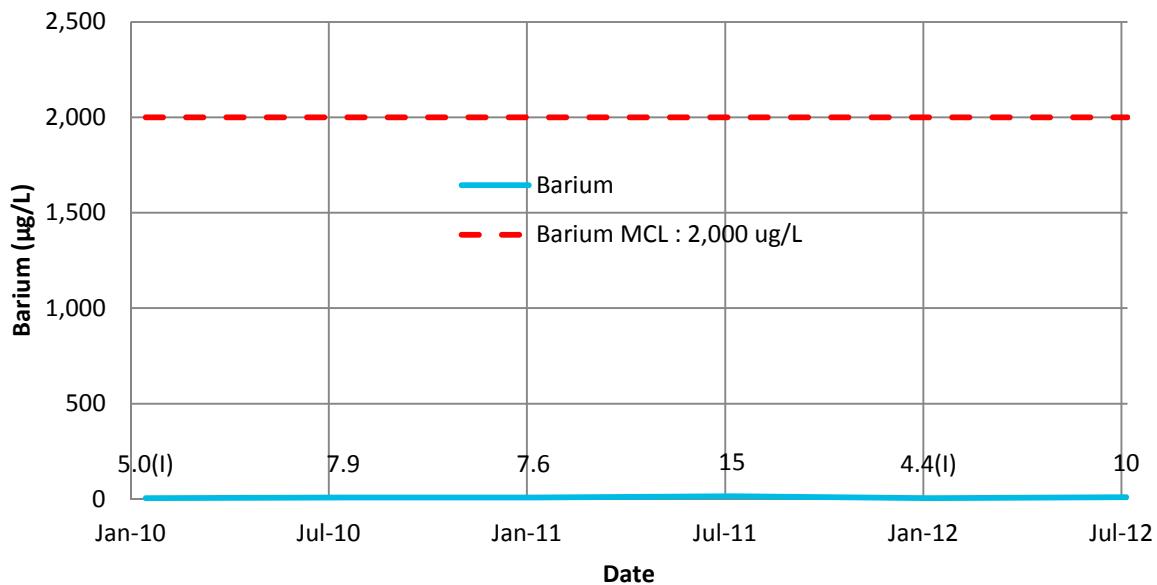


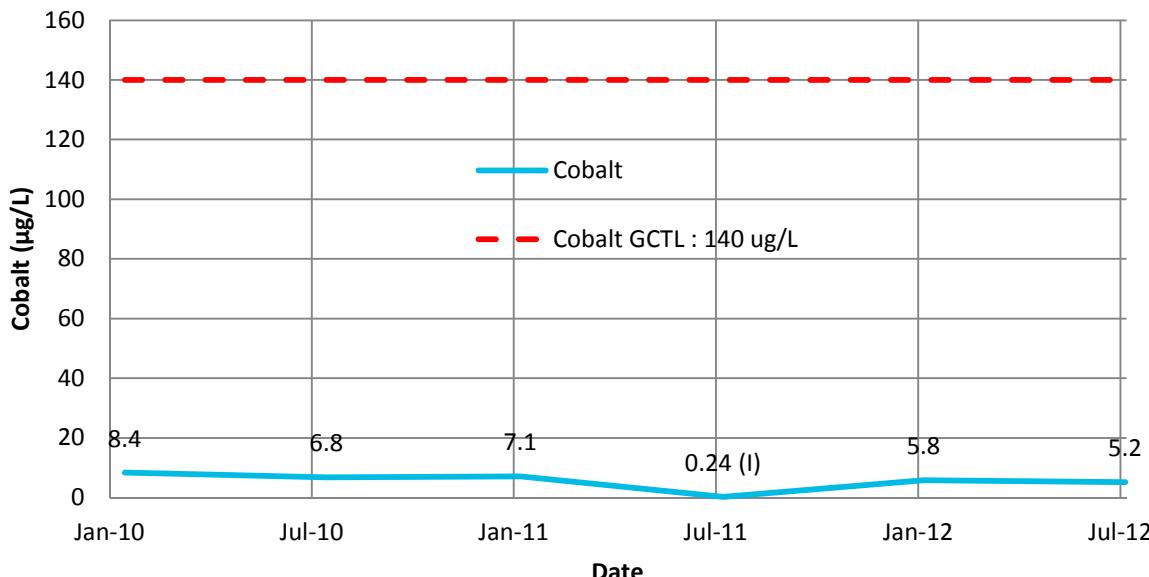
Figure B-66 Arsenic and Barium Trends for MW-17

MCL - Maximum Contaminant Level per 62-550 F.A.C

(I) Analyte detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-17 : Cobalt



MW-17 : Lead

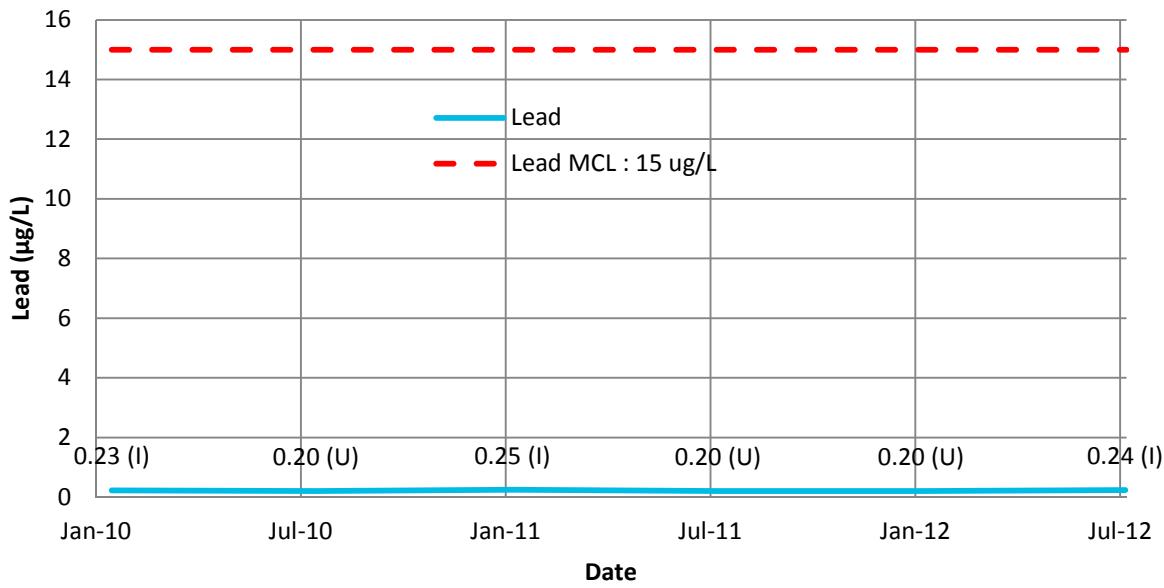


Figure B-67 Cobalt and Lead Trends for MW-17

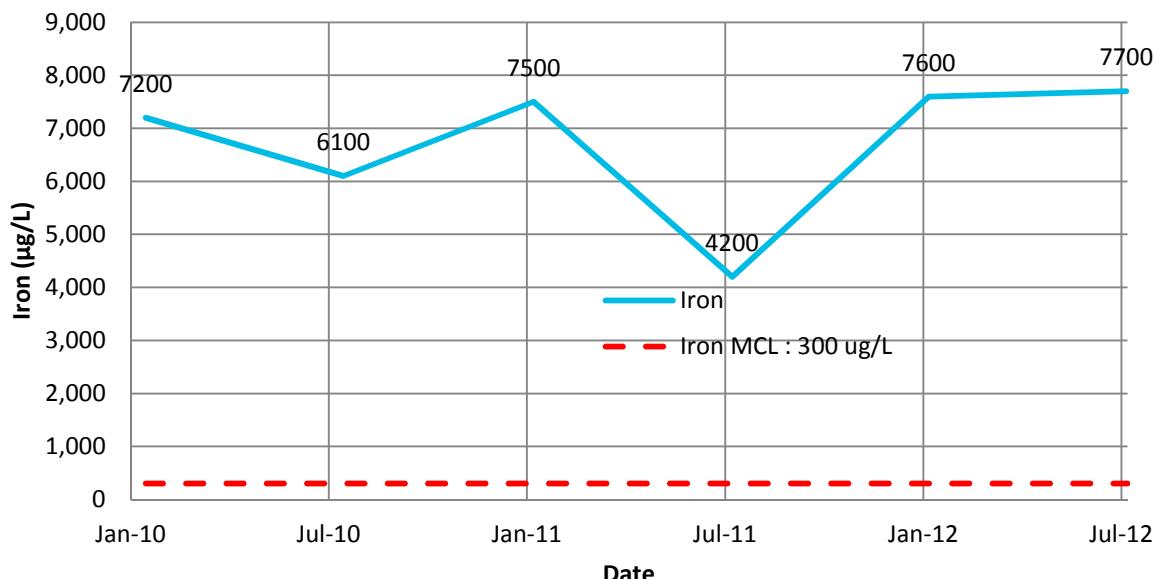
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration below method detection limit

MW-17 : Iron



MW-17 : Turbidity

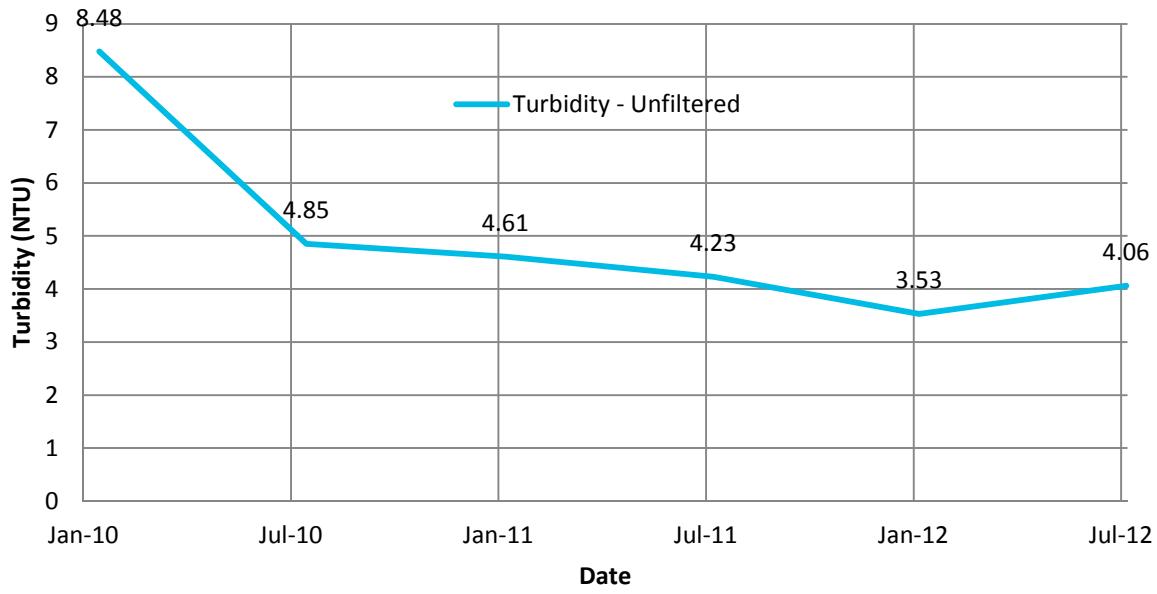
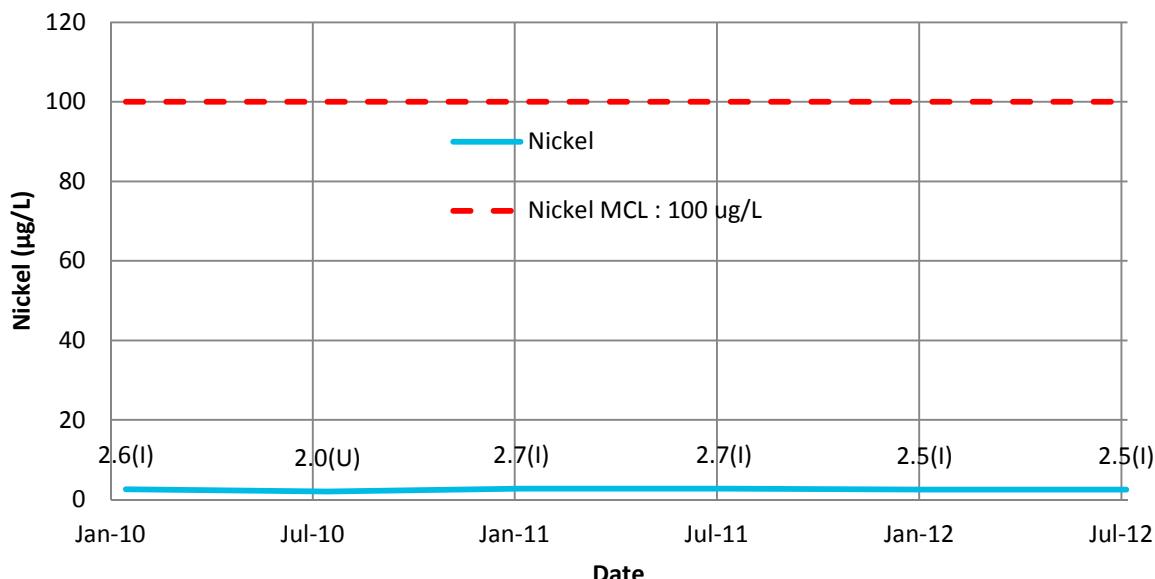


Figure B-68 Iron and Turbidity Trends for MW-17

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-17 : Nickel



MW-17 : Zinc

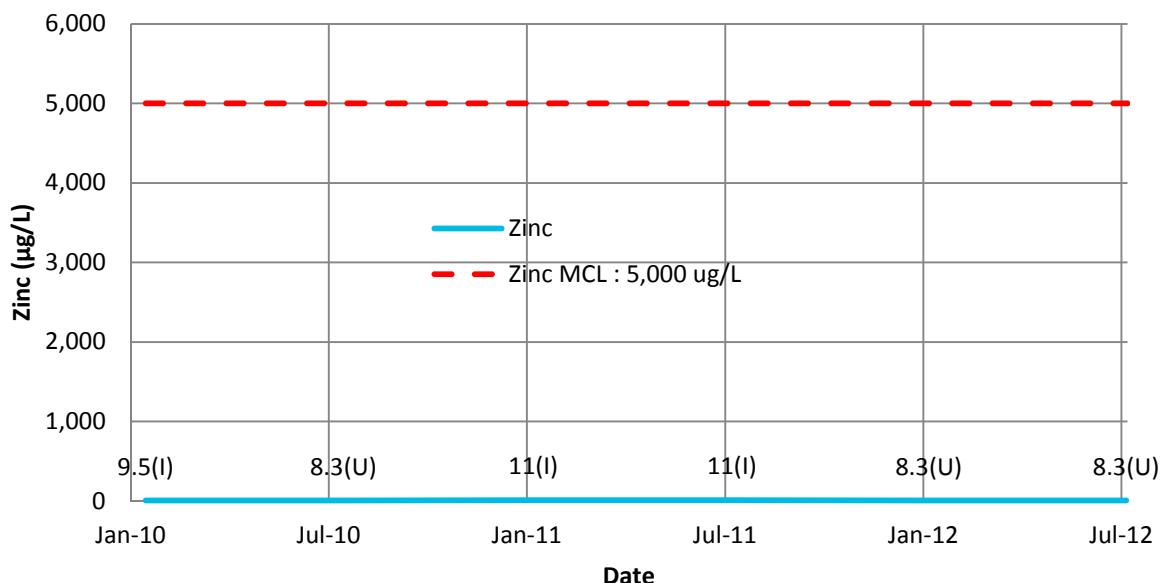


Figure B-69 Nickel and Zinc Trends for MW-17

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

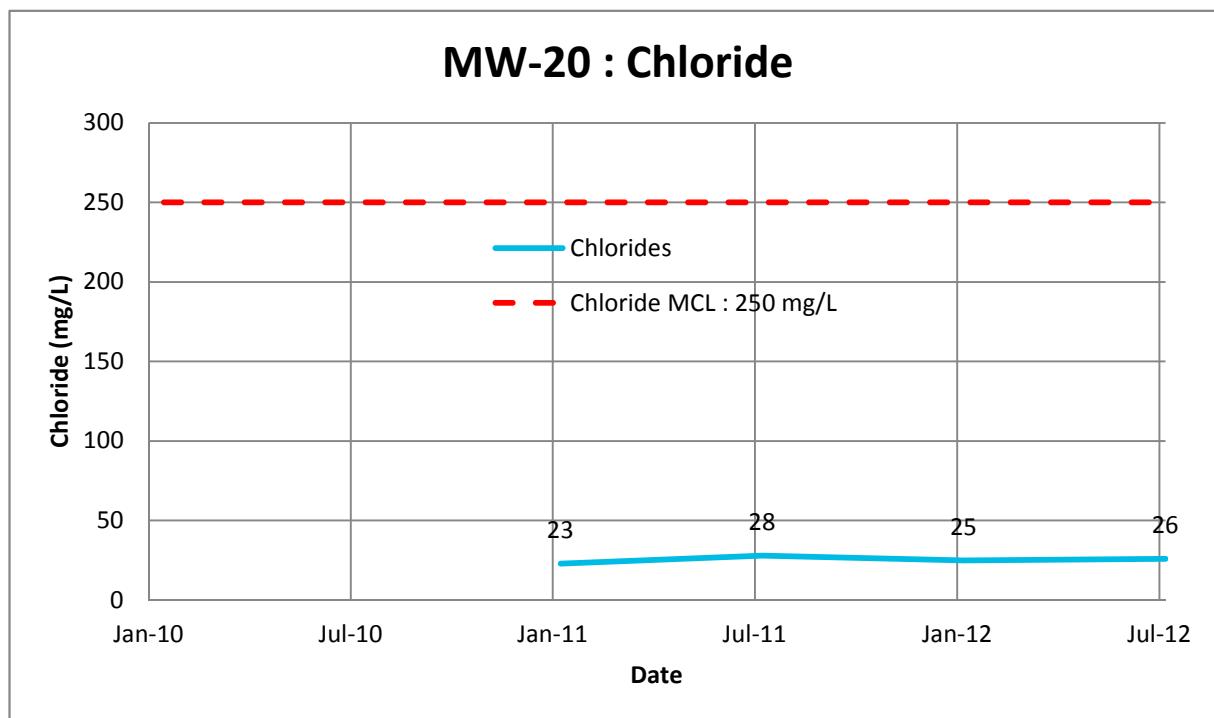
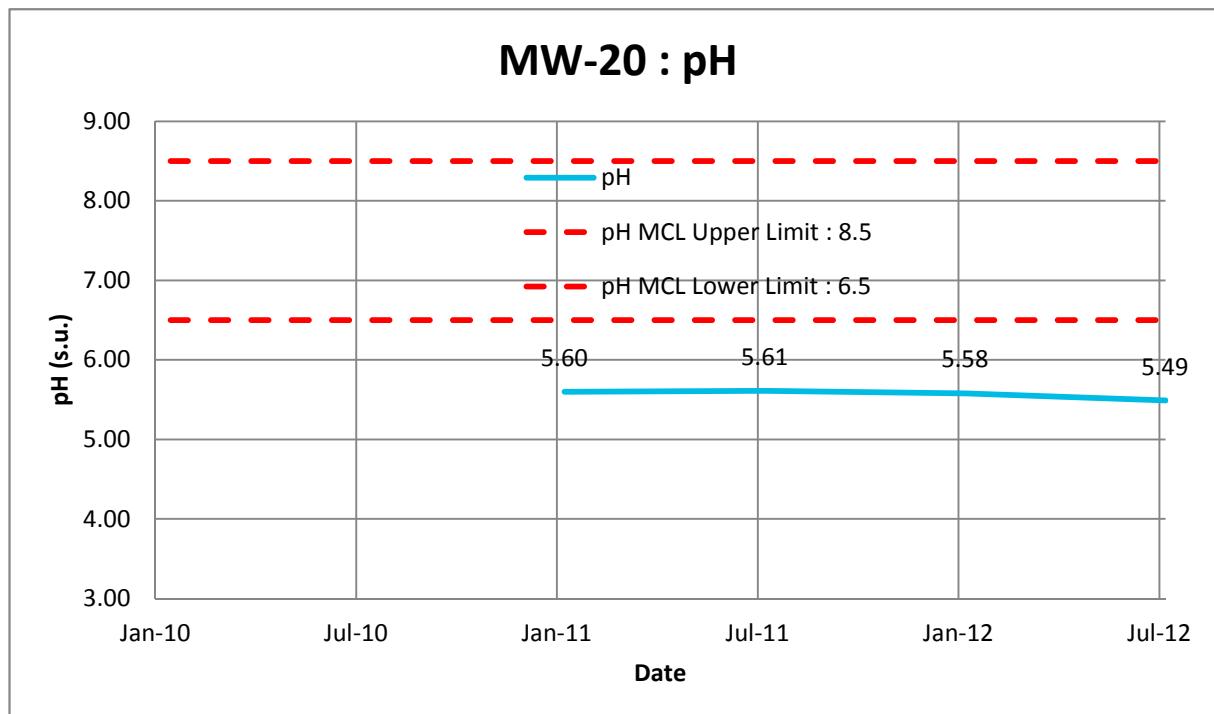


Figure B-70 pH and Chloride Trends for MW-20

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

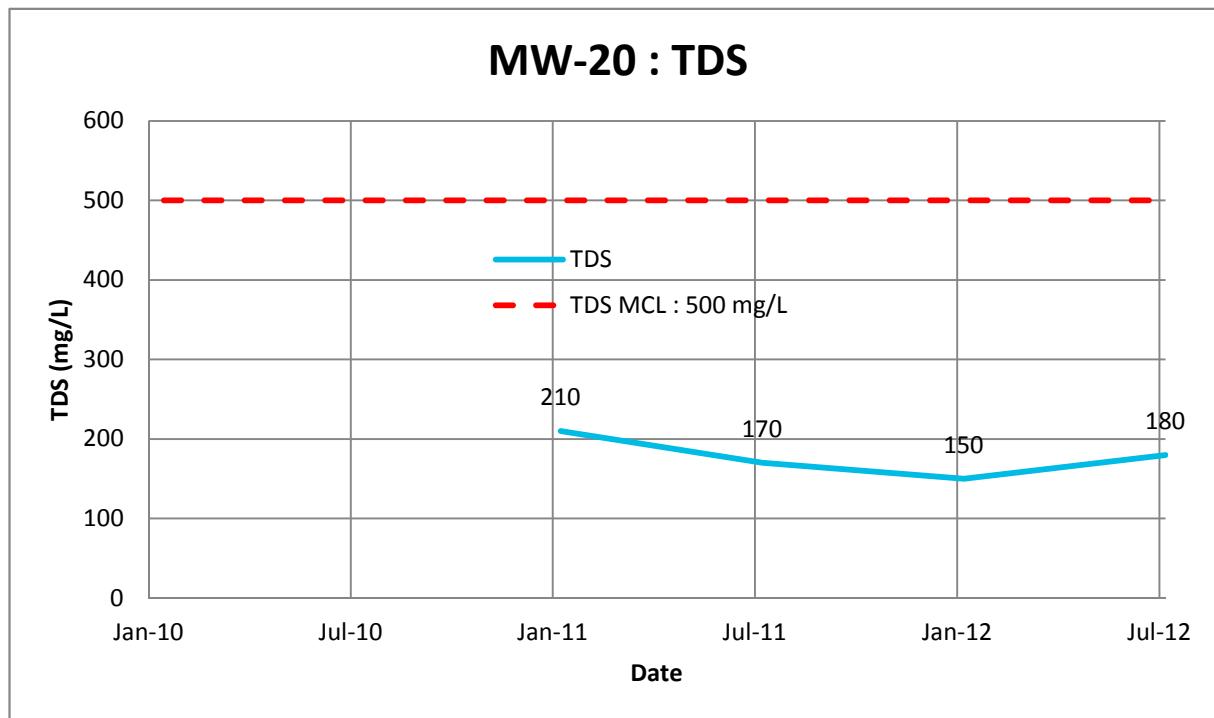
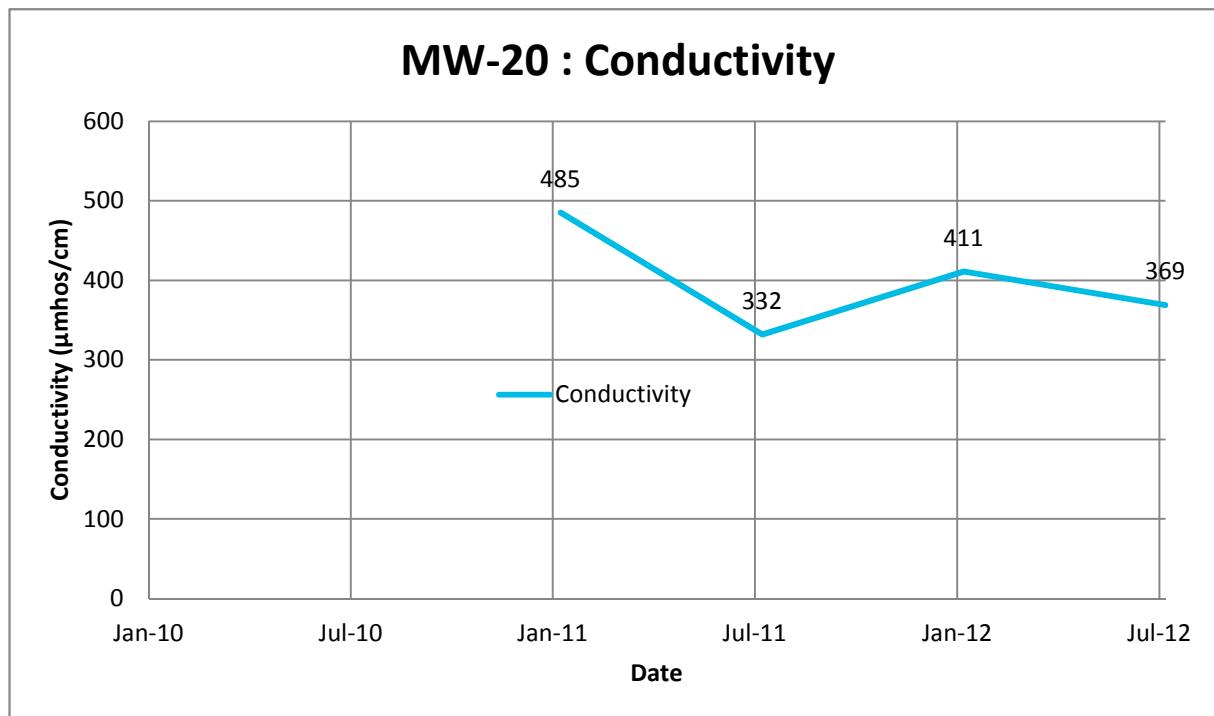
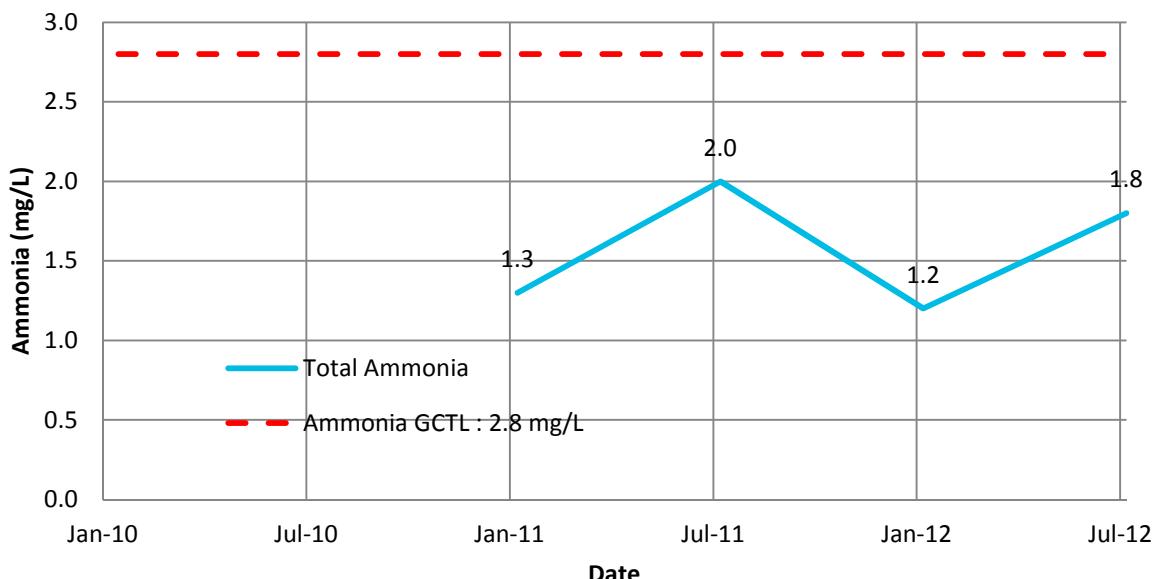


Figure B-71 Conductivity and TDS Trends for MW-20

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-20 : Ammonia



MW-20 : Sodium

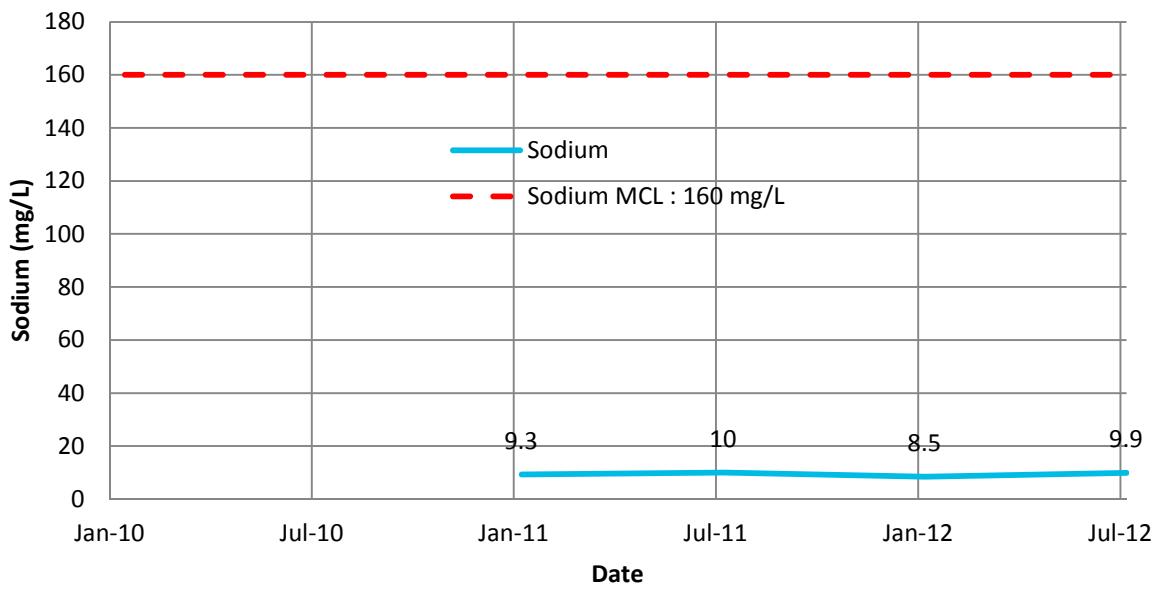


Figure B-72 Ammonia and Sodium Trends for MW-20

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

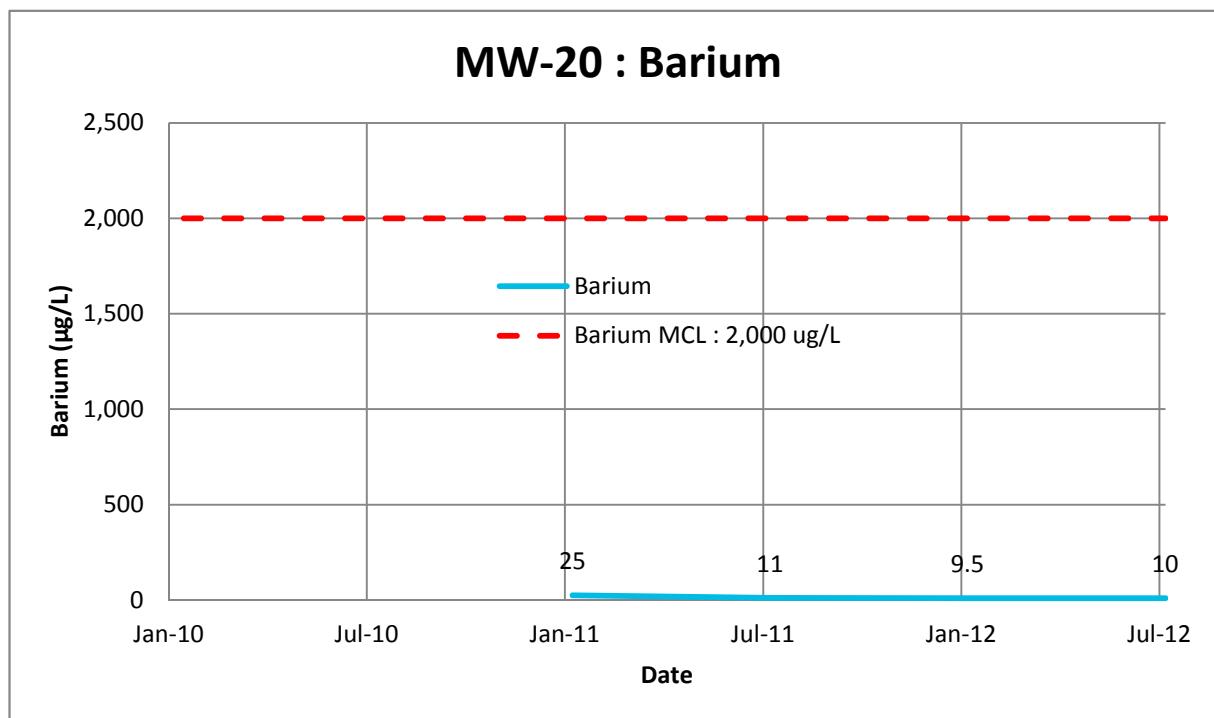
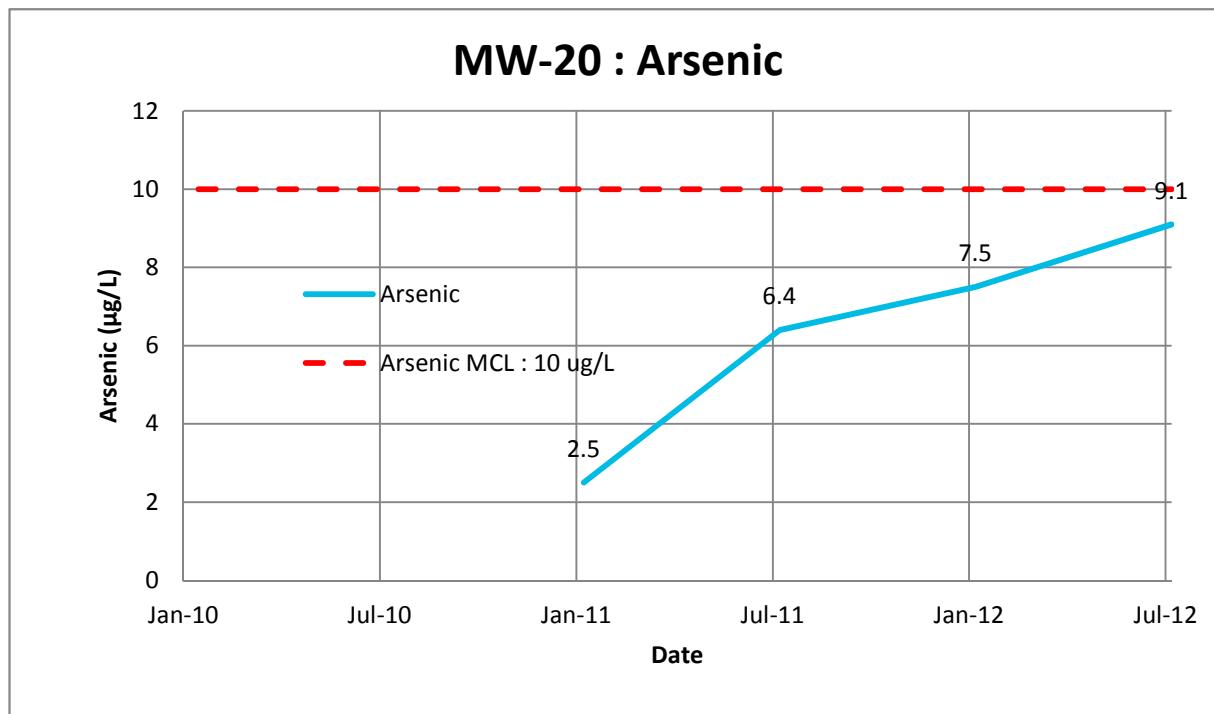


Figure B-73 Arsenic and Barium Trends for MW-20

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

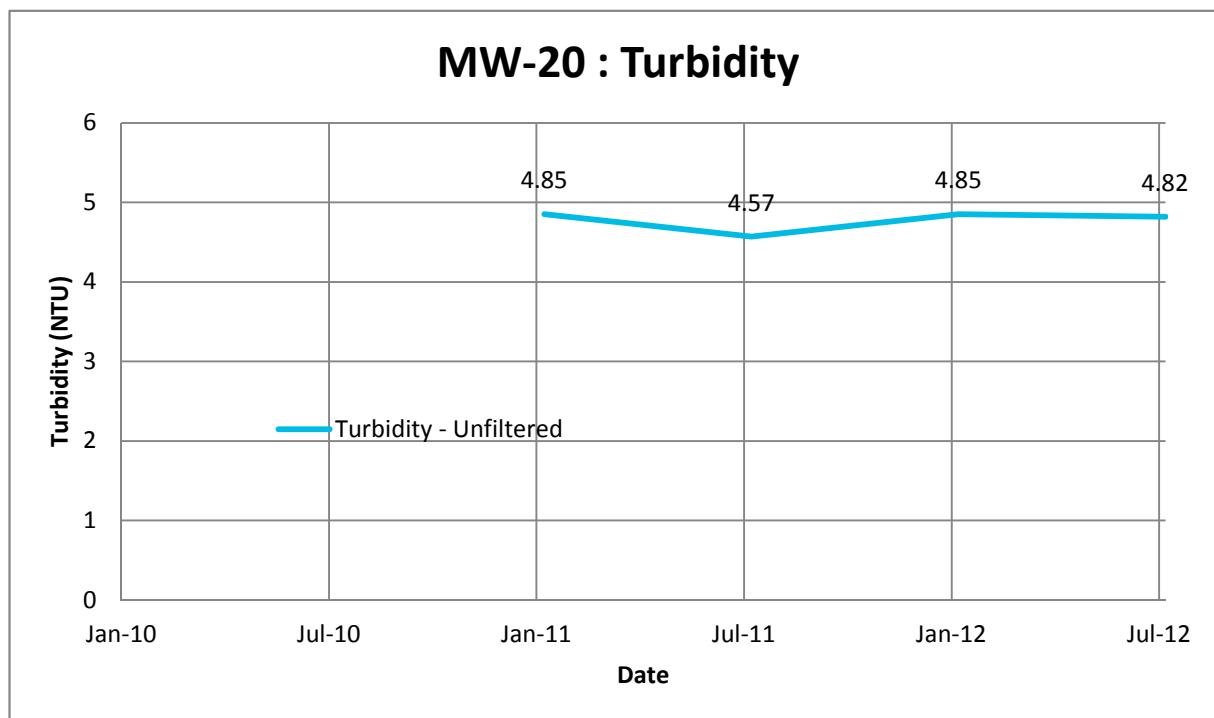
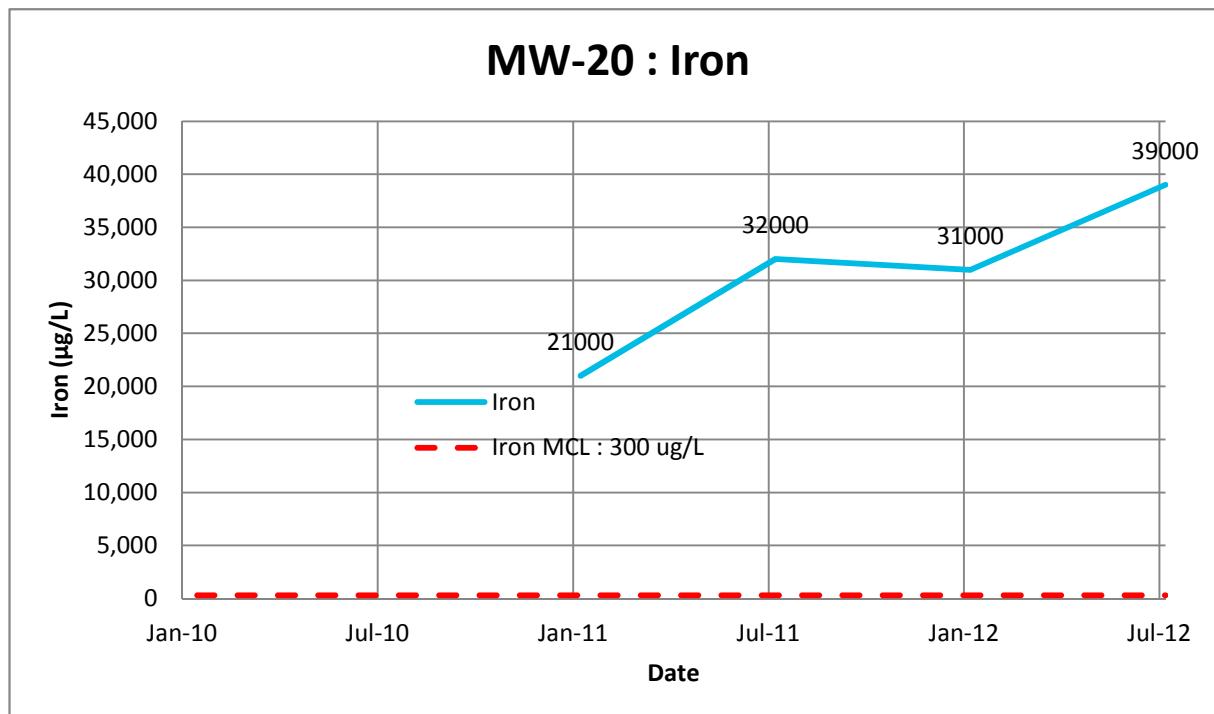


Figure B-74 Iron and Turbidity Trends for MW-20

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

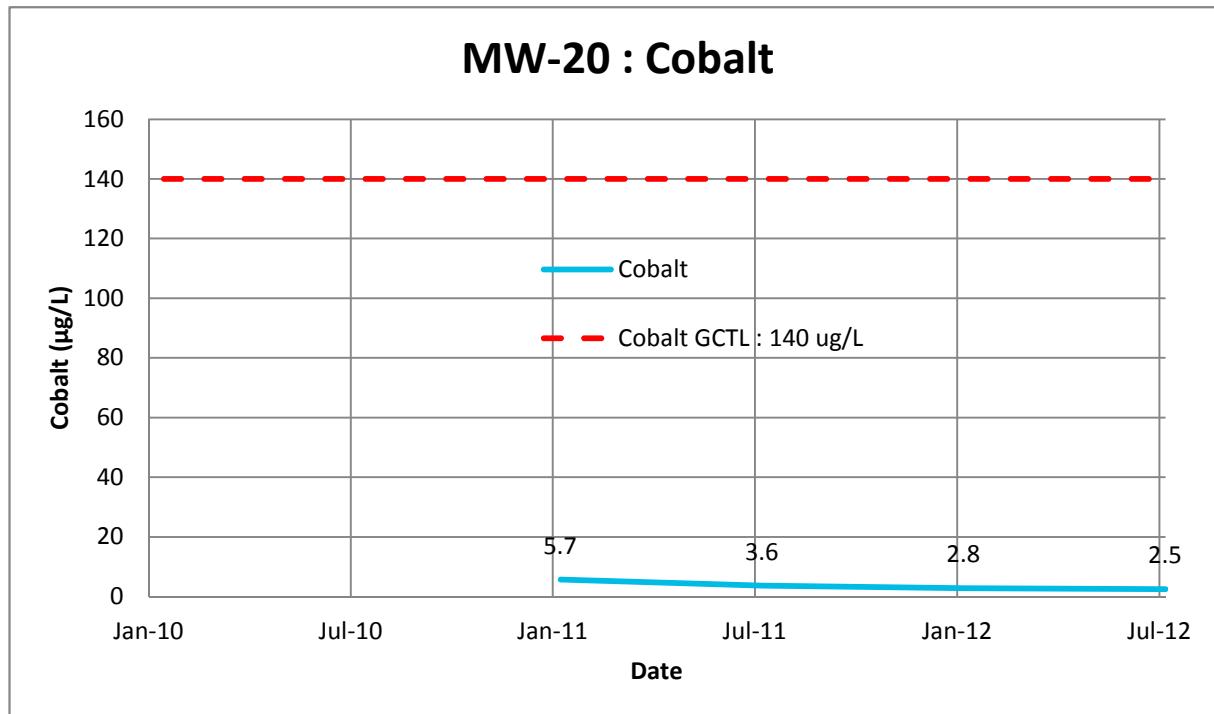


Figure B-75 Cobalt Trend for MW-20

GCTL - Groundwater Clean Up Target Level per 62-777 F.A.C.

Based on data provided by TestAmerica Laboratories, Inc.

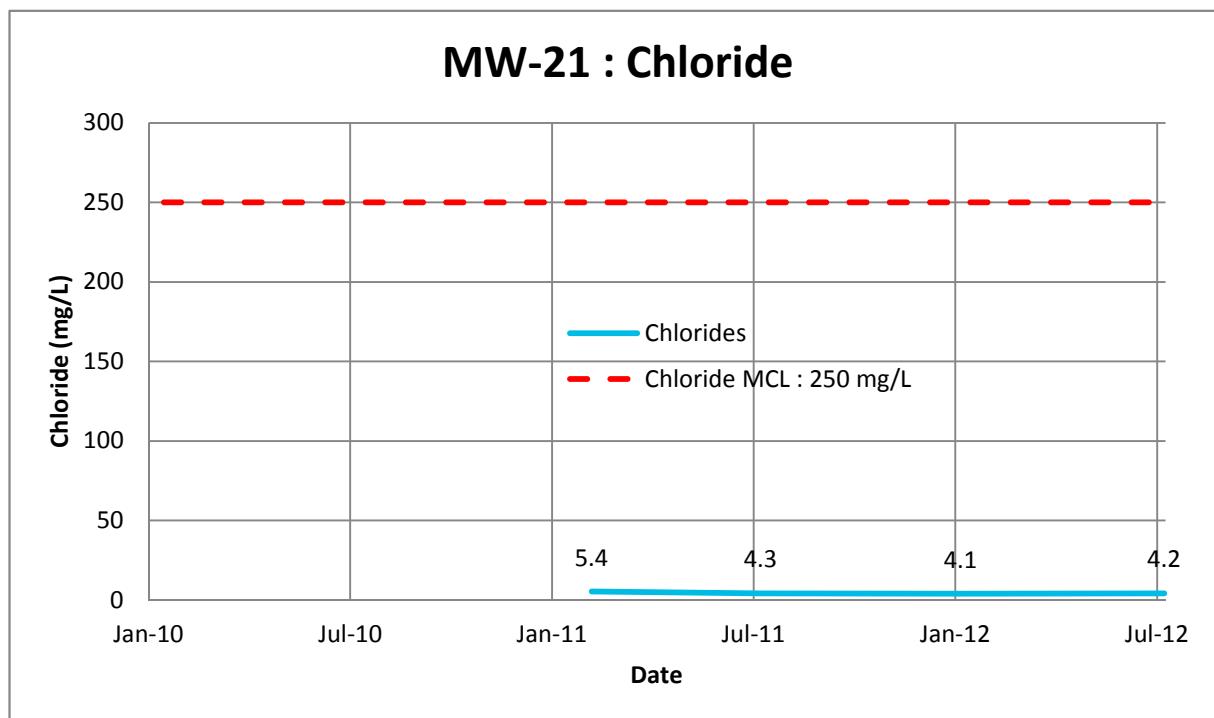
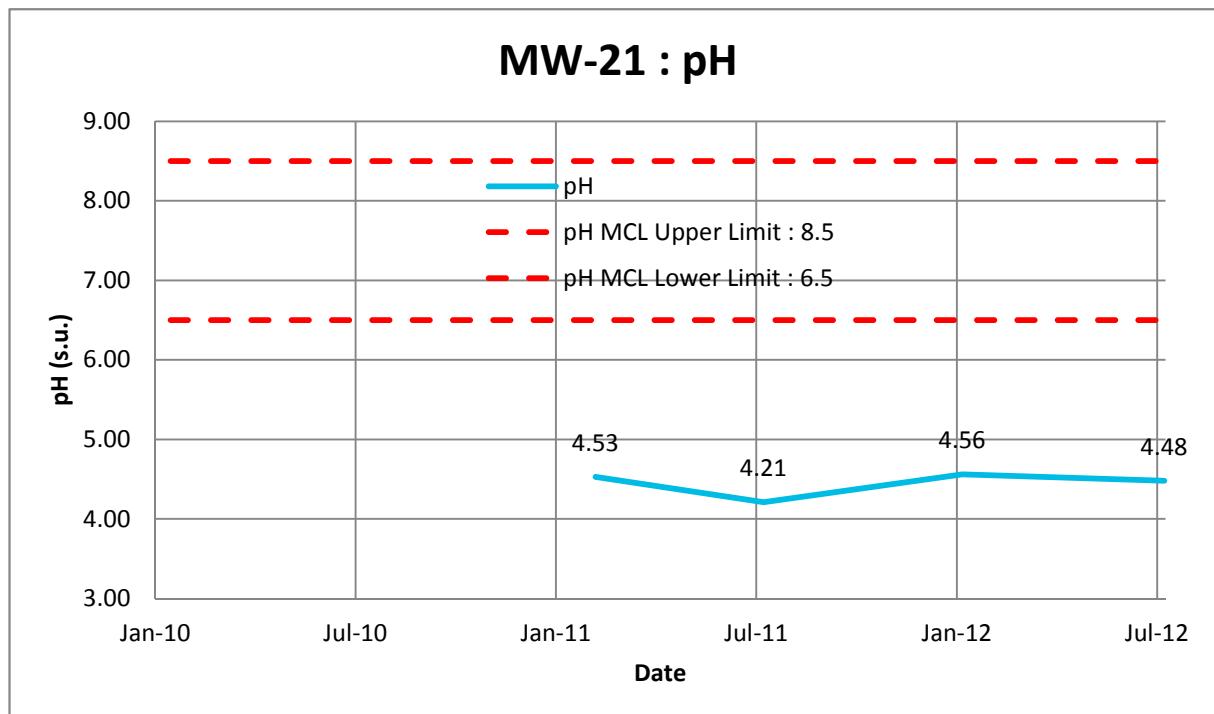
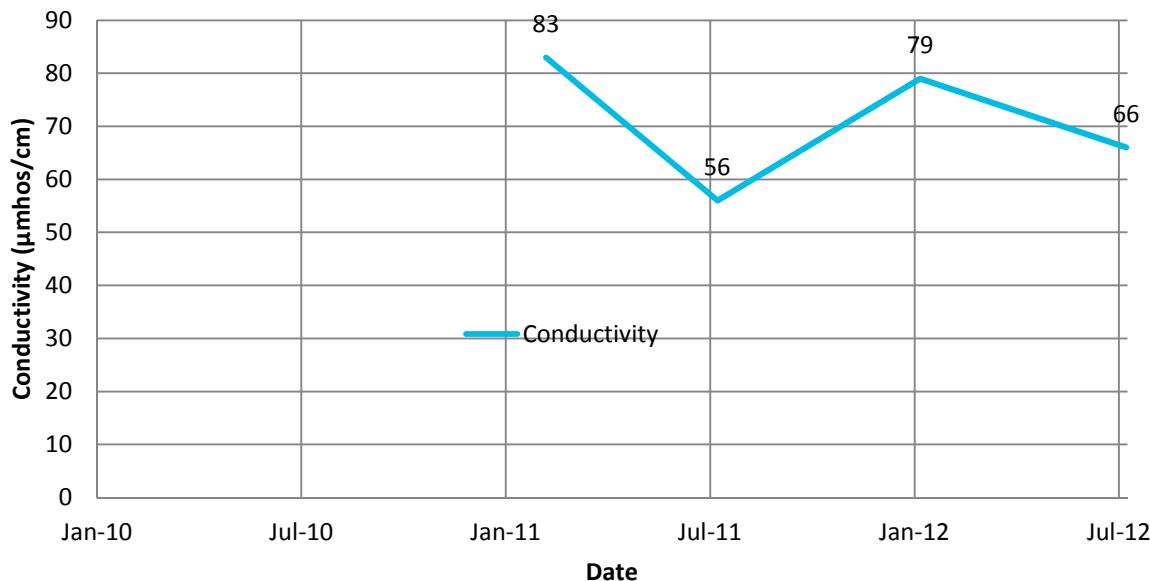


Figure B-76 pH and Chloride Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : Conductivity



MW-21 : TDS

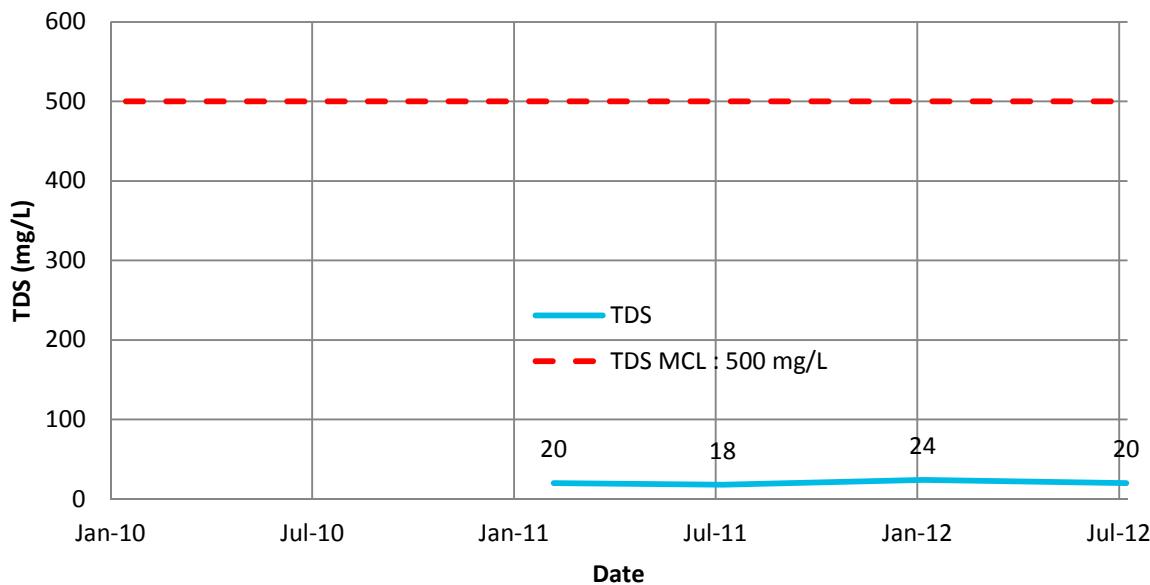
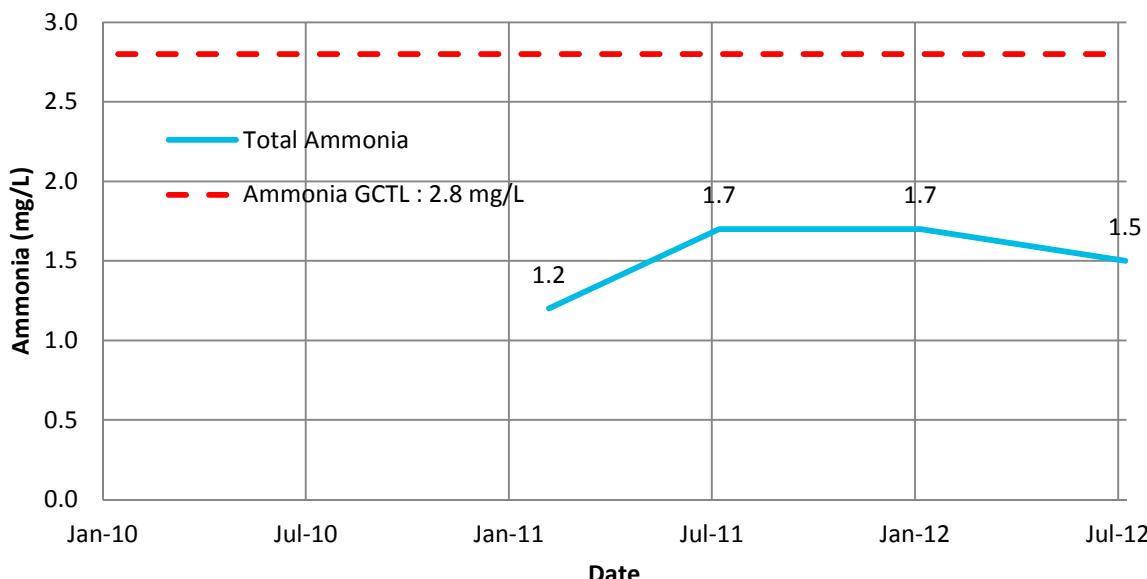


Figure B-77 Conductivity and TDS Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : Ammonia



MW-21 : Sodium

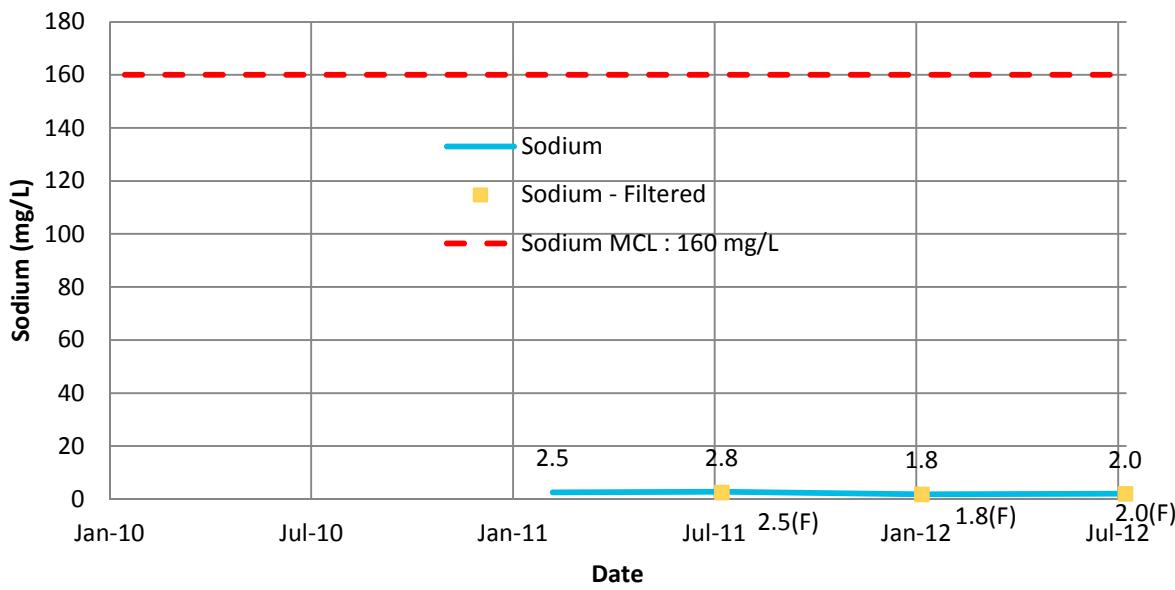


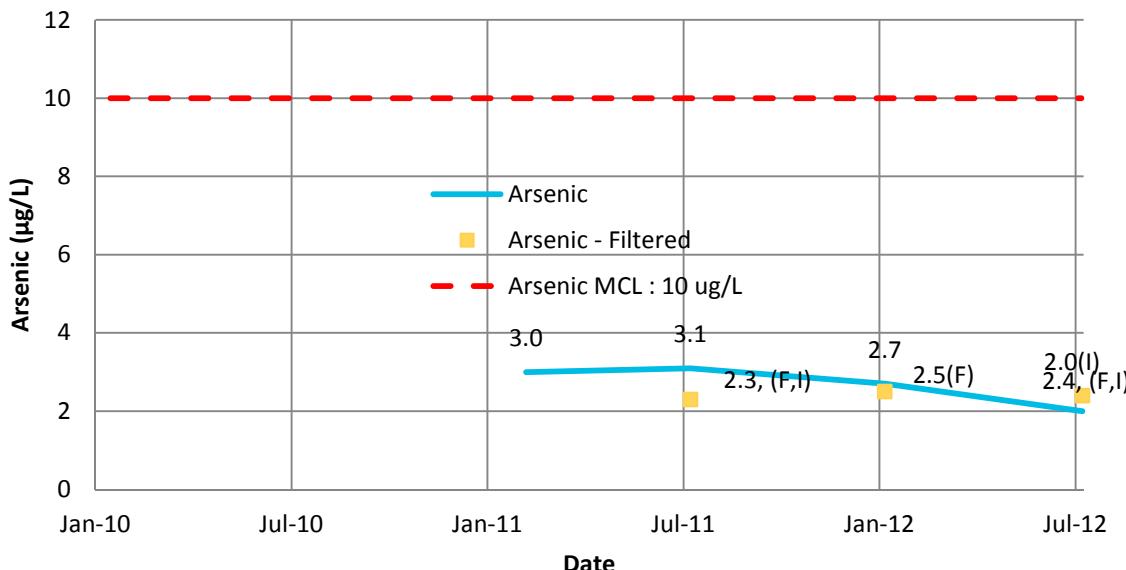
Figure B-78 Ammonia and Sodium Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

(F) Filtered Sample

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : Arsenic



MW-21 : Barium

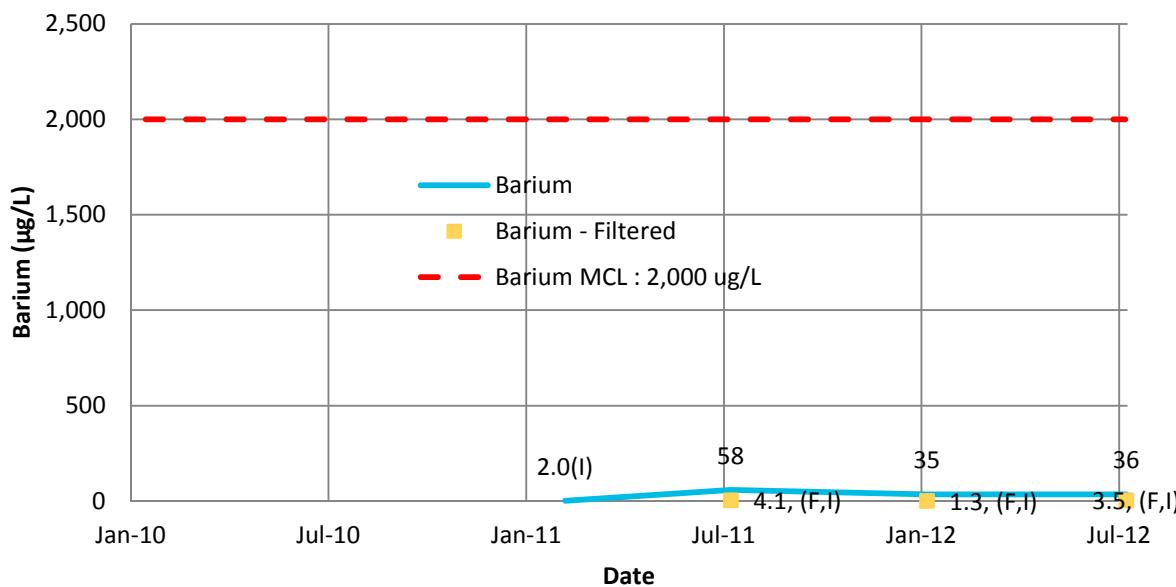


Figure B-79 Arsenic and Barium Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(F) Filtered results

(F) Filtered results

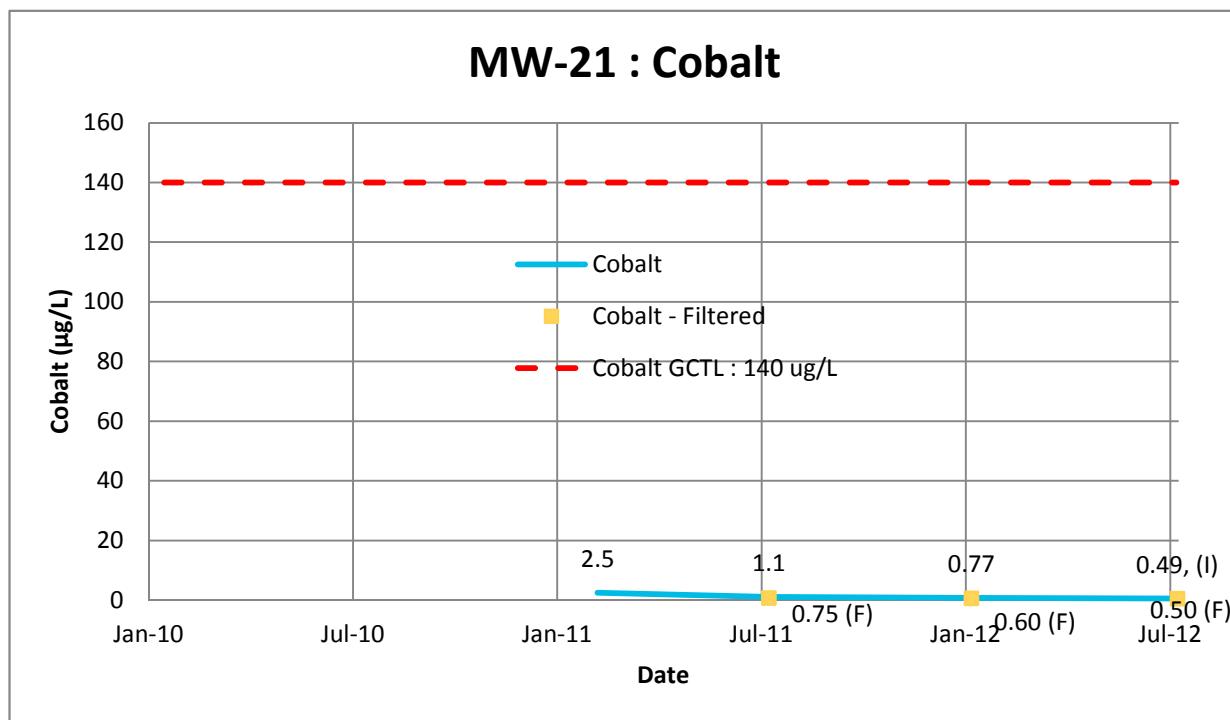
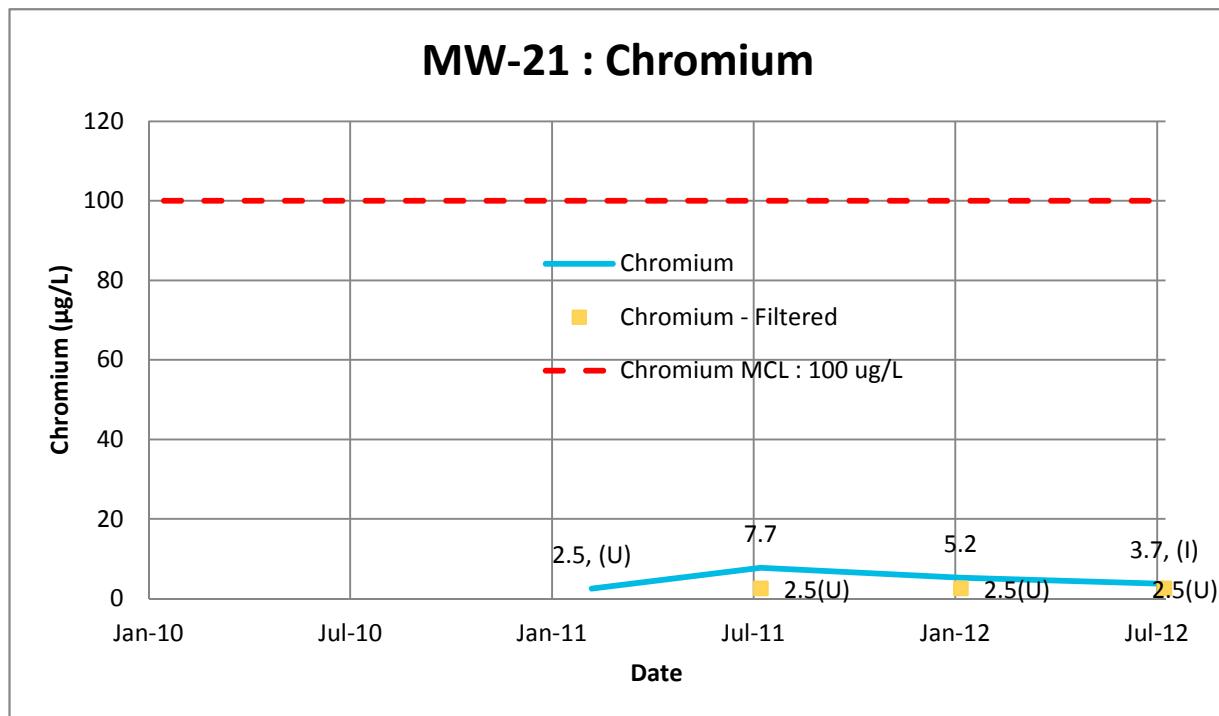


Figure B-80 Chromium and Cobalt Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

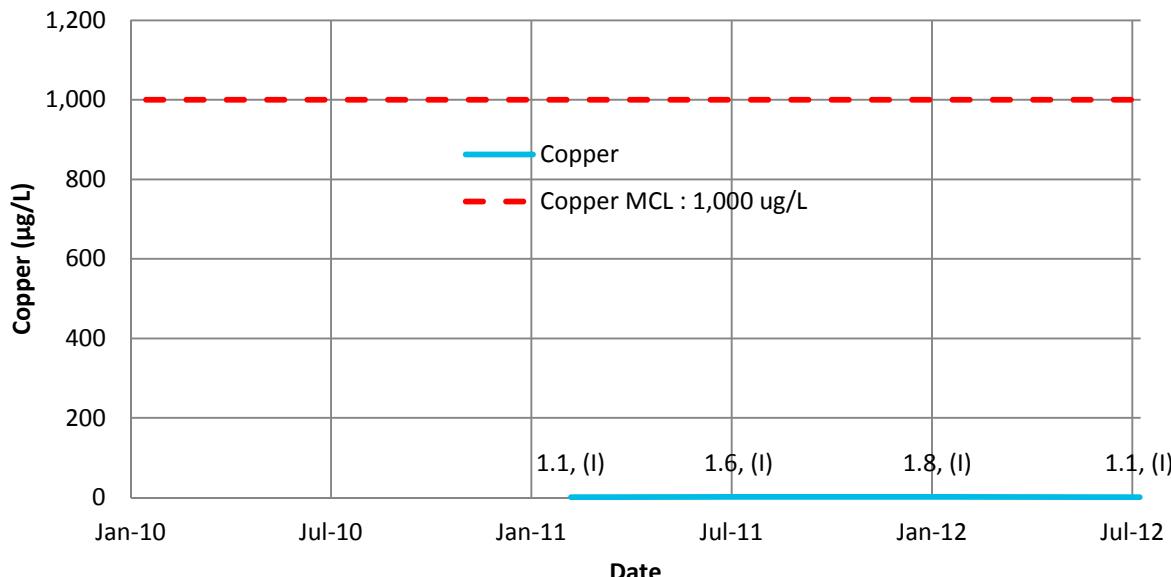
Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration detected below method detection limit

(F) Filtered results

MW-21 : Copper



MW-21 : Lead

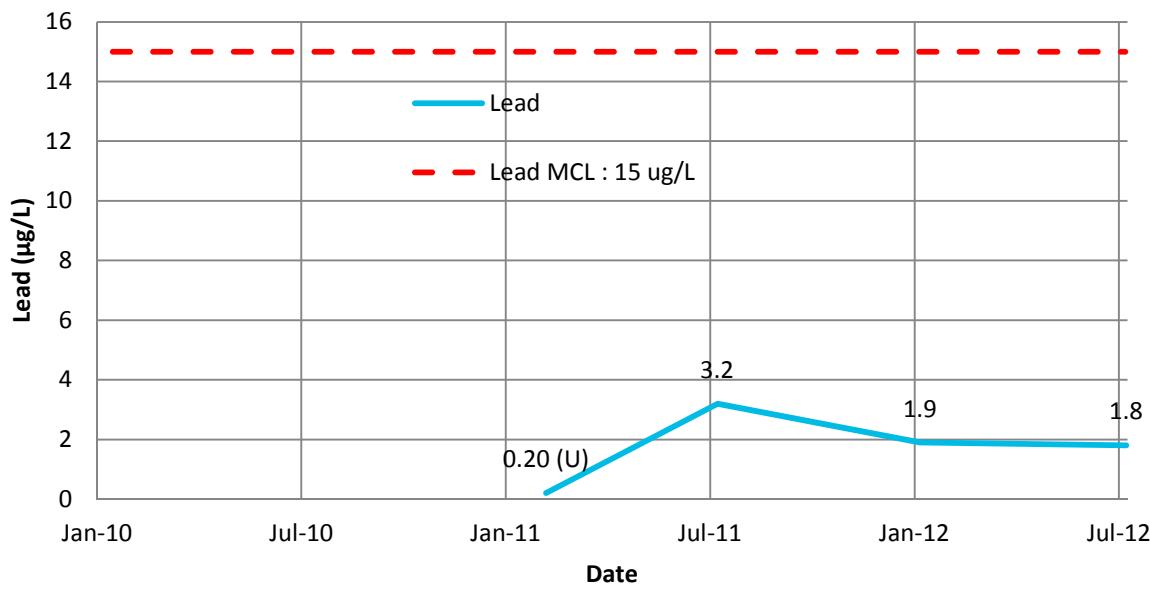


Figure B-81 Copper and Lead Trends for MW-21

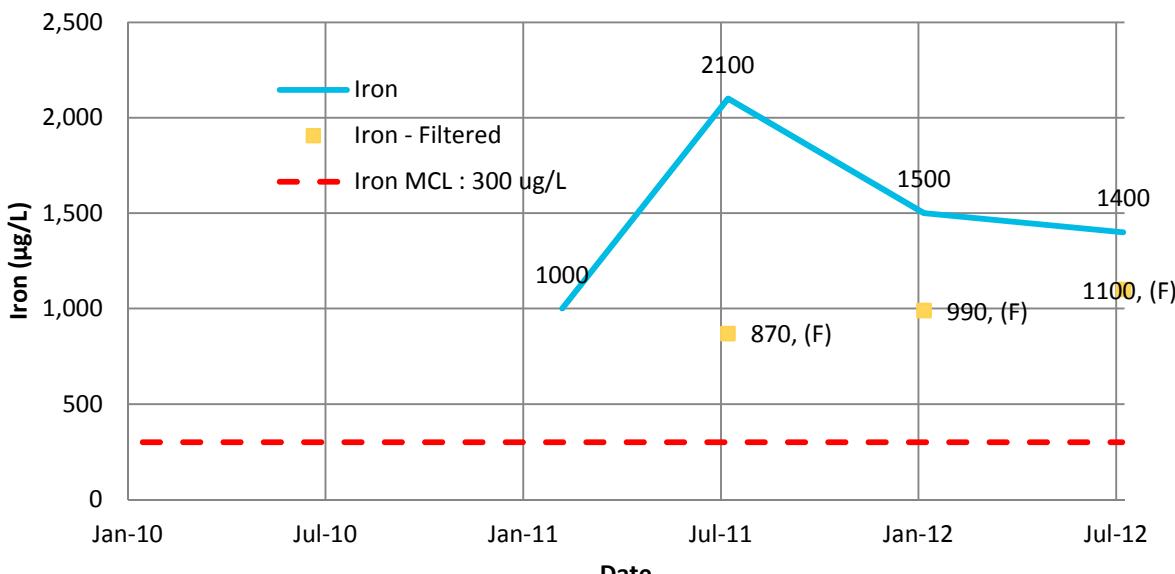
MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte concentration detected below quantitation limit

(U) Analyte concentration detected below method detection limit

MW-21 : Iron



MW-21 : Turbidity

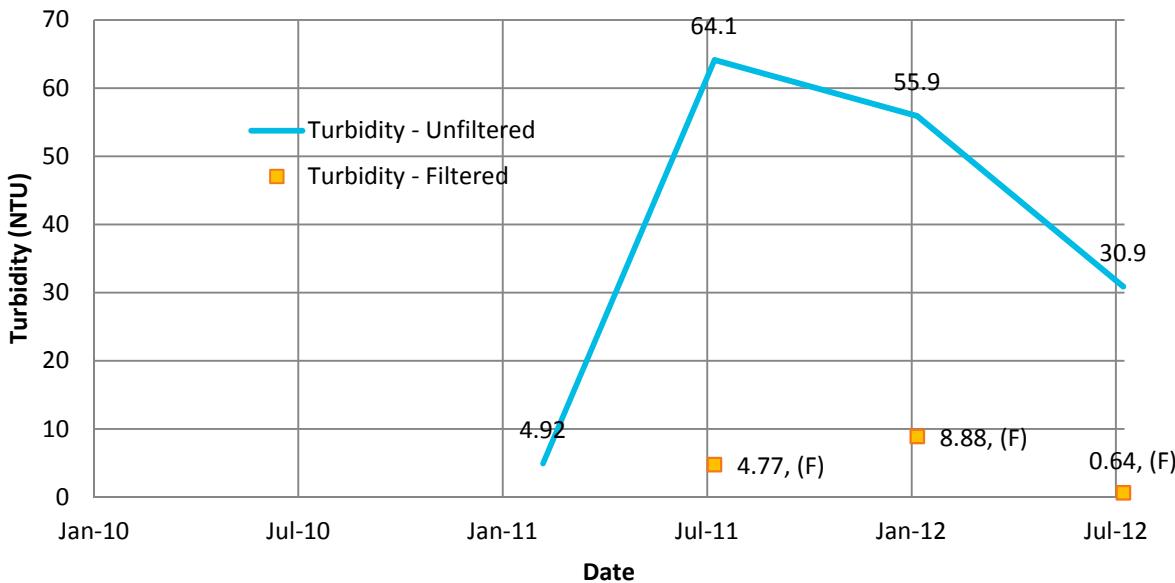


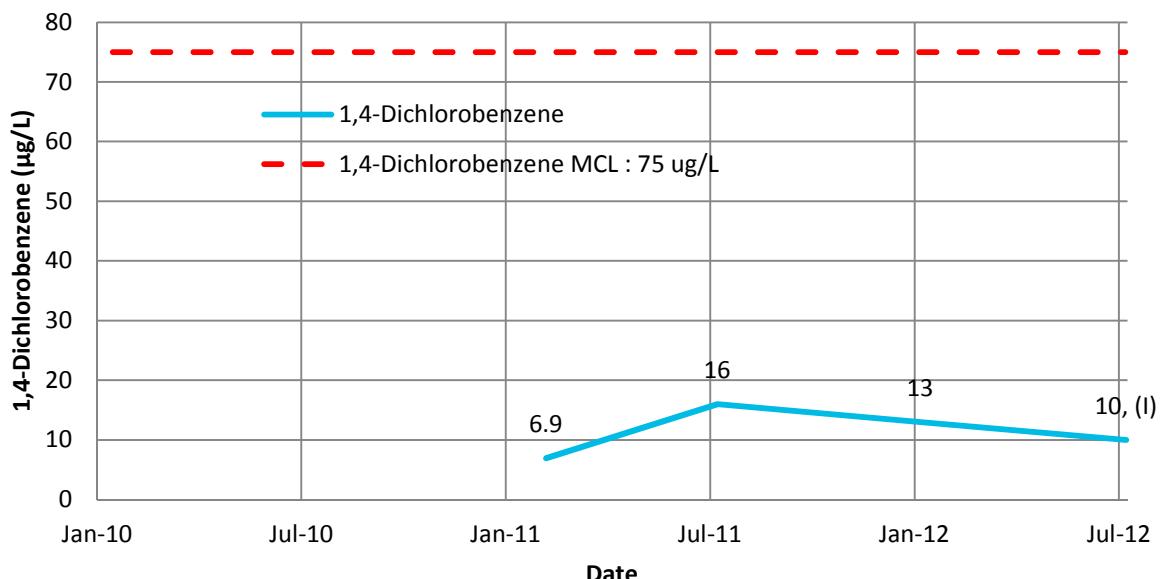
Figure B-82 Iron and Turbidity Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C.

(F) Filtered results

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : 1,4-Dichlorobenzene



MW-21 : Benzene

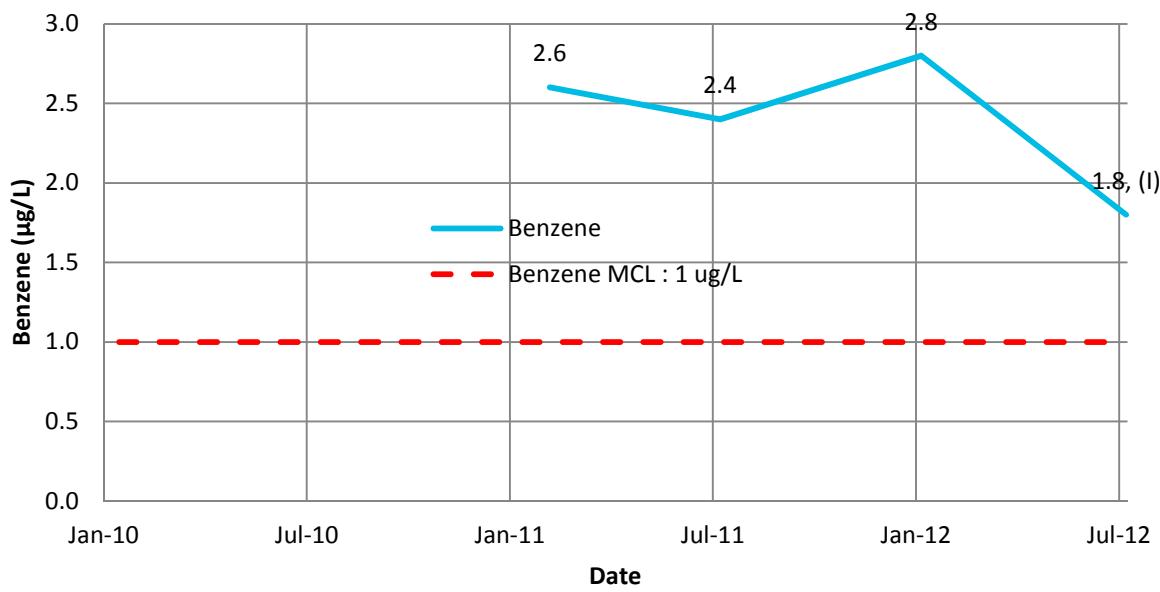


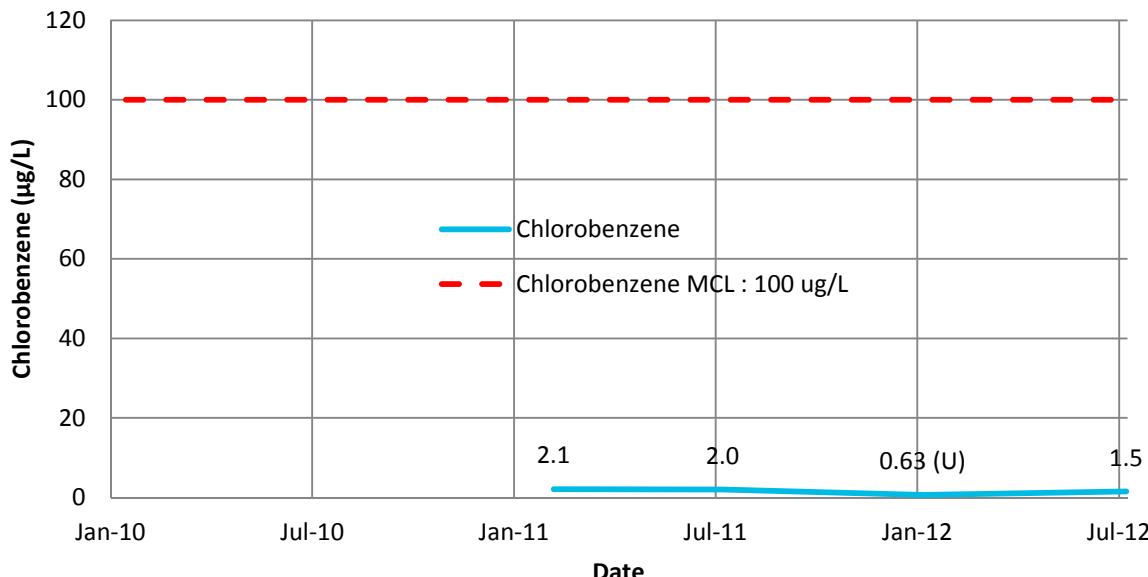
Figure B-83 1,4-Dichlorobenzene and Benzene Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

(I) Analyte detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : Chlorobenzene



MW-21 : Cis-1,2-Dichloroethene

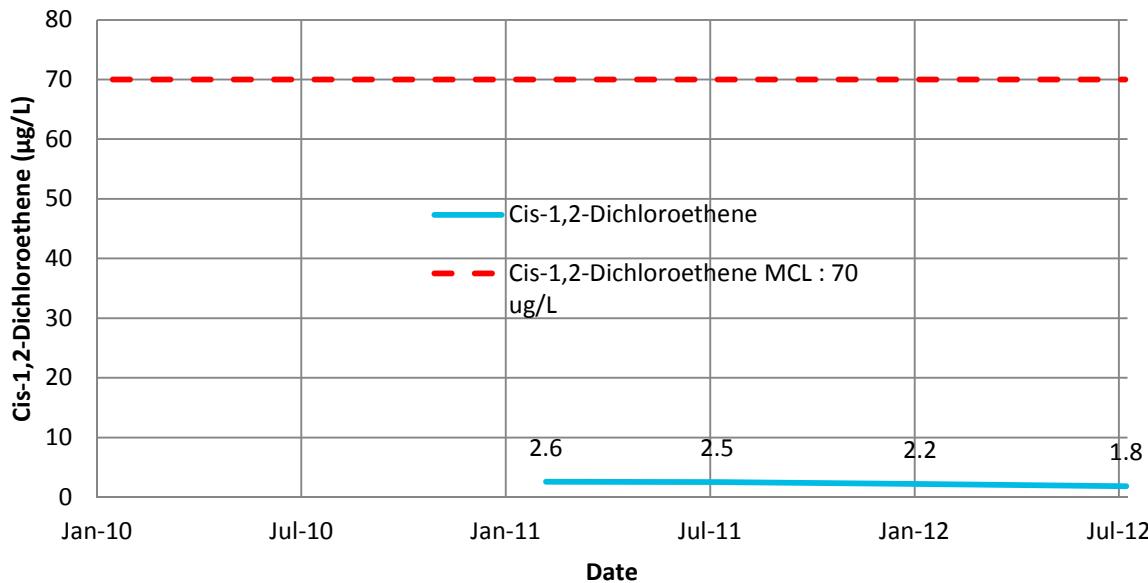


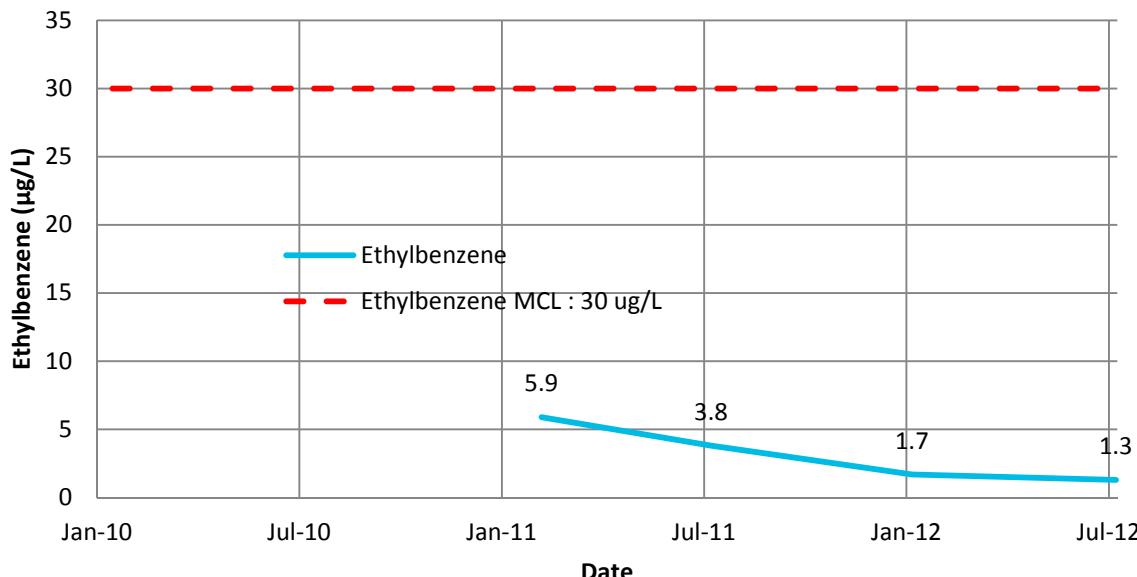
Figure B-84 Chlorobenzene and Cis-1,2-Dichloroethene Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

(U) Analyte concentration below method detection limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : Ethylbenzene



MW-21 : Vinyl Chloride

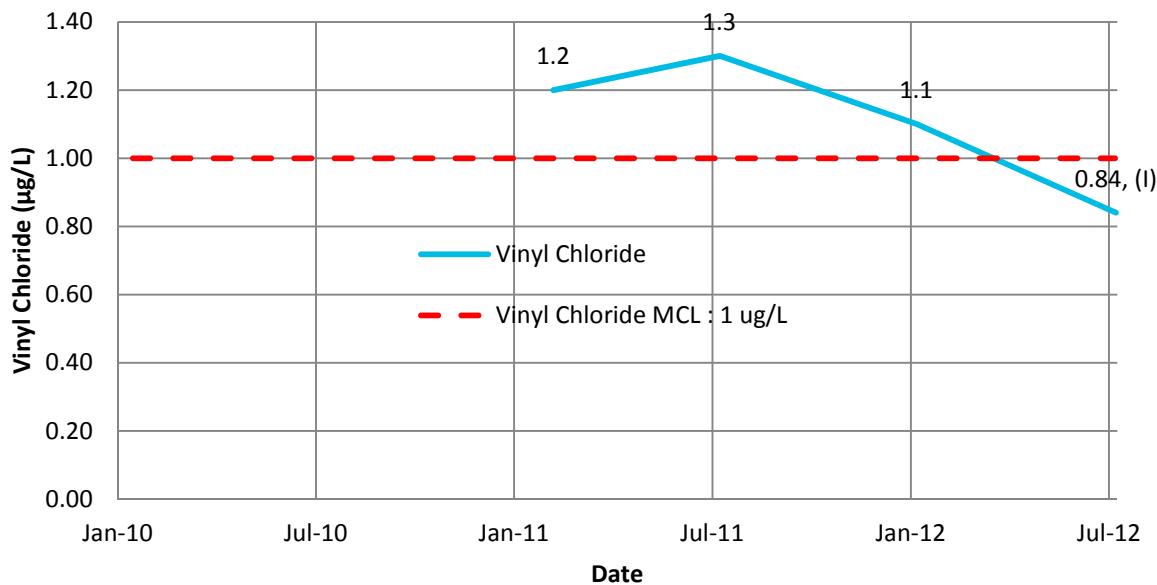


Figure B-85 Ethylbenzene and Vinyl Chloride Trends for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

(I) Analyte concentration detected below quantitation limit

Based on data provided by TestAmerica Laboratories, Inc.

MW-21 : Xylene

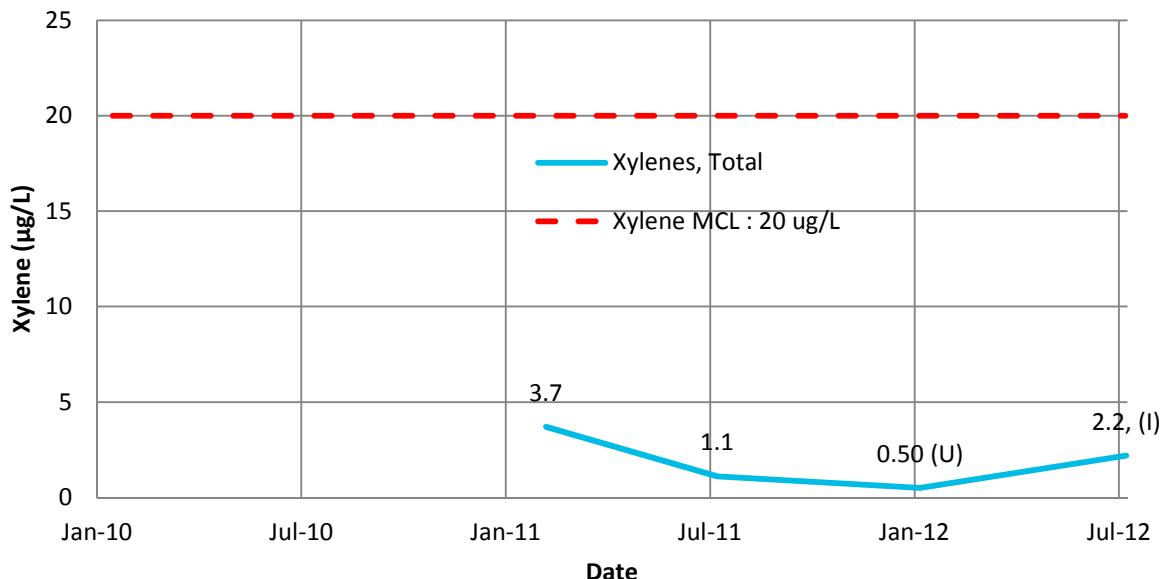


Figure B-86 Xylene Trend for MW-21

MCL - Maximum Contaminant Level per 62-550 F.A.C

Based on data provided by TestAmerica Laboratories, Inc.

(I) Analyte detected below quantitation limit

(U) Analyte concentration below method detection limit

Table B-2. Summary of Detections in Leachate Influent Samples 2010-2012
Citrus County Central Landfill

Parameter	Toxicity Characteristic Criteria	Units	Samples Collected on 7/27/2010			Samples Collected on 7/20/2011			Samples Collected on 7/18/2012			
			Master Lift	Phase 2	Composite	Master Lift	Phase 2	Composite	Master Lift	Phase 2	Phase 3	Composite
Organics												
Acetone		µg/L	21	28		22 J3			10 I	14 I	590	
Acetophenone		µg/L										2.8 I
Benzene	500	µg/L		16		3.7	13		4.2	3.9	3.1	
Benzo(g,h,i) Perylene		µg/L			2.1 I							
Bis(2-ethylhexyl) Phthalate		µg/L			1.9 I,V							
Bromodichloromethane		µg/L	10									
Bromoform		µg/L	3.2									
2-Butanone (MEK)	200,000	µg/L		59						28	1,100	
Carbon Disulfide		µg/L										2.5
Chlorobenzene	100,000	µg/L				3.6	1.9			1.1		
Chloroethane		µg/L										3.1 I
Chloroform	6,000	µg/L	6.3									
Cis-1,2-Dichloroethene		µg/L		2.8		2.5	2.2		2.7	2.1		
Dibenz(a,h) Anthracene		µg/L			1.5 I							
Dibromochloromethane		µg/L	7.9									
1,3 Dichlorobenzene		µg/L						6.2 I, J3				
1,4 Dichlorobenzene	7,500	µg/L			4.2 I			6.1 I				3.1 I
1,1-Dichlorethane		µg/L										
2,4-Dichlorophenoxyacetic acid	10,000	µg/L			0.24 I			0.66 I				
1,2-Dichloropropane		µg/L		1.5			0.77 I					
Diethyl Phthalate		µg/L										3.5 I
2,4-Dimethylphenol		µg/L			1.3 I							2.0 I
2,6-Dinitrotoluene		µg/L										3.5 I
Ethylbenzene		µg/L		12		100	9.0		76	33	12	
Indeno(1,2,3-cd) Pyrene		µg/L			1.5 I							
4-Methyl-2-Pentanone (MIBK)		µg/L										11
3&4-Methylphenol	200,000	µg/L										260
Naphthalene		µg/L			2.1 I							
Phenol		µg/L										21
Styrene		µg/L		1.9 I								
Toluene		µg/L		22		23	2.4		27	29	63	
Vinyl chloride	200	µg/L		9.0			3.6		0.56 I	2.2		
Xylenes, Total		µg/L		34		82	9.6		79	40	11	
Metals												
Antimony		mg/L										0.003 I
Arsenic	5.0	mg/L			0.01			0.06				0.073
Barium	100.0	mg/L			0.092			0.041				0.088
Cadmium	1.0	mg/L			0.00014 I			0.012				0.0094
Chromium		mg/L										0.0081
Cobalt		mg/L			0.0037			0.024				
Copper		mg/L			0.0063			0.0016 I				
Iron		mg/L			11			18				6.4
Lead	5.0	mg/L			0.00082 I							
Nickel		mg/L			0.012			0.088				0.038
Selenium		mg/L						0.0013 I				
Tin		mg/L						0.0018 I, J3				
Vanadium		mg/L			0.0039 I			0.0086 I				0.011
Zinc		mg/L			0.035							0.017 I
General Chemistry												
Alkalinity, Total		mg/L			590							1,300
Ammonia, Total		mg/L			63			470				150 J3
Bicarbonate Alkalinity as CaCO ₃		mg/L			590			2,400				
Biochemical Oxygen Demand		mg/L						64				130
Chemical Oxygen Demand		mg/L			190			1,200				580
Chloride		mg/L			160			1,200				560
Cyanide		mg/L						0.012				0.0091 I
Nitrate as N		mg/L			4.8							0.018 I
Sodium		mg/L			110			0.76				420
Sulfide		mg/L			15							3.2
TDS		mg/L			740			3,300				1,900
General Field Parameters												
Conductivity		µmhos/cm	1,760	4,086				3,419	9,819	2,820	2,742	
Dissolved Oxygen		mg/L	0.99	1.64				0.46	0.79	0.83	5.27	
pH		S.U.	7.06	6.59				6.56	7.06	6.62	6.60	
Oxygen Reduction Potential		mV	10.8	115.6				-67.1	-209	-295	-292	
Temperature, Water		°C	29.9	32.4				33.6	37.0	29.0	28.6	
Turbidity		NTU	15.7	22.3				16.0	6.48	48.3	31.2	

NOTES:

Toxicity Characteristic Criteria established in Table 1 of 40 Code of Federal Regulations Part 261.2^c
Concentrations highlighted with yellow represent detections that exceed the established Toxicity Characteristic criteria
µmhos/cm - micromhos per centimeter
S.U. - Standard Unit
°C - degrees Centigrade
mg/L - milligrams per liter
µg/L - micrograms per liter
NTU - nephelometric turbidity units
I - analyte detected below the quantitation limit
U - analyte concentration is below the laboratory method detection limit (MDL) and the MDL is shown
J3 - estimated value. The value may not be accurate. Spike recovery or RPD is outside of criteria
V - analyte was detected in both the sample and the associated method blank.