



HERST & ASSOCIATES, INC.®

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Personal Attention**

Ms. Deborah DeLong
Kentucky Department for Environmental Protection
Division of Waste Management
Solid Waste Branch
200 Fair Oaks Lane, 2nd Floor
Frankfort, KY 40601

April 16, 2014

Dear Ms. DeLong:

**First Quarter 2014 Groundwater Sampling Event, Statistical Analysis Report
Green Valley Landfill, Ashland, Kentucky**

On behalf of Green Valley Landfill, Herst & Associates, Inc. is submitting a hardcopy of the First Quarter 2014 Groundwater Statistical Analysis Report.

Should you have any questions or concerns, please contact the undersigned at your earliest convenience.

Sincerely,

HERST & ASSOCIATES, INC.

Ward Herst, PG
Managing Partner

Steve Jett
Senior Hydrogeologist

Attachment: Groundwater Statistical Analysis Report (1 Copy)

*cc: Green Valley Landfill (1 hardcopy)
Bill Chlebowy, Republic Services, Inc. (PDF via email)*

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APR 23 2014

DIVISION OF WASTE MANAGEMENT
SOLID WASTE BRANCH

Groundwater Statistical Analysis Report

First Quarter 2014 Sampling Event

Green Valley Landfill
Ashland, Kentucky
Permit No. 045-00012

April 2014



HERST & ASSOCIATES, INC.®

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St. Charles, Missouri 63304
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1.0 INTRODUCTION

On behalf of Green Valley Landfill General Partnership, Herst & Associates, Inc. statistically evaluated the First Quarter (March) 2014 groundwater data. Sampling was performed by Kenvirons, Inc. and analytical testing was performed by Pace Analytical Services, Inc. The statistical evaluation software package utilized, *SanitasTM*, follows a documented decision logic that incorporates the following applicable guidance document: USEPA "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance" (March 2009).

2.0 SITE BACKGROUND AND MONITORING NETWORK

Herst & Associates, Inc. statistically analyzed parameters from the Green Valley Landfill First Quarter 2014 monitoring event using intra-well prediction limits from the historical background data. Prediction limits are considered a powerful tool for groundwater statistical analysis, when feasible, due to their inherent low false negative and false positive rates utilizing confirmatory resampling, if necessary. **Table 1** lists the groundwater monitoring wells at the site. The site submitted a Groundwater Statistical Monitoring Plan on December 9, 2011. The Kentucky Department for Environmental Protection (KDEP) approved the statistical analysis plan for the monitoring wells in correspondence dated August 16, 2012. **Table 2** details background dates and parameters used for statistical evaluations at the site. The background database for the Green Valley Landfill will be updated approximately every one to two years.

The facility received KDEP permission on August 16, 2012 to reduce the groundwater program to annual sampling for parameters in KAR Title 401 Chapter 48:300 Section 11(3)(a) and (b) and quarterly sampling for parameters in KAR Title 401 Chapter 48:300 Section 11(3)(f).

During the First Quarter 2014 sampling event, each well was sampled for the quarterly parameters listed in Section 11(3)(f).

3.0 SITE HYDROGEOLOGY

As identified in the *Modification to Permit No. 045-00012*, dated July 1997 by Kenvirons, Inc. hydrogeologic conditions at the site consist of three aquifers: alluvial/fracture zone, Princess No. 3 coal zone, and the Fire Clay coal zone. Recharge for the alluvial/fracture zone is from secondary porosity due to naturally occurring stress relief fractures in the upper zone of the bedrock. The direction of flow in the alluvium/fracture zone aquifer is a subdued reflection of the topographic relief with the area of recharge limited to the watershed divide.

The alluvium/fracture zone is considered the uppermost aquifer at the site and is utilized for detection of possible facility impacts. **Appendix A** provides a potentiometric surface map for the alluvial/fracture zone utilizing groundwater level data from the First Quarter 2014 event. Groundwater flow direction for the First Quarter 2014 event is generally to the west/northwest, consistent with past events. Groundwater flow rate for the First Quarter 2014 event was estimated to be 3.5 feet/year. Flow rate calculations are available in **Appendix A**.

4.0 STATISTICAL PROCEDURES

The *Sanitas*TM program was utilized to compile and statistically evaluate the data for the March 2014 sampling event. Summary tables for the intra-well prediction interval analysis are available in **Appendix B**.

4.1 Outlier Analysis

The background data were evaluated for the presence of statistical outliers. Methodologies for determining a statistical outlier are defined in the EPA document, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance (March 2009). Any statistical outliers that were determined were removed from the background data set prior to performing prediction interval statistical analysis. According to the EPA guidance documents above, data that are not normally or log-normally distributed are not recommended for evaluation of outliers. In cases where the data were not normally or log-normally distributed, outliers were not removed from the data set. Background outliers flagged for removal are identified on the statistical plots provided in **Appendix B**.

4.2 Intra-Well Prediction Intervals

The prediction interval is a statistical method used to compare a single observation to a group of observations. The prediction interval is calculated to include observations from the same population with a specified confidence. In groundwater monitoring, a prediction interval approach may be used to make comparisons between background and compliance data. The interval is developed to contain all future observations, within a certain probability. For the site, intra-well prediction intervals have been developed based on a 99% confidence that future observations will fall within the range. If any future observation exceeds the prediction interval, this is considered statistically significant evidence that the observation is not representative of the background group.

During parametric prediction interval analysis, the mean and the standard deviation are calculated for the raw or transformed background data. The number of comparison observations, K , is defined to be included in the interval. If less than 15% of the background observations are nondetects, the nondetects are replaced with one half of the reporting limit prior to performing the analysis. If more than 15% but less than 50% of the background data are below the reporting limit, the data's sample mean and standard deviation are adjusted according to the Kaplan-Meier method. However, when the background data are not transformed-normal or contain greater than 50% observations below the reporting limit, *Sanitas*TM automatically constructs a nonparametric prediction interval. During nonparametric analysis, the highest value from the background data is used to set the upper limit of the prediction interval.

For the March 2014 event, no results exceeded an intra-well prediction limit. Included in **Appendix B** is a prediction interval summary table.

During the previous quarterly event (November 2013), two results exceeded an intra-well prediction limit: field specific conductance and TDS at MW-3. The November 2013 results appeared due to natural site-wide variability and not attributable to the landfill. Field Specific conductance and TDS at MW-3 were below the respective statistical limits during the First Quarter 2014 event. Therefore, the Fourth Quarter 2013 exceedances are not considered confirmed exceedances.

Included in **Appendix B** are time series plots for each of the parameters statistically analyzed for this reporting period. **Appendix C** contains a copy of the laboratory analytical report and field information logs for the March 2014 event.

5.0 STATISTICAL RESULTS SUMMARY

During the March 2014 event, no results exceeded a statistical limit.

Continuation of Detection Monitoring is recommended for the site.

TABLES

TABLE 1 GROUNDWATER MONITORING WELLS GREEN VALLEY LANDFILL
--

MW-1, MW-1A, MW-1B, MW-3, MW-28C, MW-28D, MW-28E

TABLE 2
BACKGROUND DATA USED IN STATISTICAL REPORTING
GREEN VALLEY LANDFILL

Well	Parameters	Background Dates
MW-1, MW-1A, MW-1B, MW-3	Annual	9/1992 - 5/2013
	Quarterly	9/1992 - 11/2013
MW-28C, MW-28D, MW-28E	Annual	10/2009 - 5/2013
	Quarterly	10/2009 - 11/2013

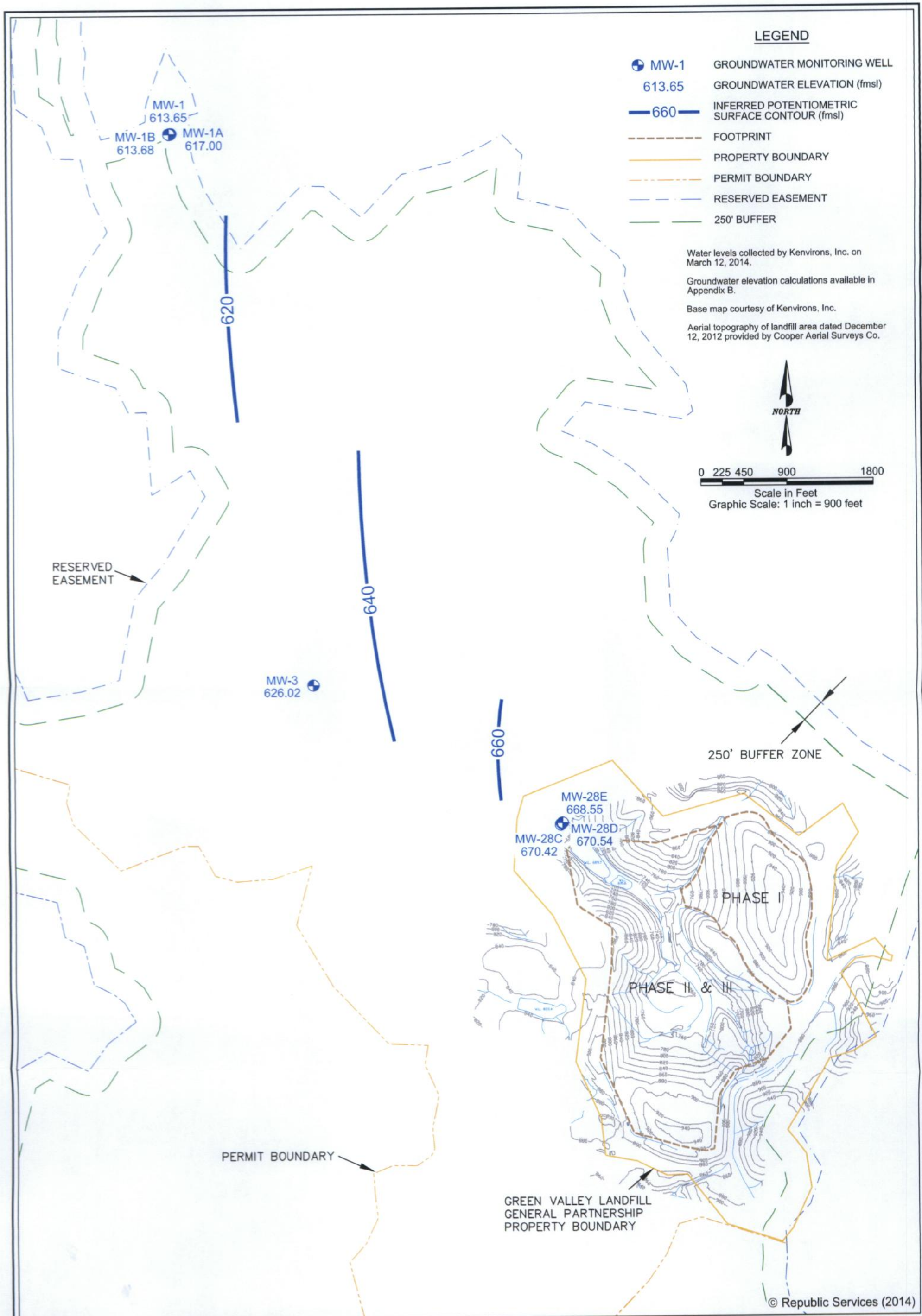
Notes:

- Annual sampling includes parameters listed in KAR Title 401 Chapter 48:300 Section 11(3)(a) and (b).
- Quarterly sampling includes parameters listed in KAR Title 401 Chapter 48:300 Section 11(3)(f).
- Background dates taken from Groundwater Statistical Monitoring Plan dated December 9, 2011 and approved by KDEP on August 16, 2012.

APPENDICES

APPENDIX A

POTENTIOMETRIC SURFACE MAP



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HERST & ASSOCIATES, INC.®

Green Valley Landfill
Ashland, Kentucky

First Quarter 2014 Event
Alluvial-Fracture Zone
Potentiometric Surface Map

**Groundwater Elevation Summary Table
Green Valley Landfill**

Well	Top of PVC Casing Elevation (fmsl)¹	Depth to Water (ft)²	Groundwater Elevation (fmsl)
MW-1	617.80	4.15	613.65
MW-1A	618.60	1.60	617.00
MW-1B	618.70	5.02	613.68
MW-3	630.80	4.78	626.02
MW-28C	674.40	3.98	670.42
MW-28D	675.20	4.66	670.54
MW-28E	677.00	8.45	668.55

Note 1: Top of PVC Casing Elevations for MW-1, MW-1A, MW-1B, and MW-3 from the Groundwater Monitoring Plan compiled by Kenvirons, Inc. dated 4/23/04. Top of PVC Casing Elevations for MW-28C, MW-28D, and MW-28E from the Summary of Monitoring Well Abandonments and Installations by Stantec Consulting Services, Inc. dated 10/2/09.

Note 2: Depth to water collected by Kenvirons, Inc. on 3/12/14.

**Groundwater Flow Velocity Calculations
Green Valley Landfill, Kentucky
First Quarter 2014 Event**

Velocity

$$V = [(k)(i)]/(n)$$

$$V = [(1 \times 10^2 \text{ ft/year})(0.007 \text{ ft/ft})]/0.20$$

$$V = 3.5 \text{ ft/year}$$

Hydraulic conductivity (k_i) of the alluvium/fracture zone was noted in a Fuller, Mossbarger, Scott, & May (FMSM) Engineers, Inc. report entitled "Report of Geotechnical Exploration", dated August, 1992. The geotechnical exploration report indicates the alluvium to be predominantly silty and clayey sands type soils. As noted in the August 1992 FMSM "Report of Geotechnical Exploration", a hydraulic conductivity value of 1×10^2 feet/year, typical for silty and clayey sand soils was assumed for the alluvium.

Effective porosity (n): An effective porosity (n) of 0.20 was assumed for the alluvium.

Gradient (i) is from the average gradient at site using the First Quarter 2014 potentiometric surface map from well MW-28C to well MW-1.

Gradient(i) = Change in Groundwater Elevation along Flow Path

i: From MW-28C (670.42 fmsl) to MW-1 (613.65 fmsl)/ Distance = 56.77 ft / 8,199 ft = 0.007

APPENDIX B
STATISTICAL EVALUATIONS

**INTRA-WELL PREDICTION LIMITS
OLDER WELLS
QUARTERLY PARAMETERS**

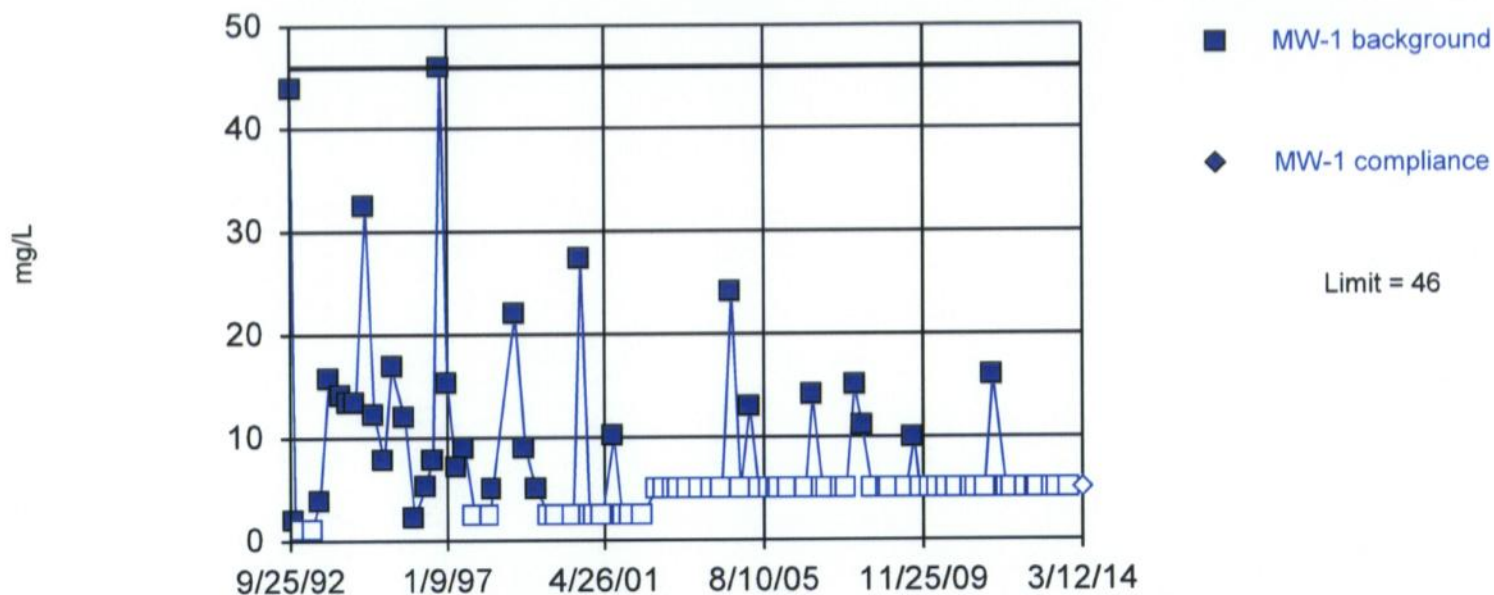
Prediction Limit

Facility: Green Valley Client: Green Valley LE Data File: GREENVALLEY Printed 4/10/2014, 10:37 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg. N.	Bg. Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chemical Oxygen Demand [COD] (mg/L)	MW-1	46	n/a	3/12/2014	5ND	No	84	n/a	n/a	61.9	n/a	n/a	0.0002756	NP Intra (NDs) 1 of 2
Chemical Oxygen Demand [COD] (mg/L)	MW-1A	47	n/a	3/12/2014	5ND	No	85	n/a	n/a	71.76	n/a	n/a	0.0002694	NP Intra (NDs) 1 of 2
Chemical Oxygen Demand [COD] (mg/L)	MW-1B	41	n/a	3/12/2014	5ND	No	85	n/a	n/a	67.06	n/a	n/a	0.0002694	NP Intra (NDs) 1 of 2
Chemical Oxygen Demand [COD] (mg/L)	MW-3	47	n/a	3/12/2014	5ND	No	82	n/a	n/a	69.51	n/a	n/a	0.000288	NP Intra (NDs) 1 of 2
Chloride (mg/L)	MW-1	10	n/a	3/12/2014	1.5	No	84	n/a	n/a	13.1	n/a	n/a	0.0002756	NP Intra (normality)
Chloride (mg/L)	MW-1A	3.9	n/a	3/12/2014	3.5	No	85	10.16	2.663	0	None	x^2	0.0007314	Param Intra 1 of 2
Chloride (mg/L)	MW-1B	52	n/a	3/12/2014	45	No	85	n/a	n/a	0	n/a	n/a	0.0002694	NP Intra (normality) ..
Chloride (mg/L)	MW-3	15	n/a	3/12/2014	4.5	No	82	n/a	n/a	15.85	n/a	n/a	0.000288	NP Intra (normality) ...
Iron Total (mg/L)	MW-1	23	n/a	3/12/2014	0.68	No	84	n/a	n/a	0	n/a	n/a	0.0002756	NP Intra (normality) ...
Iron Total (mg/L)	MW-1A	8.8	n/a	3/12/2014	0.68	No	85	0.7703	0.7023	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Iron Total (mg/L)	MW-1B	11	n/a	3/12/2014	0.41	No	85	n/a	n/a	4.706	n/a	n/a	0.0002694	NP Intra (normality) ...
Iron Total (mg/L)	MW-3	58	n/a	3/12/2014	36	No	82	n/a	n/a	3.659	n/a	n/a	0.000288	NP Intra (normality) ...
pH [Field] (su)	MW-1	8.3	4.9	3/12/2014	6.4	No	83	2.55	0.1669	0	None	sqrt(x)	0.0003657	Param Intra 1 of 2
pH [Field] (su)	MW-1A	8	6.2	3/12/2014	7.24	No	84	1.92	0.03908	0	None	x^(1/3)	0.0003657	Param Intra 1 of 2
pH [Field] (su)	MW-1B	8.4	6.6	3/12/2014	7.81	No	83	3491	782.3	0	None	x^4	0.0003657	Param Intra 1 of 2
pH [Field] (su)	MW-3	8	4.6	3/12/2014	6.22	No	81	1.806	0.138	0	None	ln(x)	0.0003657	Param Intra 1 of 2
Sodium Total (mg/L)	MW-1	4.4	n/a	3/12/2014	1.8	No	82	0.703	0.3848	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Sodium Total (mg/L)	MW-1A	26	n/a	3/12/2014	23	No	82	469.5	106.6	0	None	x^2	0.0007314	Param Intra 1 of 2
Sodium Total (mg/L)	MW-1B	600	n/a	3/12/2014	160	No	85	n/a	n/a	0	n/a	n/a	0.0002694	NP Intra (normality)
Sodium Total (mg/L)	MW-3	340	n/a	3/12/2014	6.2	No	82	n/a	n/a	0	n/a	n/a	0.000288	NP Intra (normality) ...
Specific Conductance [Field] (umhos/cm)	MW-1	940	n/a	3/12/2014	70	No	84	n/a	n/a	0	n/a	n/a	0.0002756	NP Intra (normality) ..
Specific Conductance [Field] (umhos/cm)	MW-1A	440	n/a	3/12/2014	384	No	79	348	47.43	0	None	No	0.0007314	Param Intra 1 of 2
Specific Conductance [Field] (umhos/cm)	MW-1B	830	n/a	3/12/2014	728	No	82	23.63	2.58	0	None	sqrt(x)	0.0007314	Param Intra 1 of 2
Specific Conductance [Field] (umhos/cm)	MW-3	390	n/a	3/12/2014	229	No	81	4.985	0.4956	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1	120	n/a	3/12/2014	28	No	78	3.925	0.4206	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1A	260	n/a	3/12/2014	250	No	79	1.1e7	3277368	0	None	x^3	0.0007314	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-1B	920	n/a	3/12/2014	390	No	85	n/a	n/a	0	n/a	n/a	0.0002694	NP Intra (normality) ...
Total Dissolved Solids [TDS] (mg/L)	MW-3	300	n/a	3/12/2014	150	No	81	4.668	0.5237	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/L)	MW-1	10	n/a	3/12/2014	0.5ND	No	84	n/a	n/a	41.67	n/a	n/a	0.0002756	NP Intra (normality) ...
Total Organic Carbon [TOC] (mg/L)	MW-1A	26	n/a	3/12/2014	0.5ND	No	85	n/a	n/a	61.18	n/a	n/a	0.0002694	NP Intra (NDs) 1 of 2
Total Organic Carbon [TOC] (mg/L)	MW-1B	38	n/a	3/12/2014	0.5ND	No	85	n/a	n/a	58.82	n/a	n/a	0.0002694	NP Intra (NDs) 1 of 2
Total Organic Carbon [TOC] (mg/L)	MW-3	16	n/a	3/12/2014	1.2	No	82	n/a	n/a	21.95	n/a	n/a	0.000288	NP Intra (normality) ...
Total Organic Halides (mg/L)	MW-1	0.33	n/a	3/12/2014	0.005ND	No	84	n/a	n/a	78.57	n/a	n/a	0.0002756	NP Intra (NDs) 1 of 2
Total Organic Halides (mg/L)	MW-1A	1.0	n/a	3/12/2014	0.005ND	No	85	n/a	n/a	74.12	n/a	n/a	0.0002694	NP Intra (NDs) 1 of 2
Total Organic Halides (mg/L)	MW-1B	0.27	n/a	3/12/2014	0.005ND	No	85	n/a	n/a	60	n/a	n/a	0.0002694	NP Intra (NDs) 1 of 2
Total Organic Halides (mg/L)	MW-3	0.37	n/a	3/12/2014	0.005ND	No	82	n/a	n/a	67.07	n/a	n/a	0.000288	NP Intra (NDs) 1 of 2

Within Limit

Prediction Limit Intrawell Non-parametric

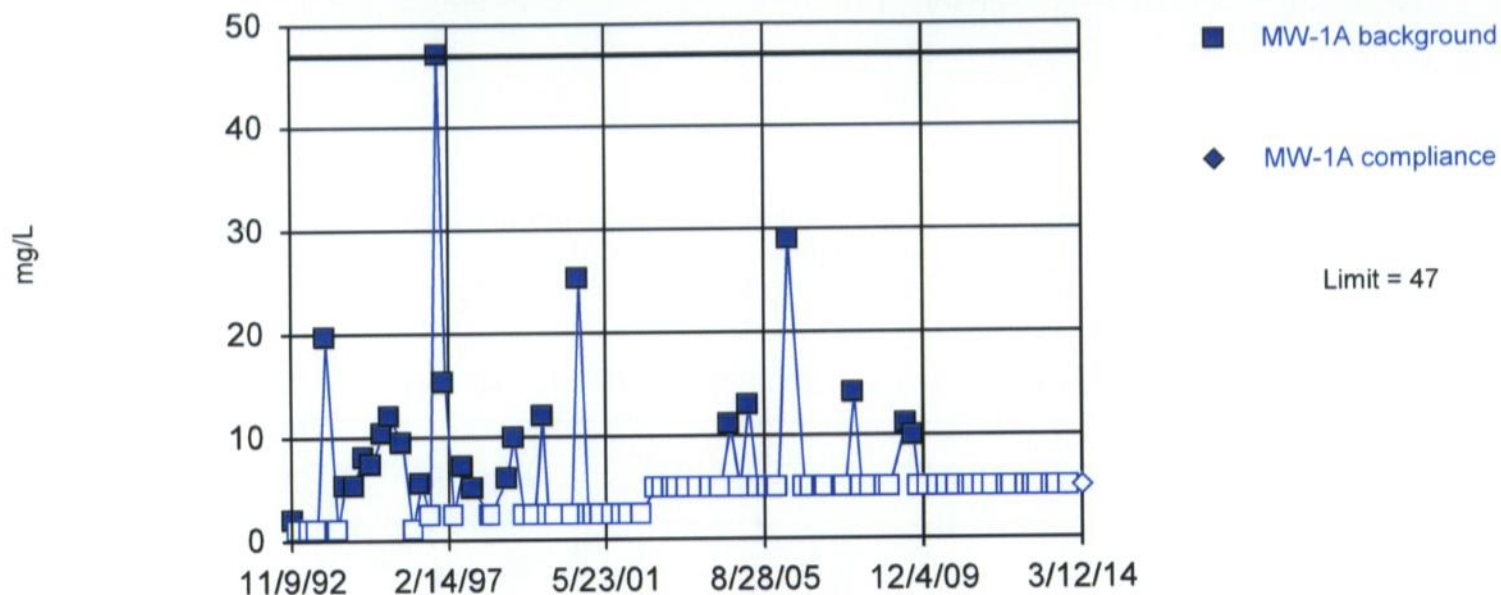


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 84 background values. 61.9% NDs. Well-constituent pair annual alpha = 0.001102. Individual comparison alpha = 0.0002756 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chemical Oxygen Demand [COD] Analysis Run 4/10/2014 10:34 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric

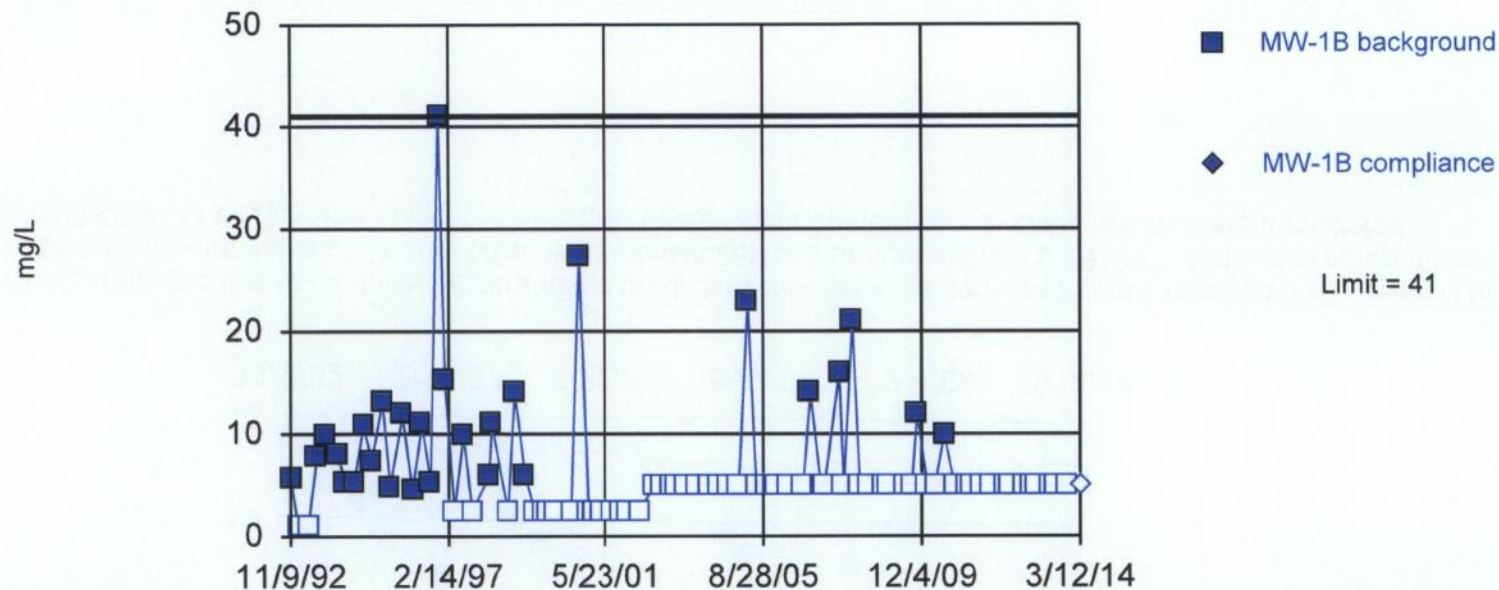


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 71.76% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chemical Oxygen Demand [COD] Analysis Run 4/10/2014 10:34 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 67.06% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

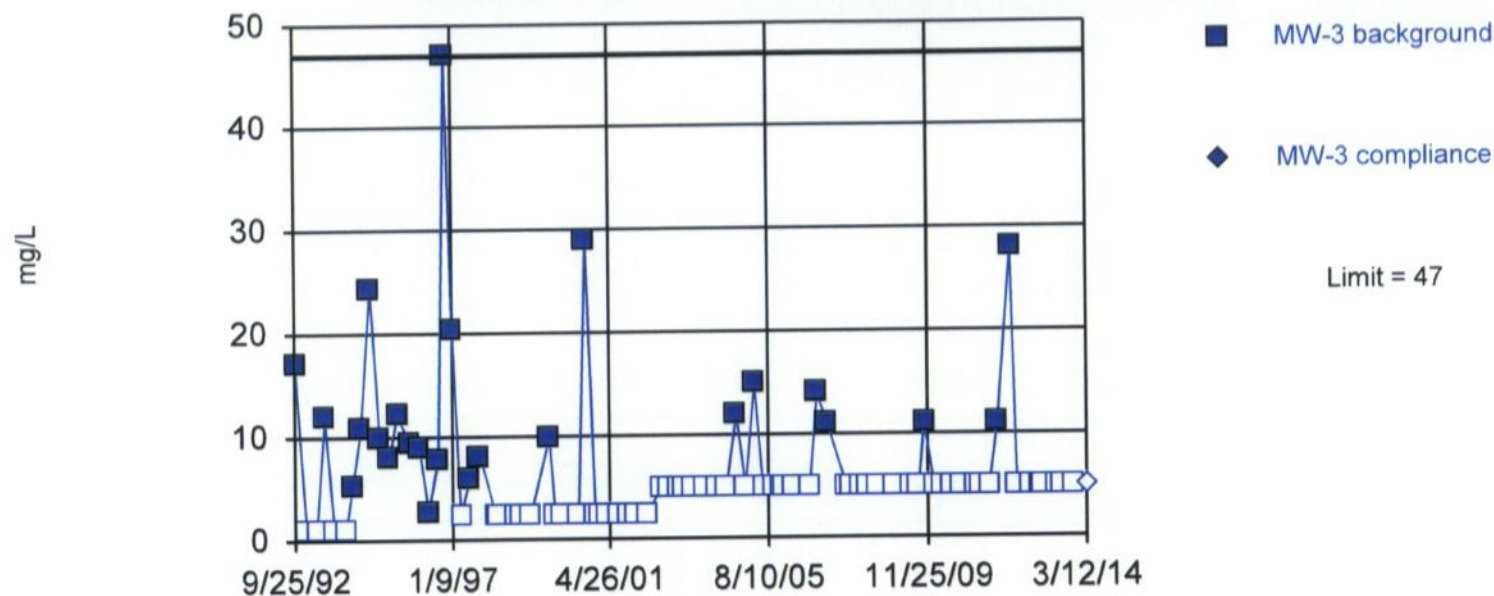
Constituent: Chemical Oxygen Demand [COD] Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Sanitas™ v.9.4.32 n/a. UG
Hollow symbols indicate censored values.

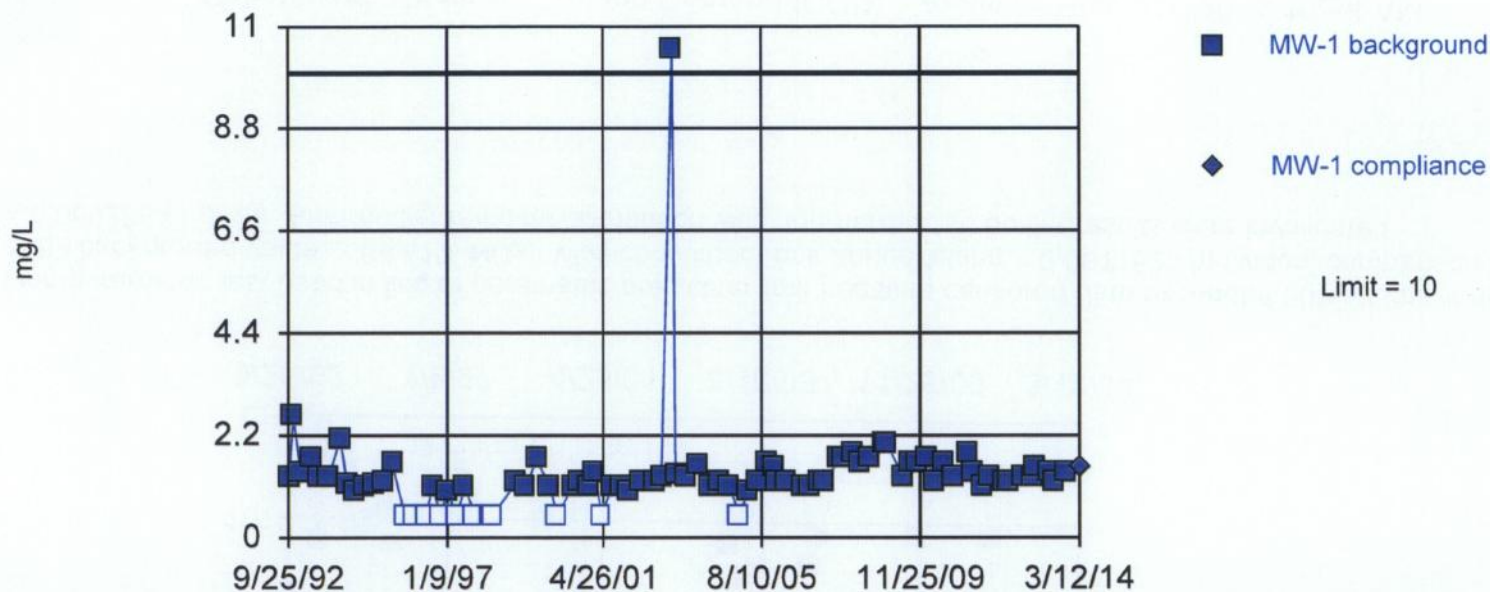
Within Limit

Prediction Limit Intrawell Non-parametric



Within Limit

Prediction Limit Intrawell Non-parametric



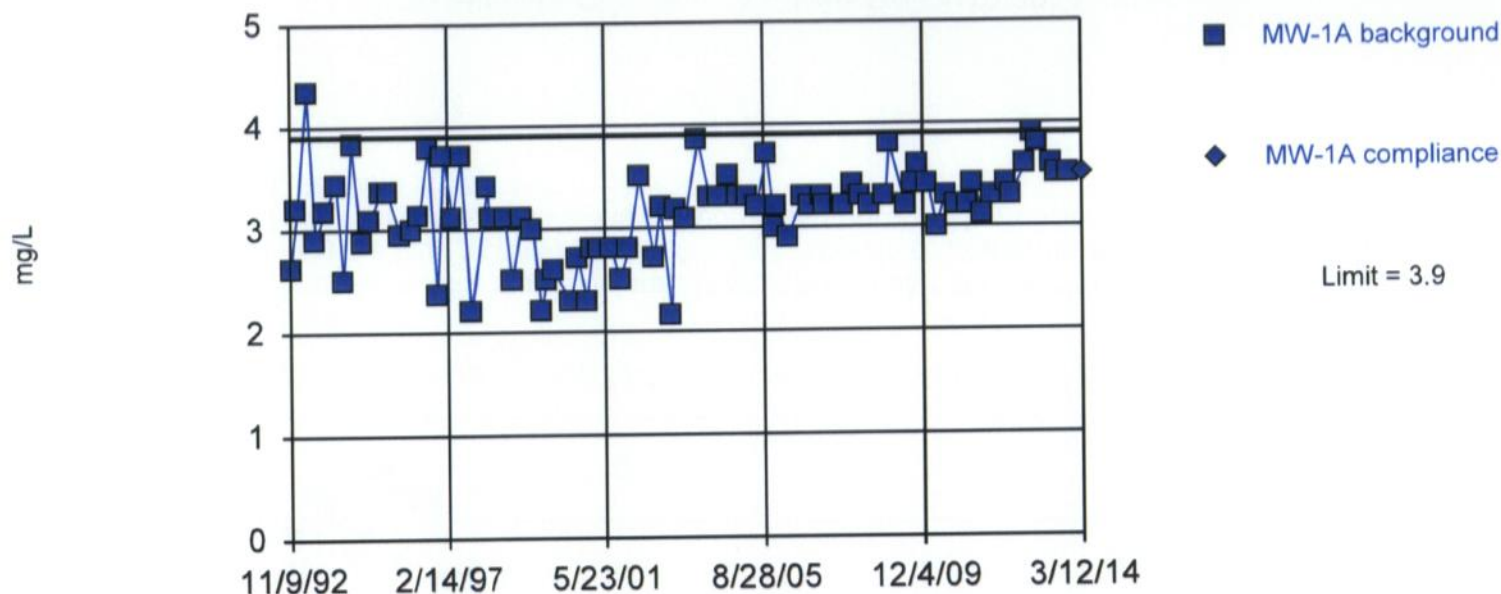
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 13.1% NDs. Well-constituent pair annual alpha = 0.001102. Individual comparison alpha = 0.0002756 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chloride Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

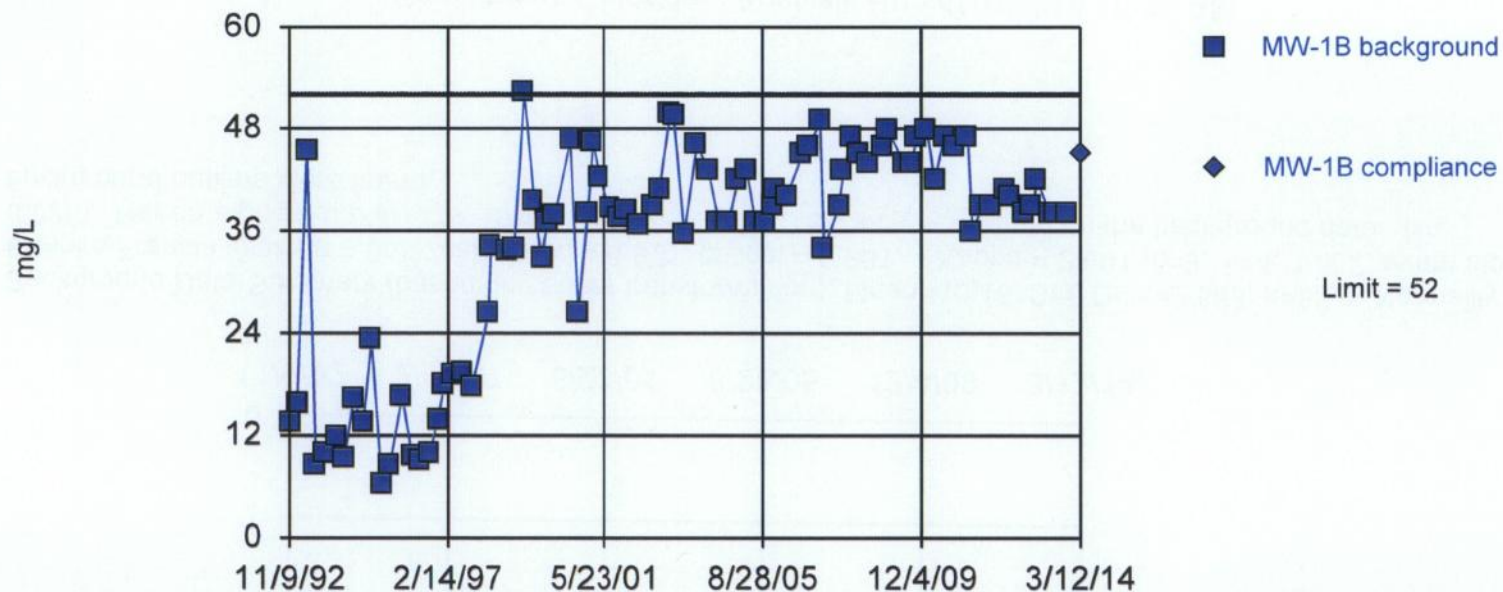


Background Data Summary (based on square transformation): Mean=10.16, Std. Dev.=2.663, n=85. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.971, critical = 0.961. Kappa = 2.001 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Chloride Analysis Run 4/10/2014 10:34 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit
Intrawell Non-parametric



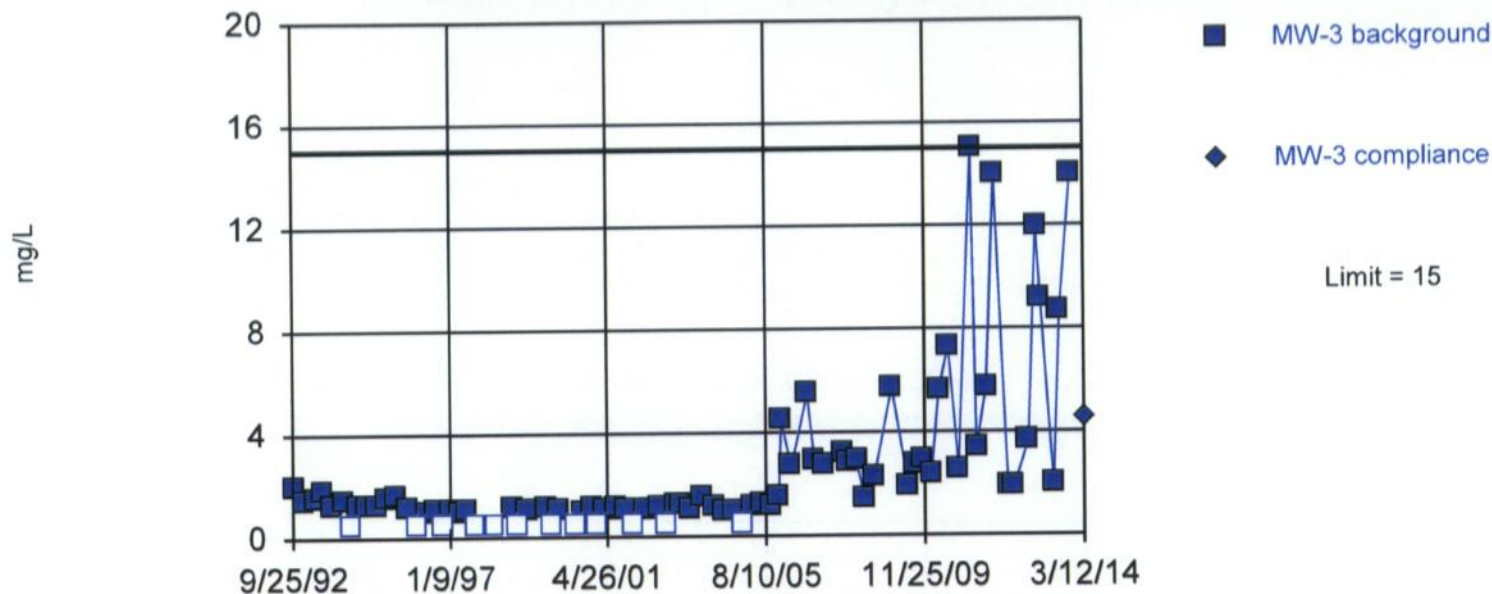
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 85 background values. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chloride Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric

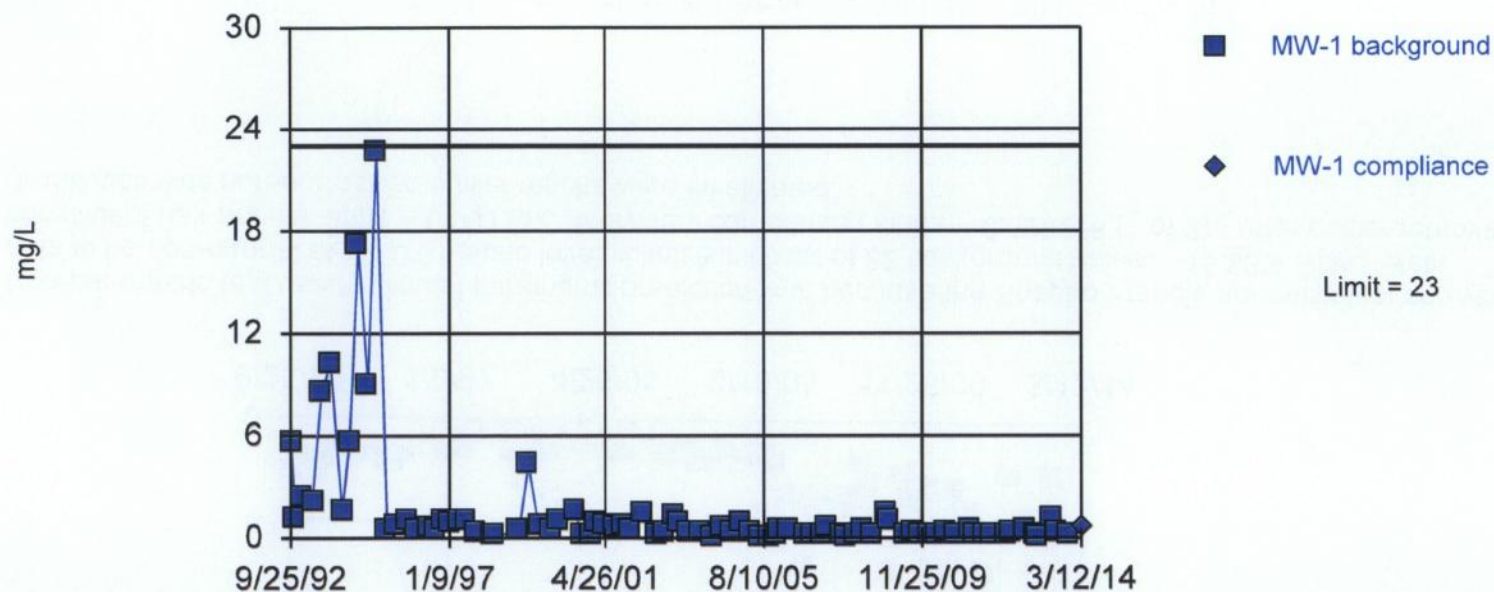


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 82 background values. 15.85% NDs. Well-constituent pair annual alpha = 0.001152. Individual comparison alpha = 0.000288 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chloride Analysis Run 4/10/2014 10:34 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit
Intrawell Non-parametric



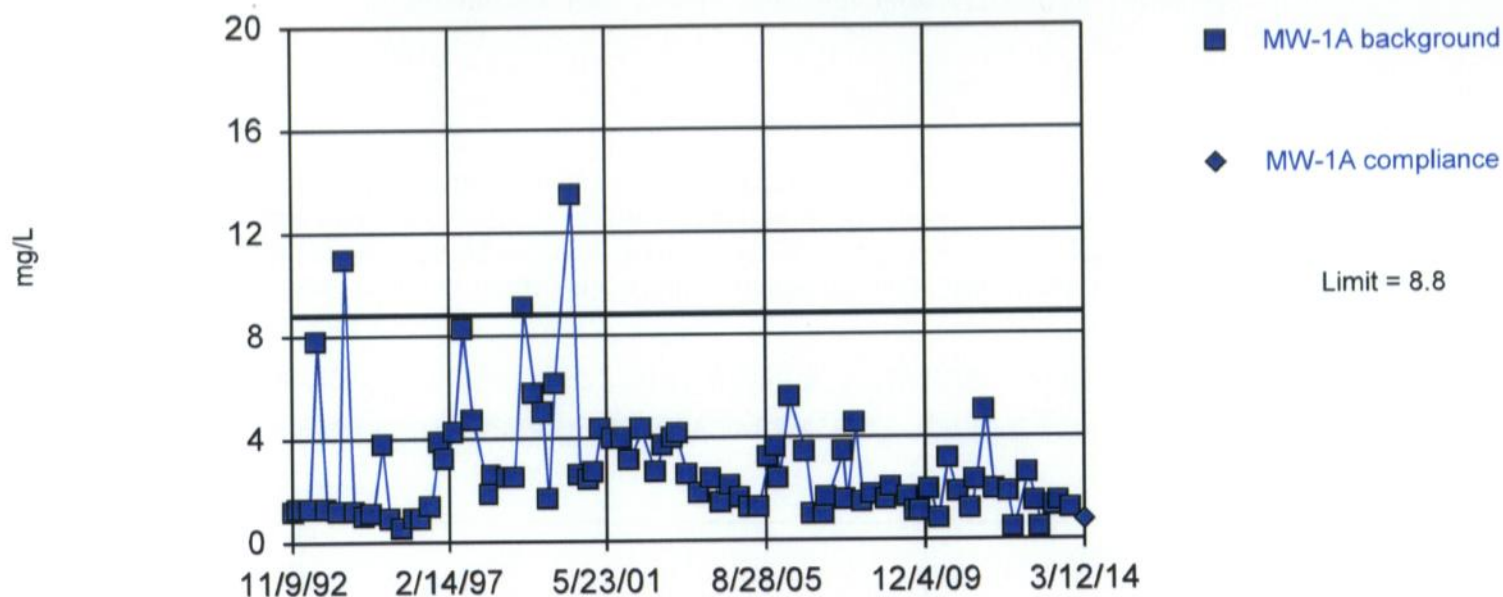
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. Well-constituent pair annual alpha = 0.001102. Individual comparison alpha = 0.0002756 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Iron Total Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

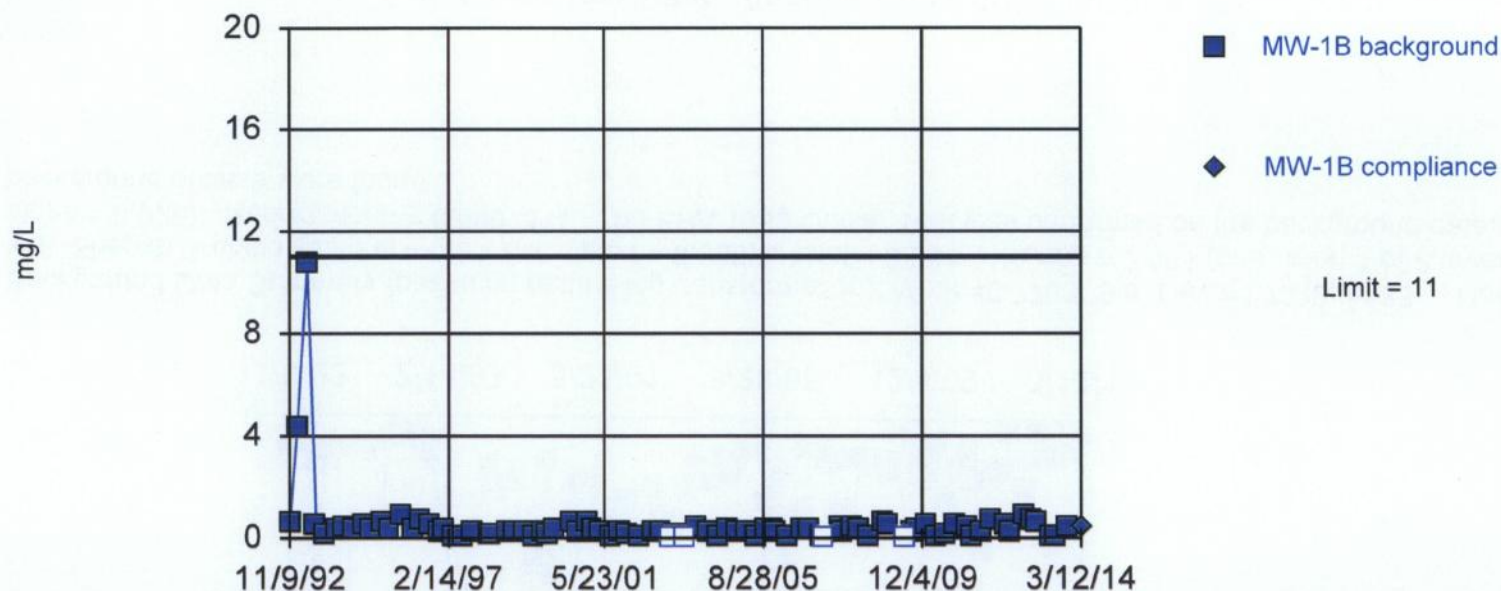


Background Data Summary (based on natural log transformation): Mean=0.7703, Std. Dev.=0.7023, n=85. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.986, critical = 0.961. Kappa = 2.001 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Iron Total Analysis Run 4/10/2014 10:34 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



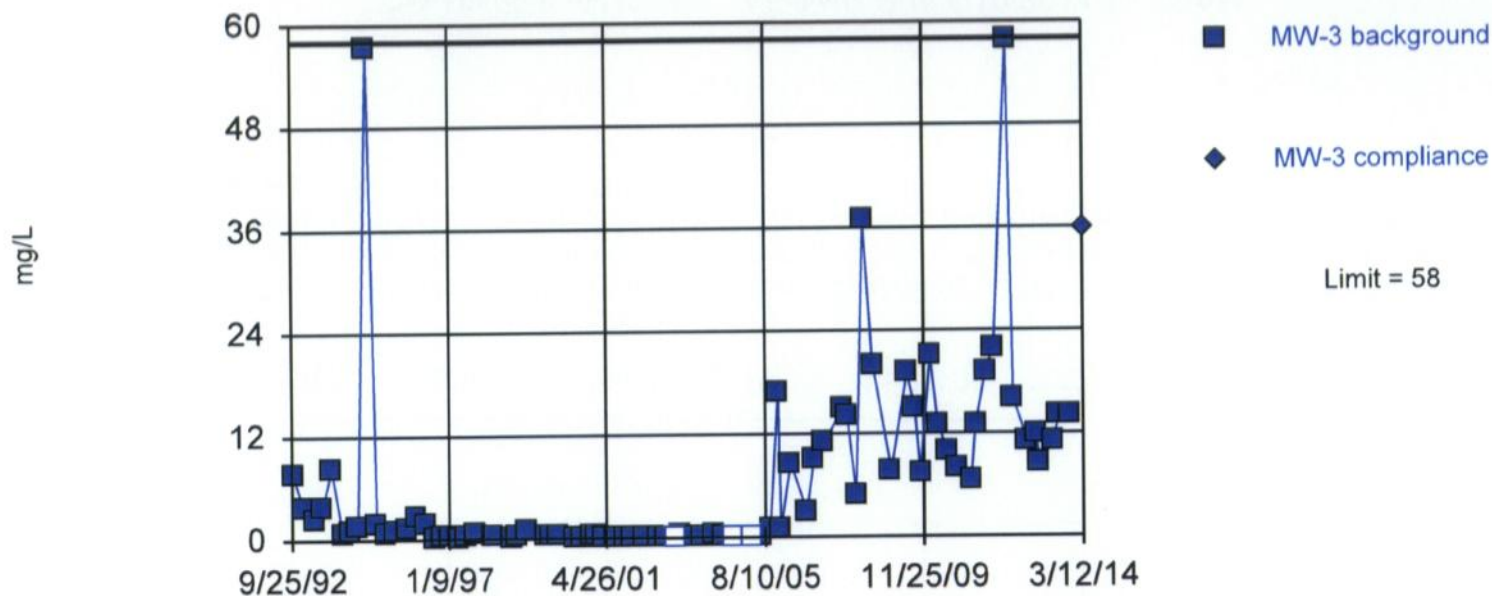
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 85 background values. 4.706% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Iron Total Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



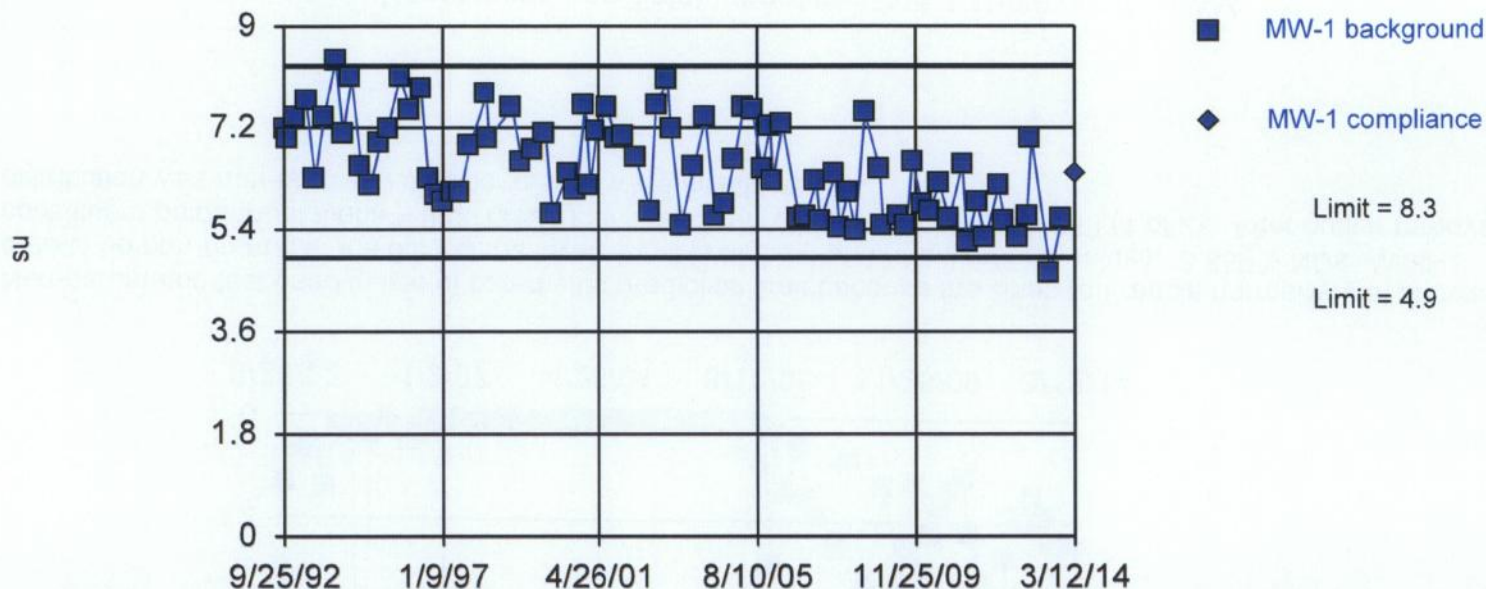
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 82 background values. 3.659% NDs. Well-constituent pair annual alpha = 0.001152. Individual comparison alpha = 0.000288 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Iron Total Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limits

Prediction Limit Intrawell Parametric



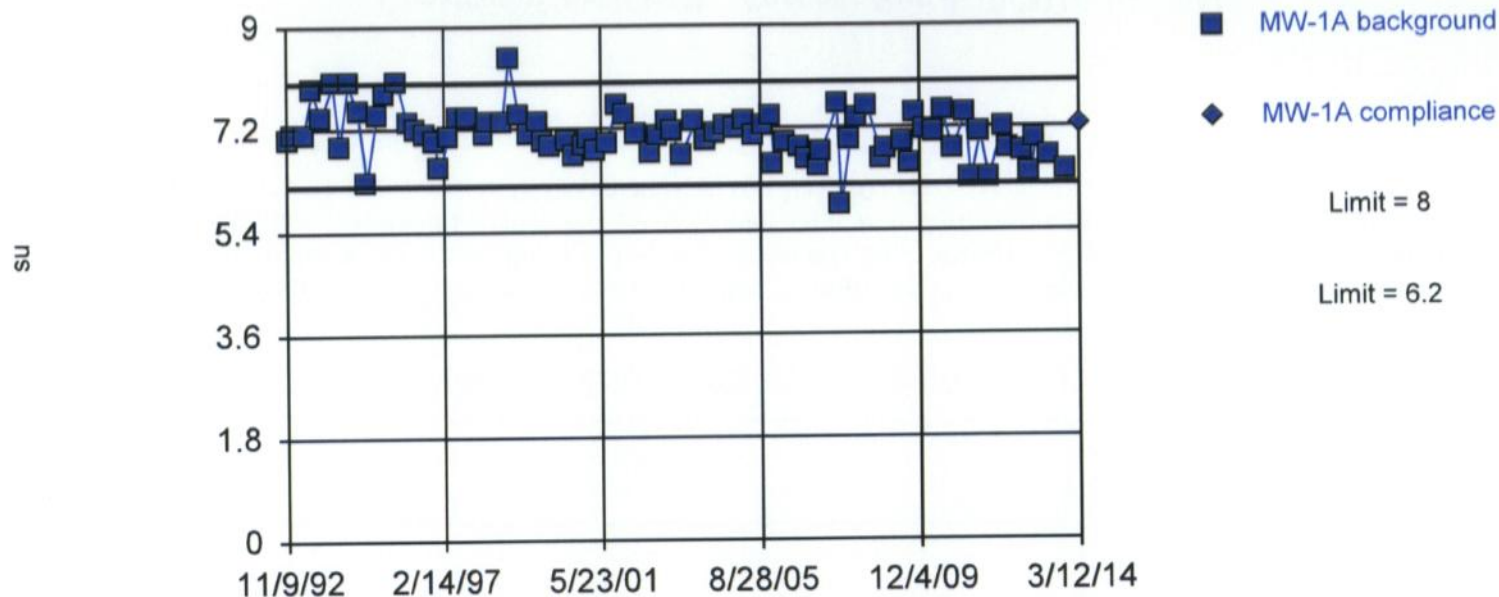
Background Data Summary (based on square root transformation): Mean=2.55, Std. Dev.=0.1669, n=83. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.98, critical = 0.96. Kappa = 2.003 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 4.04 (5/15/2013).

Constituent: pH [Field] Analysis Run 4/10/2014 10:34 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limits

Prediction Limit Intrawell Parametric

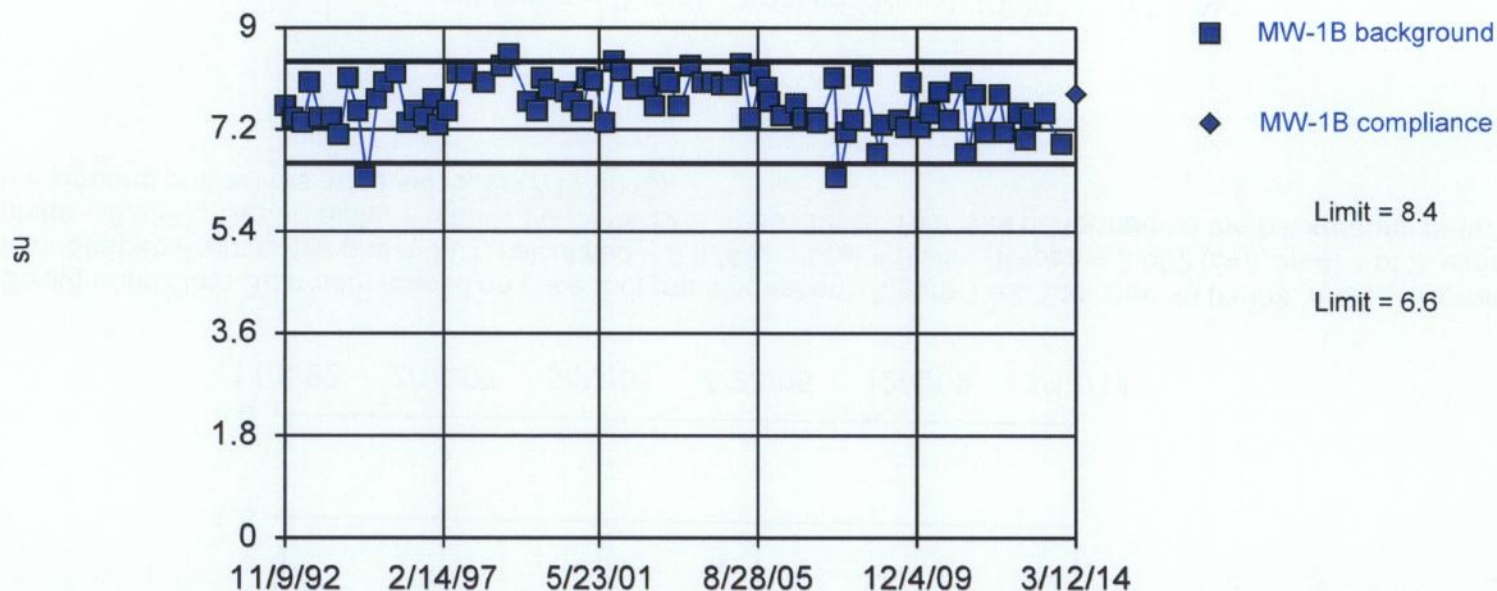


Background Data Summary (based on cube root transformation): Mean=1.92, Std. Dev.=0.03908, n=84. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9748, critical = 0.96. Kappa = 2.002 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 5.53 (7/17/2013).

Constituent: pH [Field] Analysis Run 4/10/2014 10:34 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limits

Prediction Limit Intrawell Parametric



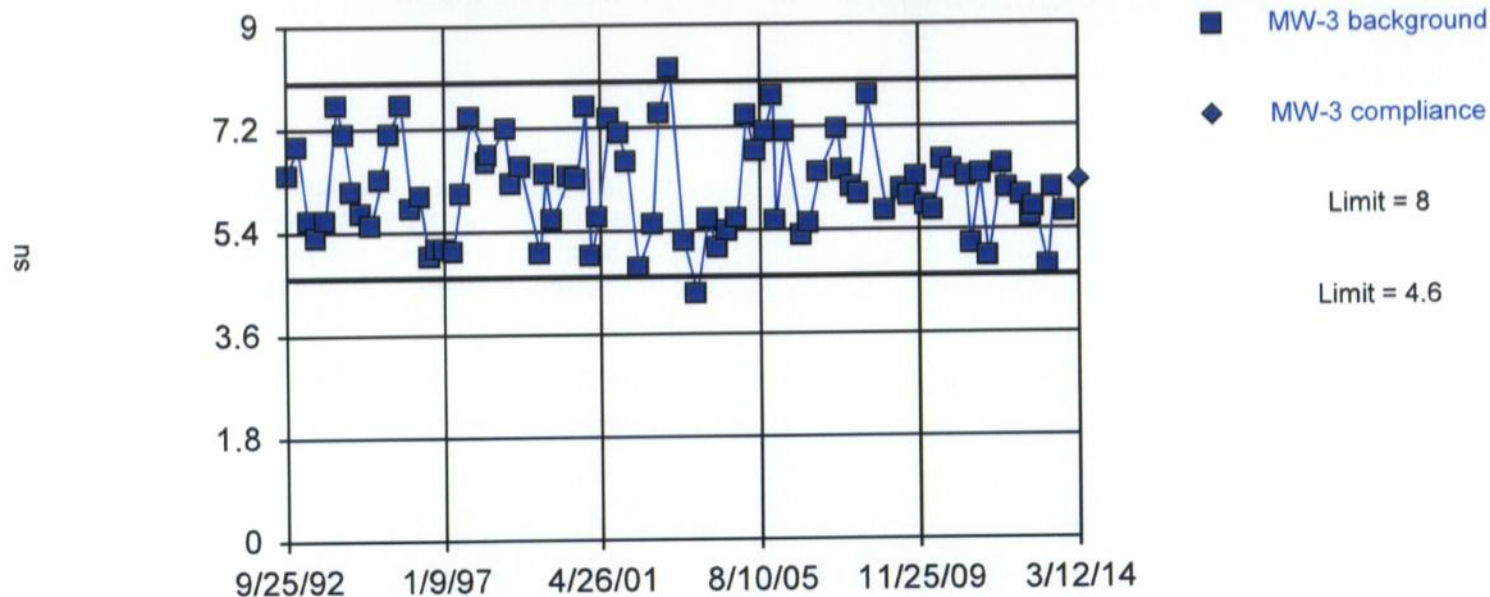
Background Data Summary (based on x^4 transformation): Mean=3491, Std. Dev.=782.3, n=83. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9796, critical = 0.96. Kappa = 2.003 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Two background outliers were removed: 9.75 (3/9/1999); 6.16 (7/17/2013).

Constituent: pH [Field] Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limits

Prediction Limit Intrawell Parametric

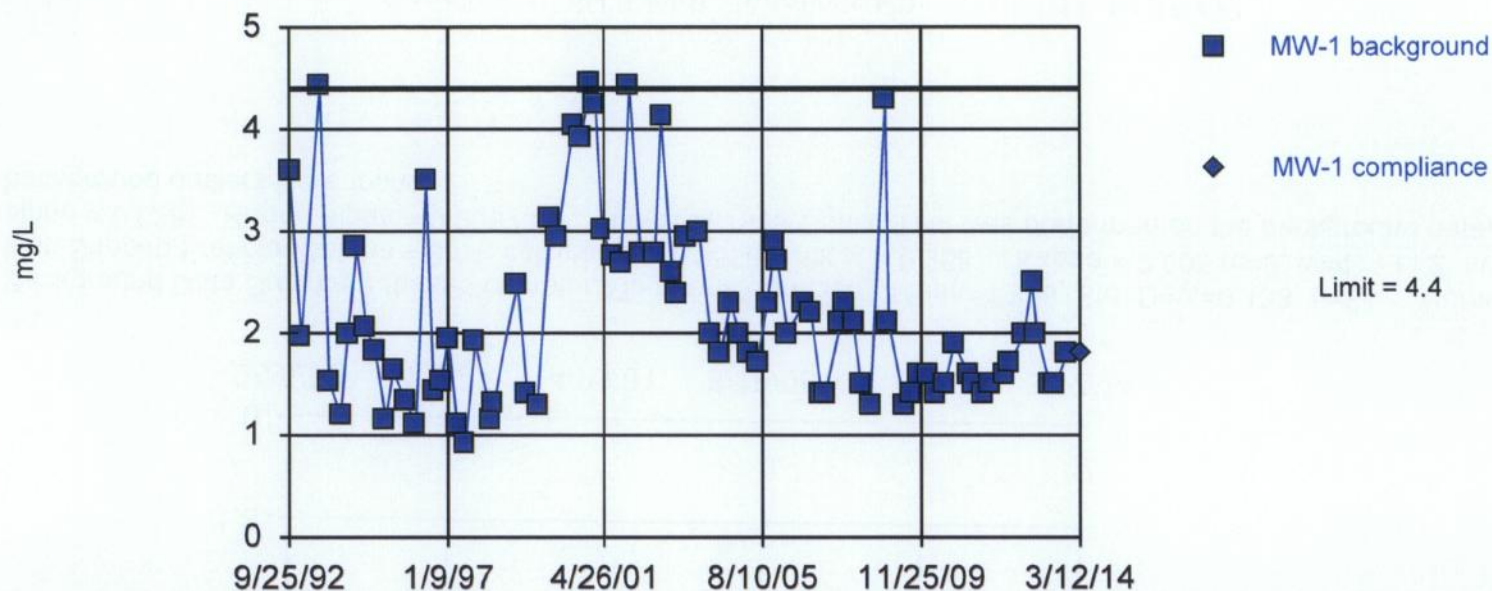


Background Data Summary (based on natural log transformation): Mean=1.806, Std. Dev.=0.138, n=81. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9896, critical = 0.958. Kappa = 2.005 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: pH [Field] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=0.703, Std. Dev.=0.3848, n=82. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9718, critical = 0.959. Kappa = 2.004 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Two background outliers were removed: 26.4 (11/9/1992); 131 (4/26/1993).

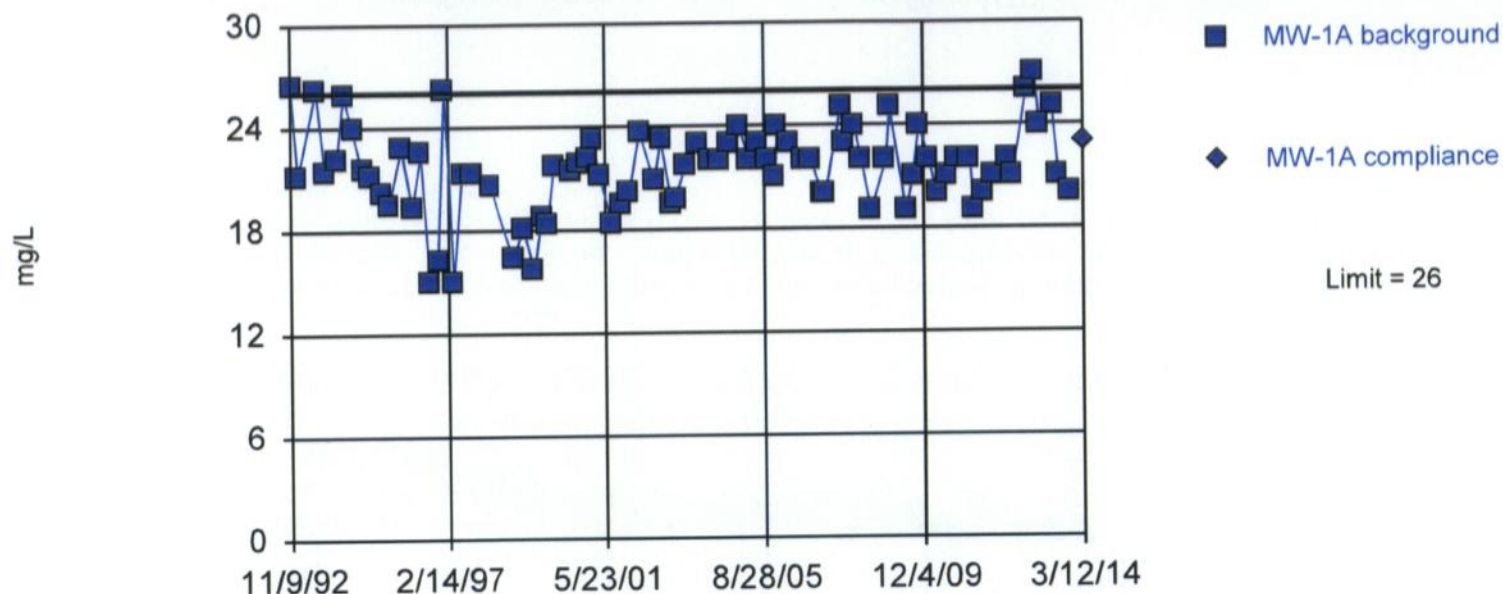
Constituent: Sodium Total Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit

Intrawell Parametric



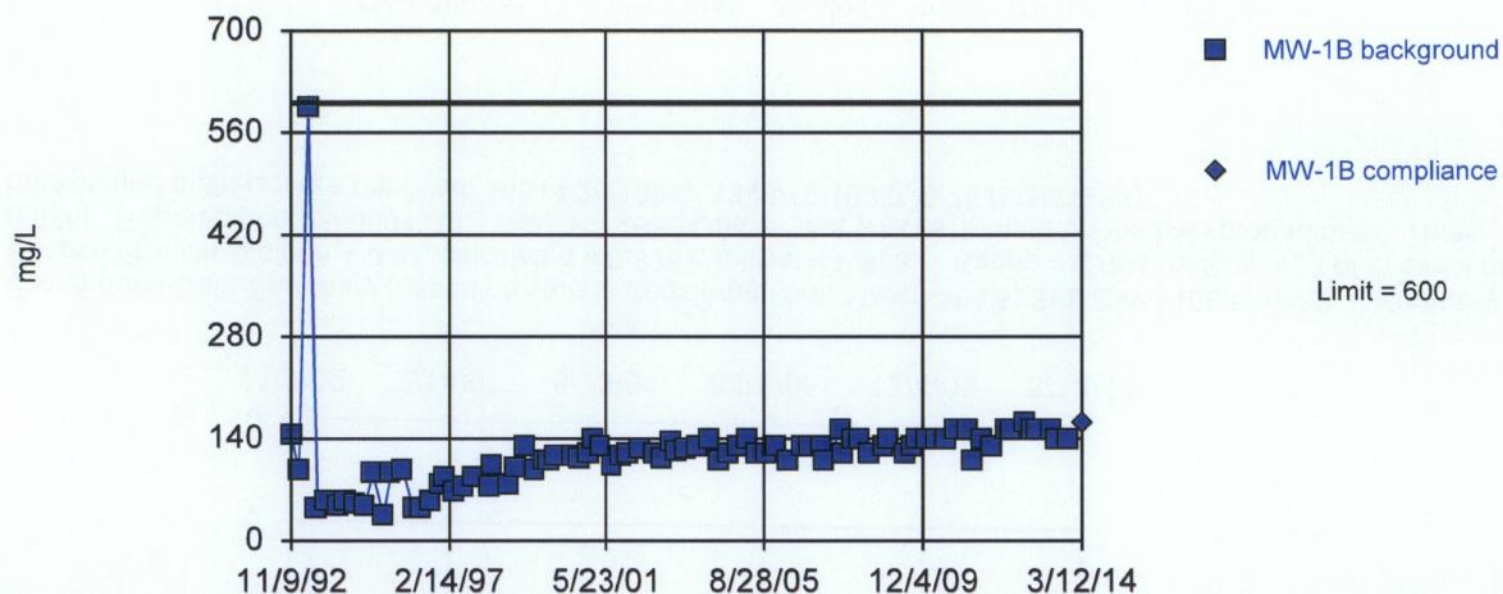
Background Data Summary (based on square transformation): Mean=469.5, Std. Dev.=106.6, n=82. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9767, critical = 0.959. Kappa = 2.004 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Three background outliers were removed: 365 (4/26/1993); 13 (3/19/1998); 9.75 (9/30/1998).

Constituent: Sodium Total Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 85 background values. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

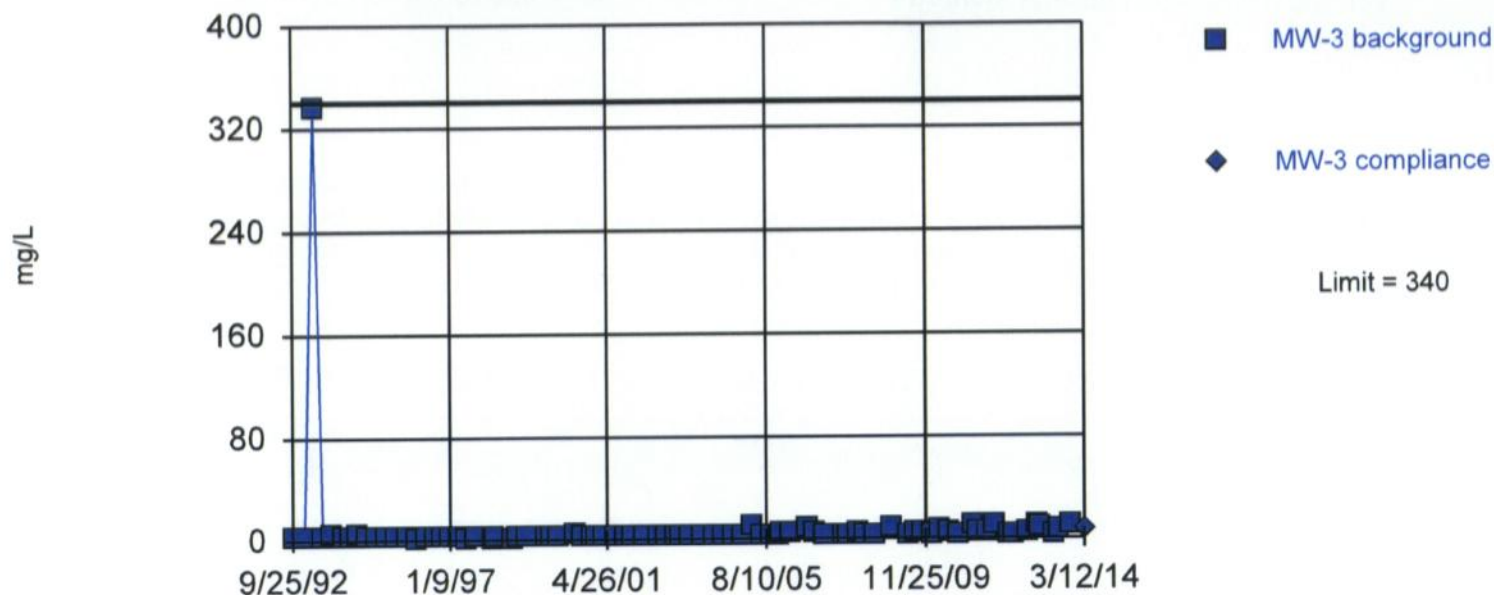
Constituent: Sodium Total Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit

Intrawell Non-parametric



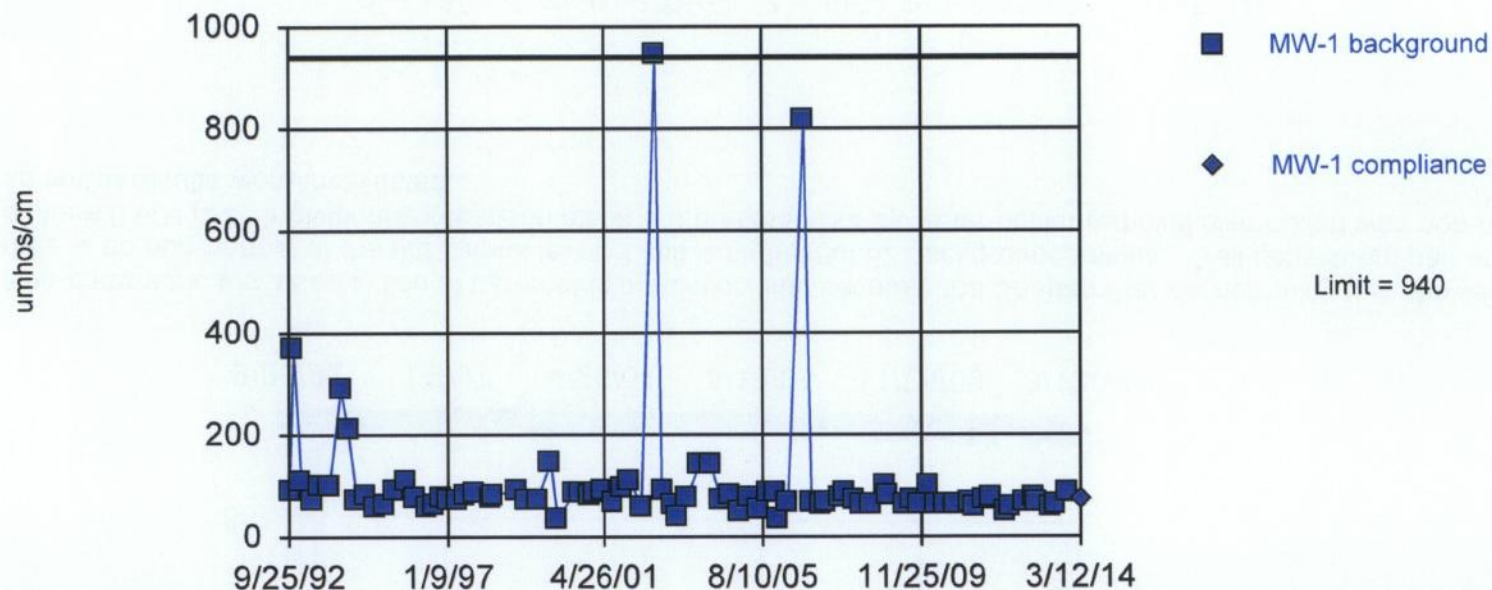
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 82 background values. Well-constituent pair annual alpha = 0.001152. Individual comparison alpha = 0.000288 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Sodium Total Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit
Intrawell Non-parametric



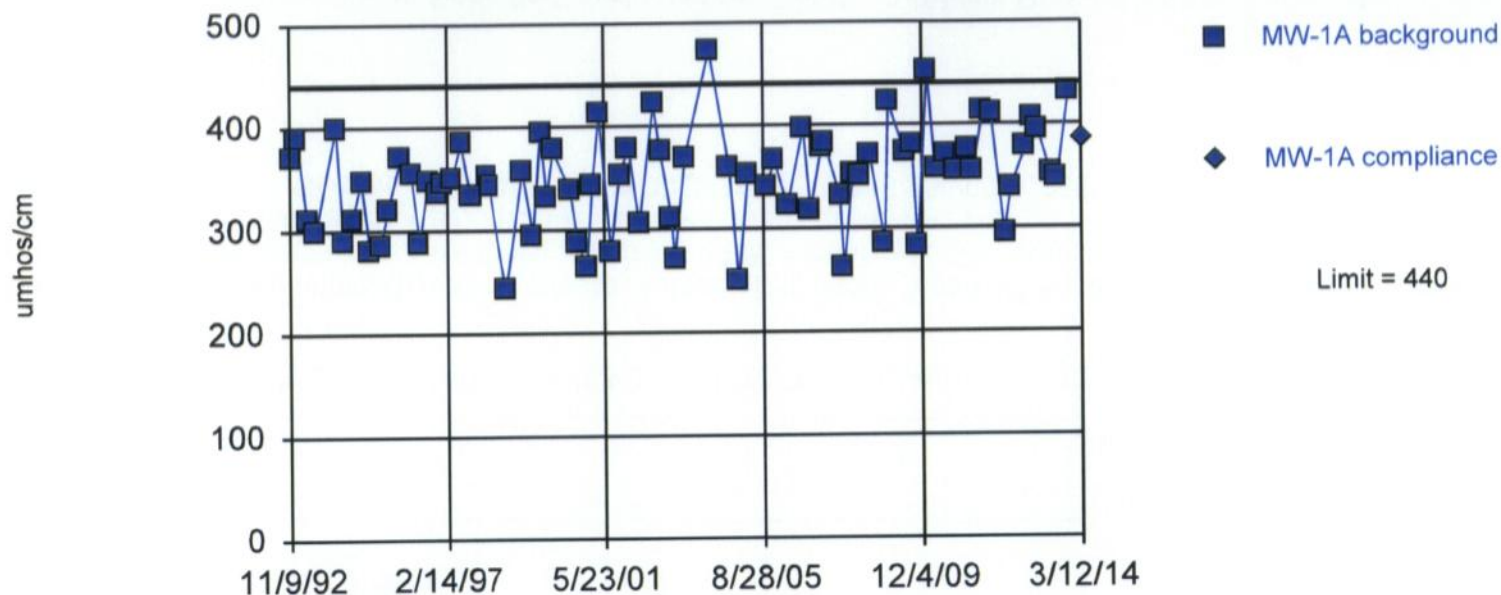
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. Well-constituent pair annual alpha = 0.001102. Individual comparison alpha = 0.0002756 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Specific Conductance [Field] Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

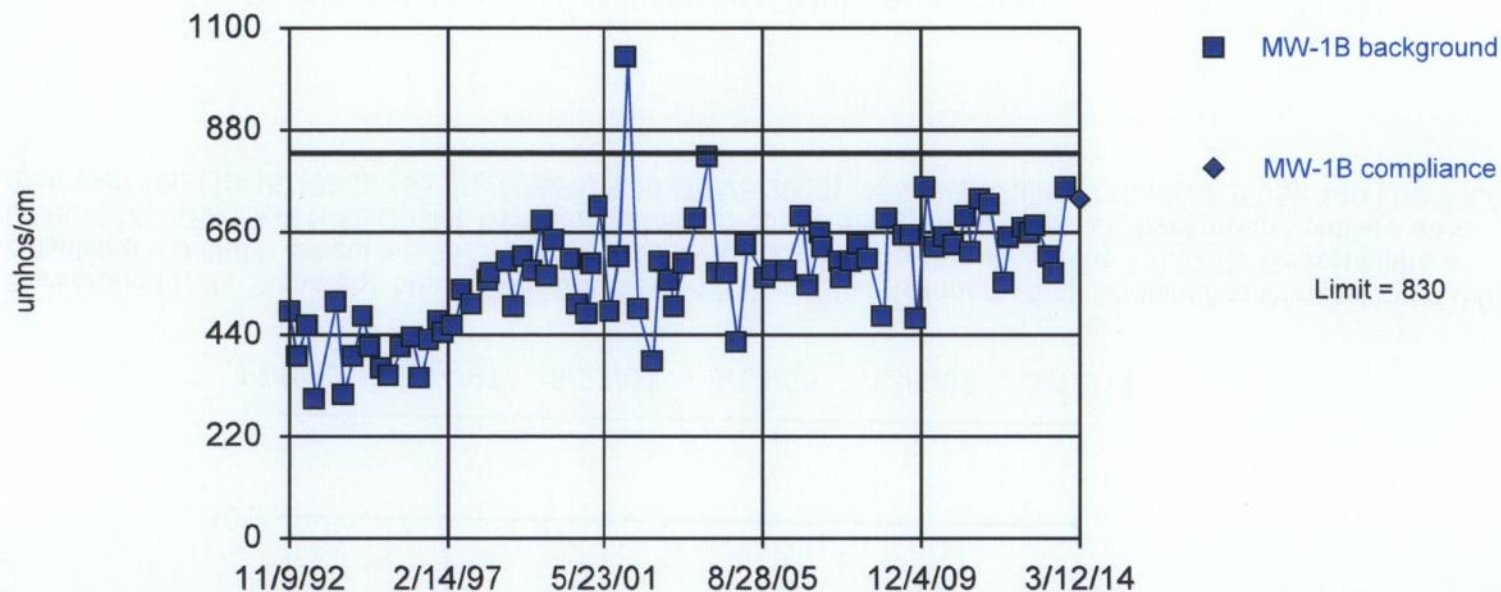


Background Data Summary: Mean=348, Std. Dev.=47.43, n=79. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9863, critical = 0.957. Kappa = 2.007 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Six background outliers were removed: 100 (10/19/1993); 195 (12/1/1998); 640 (11/25/2003); 186 (6/23/2004); 215 (6/20/2005); 140 (1/9/2006).

Constituent: Specific Conductance [Field] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

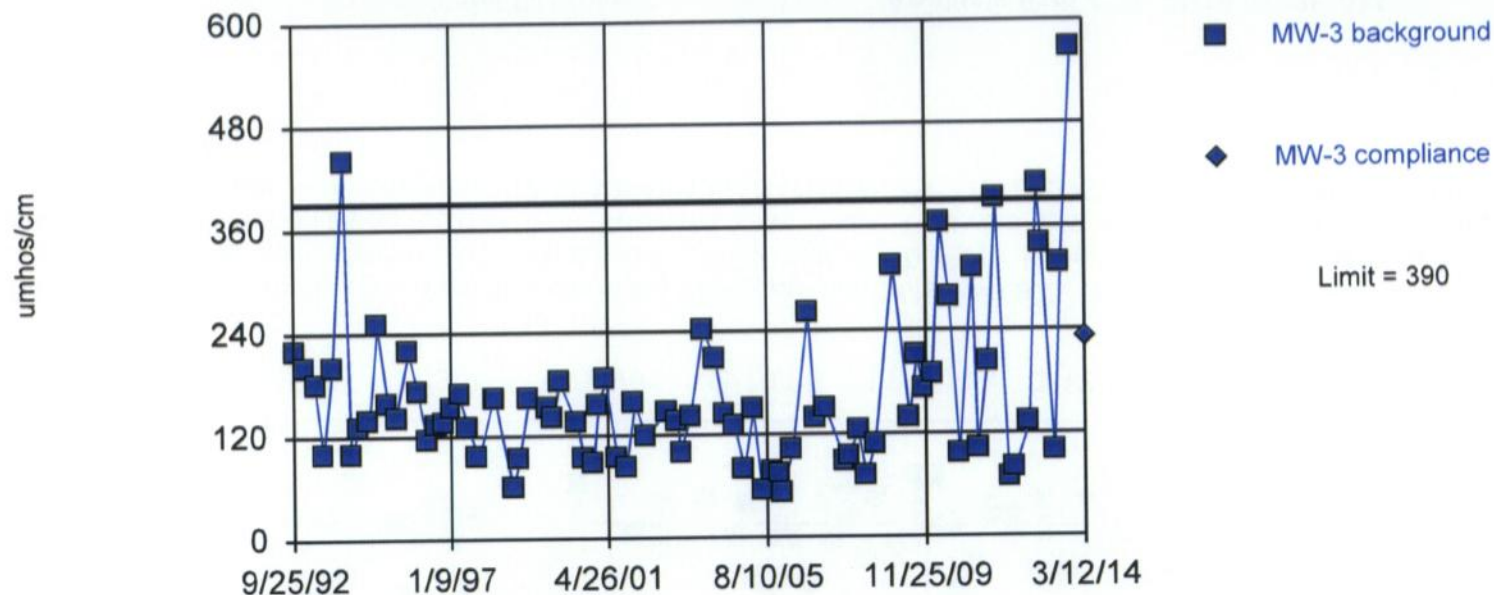


Background Data Summary (based on square root transformation): Mean=23.63, Std. Dev.=2.58, n=82. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9685, critical = 0.959. Kappa = 2.004 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Three background outliers were removed: 100 (10/19/1993); 208 (6/20/2005); 239 (1/9/2006).

Constituent: Specific Conductance [Field] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

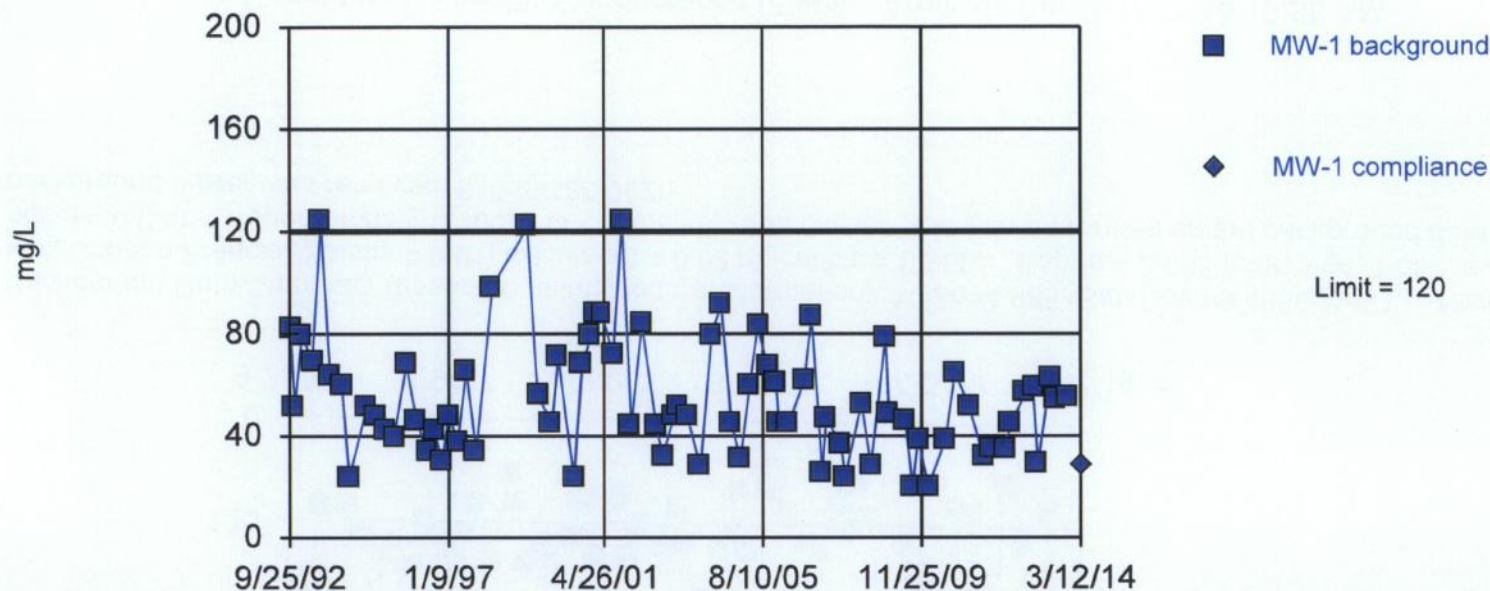


Background Data Summary (based on natural log transformation): Mean=4.985, Std. Dev.=0.4956, n=81. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9815, critical = 0.958. Kappa = 2.005 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 815 (9/18/2002).

Constituent: Specific Conductance [Field] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

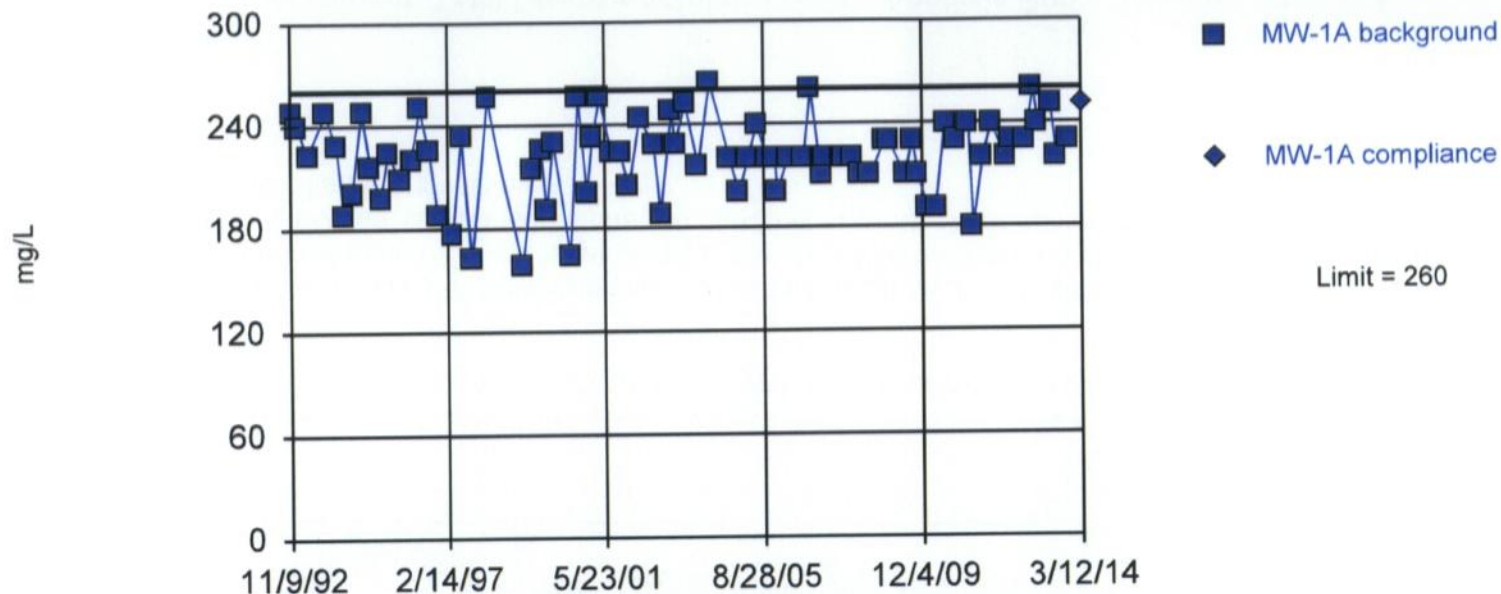


Background Data Summary (based on natural log transformation): Mean=3.925, Std. Dev.=0.4206, n=78. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9932, critical = 0.957. Kappa = 2.008 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Six background outliers were removed: 4 (7/14/1994); 12 (4/14/1998); 308 (12/1/1998); <10 (1/23/2008); <10 (4/13/2010); <10 (4/19/2011).

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

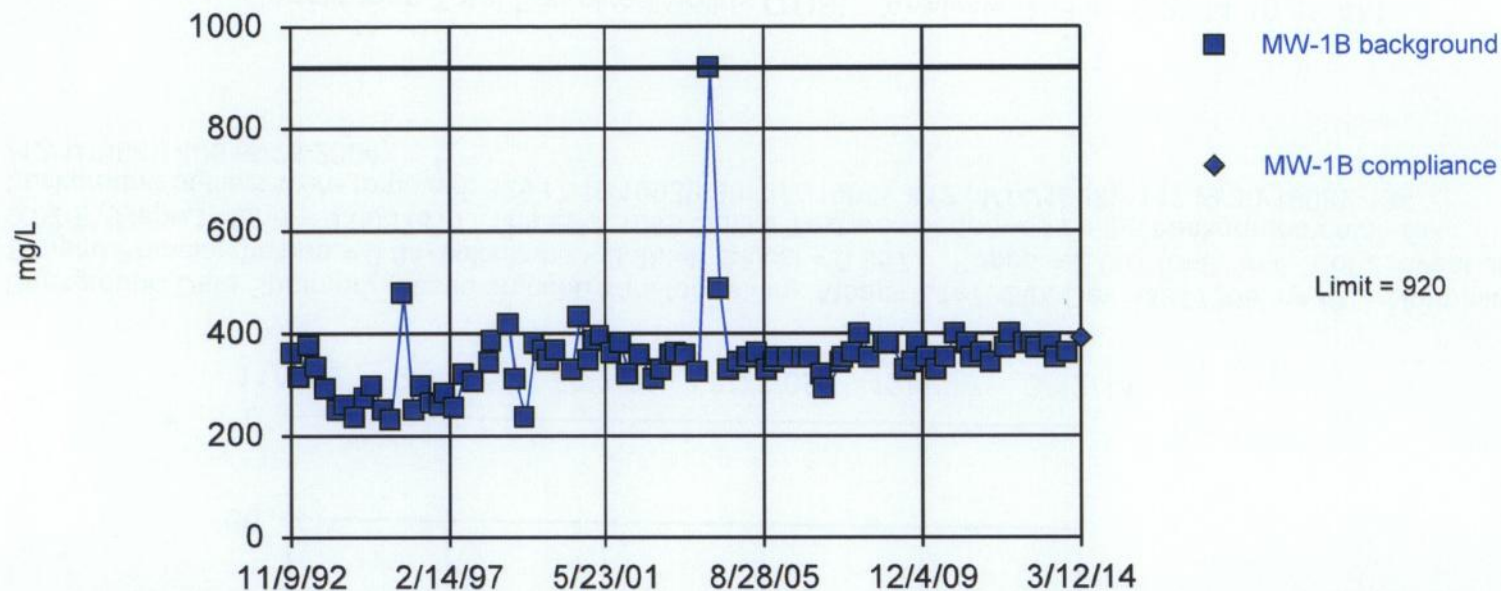


Background Data Summary (based on cube transformation): Mean=1.1e7, Std. Dev.=3277368, n=79. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9854, critical = 0.957. Kappa = 2.007 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. Six background outliers were removed: 325 (7/19/1993); 38 (1/7/1997); 412 (4/14/1998); 147 (9/30/1998); 134 (12/1/1998); 400 (6/23/2004).

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric

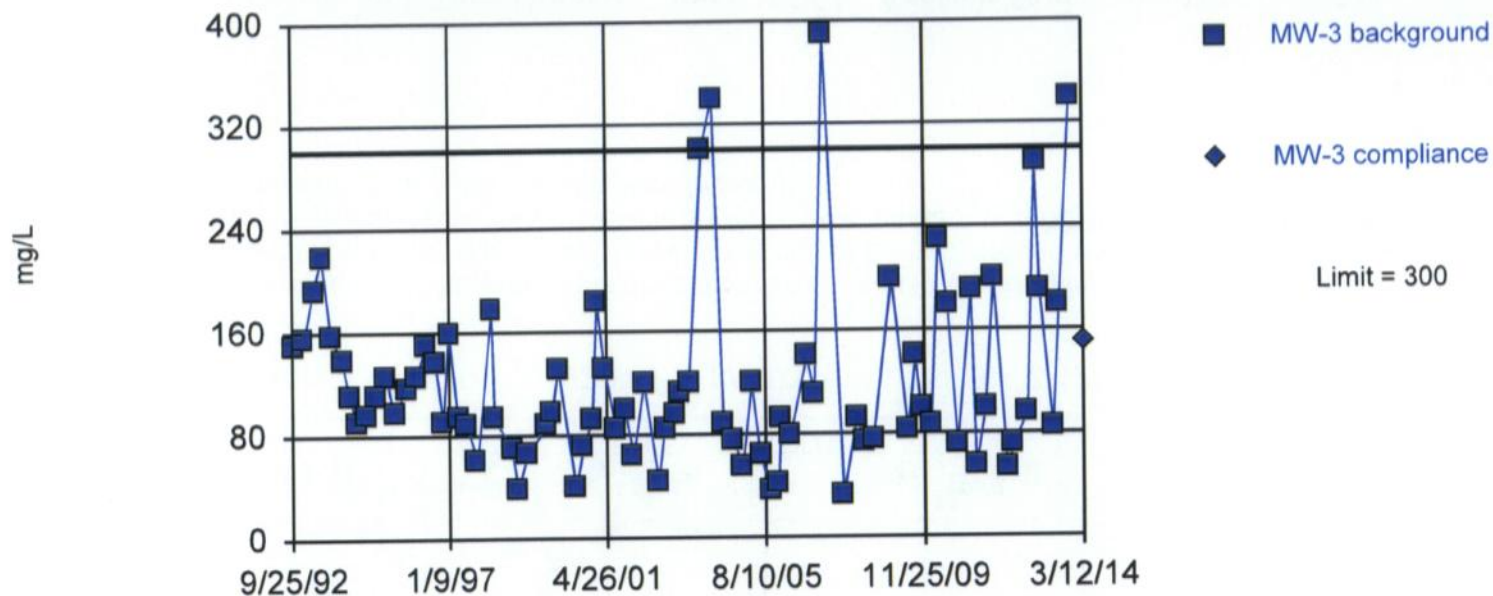


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 85 background values. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric

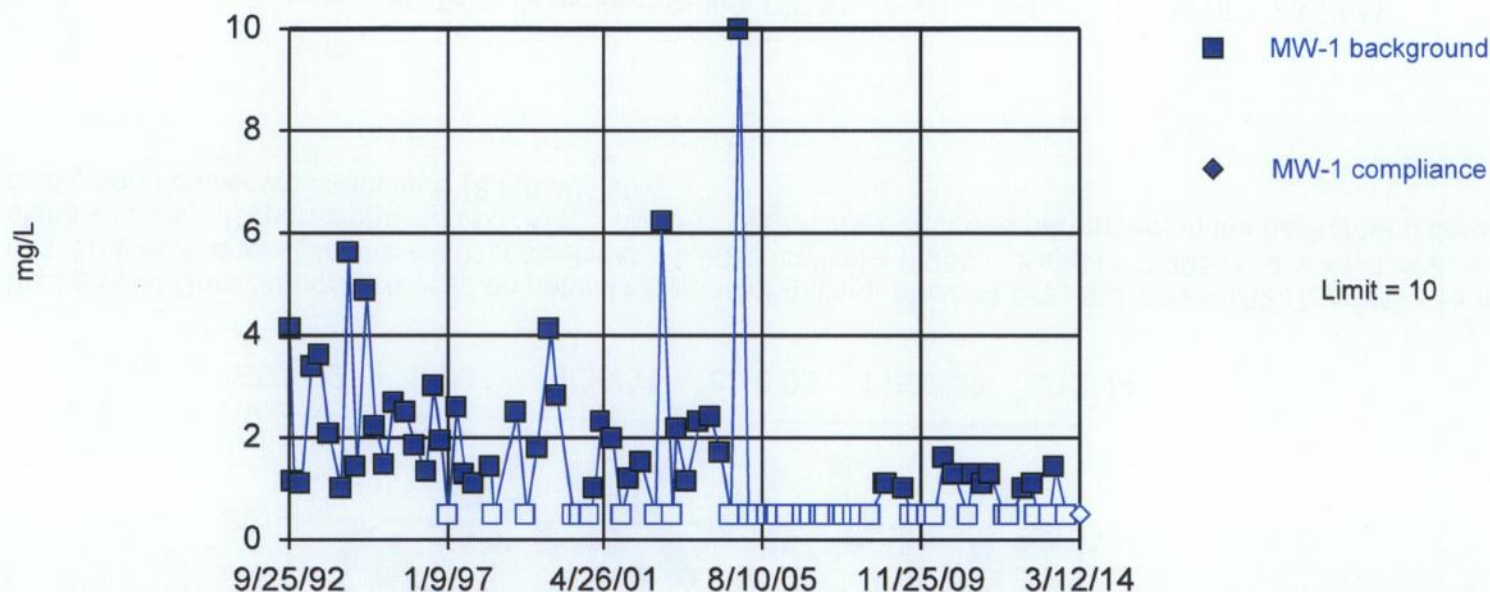


Background Data Summary (based on natural log transformation): Mean=4.668, Std. Dev.=0.5237, n=81. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9859, critical = 0.958. Kappa = 2.005 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 18 (10/30/2007).

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



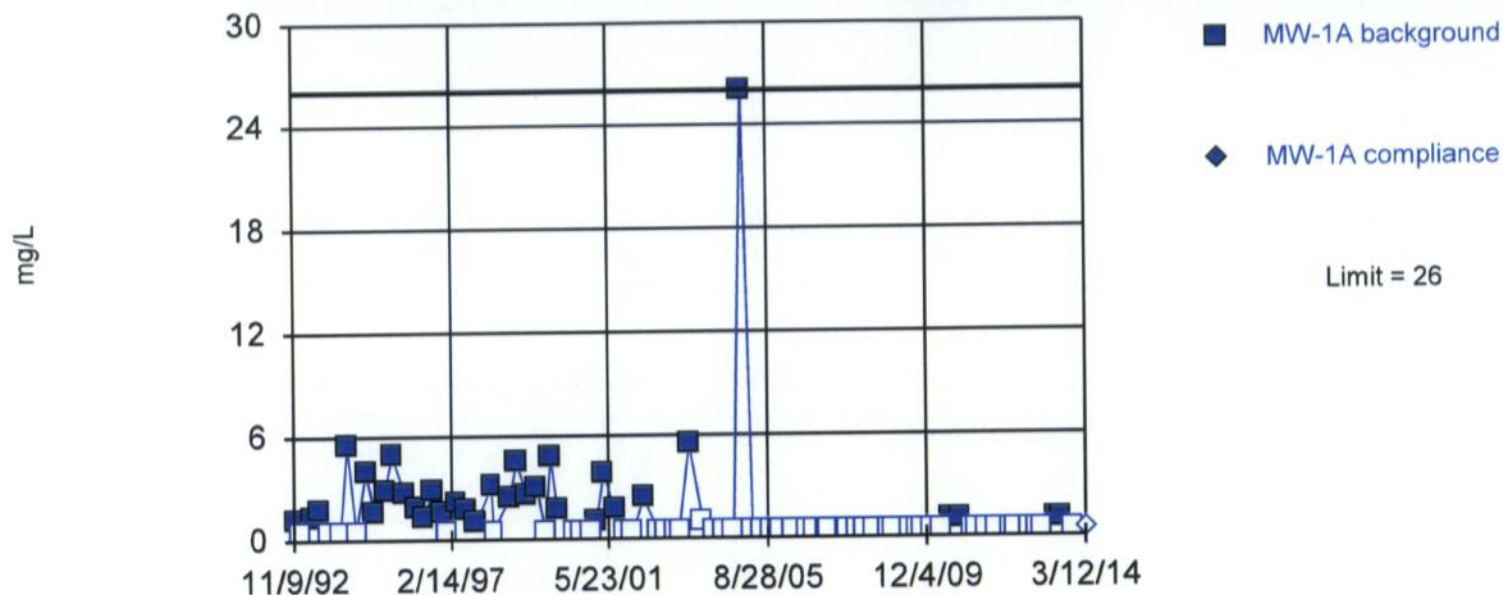
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 41.67% NDs. Well-constituent pair annual alpha = 0.001102. Individual comparison alpha = 0.0002756 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



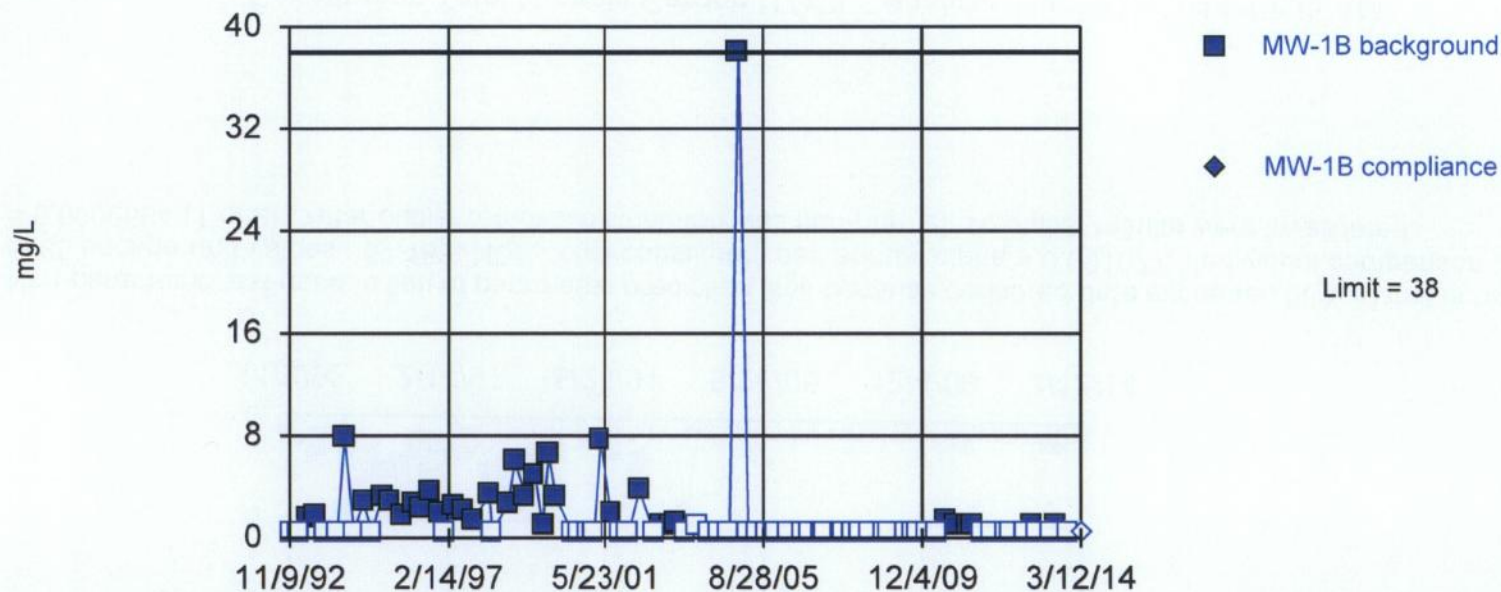
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 61.18% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



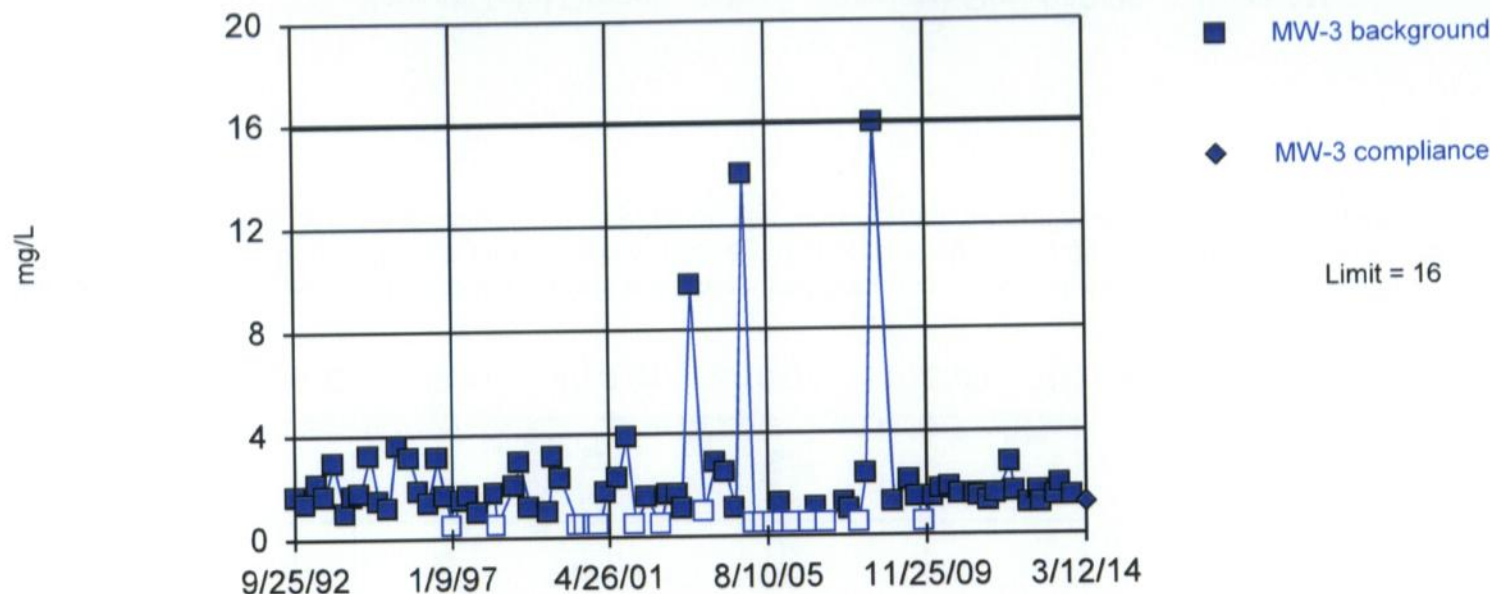
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 58.82% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric

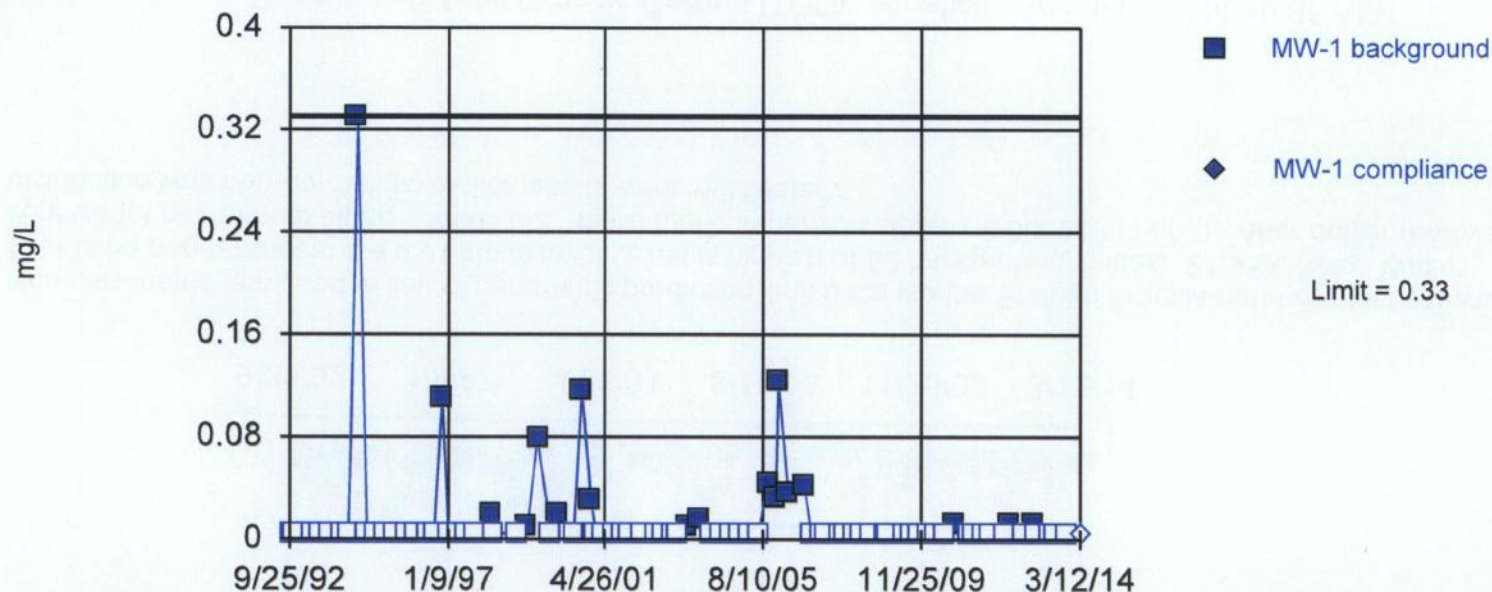


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 82 background values. 21.95% NDs. Well-constituent pair annual alpha = 0.001152. Individual comparison alpha = 0.000288 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



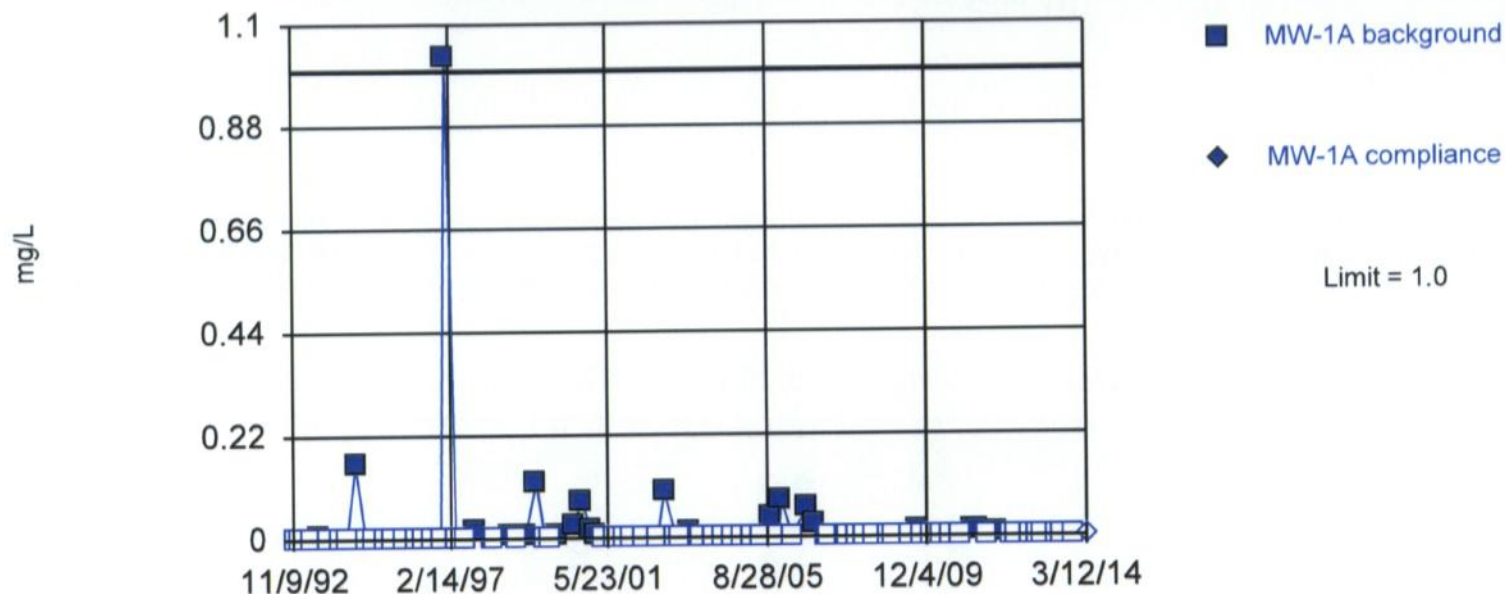
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 84 background values. 78.57% NDs. Well-constituent pair annual alpha = 0.001102. Individual comparison alpha = 0.0002756 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



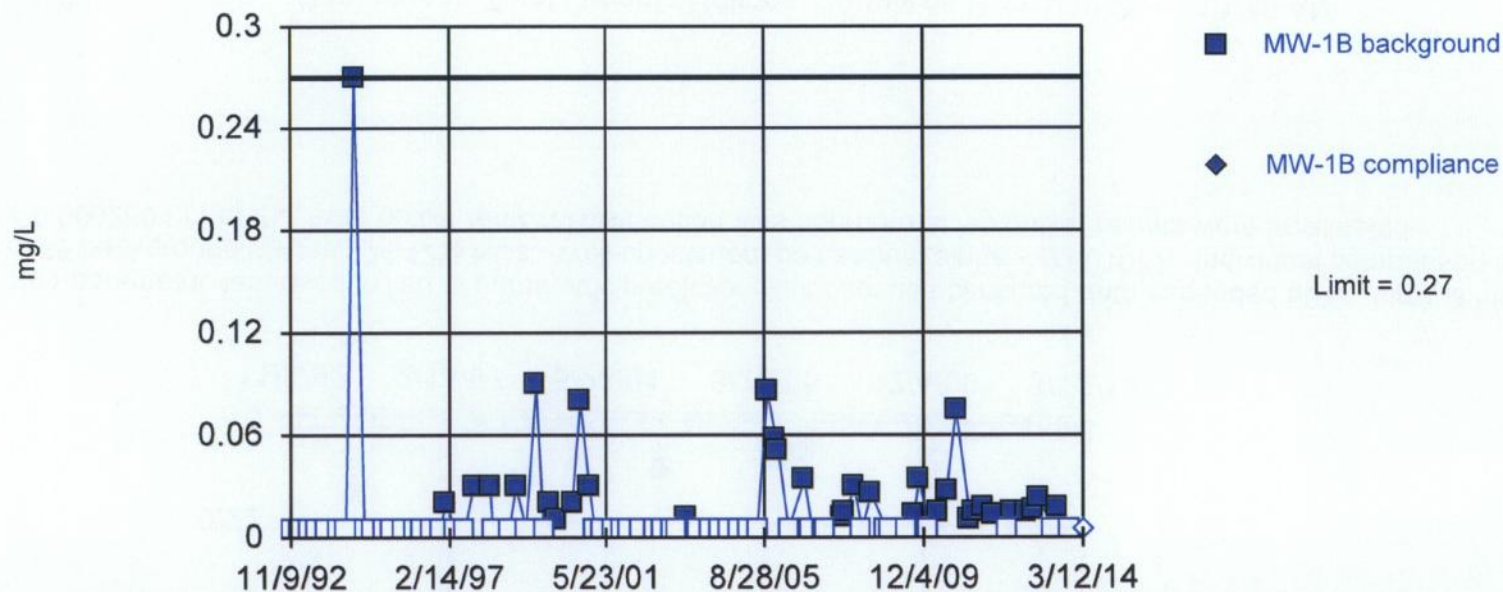
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 74.12% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:35 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric

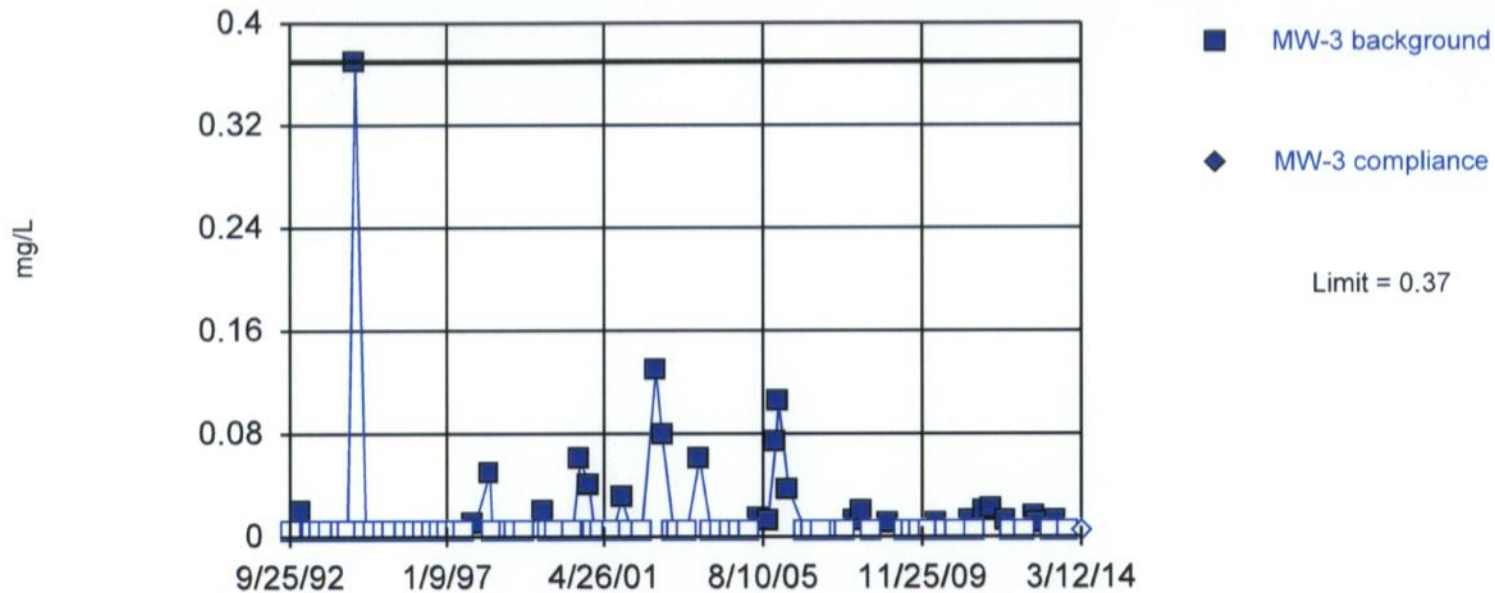


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 85 background values. 60% NDs. Well-constituent pair annual alpha = 0.001077. Individual comparison alpha = 0.0002694 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 82 background values. 67.07% NDs. Well-constituent pair annual alpha = 0.001152. Individual comparison alpha = 0.000288 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:35 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

**INTRA-WELL PREDICTION LIMITS
NEWER WELLS
QUARTERLY PARAMETERS**

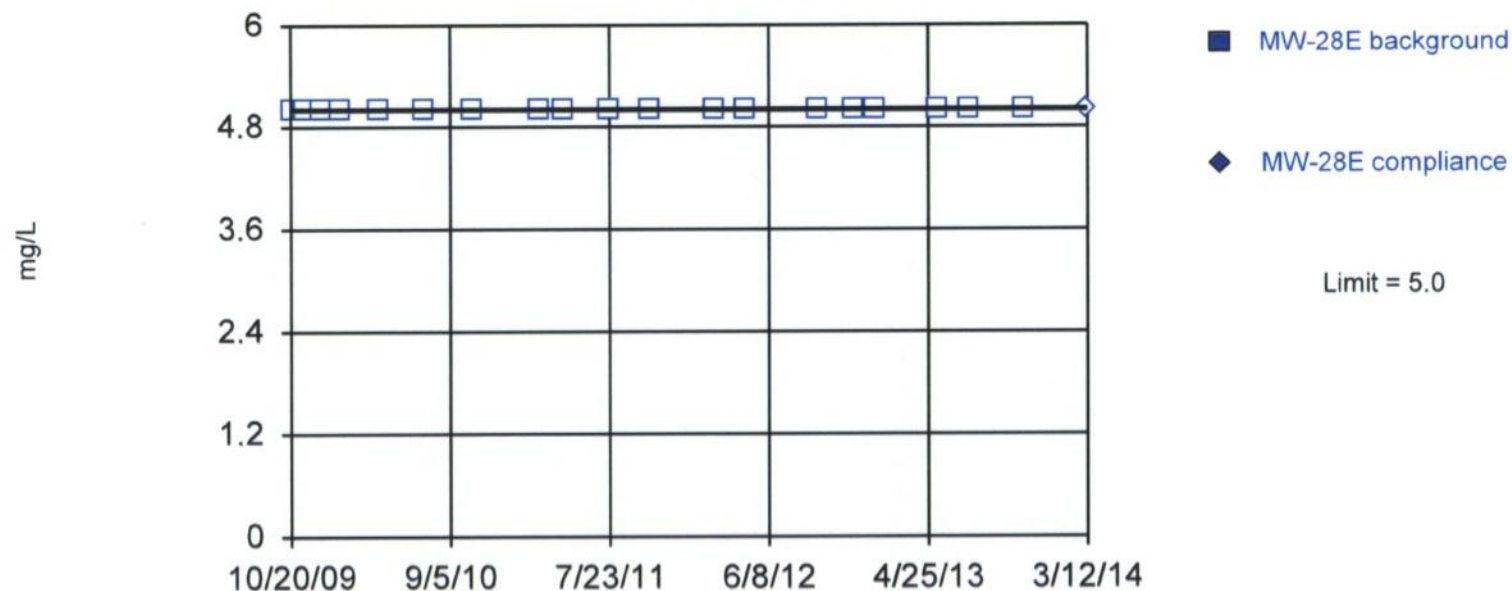
Prediction Limit

Facility: Green Valley Client: Green Valley LE Data File: GREENVALLEY Printed 4/10/2014, 10:40 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Obsrv.	Sig.	Bg.N	Bg.Mean	Std.Dev.	%NDs	ND.Adj.	Transform	Alpha	Method
Chemical Oxygen Demand [COD] (mg/L)	MW-28E	5.0	n/a	3/12/2014	5ND	No	19	n/a	n/a	100	n/a	n/a	0.004738	NP Intra (NDs) 1 of 2
Chemical Oxygen Demand [COD] (mg/L)	MW-28D	12	n/a	3/12/2014	5ND	No	19	n/a	n/a	89.47	n/a	n/a	0.004738	NP Intra (NDs) 1 of 2
Chemical Oxygen Demand [COD] (mg/L)	MW-28C	27	n/a	3/12/2014	5ND	No	19	n/a	n/a	73.68	n/a	n/a	0.004738	NP Intra (NDs) 1 of 2
Chloride (mg/L)	MW-28E	2.4	n/a	3/12/2014	19	No	19	8.769	2.198	0	None	x^3	0.0007314	Param Intra 1 of 2
Chloride (mg/L)	MW-28D	23	n/a	3/12/2014	18	No	19	n/a	n/a	0	n/a	n/a	0.004738	NP Intra (normality)
Chloride (mg/L)	MW-28C	41	n/a	3/12/2014	12	No	19	2.507	0.4018	0	None	x^(1/3)	0.0007314	Param Intra 1 of 2
Iron Total (mg/L)	MW-28E	19	n/a	3/12/2014	0.031	No	19	-1.962	1.111	5.263	None	ln(x)	0.0007314	Param Intra 1 of 2
Iron Total (mg/L)	MW-28D	190	n/a	3/12/2014	2.4	No	19	0.9493	1.847	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Iron Total (mg/L)	MW-28C	72	n/a	3/12/2014	3.5	No	19	n/a	n/a	0	n/a	n/a	0.004738	NP Intra (normality)
pH [Field] (su)	MW-28E	7	5.9	3/12/2014	0.46	No	16	1.866	0.03519	0	None	ln(x)	0.0003657	Param Intra 1 of 2
pH [Field] (su)	MW-28D	6.8	4.9	3/12/2014	5.48	No	18	1.799	0.04129	0	None	x^(1/3)	0.0003657	Param Intra 1 of 2
pH [Field] (su)	MW-28C	6.6	4.3	3/12/2014	5.27	No	18	30.79	5.218	0	None	x^2	0.0003657	Param Intra 1 of 2
Sodium Total (mg/L)	MW-28E	22	n/a	3/12/2014	15	No	18	15.83	2.749	0	None	No	0.0007314	Param Intra 1 of 2
Sodium Total (mg/L)	MW-28D	39	n/a	3/12/2014	30	No	18	27.06	5.286	0	None	No	0.0007314	Param Intra 1 of 2
Sodium Total (mg/L)	MW-28C	28	n/a	3/12/2014	16	No	19	16.86	4.952	0	None	No	0.0007314	Param Intra 1 of 2
Specific Conductance [Field] (umhos/cm)	MW-28E	410	n/a	3/12/2014	333	No	18	5.799	0.09481	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Specific Conductance [Field] (umhos/cm)	MW-28D	830	n/a	3/12/2014	649	No	17	6.377	0.1442	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Specific Conductance [Field] (umhos/cm)	MW-28C	830	n/a	3/12/2014	526	No	19	536.5	124.3	0	None	No	0.0007314	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-28E	240	n/a	3/12/2014	170	No	18	6646389	2842487	0	None	x^3	0.0007314	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-28D	460	n/a	3/12/2014	430	No	19	3.7e15	2.4e15	0	None	x^6	0.0007314	Param Intra 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MW-28C	530	n/a	3/12/2014	340	No	19	360.5	71.53	0	None	No	0.0007314	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/L)	MW-28E	1.6	n/a	3/12/2014	0.5ND	No	19	1.11	0.228	21.05	Kaplan-Meier	No	0.0007314	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/L)	MW-28D	2.2	n/a	3/12/2014	0.5ND	No	19	0.4476	0.1376	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/L)	MW-28C	2.8	n/a	3/12/2014	1.3	No	17	0.6108	0.1771	0	None	ln(x)	0.0007314	Param Intra 1 of 2
Total Organic Halides (mg/L)	MW-28E	0.034	n/a	3/12/2014	0.005ND	No	19	n/a	n/a	73.68	n/a	n/a	0.004738	NP Intra (NDs) 1 of 2
Total Organic Halides (mg/L)	MW-28D	0.034	n/a	3/12/2014	0.005ND	No	19	n/a	n/a	36.84	n/a	n/a	0.004738	NP Intra (normality) ...
Total Organic Halides (mg/L)	MW-28C	0.057	n/a	3/12/2014	0.005ND	No	19	0.2636	0.05244	10.53	None	x^(1/3)	0.0007314	Param Intra 1 of 2

Sanitas™ v.9.4.32 n/a. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit Intrawell Non-parametric



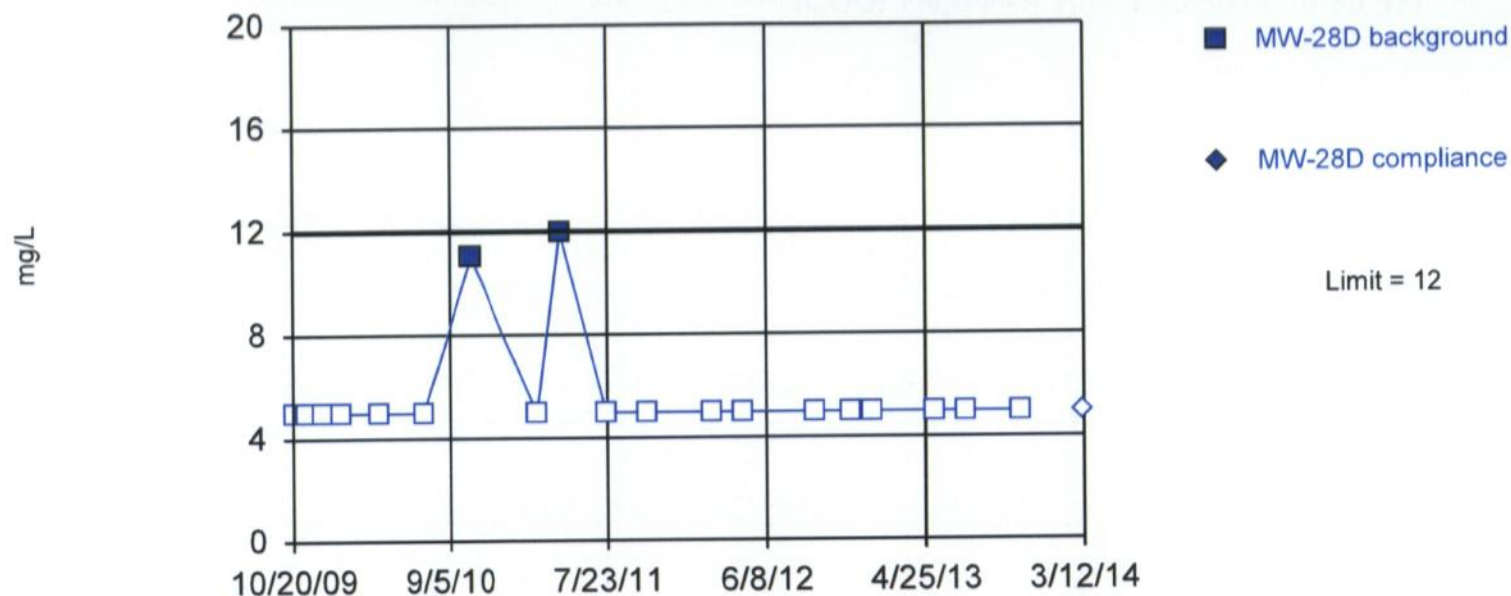
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 100% NDs. Well-constituent pair annual alpha = 0.01882. Individual comparison alpha = 0.004738 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chemical Oxygen Demand [COD] Analysis Run 4/10/2014 10:39 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Sanitas™ v.9.4.32 n/a. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit Intrawell Non-parametric

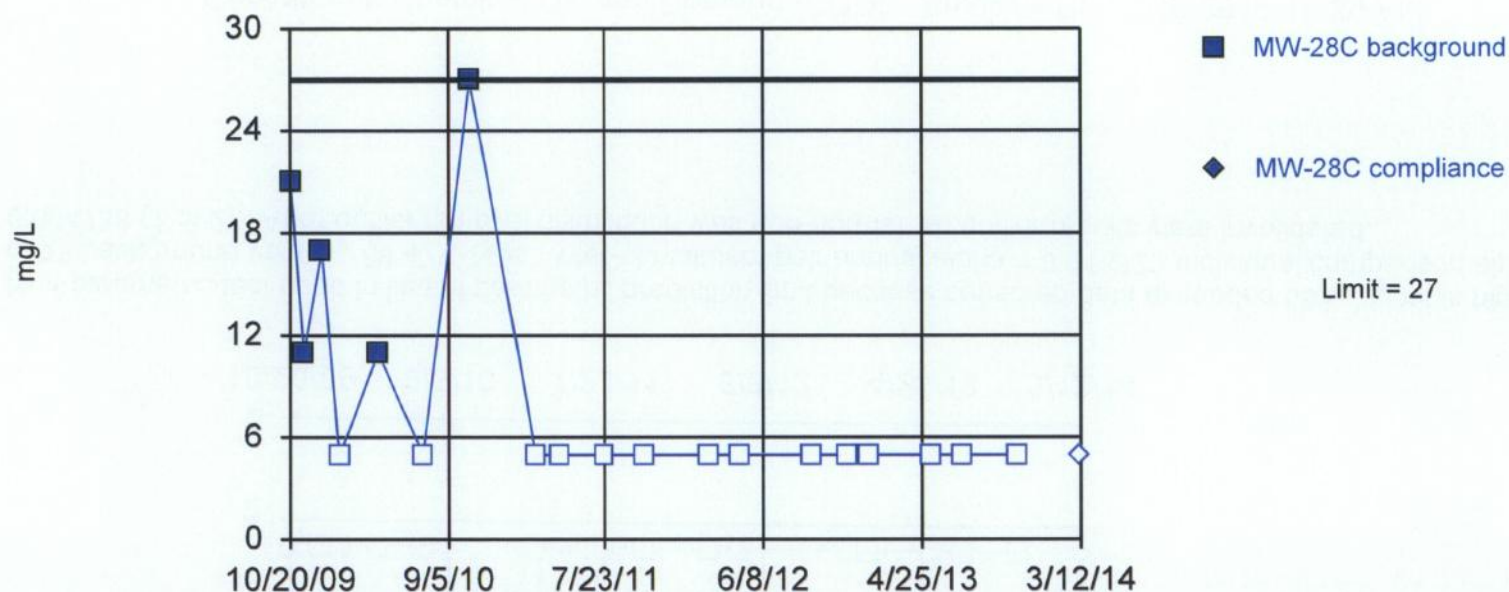


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 89.47% NDs. Well-constituent pair annual alpha = 0.01882. Individual comparison alpha = 0.004738 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Chemical Oxygen Demand [COD] Analysis Run 4/10/2014 10:39 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

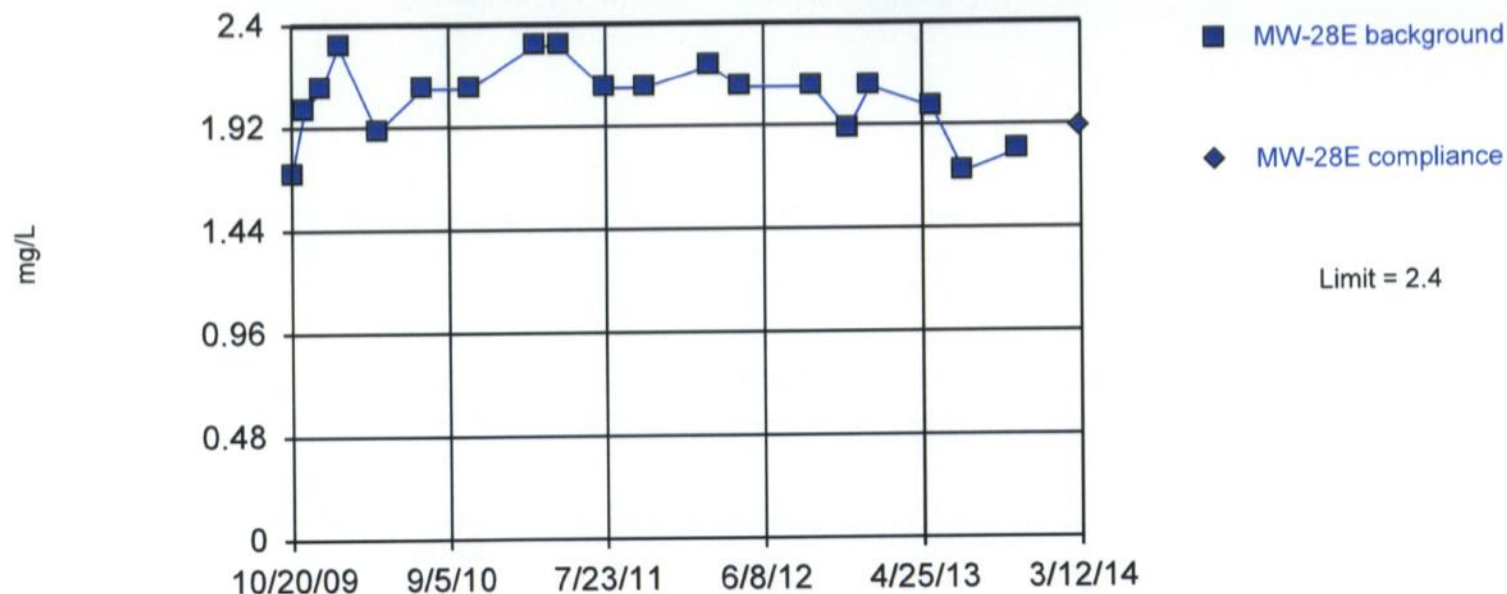
Within Limit

Prediction Limit Intrawell Non-parametric



Within Limit

Prediction Limit Intrawell Parametric



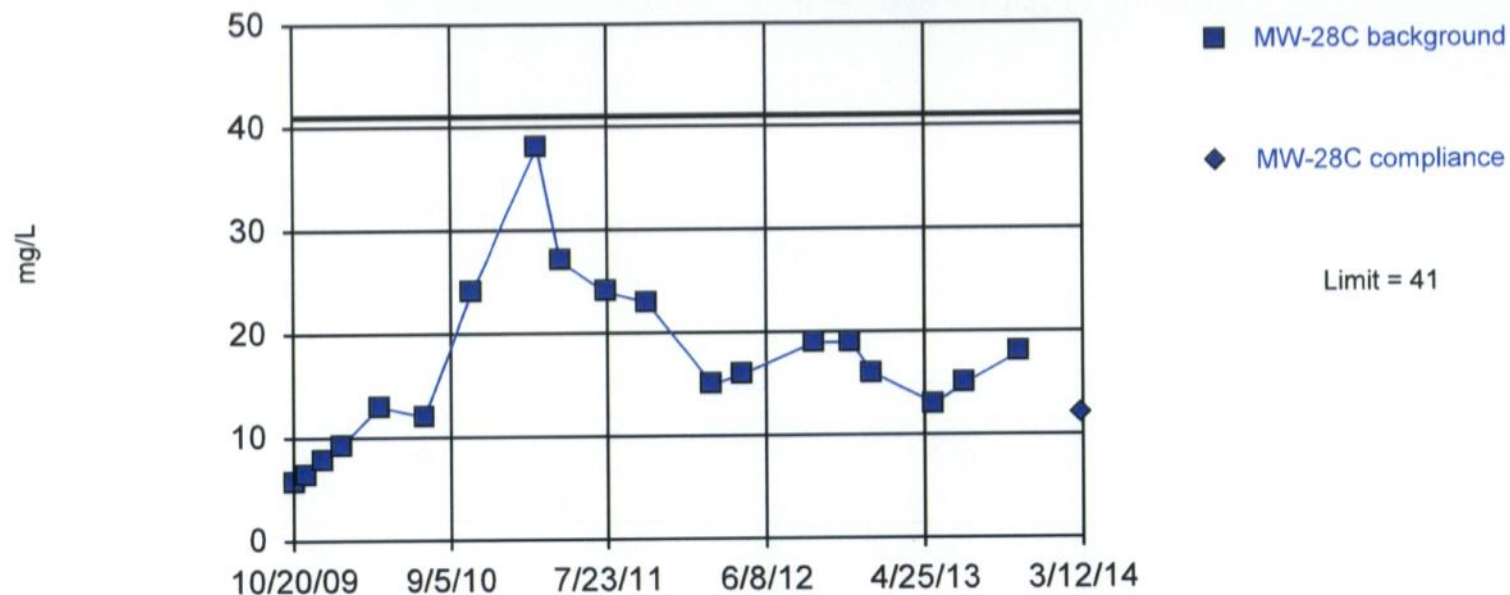
Within Limit

Prediction Limit
Intrawell Non-parametric



Within Limit

Prediction Limit Intrawell Parametric



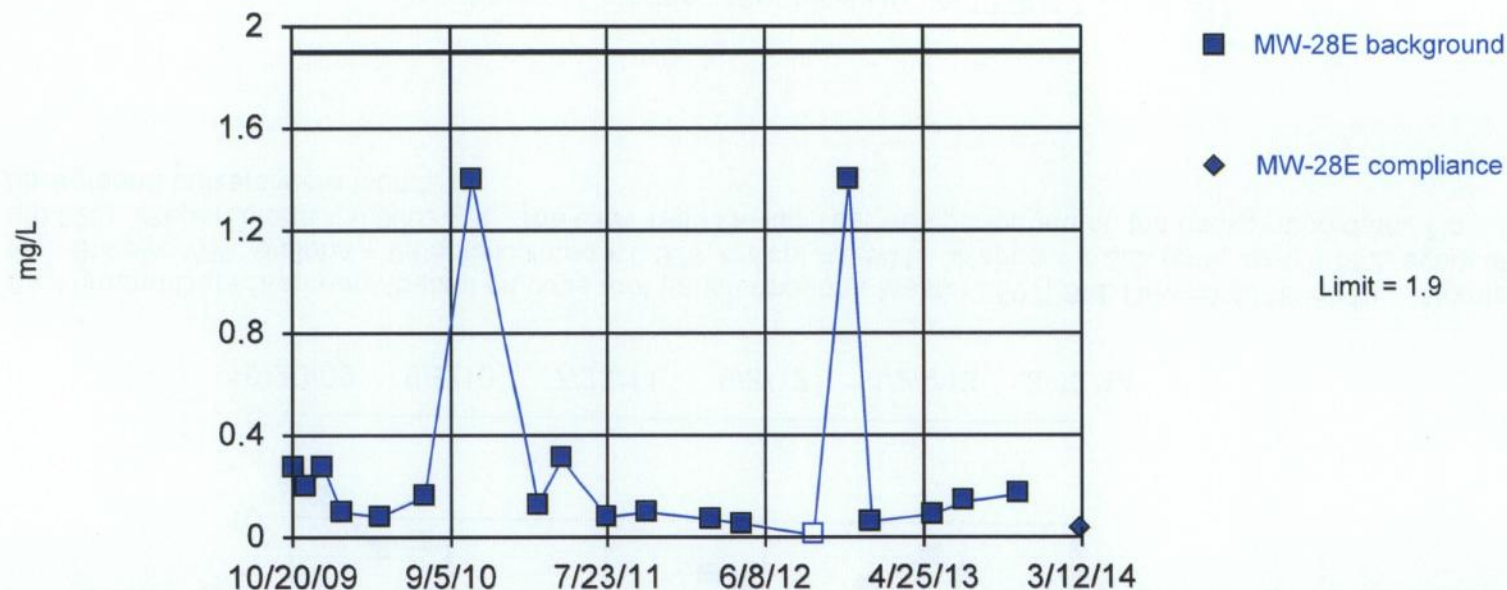
Background Data Summary (based on cube root transformation): Mean=2.507, Std. Dev.=0.4018, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.979, critical = 0.901. Kappa = 2.325 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Chloride Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Prediction Limit

Intrawell Parametric



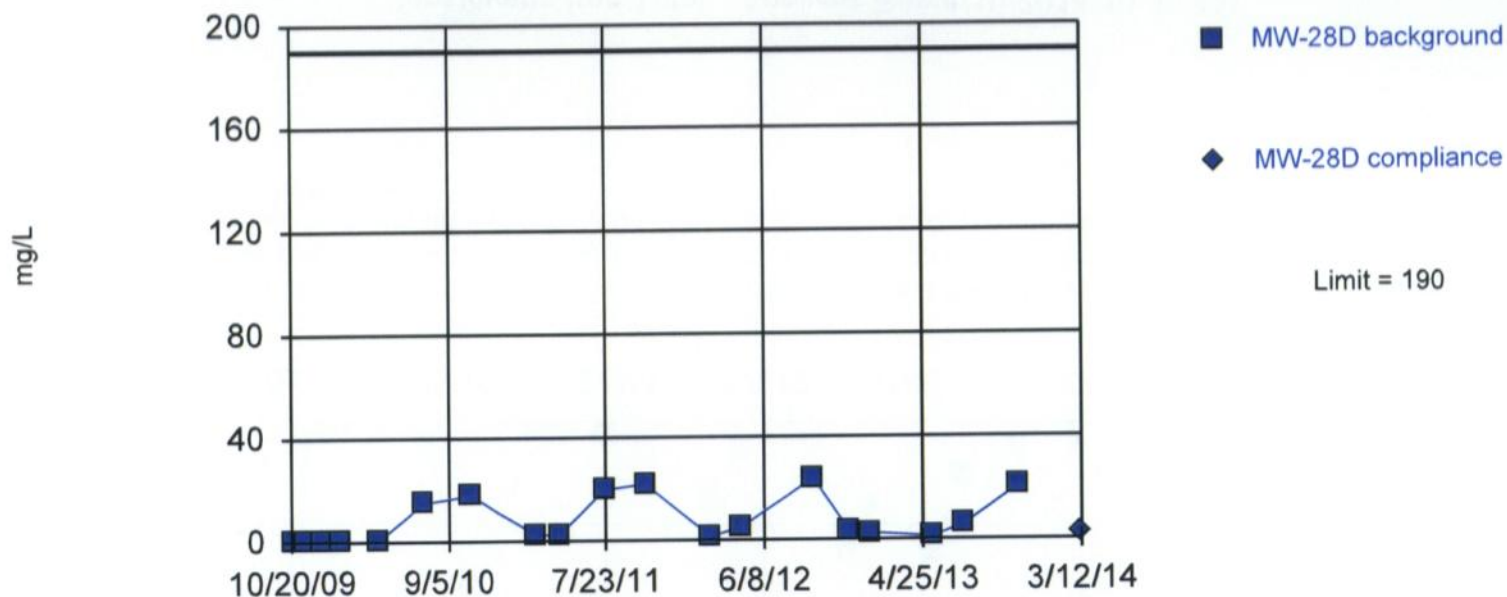
Background Data Summary (based on natural log transformation): Mean=-1.962, Std. Dev.=1.111, n=19, 5.263% NDs. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9173, critical = 0.901. Kappa = 2.325 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=0.9493, Std. Dev.=1.847, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.914, critical = 0.901. Kappa = 2.325 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Iron Total Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

mg/L

Limit = 72

■ MW-28C background

◆ MW-28C compliance

Date	MW-28C background (mg/L)	MW-28C compliance (mg/L)
10/20/09	72	
11/10/09	8	
11/24/09	4	
12/8/09	4	
12/22/09	4	
1/5/10	4	
1/19/10	8	
2/2/10	28	
2/16/10	4	
2/28/10	4	
3/13/10	4	
4/26/10	4	
6/8/10	12	
7/23/10	4	
9/6/10	4	
10/20/10	4	
12/3/10	20	
12/17/10	12	
1/31/11	20	
3/14/11	8	
4/26/11	8	
6/8/11	4	
7/23/11	4	
9/6/11	4	
10/20/11	4	
12/3/11	4	
1/17/12	4	
2/28/12	4	
4/13/12	4	
5/27/12	4	
7/13/12	4	
8/27/12	4	
10/10/12	4	
11/24/12	4	
1/7/13	4	
2/19/13	4	
4/6/13	4	
5/20/13	4	
7/3/13	4	
8/17/13	4	
9/30/13	4	
11/13/13	4	
12/27/13	4	
2/10/14	4	
3/12/14	4	8

Constituent: Iron Total Analysis Run 4/10/2014 10:39 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limits

Prediction Limit

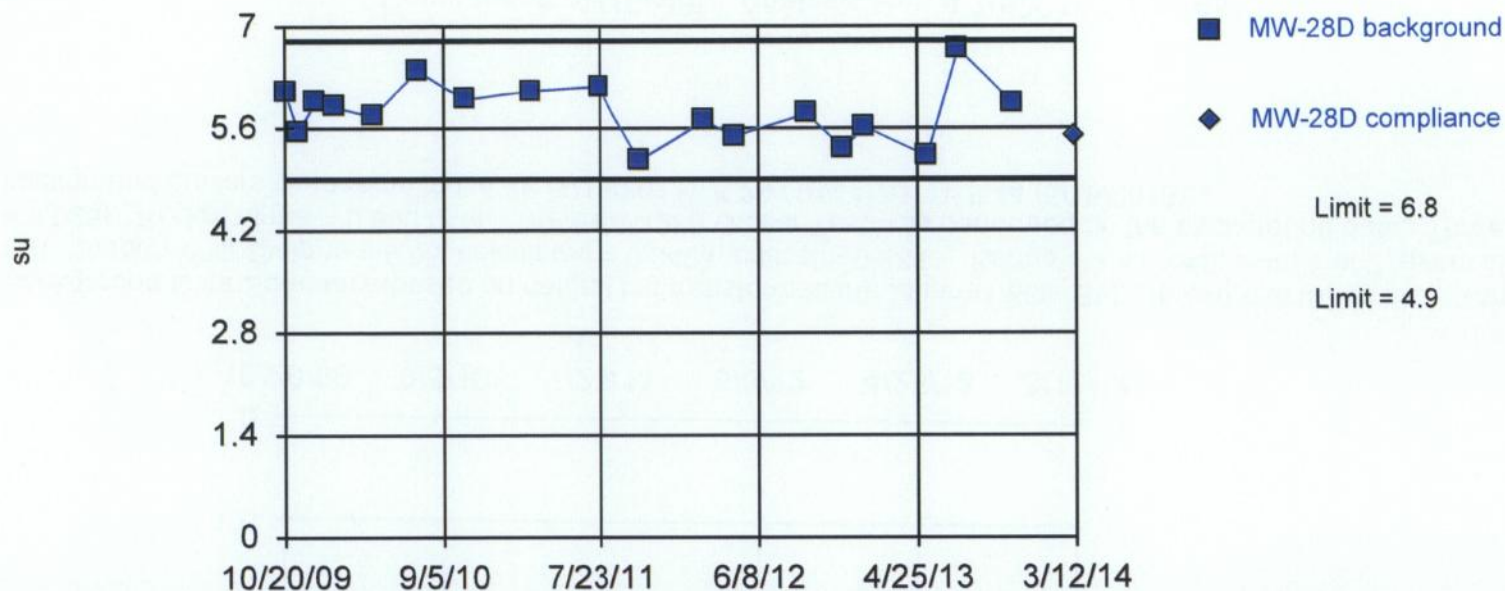
Intrawell Parametric



Within Limits

Prediction Limit

Intrawell Parametric



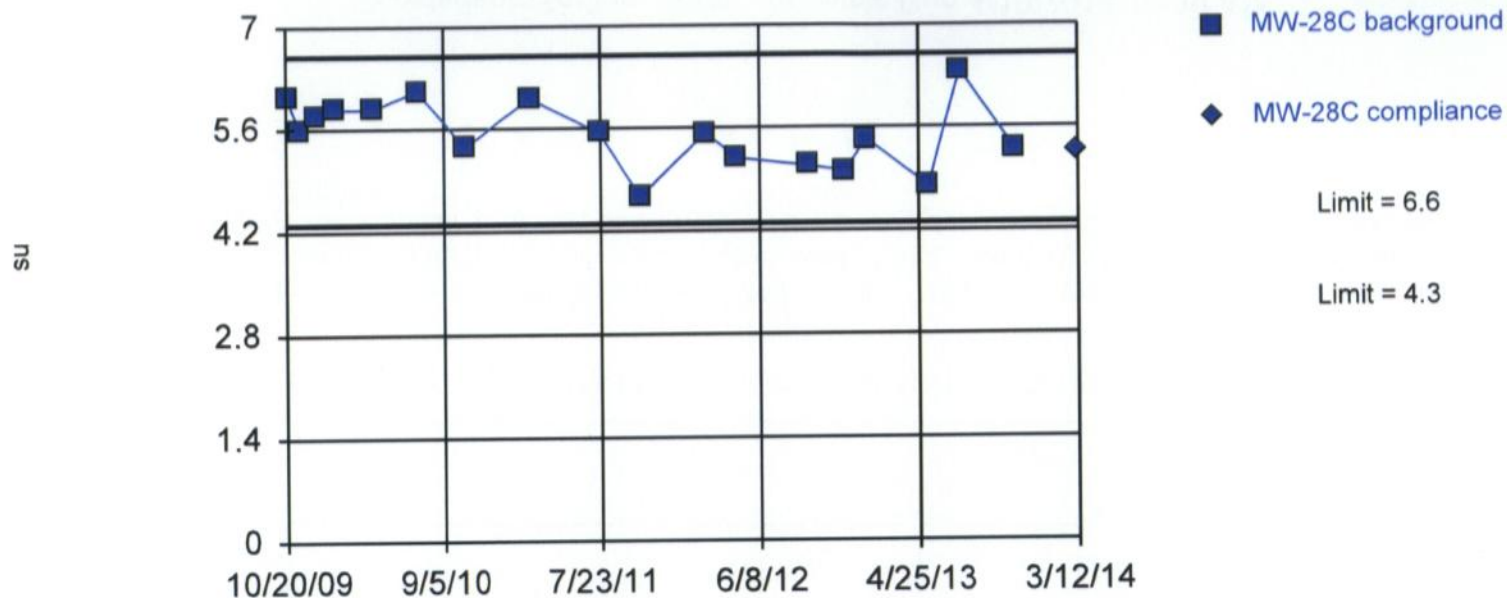
Background Data Summary (based on cube root transformation): Mean=1.799, Std. Dev.=0.04129, n=18. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9843, critical = 0.897. Kappa = 2.353 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 4.46 (4/19/2011).

Constituent: pH [Field] Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limits

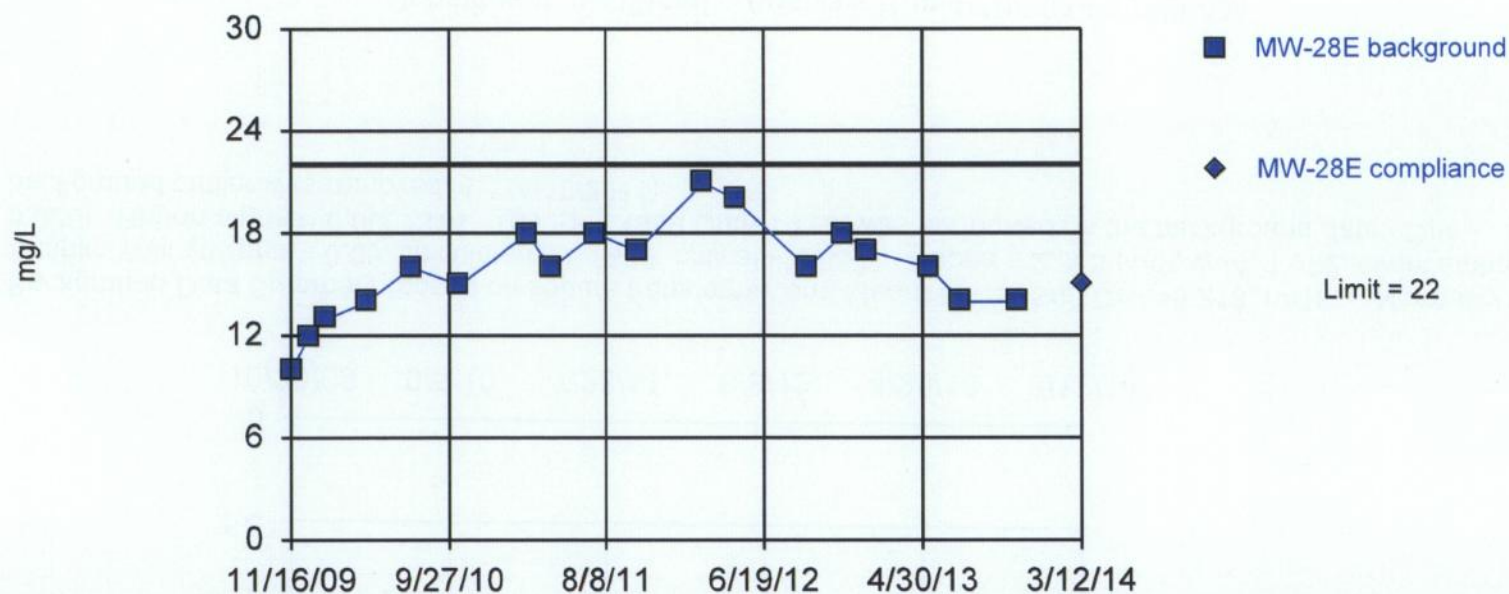
Prediction Limit Intrawell Parametric



Within Limit

Prediction Limit

Intrawell Parametric



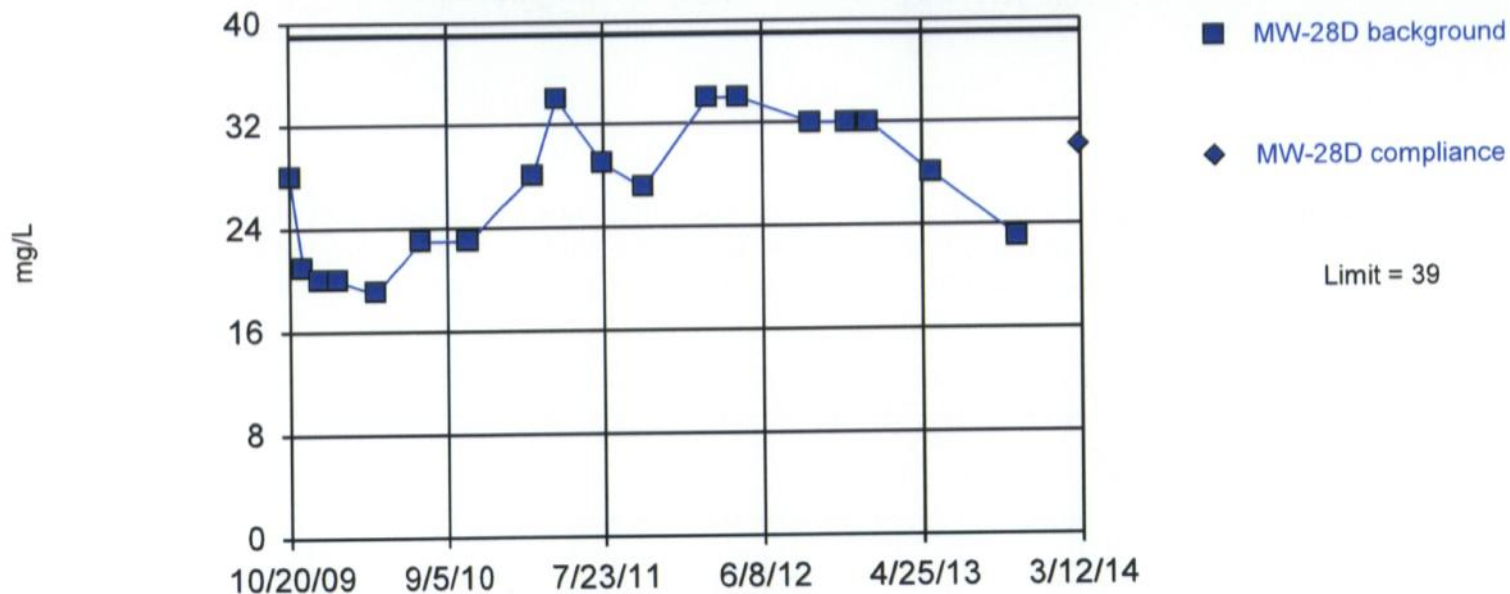
Background Data Summary: Mean=15.83, Std. Dev.=2.749, n=18. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9807, critical = 0.897. Kappa = 2.353 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 7.4 (10/20/2009).

Constituent: Sodium Total Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

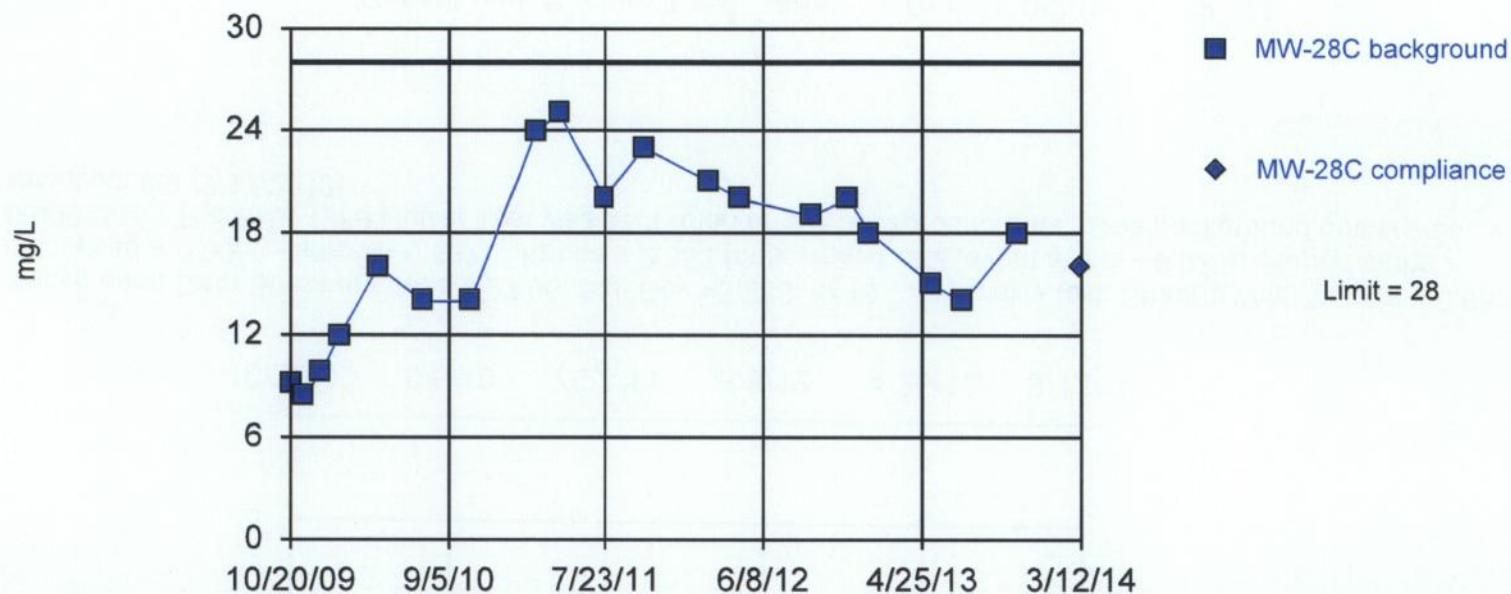
Within Limit

Prediction Limit Intrawell Parametric



Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary: Mean=16.86, Std. Dev.=4.952, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9629, critical = 0.901. Kappa = 2.325 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Sodium Total Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric



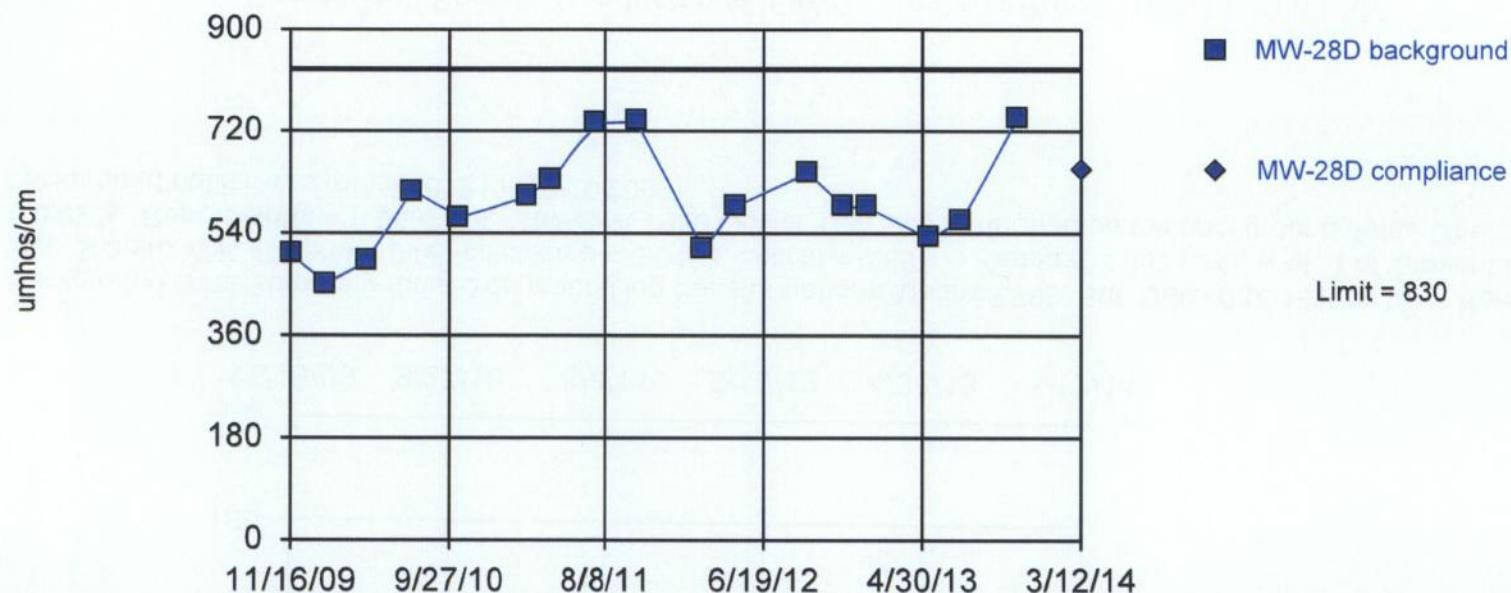
Background Data Summary (based on natural log transformation): Mean=5.799, Std. Dev.=0.09481, n=18. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9463, critical = 0.897. Kappa = 2.353 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 210 (10/20/2009).

Constituent: Specific Conductance [Field] Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric



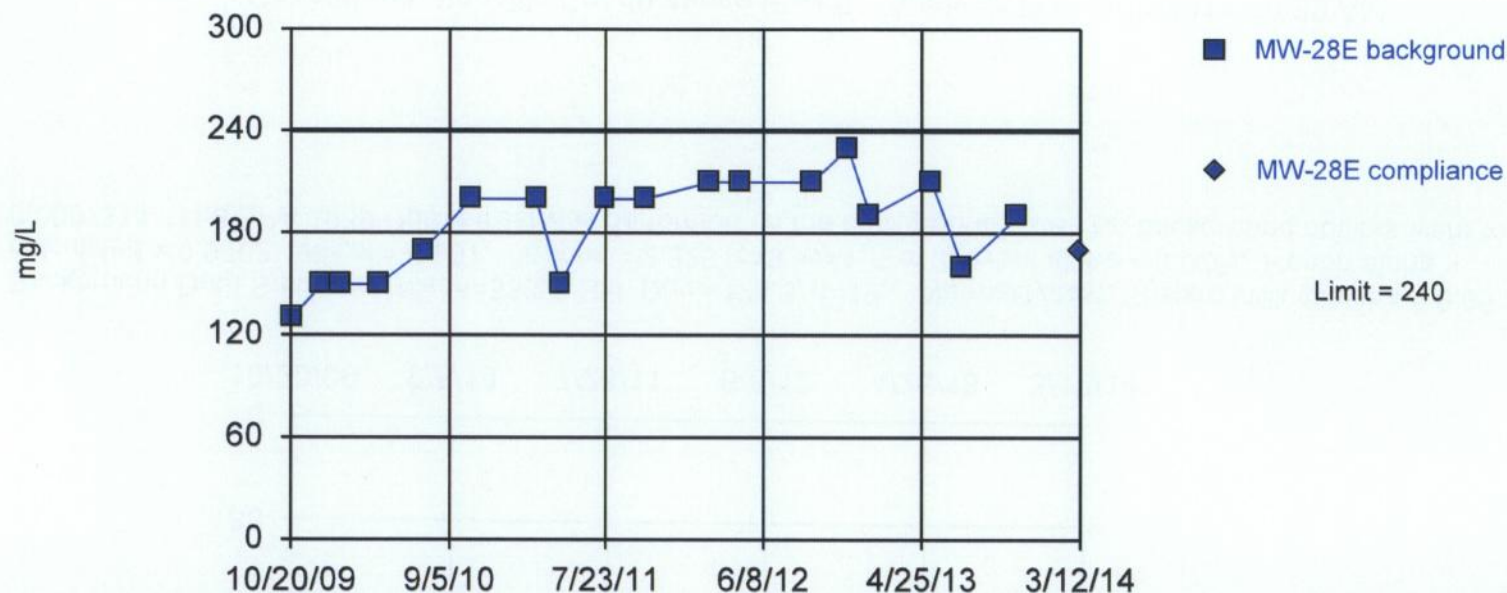
Within Limit

Prediction Limit Intrawell Parametric



Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=6646389, Std. Dev.=2842487, n=18. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.916, critical = 0.897. Kappa = 2.353 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. One background outlier was removed: 910 (11/16/2009).

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:39 AM
 Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Parametric



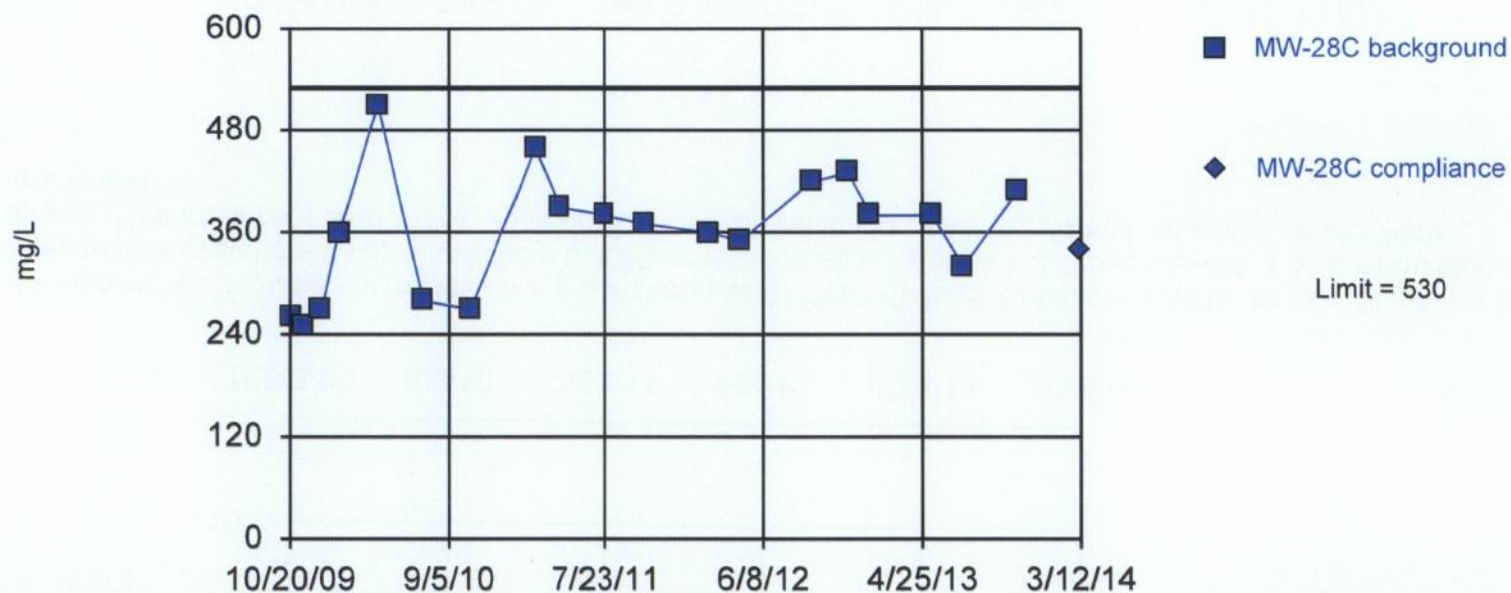
Background Data Summary (based on x^6 transformation): Mean= $3.7e15$, Std. Dev.= $2.4e15$, $n=19$. Normality test: Shapiro Wilk @ $\alpha = 0.05$, calculated = 0.9093, critical = 0.901. Kappa = 2.325 ($c=9$, $w=4$, 1 of 2, event $\alpha = 0.026$). Report $\alpha = 0.0007314$. After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:39 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

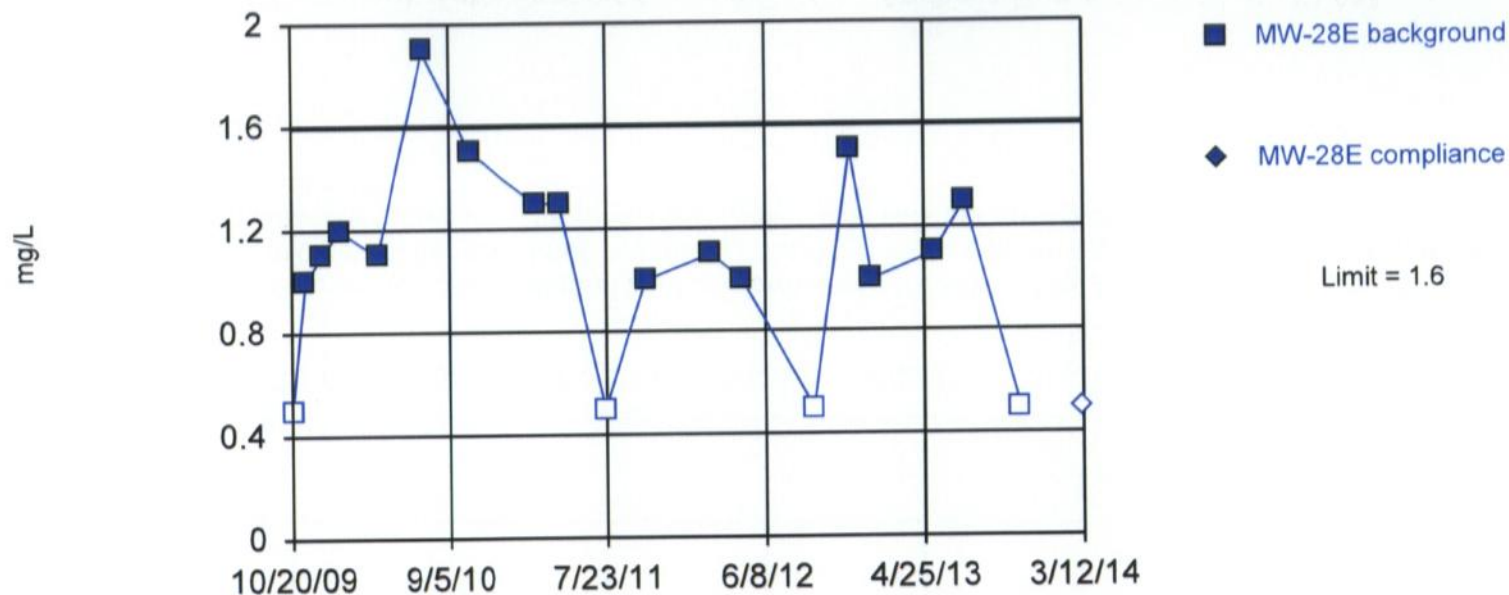
Prediction Limit

Intrawell Parametric



Within Limit

Prediction Limit Intrawell Parametric



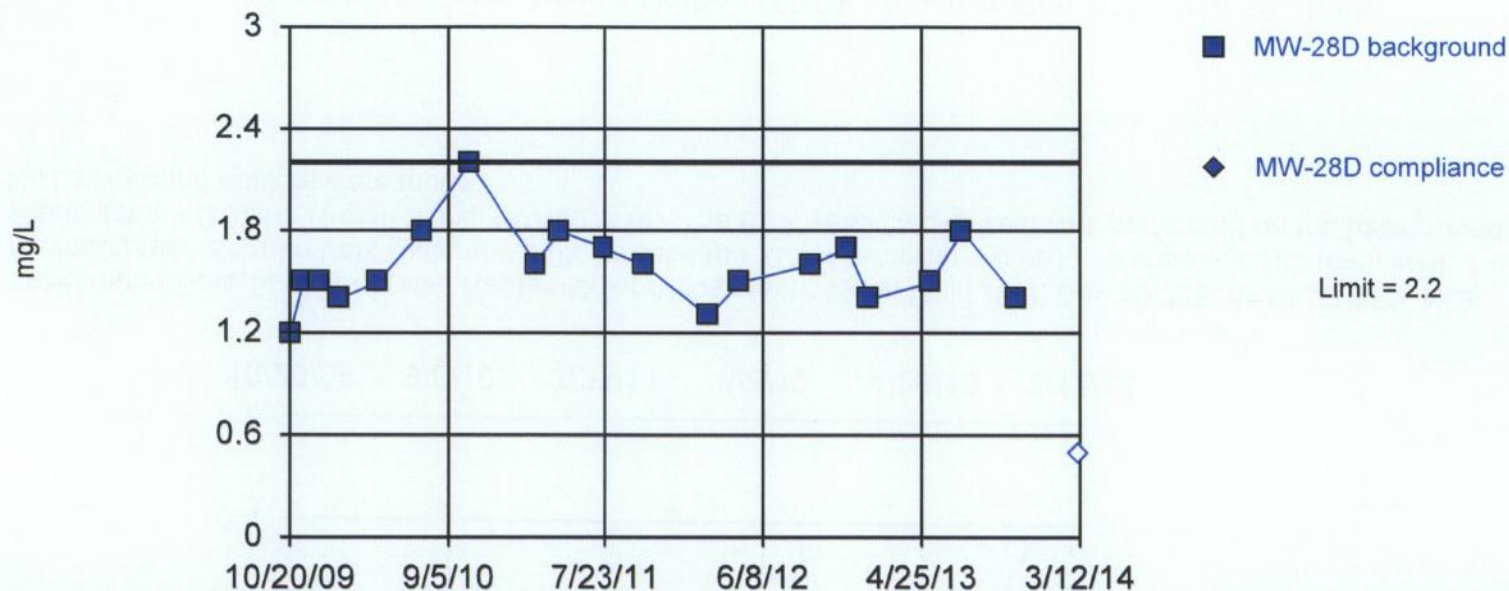
Background Data Summary (after Kaplan-Meier Adjustment): Mean=1.11, Std. Dev.=0.228, n=19, 21.05% NDs.
Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9147, critical = 0.901. Kappa = 2.325 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2014 10:39 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit

Intrawell Parametric



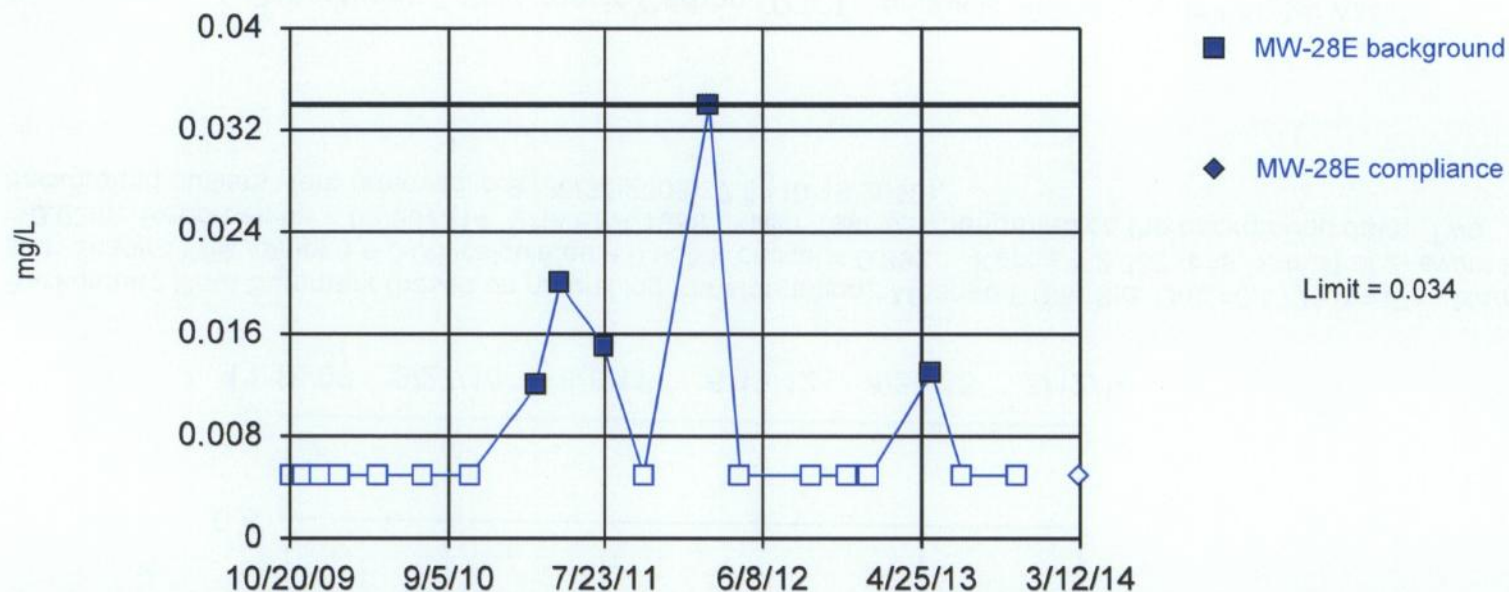
Within Limit

Prediction Limit Intrawell Parametric



Within Limit

Prediction Limit
Intrawell Non-parametric



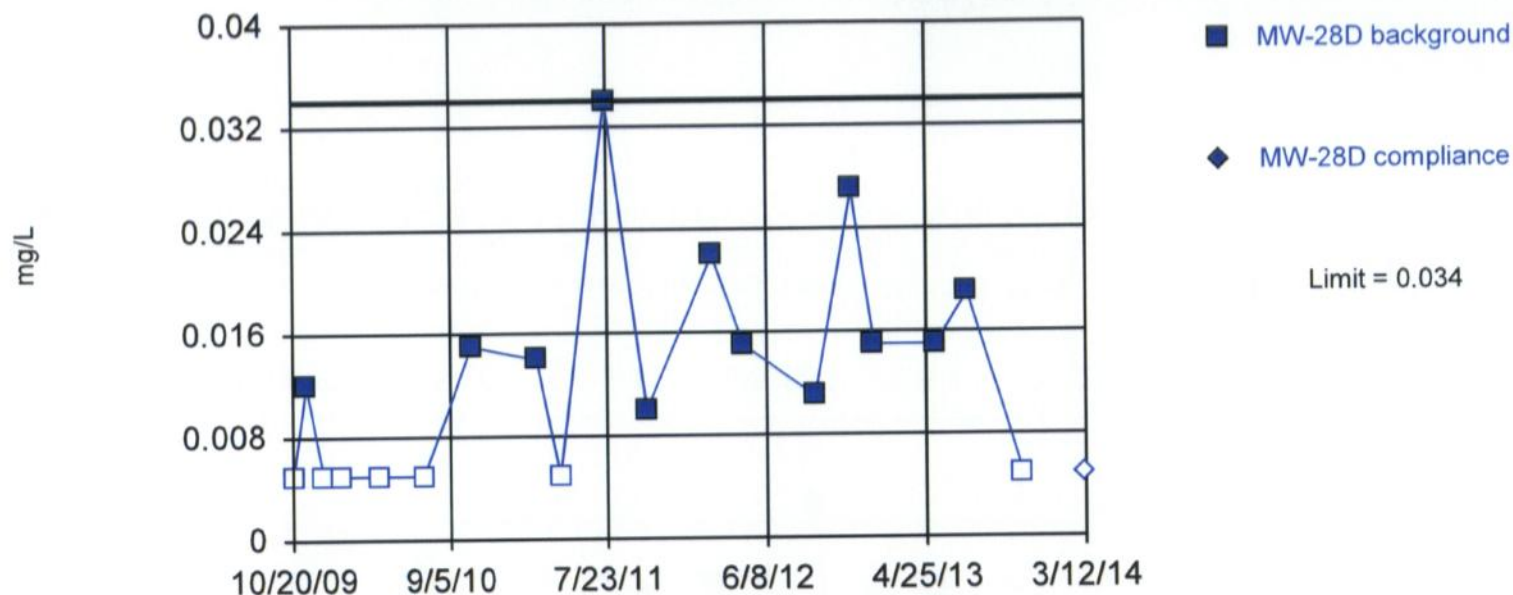
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 73.68% NDs. Well-constituent pair annual alpha = 0.01882. Individual comparison alpha = 0.004738 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit Intrawell Non-parametric



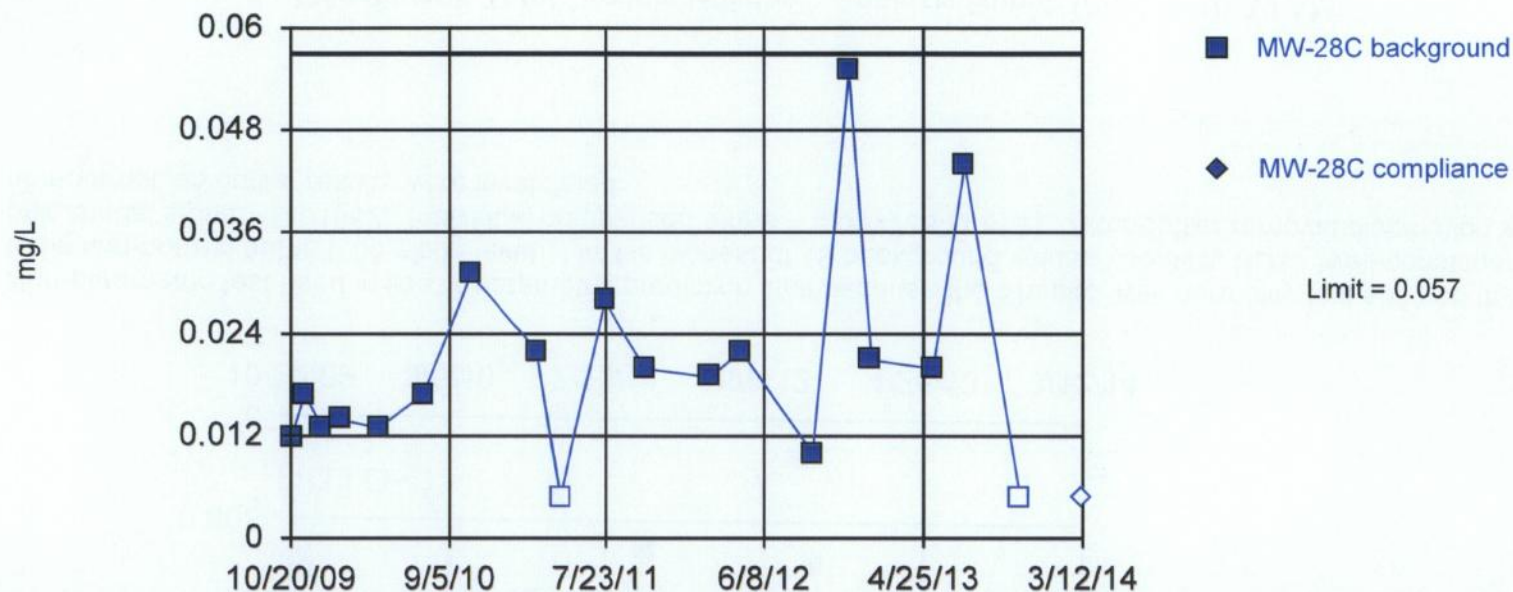
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 19 background values. 36.84% NDs. Well-constituent pair annual alpha = 0.01882. Individual comparison alpha = 0.004738 (1 of 2). After outlier removal distribution was non-normal, so outlier results were invalidated.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:39 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Within Limit

Prediction Limit

Intrawell Parametric



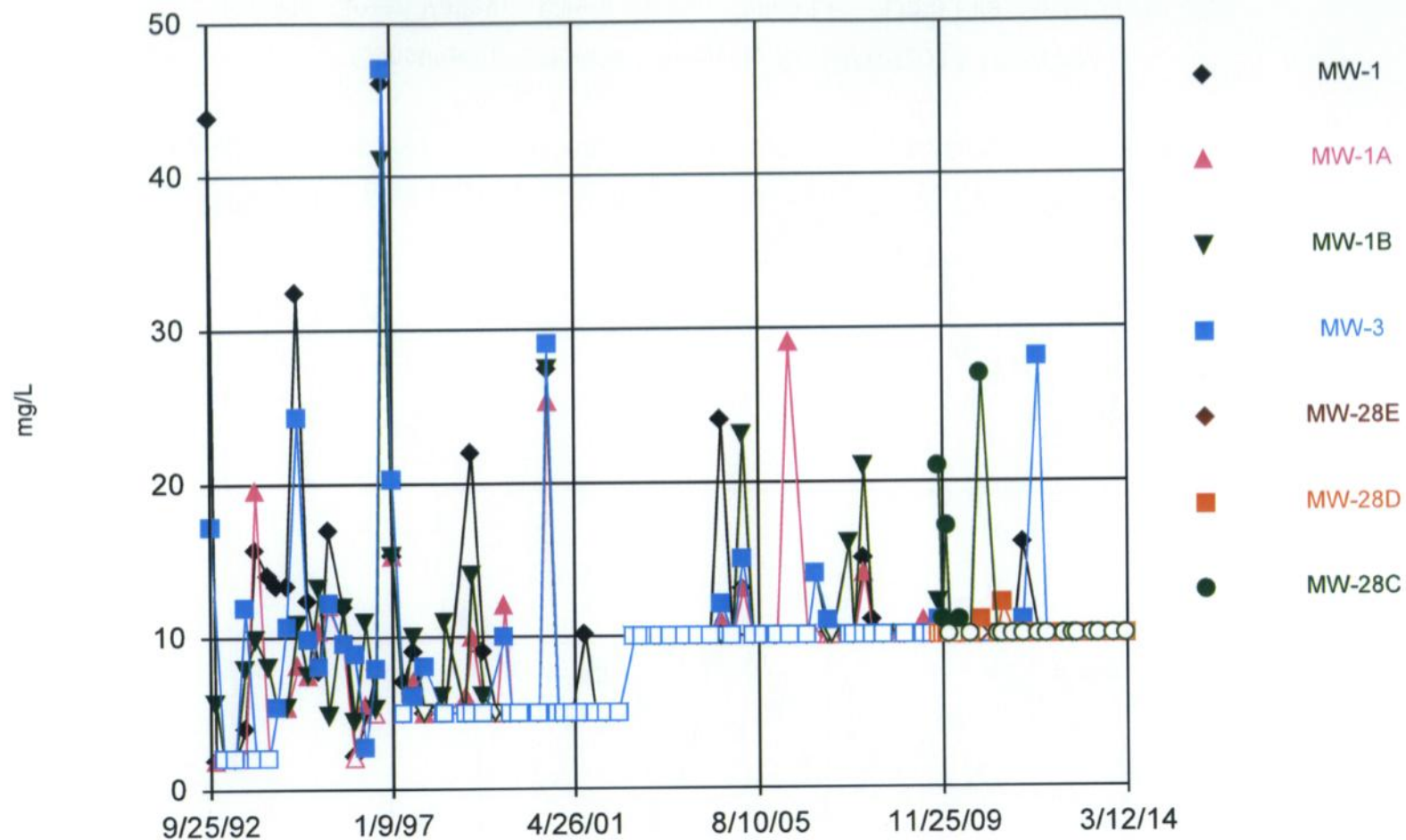
Background Data Summary (based on cube root transformation): Mean=0.2636, Std. Dev.=0.05244, n=19, 10.53% NDs. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9585, critical = 0.901. Kappa = 2.325 (c=9, w=4, 1 of 2, event alpha = 0.026). Report alpha = 0.0007314. The EPA 1989 Outlier Test was performed on the background data. No background outliers were found.

Constituent: Total Organic Halides Analysis Run 4/10/2014 10:39 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

TIME SERIES PLOTS & DATA

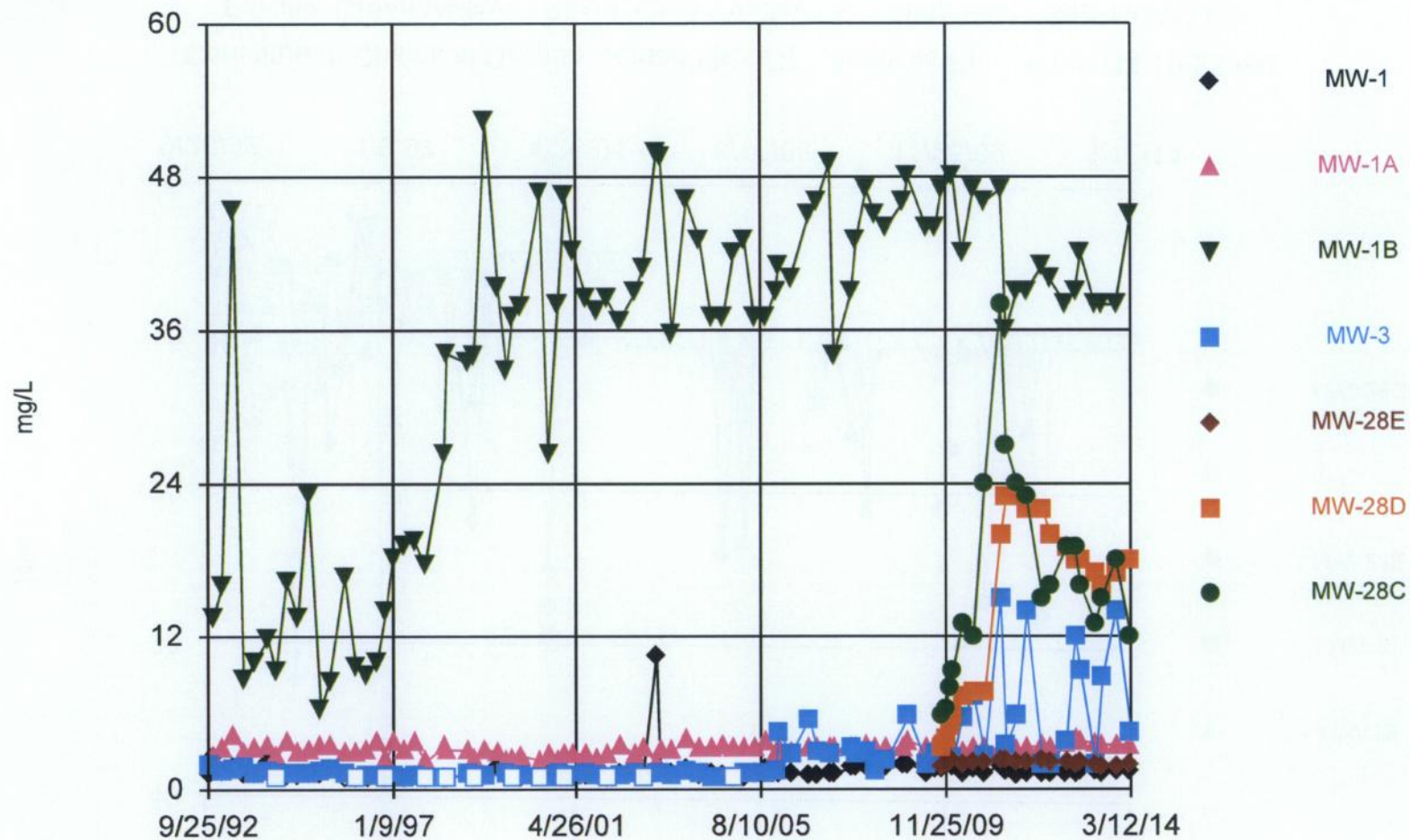
Time Series



Constituent: Chemical Oxygen Demand [COD] Analysis Run 4/10/2014 10:53 AM

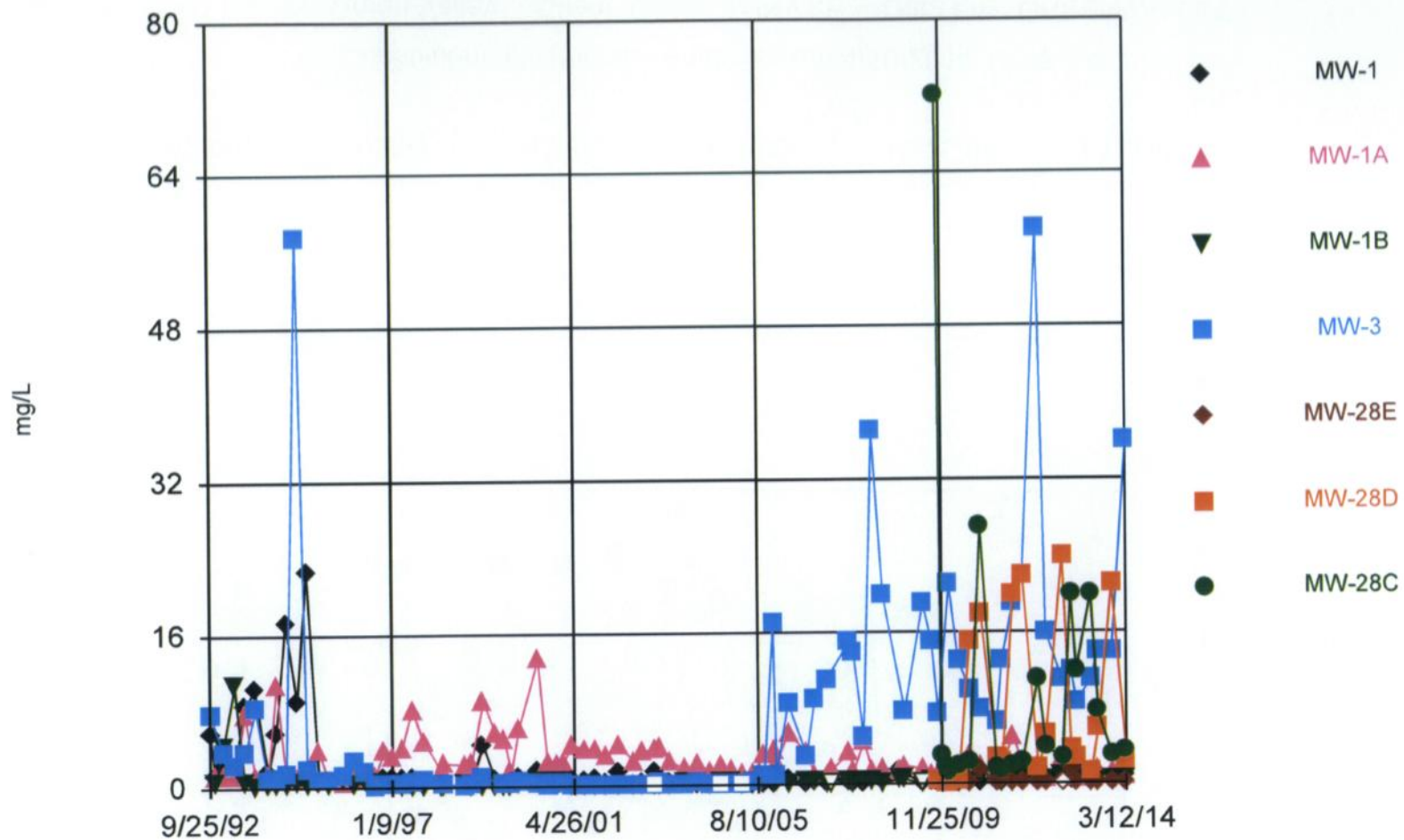
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Time Series



Constituent: Chloride Analysis Run 4/10/2014 10:53 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

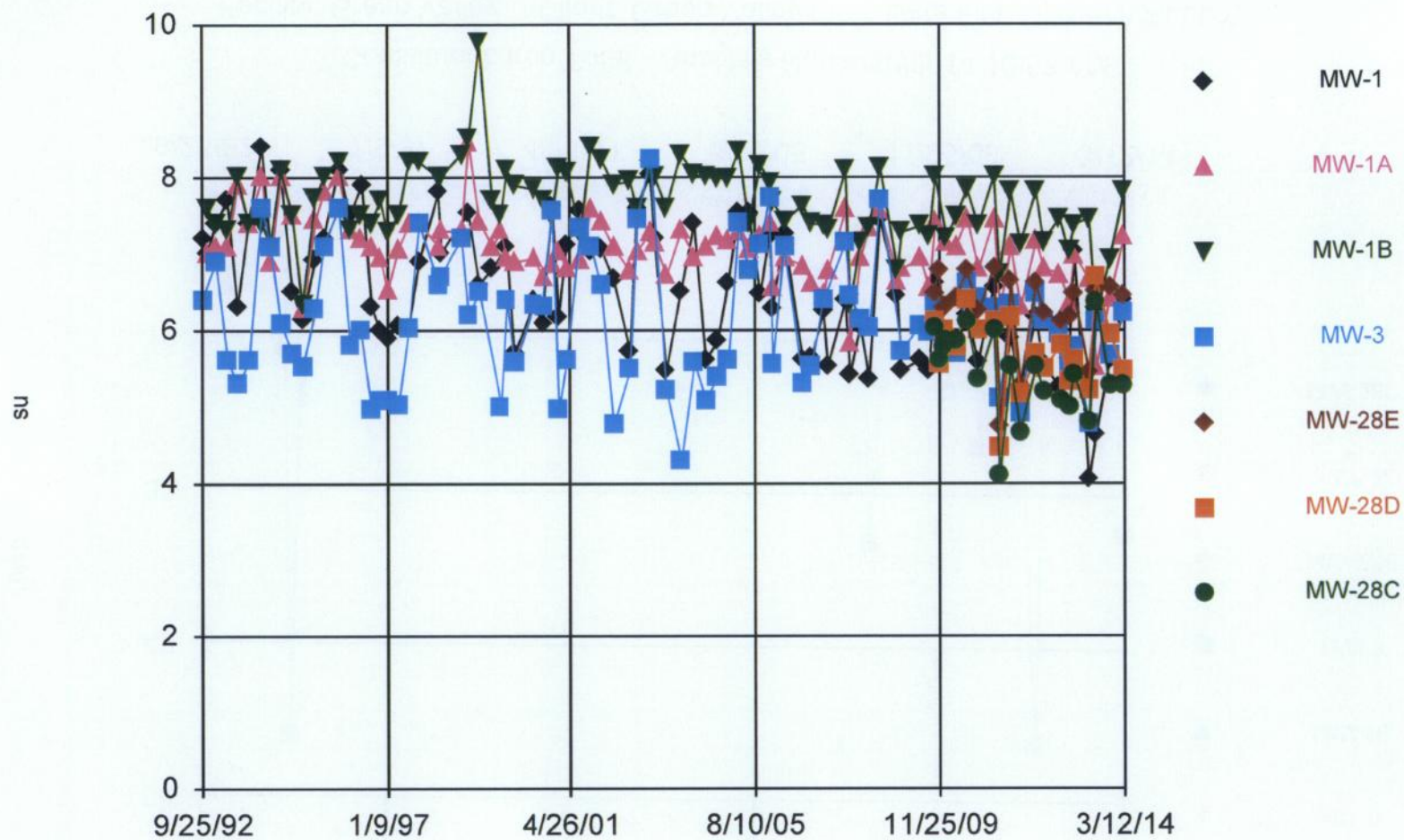
Time Series



Constituent: Iron Total Analysis Run 4/10/2014 10:53 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

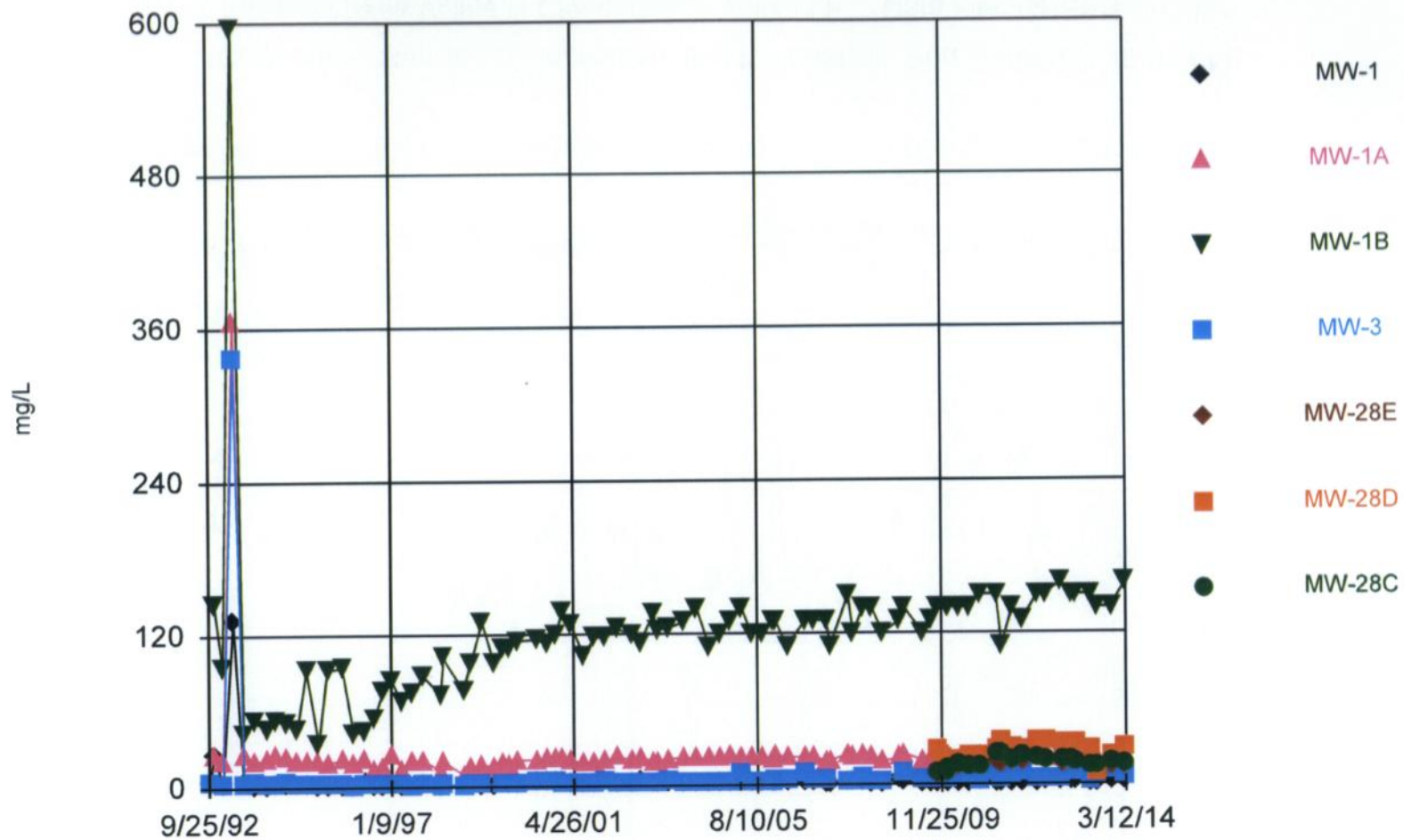
Time Series



Constituent: pH [Field] Analysis Run 4/10/2014 10:53 AM

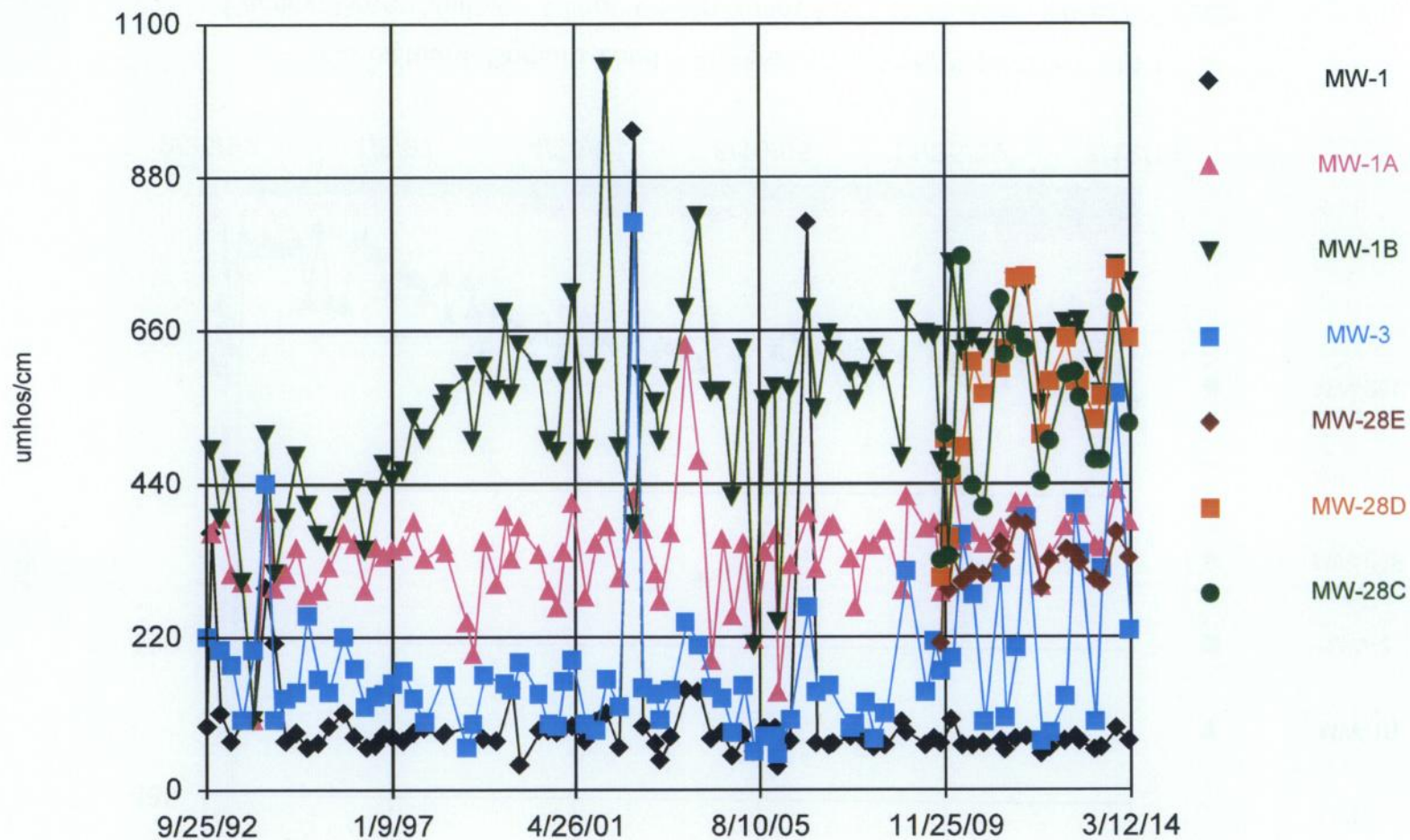
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Time Series



Constituent: Sodium Total Analysis Run 4/10/2014 10:53 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

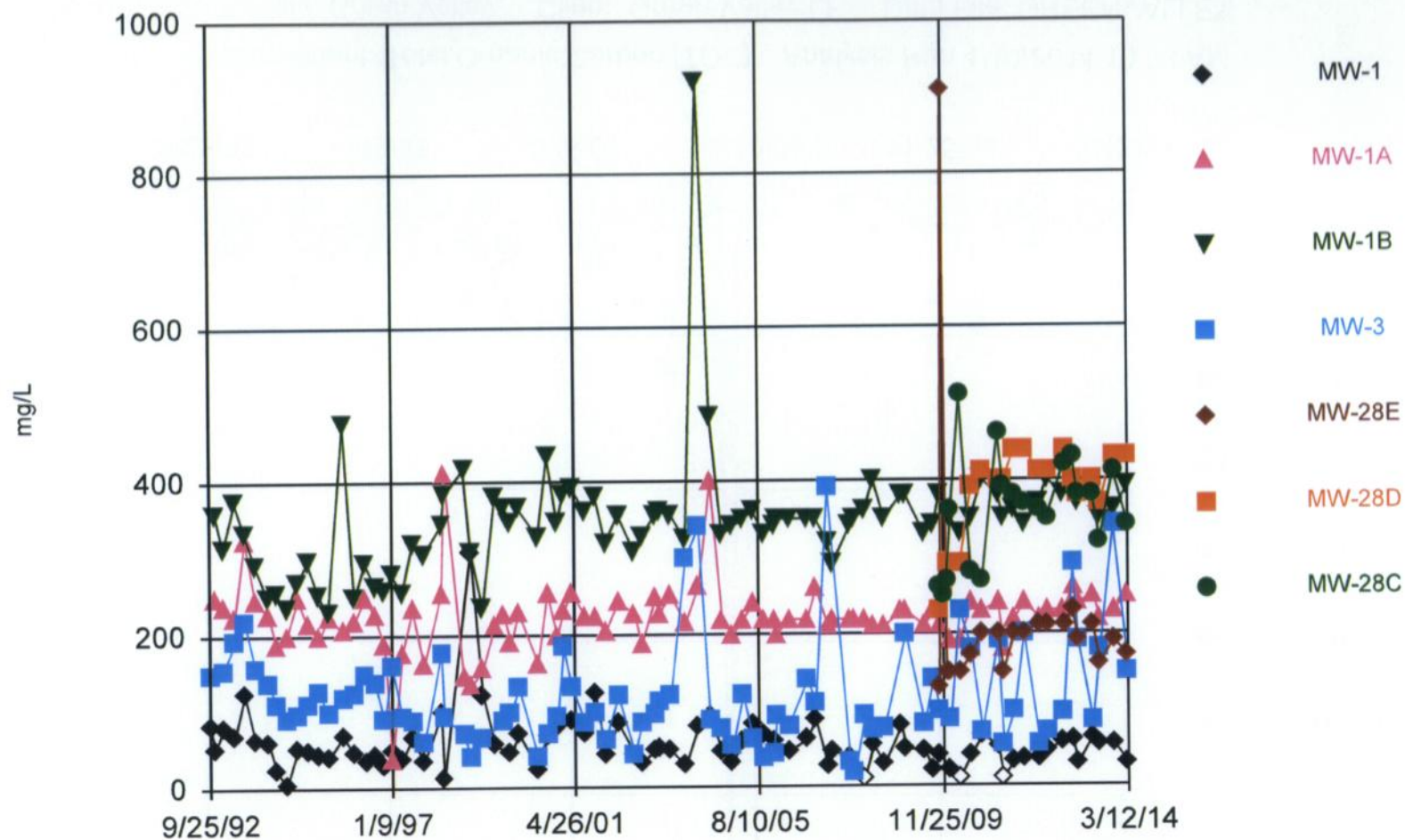
Time Series



Constituent: Specific Conductance [Field] Analysis Run 4/10/2014 10:53 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

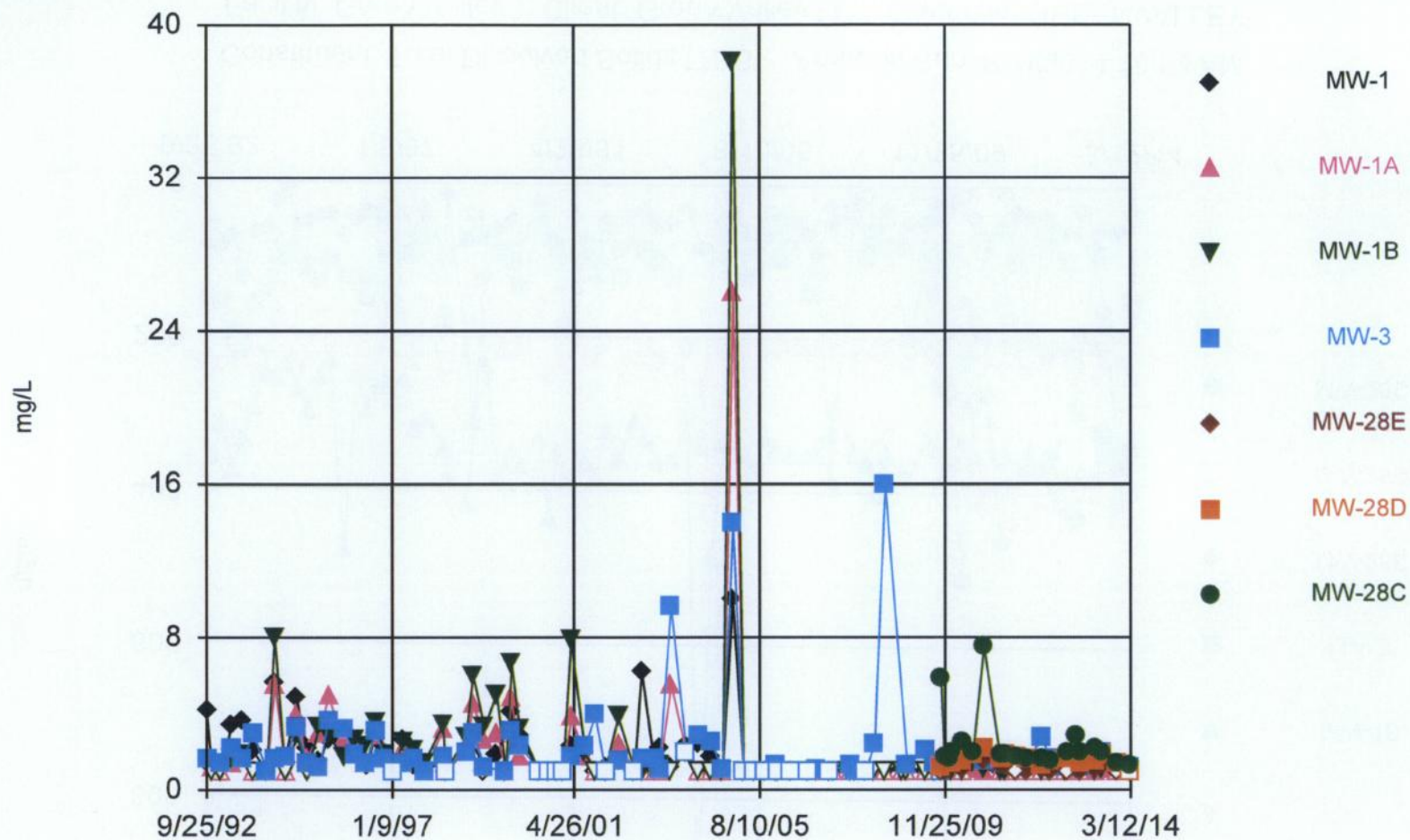
Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2014 10:53 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

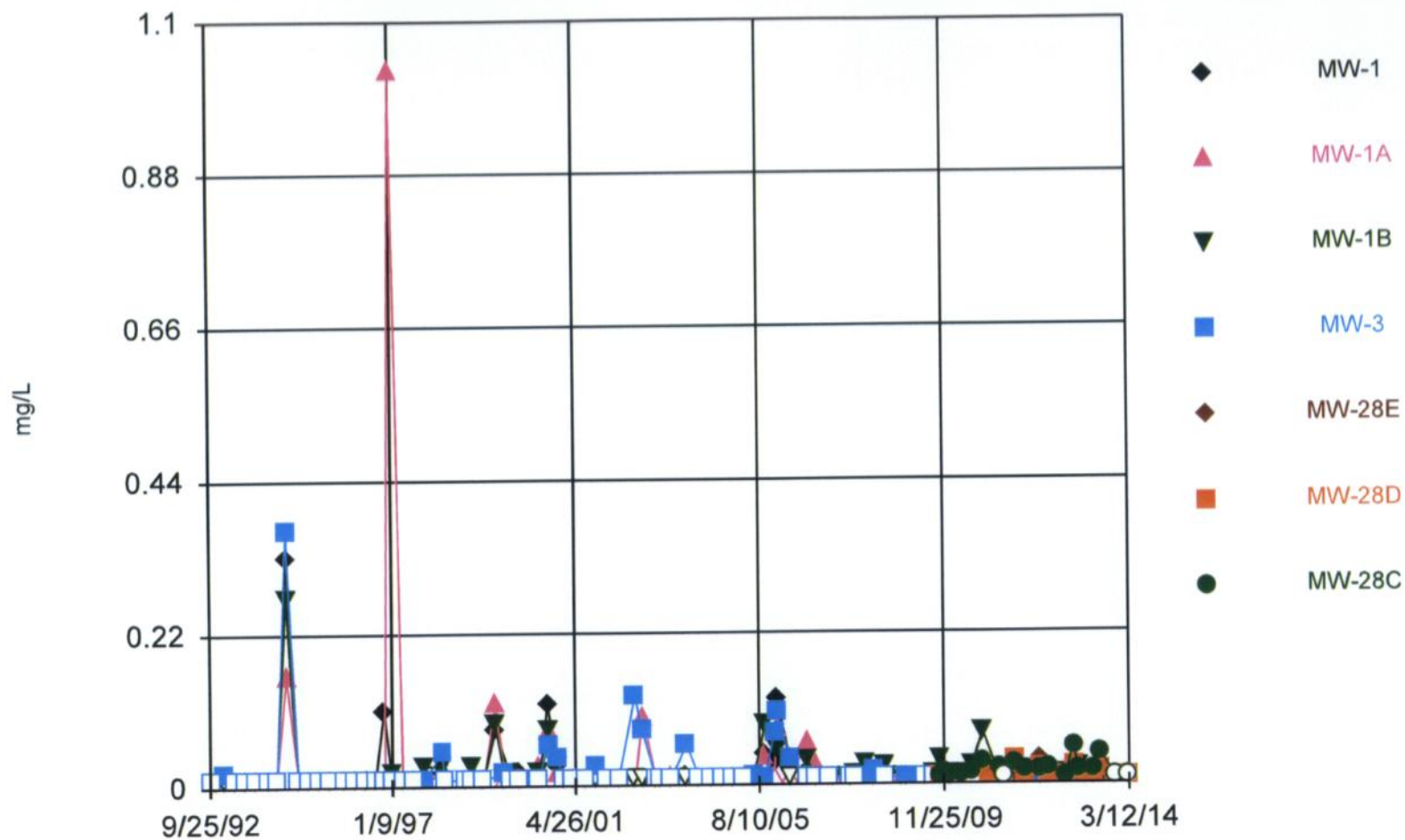
Time Series



Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2014 10:53 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Time Series



Constituent: Total Organic Halides Analysis Run 4/10/2014 10:53 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

Time Series

Constituent: Chemical Oxygen Demand [COD] (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	43.8			17.2			
11/9/1992	1.9	1.9	5.71				
1/18/1993		<2		<2			
1/19/1993	<2		<2				
4/26/1993	<2	<2	<2	<2			
7/19/1993	3.92	<2	7.84				
7/20/1993				11.9			
10/19/1993	15.7	19.6	9.8				
10/20/1993				<2			
2/8/1994	14	<2	8				
2/9/1994				<2			
4/18/1994	13.3	5.33	5.33				
4/20/1994				5.33			
7/13/1994				10.7			
7/14/1994	13.3	5.33	5.33				
10/18/1994				24.3			
10/19/1994	32.4	8.11	10.8				
1/11/1995	12.3	7.41	7.41	9.88			
4/25/1995				8			
4/26/1995	7.79	10.4	13.2				
7/10/1995				12.2			
7/11/1995	16.9	12	4.82				
11/14/1995	11.9	9.52		9.52			
11/15/1995			11.9				
2/19/1996				8.89			
2/20/1996	2.22	<2	4.44				
5/21/1996		5.48		2.74			
5/22/1996			11				
6/5/1996	5.13						
8/19/1996	7.89	<5	5.26	7.89			
11/5/1996	46	47	41	47			
1/7/1997	15.2	15.2	15.2	20.3			
4/8/1997	7	<5	<5	<5			
7/8/1997	9	7	10	6			
10/9/1997	<5	5	<5	8			
3/19/1998	<5	<5	6	<5			
4/14/1998	5	<5	11	<5			
9/30/1998		6	<5	<5			
12/1/1998	22	10	14	<5			
3/9/1999	9	<5	6	<5			
6/22/1999	5	<5	<5				
9/7/1999		12	<5	10			
11/2/1999	<5	<5	<5	<5			
1/5/2000	<5	<5	<5	<5			
6/19/2000				<5			
6/20/2000	<5	<5	<5				
9/6/2000	27.3	25.3	27.4	29			
11/28/2000	<5	<5	<5	<5			
1/22/2001	<5	<5	<5	<5			
4/2/2001	<5	<5	<5	<5			
7/26/2001	10.1	<5	<5	<5			
10/18/2001	<5	<5	<5				

Time Series

Page 2

Constituent: Chemical Oxygen Demand [COD] (mg/L) Analysis Run 4/10/2014 10:54 AM
 Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				<5			
1/14/2002	<5	<5	<5				
1/15/2002				<5			
4/29/2002	<5	<5	<5				
4/30/2002				<5			
9/18/2002	<10	<10	<10	<10			
11/19/2002	<10	<10	<10	<10			
3/10/2003	<10	<10	<10	<10			
4/10/2003	<10	<10	<10	<10			
7/22/2003	<10	<10	<10	<10			
11/25/2003	<10	<10	<10				
11/26/2003				<10			
3/16/2004				<10			
3/17/2004	<10	<10	<10				
6/23/2004	<10	<10	<10	<10			
9/29/2004	24	11	<10	12			
12/27/2004	<10	<10	<10	<10			
3/30/2005	13	13	23	15			
6/29/2005	<10	<10	<10	<10			
9/27/2005	<10	<10	<10	<10			
12/16/2005	<10	<10	<10	<10			
1/9/2006	<10	<10	<10	<10			
4/19/2006	<10	29	<10	<10			
9/24/2006	<10	<10	<10	<10			
12/5/2006	14	<10	14	14			
3/14/2007				11			
3/16/2007	<10	<10	<10				
4/23/2007	<10	<10	<10				
9/19/2007	<10	<10	16	<10			
10/30/2007	<10	<10	<10	<10			
1/23/2008	15	14	21	<10			
4/7/2008	11	<10	<10				
4/8/2008				<10			
7/9/2008	<10	<10	<10	<10			
12/2/2008	<10	<10	<10				
1/7/2009	<10	<10	<10	<10			
6/15/2009	<10	11	<10	<10			
8/26/2009	10	10	<10	<10			
10/20/2009	<10	<10	12	11	<10	<10	21
11/16/2009					<10	<10	11
12/21/2009					<10	<10	17
1/25/2010	<10	<10	<10	<10	<10	<10	<10
4/13/2010	<10	<10	<10	<10	<10	<10	11
7/14/2010				<10	<10	<10	<10
7/15/2010	<10	<10	10				
10/19/2010	<10	<10	<10	<10	<10	11	27
3/3/2011	<10	<10	<10	<10	<10	<10	<10
4/19/2011	<10	<10	<10	<10	<10	12	<10
7/20/2011	<10	<10	<10	<10	<10	<10	<10
10/11/2011				11	<10	<10	<10
10/12/2011	16	<10	<10				
2/20/2012	<10	<10	<10	28	<10	<10	<10

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Time Series

Constituent: Chloride (mg/L) Analysis Run 4/10/2014 10:54 AM
 Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	1.29			1.98			
11/9/1992	2.61	2.61	13.4				
1/18/1993		3.2		1.47			
1/19/1993	1.39		15.9				
4/26/1993	1.71	4.34	45.3	1.53			
7/19/1993	1.32	2.89	8.65				
7/20/1993				1.81			
10/19/1993	1.31	3.18	9.91				
10/20/1993				1.3			
2/8/1994	2.14	3.44	11.8				
2/9/1994				1.45			
4/18/1994	1.13	2.51	9.25				
4/20/1994				<1			
7/13/1994				1.22			
7/14/1994	1.01	3.83	16.3				
10/18/1994				1.3			
10/19/1994	1.08	2.88	13.4				
1/11/1995	1.17	3.09	23.2	1.3			
4/25/1995				1.5			
4/26/1995	1.18	3.36	6.23				
7/10/1995				1.59			
7/11/1995	1.59	3.36	8.51				
11/14/1995	<1	2.94		1.18			
11/15/1995			16.7				
2/19/1996				<1			
2/20/1996	<1	2.99	9.61				
5/21/1996		3.13		1.02			
5/22/1996			9.02				
6/5/1996	<1						
8/19/1996	1.1	3.79	9.98	1.04			
11/5/1996	<1	2.36	13.9	<1			
1/7/1997	1	3.7	18.1	1.1			
4/8/1997	<1	3.1	19.2	1			
7/8/1997	1.1	3.7	19.5	1.1			
10/9/1997	<1	2.2	17.6	<1			
3/19/1998	<1	3.4	26.4	<1			
4/14/1998	<1	3.1	34.2	<1			
9/30/1998		3.1	33.5	1.2			
12/1/1998	1.2	2.49	34	<1			
3/9/1999	1.1	3.1	52.4	1.1			
6/22/1999	1.7	3	39.4				
9/7/1999		2.2	32.8	1.2			
11/2/1999	1.1	2.5	37.1	<1			
1/5/2000	<1	2.6	37.9	1.1			
6/19/2000				<1			
6/20/2000	1.1	2.3	46.7				
9/6/2000	1.2	2.7	26.4	1			
11/28/2000	1.1	2.3	38.1	1.2			
1/22/2001	1.4	2.8	46.5	<1			
4/2/2001	<1	2.8	42.2	1.1			
7/26/2001	1.1	2.8	38.6	1.2			
10/18/2001	1.1	2.5	37.6				

Time Series

Page 2

Constituent: Chloride (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				1.1			
1/14/2002	1	2.8	38.5				
1/15/2002				<1			
4/29/2002	1.2	3.5	36.7				
4/30/2002				1.1			
9/18/2002	1.2	2.7	39	1.2			
11/19/2002	1.3	3.2	40.9	<1			
3/10/2003	10.5	2.16	49.9	1.27			
4/10/2003	1.36	3.17	49.6	1.28			
7/22/2003	1.29	3.09	35.7	1.03			
11/25/2003	1.55	3.85	46.2				
11/26/2003				1.5			
3/16/2004				1.2			
3/17/2004	1.1	3.3	43				
6/23/2004	1.2	3.3	37	0.96			
9/29/2004	1.1	3.5	37	1			
12/27/2004	<1	3.3	42	<1			
3/30/2005	1	3.3	43	1.2			
6/20/2005	1.2	3.2	37	1.3			
9/27/2005	1.6	3.7	37	1.2			
12/16/2005	1.5	3	39	1.5			
1/9/2006	1.2	3.2	41	4.5			
4/19/2006	1.2	2.9	40	2.7			
9/24/2006	1.1	3.3	45	5.5			
12/5/2006	1.1	3.2	46	2.9			
3/14/2007				2.7			
3/16/2007	1.2	3.3	49				
4/23/2007	1.2	3.2	34				
9/19/2007	1.7	3.2	39	3.2			
10/30/2007	1.7	3.2	43	2.8			
1/23/2008	1.8	3.4	47	2.9			
4/7/2008	1.6	3.3	45				
4/8/2008				1.4			
7/9/2008	1.7	3.2	44	2.3			
12/2/2008	2	3.3	46				
1/7/2009	2	3.8	48	5.7			
6/15/2009	1.3	3.2	44	1.9			
8/26/2009	1.6	3.4	44	2.7			
10/20/2009	1.6	3.6	47	2.9	1.7	3.3	5.8
11/16/2009					2	4	6.3
12/21/2009					2.1	5	7.9
1/25/2010	1.7	3.4	48	2.4	2.3	5.8	9.3
4/13/2010	1.2	3	42	5.6	1.9	7.2	13
7/14/2010				7.3	2.1	7.6	12
7/15/2010	1.6	3.3	47				
10/19/2010	1.3	3.2	46	2.6	2.1	7.6	24
3/3/2011	1.8	3.2	47	15	2.3	20	38
4/19/2011	1.4	3.4	36	3.4	2.3	23	27
7/20/2011	1.1	3.1	39	5.7	2.1	23	24
10/11/2011				14	2.1	22	23
10/12/2011	1.3	3.3	39				
2/20/2012	1.2	3.4	41	1.9	2.2	22	15

Time Series

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Constituent: Chloride (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	1.2	3.3	40	1.9	2.1	20	16
9/10/2012	1.3	3.6	38	3.7			
9/14/2012					2.1	19	19
11/26/2012	1.3	3.9	39	12	1.9	18	19
1/10/2013				9.2	2.1	18	16
1/11/2013	1.5	3.8	42				
5/15/2013	1.4	3.6	38	2	2	17	13
7/17/2013	1.2	3.5	38	8.7	1.7	16	15
11/6/2013	1.4	3.5	38	14	1.8	17	18
3/12/2014	1.5	3.5	45	4.5	1.9	18	12

Time Series

Constituent: Iron Total (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	5.59			7.74			
11/9/1992	1.16	1.16	0.64				
1/18/1993		1.27		3.71			
1/19/1993	2.41		4.34				
4/26/1993	2.22	1.27	10.7	2.32			
7/19/1993	8.55	7.79	0.49				
7/20/1993				3.65			
10/19/1993	10.3	1.24	0.1				
10/20/1993				8.25			
2/8/1994	1.62	1.19	0.32				
2/9/1994				0.71			
4/18/1994	5.66	10.9	0.38				
4/20/1994				1.02			
7/13/1994				1.42			
7/14/1994	17.2	1.16	0.37				
10/18/1994				57.3			
10/19/1994	9.02	0.95	0.47				
1/11/1995	22.7	1.05	0.36	1.92			
4/25/1995				0.68			
4/26/1995	0.46	3.81	0.56				
7/10/1995				0.879			
7/11/1995	0.7	0.871	0.354				
11/14/1995	1.04	0.51		1.12			
11/15/1995			0.87				
2/19/1996				2.77			
2/20/1996	0.47	0.89	0.37				
5/21/1996		0.85		1.72			
5/22/1996			0.7				
6/5/1996	0.6						
8/19/1996	0.44	1.32	0.47	0.22			
11/5/1996	1.08	3.85	0.27	0.37			
1/7/1997	0.91	3.24	0.33	0.31			
4/8/1997	1.01	4.2	0.07	0.25			
7/8/1997	1.1	8.23	0.05	0.47			
10/9/1997	0.35	4.69	0.19	0.67			
3/19/1998	0.27	1.84	0.18	0.34			
4/14/1998	0.16	2.53	0.1	0.29			
9/30/1998		2.42	0.25	0.18			
12/1/1998	0.45	2.49	0.21	0.37			
3/9/1999	4.36	9.03	0.21	0.98			
6/22/1999	0.76	5.75	0.05				
9/7/1999		4.97	0.19	0.39			
11/2/1999	0.43	1.59	0.15	0.3			
1/5/2000	0.98	6.13	0.359	0.5			
6/19/2000				0.25			
6/20/2000	1.62	13.4	0.6				
9/6/2000	0.23	2.58	0.26	0.17			
11/28/2000	0.14	2.36	0.62	0.43			
1/22/2001	0.96	2.62	0.36	0.34			
4/2/2001	0.75	4.33	0.2	0.06			
7/26/2001	0.58	3.99	0.07	0.14			
10/18/2001	0.82	3.93	0.19				

Time Series

Page 2

Constituent: Iron Total (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				0.17			
1/14/2002	0.43	3.15	0.16				
1/15/2002				0.07			
4/29/2002	1.44	4.28	0.02				
4/30/2002				0.16			
9/18/2002	0.144	2.63	0.2	0.113			
11/19/2002	0.354	3.64	0.211	0.185			
3/10/2003	1.38	3.97	<0.02	<0.02			
4/10/2003	0.85	4.1	0.146	0.305			
7/22/2003	0.37	2.53	<0.02	0.164			
11/25/2003	0.41	1.82	0.386				
11/26/2003				0.109			
3/16/2004				0.28			
3/17/2004	0.08	2.4	0.23				
6/23/2004	0.65	1.4	0.059	0.17			
9/29/2004	0.36	2.1	0.28	<0.02			
12/27/2004	0.87	1.6	0.27	0.042			
3/30/2005	0.32	1.3	0.21	<0.02			
6/20/2005	0.12	1.3	0.027	0.26			
9/27/2005	0.11	3.2	0.29	1.1			
12/16/2005	0.22	3.6	0.36	17			
1/9/2006	0.46	2.4	0.26	1			
4/19/2006	0.5	5.5	0.02	8.6			
9/24/2006	0.15	3.4	0.36	3			
12/5/2006	0.23	0.97	0.34	9.1			
3/14/2007				11			
3/16/2007	0.18	0.95	0.046				
4/23/2007	0.56	1.6	<0.02				
9/19/2007	0.24	3.4	0.44	15			
10/30/2007	0.13	1.5	0.22	14			
1/23/2008	0.19	4.5	0.44	5			
4/7/2008	0.45	1.4	0.37				
4/8/2008				37			
7/9/2008	0.23	1.7	0.042	20			
12/2/2008	1.5	1.5	0.58				
1/7/2009	1	2	0.47	7.7			
6/15/2009	0.16	1.6	<0.02	19			
8/26/2009	0.33	1.1	0.26	15			
10/20/2009	0.15	1.1	0.29	7.4	0.27	0.26	72
11/16/2009					0.2	0.23	3
12/21/2009					0.27	0.08	1.8
1/25/2010	0.22	1.9	0.52	21	0.1	0.18	1.2
4/13/2010	0.16	0.78	0.028	13	0.082	0.35	1.8
7/14/2010				10	0.16	15	2.4
7/15/2010	0.32	3.1	0.13				
10/19/2010	0.14	1.8	0.5	8	1.4	18	27
3/3/2011	0.53	1.2	0.45	6.5	0.13	2.7	1.7
4/19/2011	0.21	2.3	0.036	13	0.31	2.4	1.5
7/20/2011	0.21	5	0.21	19	0.08	20	1.8
10/11/2011				22	0.1	22	2.4
10/12/2011	0.21	1.9	0.71				
2/20/2012	0.24	1.8	0.54	58	0.071	1.6	11

Time Series

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Constituent: Iron Total (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	0.38	0.46	0.23	16	0.054	5.2	3.8
9/10/2012	0.46	2.6	0.84	11			
9/14/2012					<0.02	24	2.7
11/26/2012	0.23	1.4	0.67	12	1.4	3.6	20
1/10/2013				8.6	0.064	2.7	12
1/11/2013	0.07	0.45	0.57				
5/15/2013	1.2	1.3	0.033	11	0.092	1.2	20
7/17/2013	0.32	1.4	0.035	14	0.14	6	7.6
11/6/2013	0.27	1.2	0.41	14	0.17	21	3
3/12/2014	0.68	0.68	0.41	36	0.031	2.4	3.5

Time Series

Constituent: pH [Field] (su) Analysis Run 4/10/2014 10:54 AM
 Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	7.2			6.4			
11/9/1992	7	7	7.6				
1/18/1993		7.1		6.9			
1/19/1993	7.4		7.4				
4/26/1993	7.7	7.1	7.3	5.6			
7/19/1993	6.3	7.9	8				
7/20/1993				5.3			
10/19/1993	7.4	7.4	7.4				
10/20/1993				5.6			
2/8/1994	8.4	8	7.4				
2/9/1994				7.6			
4/18/1994	7.1	6.9	7.1				
4/20/1994				7.1			
7/13/1994				6.1			
7/14/1994	8.1	8	8.1				
10/18/1994				5.7			
10/19/1994	6.5	7.5	7.5				
1/11/1995	6.155 (D)	6.275 (D)	6.335 (D)	5.52 (D)			
4/25/1995				6.28			
4/26/1995	6.93	7.45	7.73				
7/10/1995				7.1			
7/11/1995	7.2	7.8	8				
11/14/1995	8.1	8		7.6			
11/15/1995			8.2				
2/19/1996				5.8			
2/20/1996	7.5	7.3	7.3				
5/21/1996		7.2		6			
5/22/1996			7.5				
6/5/1996	7.9						
8/19/1996	6.32	7.09	7.4	4.96			
11/5/1996	5.96	6.96	7.71	5.09			
1/7/1997	5.9	6.52	7.28	5.07			
4/8/1997	6.05	7.07	7.5	5.03			
7/8/1997	6.03	7.4	8.2	6.03			
10/9/1997	6.9	7.4	8.2	7.4			
3/19/1998	7.8	7.1	8	6.6			
4/14/1998	7	7.3	8	6.7			
9/30/1998		7.3	8.3	7.2			
12/1/1998	7.54	8.45	8.5	6.2			
3/9/1999	6.6	7.42	9.75	6.5			
6/22/1999	6.8	7.1	7.7				
9/7/1999		7.3	7.5	5			
11/2/1999	7.1	6.95	8.1	6.39			
1/5/2000	5.69	6.9	7.89	5.58			
6/19/2000				6.35			
6/20/2000	6.39	6.95	7.84				
9/6/2000	6.08	6.71	7.7	6.32			
11/26/2000	7.61	6.87	7.51	7.56			
1/22/2001	6.18	7.03	8.11	4.96			
4/2/2001	7.12	6.8	8.06	5.61			
7/26/2001	7.57	6.91	7.29	7.35			
10/18/2001	7.03	7.6	8.4				

Time Series

Page 2

Constituent: pH [Field] (su) Analysis Run 4/10/2014 10:54 AM
 Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				7.1			
1/14/2002	7.07	7.41	8.24				
1/15/2002				6.58			
4/29/2002	6.67	7.08	7.91				
4/30/2002				4.77			
9/18/2002	5.73	6.77	7.94	5.49			
11/19/2002	7.6	7.04	7.59	7.44			
3/10/2003	8.04	7.29	8.1	8.24			
4/10/2003	7.2	7.14	8.01				
7/22/2003	5.47	6.72	7.6	5.22			
11/25/2003	6.5	7.3	8.3				
11/26/2003				4.3			
3/16/2004				5.58			
3/17/2004	7.39	6.96	8.03				
6/23/2004	5.61	7.08	8	5.09			
9/29/2004	5.85	7.24	7.99	5.4			
12/27/2004	6.62	7.18	7.98	5.6			
3/30/2005	7.54	7.29	8.35	7.39			
6/20/2005	7.53	7.07	7.4	6.78			
9/27/2005	6.47	7.22	8.16	7.11			
12/16/2005	7.24	7.4	7.93	7.74			
1/9/2006	6.27	6.57	7.68	5.56			
4/19/2006	7.26	6.94	7.43	7.1			
9/24/2006	5.6	6.85	7.63	5.3			
12/5/2006	5.64	6.62	7.39	5.52			
3/14/2007				6.38			
3/16/2007	6.24	6.49	7.38				
4/23/2007	5.53	6.78	7.3				
9/19/2007	6.38	7.58	8.08	7.15			
10/30/2007	5.42	5.84	6.34	6.44			
1/23/2008	6.05	6.96	7.15	6.15			
4/7/2008	5.37	7.35	7.35				
4/8/2008				6.02			
7/9/2008	7.46	7.57	8.13	7.71			
12/2/2008	6.46	6.65	6.77				
1/7/2009	5.47	6.8	7.28	5.73			
6/15/2009	5.61	6.94	7.36	6.07			
8/26/2009	5.46	6.55	7.22	5.98			
10/20/2009	6.61	7.43	8	6.31	6.49	6.11	6.04
11/16/2009					6.79	5.55	5.6
12/21/2009					6.29	5.99	5.78
1/25/2010	5.84	7.14	7.21	5.8	6.31	5.9	5.87
4/13/2010	5.72	7.1	7.47	5.71	6.43	5.77	5.87
7/14/2010				6.61	6.78	6.4	6.12
7/15/2010	6.21	7.46	7.84				
10/19/2010	5.58	6.8	7.36	6.41	6.24	6	5.35
3/3/2011	6.57	7.45	8.01	6.28	6.82	6.12	6.01
4/19/2011	5.15	6.28	6.74	5.12	4.76	4.46	4.1
7/20/2011	5.9	7.09	7.8	6.34	6.65	6.18	5.54
10/11/2011				4.91	5.29	5.16	4.67
10/12/2011	5.24	6.3	7.13				
2/20/2012	6.16	7.17	7.81	6.49	6.61	5.7	5.53

Time Series

Page 3

Constituent: pH [Field] (su) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	5.55	6.81	7.15	6.11	6.22	5.5	5.19
9/10/2012	5.25	6.74	7.46	5.96			
9/14/2012					6.12	5.8	5.08
11/26/2012	5.61	6.37	7.03	5.57	6.16	5.33	5.01
1/10/2013				5.77	6.47	5.62	5.43
1/11/2013	7.02	6.98	7.38				
5/15/2013	4.04	6.66	7.46	4.77	5.44	5.22	4.8
7/17/2013	4.63	5.53	6.16	6.11	6.5	6.69	6.37
11/6/2013	5.6	6.43	6.92	5.68	6.57	5.94	5.28
3/12/2014	6.4	7.24	7.81	6.22	6.46	5.48	5.27

Time Series

Constituent: Sodium Total (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	3.6			3.44			
11/9/1992	26.4	26.4	144				
1/18/1993		21.2		3.06			
1/19/1993	1.96		95				
4/26/1993	131	365	595	336			
7/19/1993	4.43	26.2	42.8				
7/20/1993				3.19			
10/19/1993	1.53	21.4	52.5				
10/20/1993				4.38			
2/8/1994	1.19	22.1	45.6				
2/9/1994				2.03			
4/18/1994	2	25.9	53				
4/20/1994				2.55			
7/13/1994				4.62			
7/14/1994	2.85	23.9	51.2				
10/18/1994				2.8			
10/19/1994	2.06	21.6	45.9				
1/11/1995	1.83	21.1	92.5	1.91			
4/25/1995				1.95			
4/26/1995	1.16	20.2	34.7				
7/10/1995				2.51			
7/11/1995	1.63	19.5	92.5				
11/14/1995	1.34	22.8		2.29			
11/15/1995			94.5				
2/19/1996				1.58			
2/20/1996	1.1	19.3	42.8				
5/21/1996		22.5		2.5			
5/22/1996			44.5				
6/5/1996	3.49						
8/19/1996	1.43	15	54.4	2.25			
11/5/1996	1.52	16.2	76.2	2.28			
1/7/1997	1.95	26.2	85	1.92			
4/8/1997	1.1	15	67.5	1.95			
7/8/1997	0.93	21.3	73.8	1.03			
10/9/1997	1.91	21.3	87.5	2.91			
3/19/1998	1.15	13	72.5	1.5			
4/14/1998	1.32	20.6	102	2.25			
9/30/1998		9.75	76.3	1.28			
12/1/1998	2.48	16.4	98.1	2.28			
3/9/1999	1.4	18.1	130	2			
6/22/1999	1.3	15.7	97				
9/7/1999		18.8	110	2.39			
11/2/1999	3.13	18.3	110	2.27			
1/5/2000	2.95	21.7	115	2.63			
6/19/2000				3.98			
6/20/2000	4.03	21.4	116				
9/6/2000	3.93	21.9	112	3.66			
11/28/2000	4.46	22.1	120	3.71			
1/22/2001	4.25	23.3	138	3.18			
4/2/2001	3.01	21.1	128	2.78			
7/26/2001	2.76	18.4	103	2.91			
10/18/2001	2.68	19.4	117				

Time Series

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Constituent: Sodium Total (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				2.95			
1/14/2002	4.44	20.1	118				
1/15/2002				3.37			
4/29/2002	2.78	23.7	124				
4/30/2002				3.05			
9/18/2002	2.79	20.8	120	3.16			
11/19/2002	4.13	23.2	113	3.24			
3/10/2003	2.6	19.4	136	2.31			
4/10/2003	2.38	19.8	123	2.86			
7/22/2003	2.95	21.7	125	3.44			
11/25/2003	3	23	129				
11/26/2003				3.26			
3/16/2004				2.4			
3/17/2004	2	22	140				
6/23/2004	1.8	22	110	2.7			
9/29/2004	2.3	23	120	2.6			
12/27/2004	2	24	130	2.6			
3/30/2005	1.8	22	140	9.9			
6/20/2005	1.7	23	120	2.7			
9/27/2005	2.3	22	120	2.7			
12/16/2005	2.9	21	130	3.1			
1/9/2006	2.7	24	130	3.8			
4/19/2006	2	23	110	4.8			
9/24/2006	2.3	22	130	9			
12/5/2006	2.2	22	130	4.6			
3/14/2007				3.6			
3/16/2007	1.4	20	130				
4/23/2007	1.4	20	110				
9/19/2007	2.1	25	150	3			
10/30/2007	2.3	23	120	2.9			
1/23/2008	2.1	24	140	5.1			
4/7/2008	1.5	22	140				
4/8/2008				3			
7/9/2008	1.3	19	120	3.1			
12/2/2008	4.3	22	130				
1/7/2009	2.1	25	140	9			
6/15/2009	1.3	19	120	3.5			
8/26/2009	1.4	21	130	4.2			
10/20/2009	1.6	24	140	4.7	7.4	28	9.1
11/16/2009					10	21	8.4
12/21/2009					12	20	9.9
1/25/2010	1.6	22	140	3.7	13	20	12
4/13/2010	1.4	20	140	6	14	19	16
7/14/2010				5.5	16	23	14
7/15/2010	1.5	21	140				
10/19/2010	1.9	22	150	3.3	15	23	14
3/3/2011	1.6	22	150	9.8	18	28	24
4/19/2011	1.5	19	110	4.2	16	34	25
7/20/2011	1.4	20	140	5.3	18	29	20
10/11/2011				9.8	17	27	23
10/12/2011	1.5	21	130				
2/20/2012	1.6	22	150	3.6	21	34	21

Time Series

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Constituent: Sodium Total (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	1.7	21	150	3.4	20	34	20
9/10/2012	2	26	160	4.6			
9/14/2012					16	32	19
11/26/2012	2.5	27	150	10	18	32	20
1/10/2013				8.9	17	32	18
1/11/2013	2	24	150				
5/15/2013	1.5	25	150	3.2	16	28	15
7/17/2013	1.5	21	140	6.9	14	8.9	14
11/6/2013	1.8	20	140	11	14	23	18
3/12/2014	1.8	23	160	6.2	15	30	16

Time Series

Constituent: Specific Conductance [Field] (umhos/cm) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	90			220			
11/9/1992	370	370	490				
1/18/1993		390		200			
1/19/1993	110		390				
4/26/1993	70	310	460	180			
7/19/1993	100	300	300				
7/20/1993				100			
10/19/1993	100	100	100				
10/20/1993				200			
2/8/1994	290	400	510				
2/9/1994				440			
4/18/1994	210	290	310				
4/20/1994				100			
7/13/1994				130			
7/14/1994	70	310	390				
10/18/1994				138			
10/19/1994	80	348	480				
1/11/1995	60	280	410	250			
4/25/1995				158			
4/26/1995	65	285	365				
7/10/1995				140			
7/11/1995	90	320	350				
11/14/1995	110	370		220			
11/15/1995			410				
2/19/1996				172			
2/20/1996	75	355	434				
5/21/1996		287		117			
5/22/1996			346				
6/5/1996	60.3						
8/19/1996	64.3		429	133			
11/5/1996	77	337	466	135			
1/7/1997	74	345	445	151			
4/8/1997	70	351	458	170			
7/8/1997	81	384	535	131			
10/9/1997	86	333	505	96			
3/19/1998	78	353	554	164			
4/14/1998	82	342	569	163			
9/30/1998		242	595	60			
12/1/1998	93	195	501	93			
3/9/1999	71	358	607	164			
6/22/1999	70	295	576				
9/7/1999		394	685	152			
11/2/1999	145	332	567	142			
1/5/2000	36	377	640	183			
6/19/2000				135			
6/20/2000	84	339	601				
9/6/2000	84	287	502	93			
11/28/2000	81	263	486	89			
1/22/2001	86	343	593	156			
4/2/2001	90	412	713	185			
7/26/2001	68	278	490	94			
10/18/2001	96.6	353.3	605				

Time Series

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Constituent: Specific Conductance [Field] (umhos/cm) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				83.3			
1/14/2002	108	379	1038				
1/15/2002				158			
4/29/2002	60	305	492				
4/30/2002				118			
9/18/2002	945	421	380	815			
11/19/2002	90	375	596	146			
3/10/2003	65	311	555	136			
4/10/2003	40	270	500	100			
7/22/2003	76	369	589	142			
11/25/2003	143	640	690				
11/26/2003				242			
3/16/2004				208			
3/17/2004	140	474	823				
6/23/2004	73	186	570	145			
9/29/2004	80	360	570	130			
12/27/2004	49	250	421	80			
3/30/2005	78.7	353	633	148			
6/20/2005	52.1	215	208	54			
9/27/2005	87.1	341	560	75.7			
12/16/2005	88	366	577	74			
1/9/2006	33	140	239	52			
4/19/2006	69	322	576	101			
9/24/2006	814	397	691	262			
12/5/2006	66	318	547	138			
3/14/2007				148			
3/16/2007	63	377	655				
4/23/2007	67	382	629				
9/19/2007	75	331	598	87			
10/30/2007	88	261	560	94			
1/23/2008	70	352	595	125			
4/7/2008	61	351	634				
4/8/2008				72			
7/9/2008	63	371	602	108			
12/2/2008	98	286	476				
1/7/2009	82	422	688	315			
6/15/2009	64	374	653	138			
8/26/2009	71	381	650	212			
10/20/2009	65	282	471	171	210	306	329
11/16/2009					373	503	510
12/21/2009					287	364	337
1/25/2010	101	452	754	188	336	452	458
4/13/2010	63	358	629	365	300	491	764
7/14/2010				279	312	615	436
7/15/2010	64	370	649				
10/19/2010	65	355	633	95	308	568	406
3/3/2011	69	376	691	312	355	605	703
4/19/2011	58	355	619	102	329	634	624
7/20/2011	73	413	727	203	386	734	650
10/11/2011				392	380	737	632
10/12/2011	76	411	721				
2/20/2012	51	294	552	68	291	511	442

Time Series

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Constituent: Specific Conductance [Field] (umhos/cm) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	59	339	649	80	329	588	501
9/10/2012	69	377	669	133			
9/14/2012					345	647	596
11/26/2012	75	405	558	409	338	587	599
1/10/2013				340	326	587	562
1/11/2013	68	394	674				
5/15/2013	56	352	606	98	301	532	473
7/17/2013	61	347	568	316	297	564	474
11/6/2013	86	431	753	567	370	745	698
3/12/2014	70	384	728	229	333	649	526

Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	82			149			
11/9/1992	52	248	359				
1/18/1993		239		155			
1/19/1993	80		313				
4/26/1993	69	223	374	193			
7/19/1993	124	325	333				
7/20/1993				218			
10/19/1993	64	247	292				
10/20/1993				158			
2/8/1994	60	228	248				
2/9/1994				138			
4/18/1994	24	188	256				
4/20/1994				110			
7/13/1994				90			
7/14/1994	4	200	234				
10/18/1994				96			
10/19/1994	52	248	270				
1/11/1995	48	216	296	110			
4/25/1995				126			
4/26/1995	42	198	251				
7/10/1995				98			
7/11/1995	40	224	229				
11/14/1995	68	208		117			
11/15/1995			476				
2/19/1996				125			
2/20/1996	46	220	248				
5/21/1996		250		150			
5/22/1996			294				
6/5/1996	34						
8/19/1996	42	226	264	137			
11/5/1996	30	188	258	90			
1/7/1997	48	38	280	160			
4/8/1997	38	176	254	94			
7/8/1997	66	234	318	88			
10/9/1997	34	162	306	60			
3/19/1998	98	256	344	178			
4/14/1998	12	412	382	94			
9/30/1998		147	416	70			
12/1/1998	308	134	307	39			
3/9/1999	122	158	236	66			
6/22/1999	56	214	379				
9/7/1999		226	367	88			
11/2/1999	45	190	348	98			
1/5/2000	71	230	365	132			
6/19/2000				40			
6/20/2000	24	164	328				
9/6/2000	68	256	432	72			
11/28/2000	80	200	348	92			
1/22/2001	88	232	384	184			
4/2/2001	88	256	392	132			
7/26/2001	72	224	360	84			
10/18/2001	124	224	380				

Time Series

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Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				100			
1/14/2002	44	204	320				
1/15/2002				64			
4/29/2002	84	244	356				
4/30/2002				120			
9/18/2002	44	228	308	44			
11/19/2002	32	188	328	84			
3/10/2003	48	248	356	96			
4/10/2003	52	228	360	112			
7/22/2003	48	252	356	120			
11/25/2003	28	216	324				
11/26/2003				300			
3/16/2004				340			
3/17/2004	80	264	920				
6/23/2004	92	400	484	88			
9/29/2004	45	220	330	76			
12/27/2004	31	200	340	54			
3/30/2005	60	220	350	120			
6/20/2005	83	240	360	64			
9/27/2005	67	220	330	37			
12/16/2005	61	220	340	42			
1/9/2006	45	200	350	93			
4/19/2006	45	220	350	80			
9/24/2006	62	220	350	140			
12/5/2006	87	260	350	110			
3/14/2007				390			
3/16/2007	26	210	320				
4/23/2007	47	220	290				
9/19/2007	37	220	340	33			
10/30/2007	24	220	350	18			
1/23/2008	<10	220	360	92			
4/7/2008	53	210	400				
4/8/2008				74			
7/9/2008	28	210	350	76			
12/2/2008	79	230	380				
1/7/2009	49	230	380	200			
6/15/2009	46	210	330	82			
8/26/2009	20	230	340	140			
10/20/2009	39	210	380	100	130	230	260
11/16/2009					910	260	250
12/21/2009					150	290	270
1/25/2010	20	190	350	87	150	290	360
4/13/2010	<10	190	330	230	150	290	510
7/14/2010				180	170	390	280
7/15/2010	39	240	350				
10/19/2010	65	230	400	72	200	410	270
3/3/2011	52	240	380	190	200	400	460
4/19/2011	<10	180	350	54	150	400	390
7/20/2011	32	220	360	100	200	440	380
10/11/2011				200	200	440	370
10/12/2011	35	240	340				
2/20/2012	35	220	370	53	210	410	360

Time Series

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Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	45	230	400	71	210	410	350
9/10/2012	57	230	380	96			
9/14/2012					210	440	420
11/26/2012	59	260	380	290	230	400	430
1/10/2013				190	190	380	380
1/11/2013	29	240	370				
5/15/2013	63	250	380	84	210	400	380
7/17/2013	54	220	350	180	160	370	320
11/6/2013	55	230	360	340	190	430	410
3/12/2014	28	250	390	150	170	430	340

Time Series

Constituent: Total Organic Carbon [TOC] (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	4.13			1.67			
11/9/1992	1.13	1.13	<1				
1/18/1993		<1		1.39			
1/19/1993	1.11		<1				
4/26/1993	3.38	1.37	1.63	2.13			
7/19/1993	3.6	1.75	1.84				
7/20/1993				1.64			
10/19/1993	2.07	<1	<1				
10/20/1993				2.96			
2/8/1994	1	<1	<1				
2/9/1994				1			
4/18/1994	5.6	5.54	7.99				
4/20/1994				1.59			
7/13/1994				1.71			
7/14/1994	1.41	<1	<1				
10/18/1994				3.24			
10/19/1994	4.85	3.96	2.87				
1/11/1995	2.22	1.61	<1	1.44			
4/25/1995				1.13			
4/26/1995	1.45	2.92	3.33				
7/10/1995				3.59			
7/11/1995	2.67	4.93	2.83				
11/14/1995	2.47	2.66		3.14			
11/15/1995			1.72				
2/19/1996				1.86			
2/20/1996	1.84	1.83	2.61				
5/21/1996		1.39		1.36			
5/22/1996			2.28				
6/5/1996	1.31						
8/19/1996	3	2.86	3.55	3.07			
11/5/1996	1.93	1.66	1.88	1.62			
1/7/1997	<1	<1	<1	<1			
4/8/1997	2.6	2.2	2.5	1.4			
7/8/1997	1.3	1.7	2.1	1.6			
10/9/1997	1.1	1	1.4	1			
3/19/1998	1.4	3.2	3.4	1.7			
4/14/1998	<1	<1	<1	<1			
9/30/1998		2.4	2.7	2			
12/1/1998	2.5	4.5	6	2.9			
3/9/1999	<1	2.6	3.3	1.2			
6/22/1999	1.8	3	5				
9/7/1999		<1	1	1			
11/2/1999	4.1	4.8	6.6	3.1			
1/5/2000	2.8	1.7	3.2	2.3			
6/19/2000				<1			
6/20/2000	<1	<1	<1				
9/6/2000	<1	<1	<1	<1			
11/28/2000	<1	<1	<1	<1			
1/22/2001	1	1	<1	<1			
4/2/2001	2.3	3.8	7.8	1.7			
7/26/2001	2	1.7	1.9	2.3			
10/18/2001	<1	<1	<1				

Time Series

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Constituent: Total Organic Carbon [TOC] (mg/L) Analysis Run 4/10/2014 10:54 AM
 Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				3.9			
1/14/2002	1.2	<1	<1				
1/15/2002				<1			
4/29/2002	1.5	2.4	3.8				
4/30/2002				1.5			
9/18/2002	<1	<1	<1	<1			
11/19/2002	6.2	<1	1	1.6			
3/10/2003	<1	<1	1.01	1.64			
4/10/2003	2.15	<1	1.3	1.03			
7/22/2003	1.14	5.52	<1	9.68			
11/25/2003	2.3	<2	<2				
11/26/2003				<2			
3/16/2004				2.8			
3/17/2004	2.4	<1	<1				
6/23/2004	1.7	<1	<1	2.5			
9/29/2004	<1	<1	<1	1.1			
12/27/2004	10	26	38	14			
3/30/2005	<1	<1	<1	<1			
6/20/2005	<1	<1	<1	<1			
9/27/2005	<1	<1	<1	<1			
12/16/2005	<1	<1	<1	1.3			
1/9/2006	<1	<1	<1	<1			
4/19/2006	<1	<1	<1	<1			
9/24/2006	<1	<1	<1	<1			
12/5/2006	<1	<1	<1	1.1			
3/14/2007				<1			
3/16/2007	<1	<1	<1				
4/23/2007	<1	<1	<1				
9/19/2007	<1	<1	<1	1.3			
10/30/2007	<1	<1	<1	1			
1/23/2008	<1	<1	<1	<1			
4/7/2008	<1	<1	<1				
4/8/2008				2.4			
7/9/2008	<1	<1	<1	16			
12/2/2008	1.1	<1	<1				
1/7/2009	1.1	<1	<1	1.3			
6/15/2009	1	<1	<1	2.1			
8/26/2009	<1	<1	<1	1.4			
10/20/2009	<1	<1	<1	<1	<1	1.2	5.9
11/16/2009					1	1.5	1.7
12/21/2009					1.1	1.5	1.6
1/25/2010	<1	<1	<1	1.4	1.2	1.4	1.9
4/13/2010	<1	<1	<1	1.7	1.1	1.5	2.5
7/14/2010				1.8	1.9	1.8	1.9
7/15/2010	1.6	1.1	1.4				
10/19/2010	1.3	1	1.1	1.5	1.5	2.2	7.5
3/3/2011	<1	<1	1	1.5	1.3	1.6	1.8
4/19/2011	1.3	<1	1	1.4	1.3	1.8	1.8
7/20/2011	1.1	<1	<1	1.3	<1	1.7	1.7
10/11/2011				1.5	1	1.6	1.6
10/12/2011	1.3	<1	<1				
2/20/2012	<1	<1	<1	2.7	1.1	1.3	1.6

Time Series

Page 3

Constituent: Total Organic Carbon [TOC] (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
4/23/2012	<1	<1	<1	1.6	1	1.5	1.5
9/10/2012	1	<1	<1	1.2			
9/14/2012					<1	1.6	1.9
11/26/2012	1.1	<1	1.1	1.6	1.5	1.7	2.8
1/10/2013				1.2	1	1.4	1.9
1/11/2013	<1	<1	<1				
5/15/2013	<1	1	<1	1.4	1.1	1.5	2.2
7/17/2013	1.4	1.1	1.1	1.9	1.3	1.8	2
11/6/2013	<1	<1	<1	1.4	<1	1.4	1.4
3/12/2014	<1	<1	<1	1.2	<1	<1	1.3

Time Series

Constituent: Total Organic Halides (mg/L) Analysis Run 4/10/2014 10:54 AM

Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
9/25/1992	<0.01			<0.01			
11/9/1992	<0.01		<0.01				
1/18/1993		<0.01		0.02			
1/19/1993	<0.01		<0.01				
4/26/1993	<0.01	<0.01	<0.01	<0.01			
7/19/1993	<0.01	0.01	<0.01				
7/20/1993				<0.01			
10/19/1993	<0.01	<0.01	<0.01				
10/20/1993				<0.01			
2/8/1994	<0.01	<0.01	<0.01				
2/9/1994				<0.01			
4/18/1994	<0.01	<0.01	<0.01				
4/20/1994				<0.01			
7/13/1994				0.37			
7/14/1994	0.33	0.16	0.27				
10/18/1994				<0.01			
10/19/1994	<0.01	<0.01	<0.01				
1/11/1995	<0.01	<0.01	<0.01	<0.01			
4/25/1995				<0.01			
4/26/1995	<0.01	<0.01	<0.01				
7/10/1995				<0.01			
7/11/1995	<0.01	<0.01	<0.01				
11/14/1995	<0.01	<0.01		<0.01			
11/15/1995			<0.01				
2/19/1996				<0.01			
2/20/1996	<0.01	<0.01	<0.01				
5/21/1996		<0.01		<0.01			
5/22/1996			<0.01				
6/5/1996	<0.01						
8/19/1996	<0.01	<0.01	<0.01	<0.01			
11/5/1996	0.11	<0.01	<0.01	<0.01			
1/7/1997	<0.01	1.03	0.02	<0.01			
4/8/1997	<0.01	<0.01	<0.01	<0.01			
7/8/1997	<0.01	<0.01	<0.01	<0.01			
10/9/1997	<0.01	0.02	0.03	0.01			
3/19/1998	0.02	<0.01	0.03	0.05			
4/14/1998	<0.01	<0.01	<0.01	<0.01			
9/30/1998		0.01	<0.01	<0.01			
12/1/1998	<0.01	<0.01	0.03	<0.01			
3/9/1999	0.01	0.01	<0.01	<0.01			
6/22/1999	0.08	0.12	0.09				
9/7/1999		<0.01	<0.01	0.02			
11/2/1999	<0.01	<0.01	0.02	<0.01			
1/5/2000	0.02	0.01	0.01	<0.01			
6/19/2000				<0.01			
6/20/2000	<0.01	0.03	0.02				
9/6/2000	0.117	0.08	0.08	0.06			
11/28/2000	0.03	0.02	0.03	0.04			
1/22/2001	<0.01	0.01	<0.01	<0.01			
4/2/2001	<0.01	<0.01	<0.01	<0.01			
7/26/2001	<0.01	<0.01	<0.01	<0.01			
10/18/2001	<0.01	<0.01	<0.01				

Time Series

Page 2

Constituent: Total Organic Halides (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

	MW-1	MW-1A	MW-1B	MW-3	MW-28E	MW-28D	MW-28C
10/19/2001				0.03			
1/14/2002	<0.01	<0.01	<0.01				
1/15/2002				<0.01			
4/29/2002	<0.01	<0.01	<0.01				
4/30/2002				<0.01			
9/18/2002	<0.01	<0.01	<0.01	0.13			
11/19/2002	<0.01	0.1	<0.01	0.08			
3/10/2003	<0.01	<0.01	<0.01	<0.01			
4/10/2003	<0.01	<0.01	<0.01	<0.01			
7/22/2003	0.01	0.014	0.012	<0.01			
11/25/2003	0.015	<0.01	<0.01				
11/26/2003				0.061			
3/16/2004				<0.01			
3/17/2004	<0.01	<0.01	<0.01				
6/23/2004	<0.01	<0.01	<0.01	<0.01			
9/29/2004	<0.01	<0.01	<0.01	<0.01			
12/27/2004	<0.01	<0.01	<0.01	<0.01			
3/30/2005	<0.01	<0.01	<0.01	<0.01			
6/20/2005	<0.01	<0.01	<0.01	0.014			
9/27/2005	0.043	0.042	0.086	0.012			
12/16/2005	0.033	<0.01	0.058	0.074			
1/9/2006	0.123	0.081	0.051	0.105			
4/19/2006	0.037	<0.01	<0.01	0.037			
9/24/2006	0.042	0.064	0.034	<0.01			
12/5/2006	<0.01	0.028	<0.01	<0.01			
3/14/2007				<0.01			
3/16/2007	<0.01	<0.01	<0.01				
4/23/2007	<0.01	<0.01	<0.01				
9/19/2007	<0.01	<0.01	0.012	<0.01			
10/30/2007	<0.01	<0.01	0.014	<0.01			
1/23/2008	<0.01	<0.01	0.03	0.012			
4/7/2008	<0.01	<0.01	<0.01				
4/8/2008				0.019			
7/9/2008	<0.01	<0.01	0.026	<0.01			
12/2/2008	<0.01	<0.01	<0.01				
1/7/2009	<0.01	<0.01	<0.01	0.01			
6/15/2009	<0.01	<0.01	<0.01	<0.01			
8/26/2009	<0.01	0.015	0.013	<0.01			
10/20/2009	<0.01	<0.01	0.034	<0.01	<0.01	<0.01	0.012
11/16/2009					<0.01	0.012	0.017
12/21/2009					<0.01	<0.01	0.013
1/25/2010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014
4/13/2010	<0.01	<0.01	0.014	0.011	<0.01	<0.01	0.013
7/14/2010				<0.01	<0.01	<0.01	0.017
7/15/2010	<0.01	<0.01	0.027				
10/19/2010	0.012	<0.01	0.075	<0.01	<0.01	0.015	0.031
3/3/2011	<0.01	0.014	0.011	0.012	0.012	0.014	0.022
4/19/2011	<0.01	0.011	0.015	<0.01	0.02	<0.01	<0.01
7/20/2011	<0.01	<0.01	0.017	0.019	0.015	0.034	0.028
10/11/2011				0.021	<0.01	0.01	0.02
10/12/2011	<0.01	0.01	0.013				
2/20/2012	<0.01	<0.01	<0.01	0.012	0.034	0.022	0.019

Page 3

Constituent: Total Organic Halides (mg/L) Analysis Run 4/10/2014 10:54 AM
Facility: Green Valley Client: Green Valley LF Data File: GREENVALLEY

[illegible]

APPENDIX C
LABORATORY ANALYTICAL REPORT
&
FIELD INFORMATION LOGS



Quality Assurance Report # 65993

Pace Analytical Services, INC.

7901 W. Morris St.
Indianapolis, IN 46231
(317)243-8304

Visit us at : www.pacelabs.com

Report To:

GREEN VALLEY LANDFILL

Po Box 9
Rush, KY 41168

Attn : Daniel Deborde

Submitter/Project Information

Submitter : KY-ALLIED-GREEN VALLEY LANDFILL

Project : GROUNDWATER - GREEN VALLEY LANDFILL

Christopher Boyle - Project Manager
chris.boyle@heritage-enviro.com
(317)390-3128



**Sample Summary****COC ID# : KENVIRONS****COC Doc # : 01102138**

Date/Time Sampled	Date Complete	LabSampleID	Client SampleID
03/12/2014 09:50:00	04/01/2014	AA11151	SW-3
03/12/2014 10:15:00	04/01/2014	AA11152	SW-1
03/12/2014 10:30:00	04/01/2014	AA11153	SW-4
03/12/2014 12:35:00	04/01/2014	AA11154	SW-5

COC Doc # : 01102147

Date/Time Sampled	Date Complete	LabSampleID	Client SampleID
03/12/2014 09:40:00	04/01/2014	AA11167	MW-3
03/12/2014 11:00:00	04/01/2014	AA11168	MW-28D
03/12/2014 11:35:00	04/01/2014	AA11169	MW-28E
03/12/2014 12:10:00	04/01/2014	AA11170	MW-28C
03/12/2014 13:10:00	04/01/2014	AA11171	MW-1
03/12/2014 11:05:00	04/01/2014	AA11172	FB
03/12/2014 13:40:00	04/01/2014	AA11173	MW-1A
03/12/2014 14:10:00	04/01/2014	AA11174	MW-1B

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11151
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 09:50

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
---	---

Sample Description CLIENT ID: SW-3 MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: SURFACE WATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: SURFACE WATERS - QUARTERLY SITE: GREEN VALLEY LANDFILL

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 19:35	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 8.8	Det. Limit 1.0	Units mg/L

SULFATE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 19:53	Instrument: IC	Test: G310.7.0
Parameter SULFATE	Result 220	Det. Limit 5.0	Units mg/L
1:10 Dilution.			

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result 3.0	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL SUSPENDED SOLIDS DRIED AT 103-105 DEGREES C SM2540 D 19TH ED			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 13-MAR-14 14:50		Test: G403.8.0
Parameter	Result	Det. Limit	Units

Sample ID: AA11151 SW-3

Parameter	Result	Det. Limit	Units
SUSPENDED SOLIDS	14	1	mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15	Test: G402.9.0	
Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	390	10	mg/L

TOTAL SOLIDS DRIED AT 103-105 DEGREES C SM2540 B 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 13-MAR-14 13:55	Test: G401.6.0	
Parameter	Result	Det. Limit	Units
SOLIDS	420	10	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A			
Analyst: K. KAMARA	Analysis Date: 19-MAR-14 09:00	Instrument: PREP	Test: P130.5.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 22-MAR-14 03:24	Instrument: ICP	Test: M115.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0			
Parameter	Result	Det. Limit	Units
IRON	0.68	0.020	mg/L
QC sample not homogeneous for this element. Matrix Duplicates had high RPD			
Results are estimated for this sample.			

SODIUM ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 20-MAR-14 06:03	Instrument: ICP	Test: M131.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0			
Parameter	Result	Det. Limit	Units
SODIUM	8.4	0.10	mg/L

GROUNDWATER MONITORING WELL DATA SAS			
	Analysis Date: 12-MAR-14 09:50	Instrument: FIELD	Test: G600.0.0
Parameter	Result	Det. Limit	Units
FLOW RATE (CMF)	15		Gal/Min

FIELD PH (AQUEOUS) SW846-9040C			NELAC:Y
	Analysis Date: 12-MAR-14 09:50	Instrument: FIELD	Test: G607.0.0
Parameter	Result	Det. Limit	Units
PH	6.97	0.1	Std. Units

Sample ID: AA11151 SW-3

FIELD SPECIFIC CONDUCTANCE SW846-9050A			NELAC:Y
Analysis Date: 12-MAR-14 09:50 Instrument: FIELD			Test: G604.0.0
Parameter	Result	Det. Limit	Units
CONDUCTIVITY	579	1.0	umHOS/cm

FIELD TEMPERATURE SM2550 B 2000			NELAC:N
Analysis Date: 12-MAR-14 09:50 Instrument: FIELD			Test: G603.1.0
Parameter	Result	Det. Limit	Units
TEMPERATURE	11.85		Degrees C

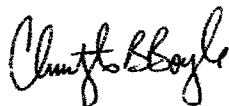
Sample Comments

BDL Below Detection Limit

Sample was received on ice at temperature .4 C.
Sample chain of custody number KENVIRONS.

This Certificate shall not be reproduced, except in full, without the written approval of the lab. The sample results relate only to the analytes of interest tested or to the sample as received by the lab. Pace Analytical Services, INC. certifies that the test results indicated as NELAP (National Environmental Laboratory Accreditation Program) accredited (Yes for NELAP) meet all requirements of NELAP and Kansas (KDHE) unless otherwise explained or justified as to the the exact nature of the deviations.

KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01



Approved by: CHRISTOPHER BOYLE 25-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11152
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 10:15

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
---	---

Sample Description CLIENT ID: SW-1 MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: SURFACE WATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: SURFACE WATERS - QUARTERLY SITE: GREEN VALLEY LANDFILL

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 20:11	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 4.9	Det. Limit 1.0	Units mg/L

SULFATE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 20:29	Instrument: IC	Test: G310.7.0
Parameter SULFATE	Result 470	Det. Limit 5.0	Units mg/L
1:10 Dilution.			

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result 2.0	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL SUSPENDED SOLIDS DRIED AT 103-105 DEGREES C SM2540 D 19TH ED			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 13-MAR-14 14:50		Test: G403.8.0
Parameter	Result	Det. Limit	Units

Sample ID: AA11152 SW-1

Parameter	Result	Det. Limit	Units
SUSPENDED SOLIDS	10	1	mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15	Test: G402.9.0	

Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	710	10	mg/L

TOTAL SOLIDS DRIED AT 103-105 DEGREES C SM2540 B 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 13-MAR-14 13:55	Test: G401.6.0	

Parameter	Result	Det. Limit	Units
SOLIDS	760	10	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A			
Analyst: K. KAMARA	Analysis Date: 19-MAR-14 09:00	Instrument: PREP	Test: P130.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 22-MAR-14 03:27	Instrument: ICP	Test: M115.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0			

Parameter	Result	Det. Limit	Units
IRON	0.73	0.020	mg/L

SODIUM ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 20-MAR-14 06:13	Instrument: ICP	Test: M131.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0			

Parameter	Result	Det. Limit	Units
SODIUM	6.9	0.10	mg/L

GROUNDWATER MONITORING WELL DATA SAS			
Analysis Date: 12-MAR-14 10:15			Instrument: FIELD
			Test: G600.0.0

Parameter	Result	Det. Limit	Units
FLOW RATE (CMF)	10		Gal/Min

FIELD PH (AQUEOUS) SW846-9040C			NELAC:Y
Analysis Date: 12-MAR-14 10:15			Instrument: FIELD
			Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	7.41	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A			NELAC:Y
Analysis Date: 12-MAR-14 10:15			Instrument: FIELD
			Test: G604.0.0

Parameter	Result	Det. Limit	Units
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Sample ID: AA11152 SW-1

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	942	1.0	umHOS/cm

FIELD TEMPERATURE SM2550 B 2000	Analysis Date: 12-MAR-14 10:15	Instrument: FIELD	NELAC:N Test: G603.1.0
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Parameter	Result	Det. Limit	Units
TEMPERATURE	11.07		Degrees C

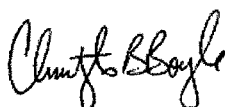
Sample Comments

BDL Below Detection Limit

Sample was received on ice at temperature .4 C.
Sample chain of custody number KENVIRONS.

This Certificate shall not be reproduced, except in full, without the written approval of the lab. The sample results relate only to the analytes of interest tested or to the sample as received by the lab. Pace Analytical Services, INC. certifies that the test results indicated as NELAP (National Environmental Laboratory Accreditation Program) accredited (Yes for NELAP) meet all requirements of NELAP and Kansas (KDHE) unless otherwise explained or justified as to the the exact nature of the deviations.

KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01



Approved by: CHRISTOPHER BOYLE 25-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11153
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 10:30

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
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Sample Description CLIENT ID: SW-4 MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: SURFACE WATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: SURFACE WATERS - QUARTERLY SITE: GREEN VALLEY LANDFILL
--

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 20:47	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 3.0	Det. Limit 1.0	Units mg/L

SULFATE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 21:04	Instrument: IC	Test: G310.7.0
Parameter SULFATE	Result 79	Det. Limit 5.0	Units mg/L
1:10 Dilution.			

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result 2.1	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL SUSPENDED SOLIDS DRIED AT 103-105 DEGREES C SM2540 D 19TH ED			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 13-MAR-14 14:50		Test: G403.8.0
Parameter	Result	Det. Limit	Units

Sample ID: AA11153 SW-4

Parameter	Result	Det. Limit	Units
SUSPENDED SOLIDS	7	1	mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15	Test: G402.9.0	

Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	150	10	mg/L

TOTAL SOLIDS DRIED AT 103-105 DEGREES C SM2540 B 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 13-MAR-14 13:55	Test: G401.6.0	

Parameter	Result	Det. Limit	Units
SOLIDS	170	10	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A			
Analyst: K. KAMARA	Analysis Date: 19-MAR-14 09:00	Instrument: PREP	Test: P130.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 22-MAR-14 03:31	Instrument: ICP	Test: M115.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0			

Parameter	Result	Det. Limit	Units
IRON	0.43	0.020	mg/L

SODIUM ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 20-MAR-14 06:17	Instrument: ICP	Test: M131.3.0
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0			

Parameter	Result	Det. Limit	Units
SODIUM	3.7	0.10	mg/L

GROUNDWATER MONITORING WELL DATA SAS			
	Analysis Date: 12-MAR-14 10:30	Instrument: FIELD	Test: G600.0.0

Parameter	Result	Det. Limit	Units
FLOW RATE (CMF)	10		Gal/Min

FIELD PH (AQUEOUS) SW846-9040C			NELAC:Y
	Analysis Date: 12-MAR-14 10:30	Instrument: FIELD	Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	7.29	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A			NELAC:Y
	Analysis Date: 12-MAR-14 10:30	Instrument: FIELD	Test: G604.0.0

Parameter	Result	Det. Limit	Units
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Sample ID: AA11153 SW-4

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	303	1.0	umHOS/cm

FIELD TEMPERATURE SM2550 B 2000		NELAC:N	
Analysis Date: 12-MAR-14 10:30 Instrument: FIELD		Test: G603.1.0	
Parameter	Result	Det. Limit	Units
TEMPERATURE	10.33		Degrees C

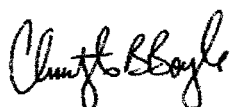
Sample Comments

BDL Below Detection Limit

Sample was received on ice at temperature .4 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01



Approved by: CHRISTOPHER BOYLE 25-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11154
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 12:35

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
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Sample Description CLIENT ID: SW-5 MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: SURFACE WATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: SURFACE WATERS - QUARTERLY SITE: GREEN VALLEY LANDFILL

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 00:38	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 44	Det. Limit 2.5	Units mg/L
1:10 Dilution.			

SULFATE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 14-MAR-14 22:51	Instrument: IC	Test: G310.7.0
Parameter SULFATE	Result 280	Det. Limit 2.5	Units mg/L
1:10 Dilution.			

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result 8.7	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result 25	Det. Limit 10	Units mg/L

Sample ID: AA11154 SW-5

TOTAL SUSPENDED SOLIDS DRIED AT 103-105 DEGREES C SM2540 D 19TH ED			NELAC:Y
Analyst: A. CORNWELL		Analysis Date: 13-MAR-14 14:50	Test: G403.8.0
Parameter	Result	Det. Limit	Units
SUSPENDED SOLIDS	16	1	mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL		Analysis Date: 14-MAR-14 09:15	Test: G402.9.0
Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	580	10	mg/L

TOTAL SOLIDS DRIED AT 103-105 DEGREES C SM2540 B 1997			NELAC:Y
Analyst: A. CORNWELL		Analysis Date: 13-MAR-14 13:55	Test: G401.6.0
Parameter	Result	Det. Limit	Units
SOLIDS	590	10	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A			
Analyst: K. KAMARA		Analysis Date: 19-MAR-14 09:00	Instrument: PREP
		Test: P130.5.0	
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER		Analysis Date: 21-MAR-14 03:26	Instrument: ICP
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0		Test: M115.3.0	
Parameter	Result	Det. Limit	Units
IRON	1.2	0.020	mg/L

SODIUM ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER		Analysis Date: 20-MAR-14 06:20	Instrument: ICP
Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0		Test: M131.3.0	
Parameter	Result	Det. Limit	Units
SODIUM	34	0.10	mg/L

GROUNDWATER MONITORING WELL DATA SAS			
		Analysis Date: 12-MAR-14 12:35	Instrument: FIELD
		Test: G600.0.0	
Parameter	Result	Det. Limit	Units
FLOW RATE (CMF)	15		Gal/Min

FIELD PH (AQUEOUS) SW846-9040C			NELAC:Y
		Analysis Date: 12-MAR-14 12:35	Instrument: FIELD
		Test: G607.0.0	
Parameter	Result	Det. Limit	Units
PH	6.86	0.1	Std. Units

Sample ID: AA11154 SW-5

FIELD SPECIFIC CONDUCTANCE SW846-9050A		NELAC:Y	
Analysis Date: 12-MAR-14 12:35 Instrument: FIELD		Test: G604.0.0	
Parameter	Result	Det. Limit	Units
CONDUCTIVITY	887	1.0	umHOS/cm

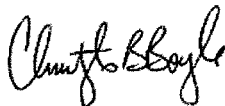
FIELD TEMPERATURE SM2550 B 2000		NELAC:N	
Analysis Date: 12-MAR-14 12:35 Instrument: FIELD		Test: G603.1.0	
Parameter	Result	Det. Limit	Units
TEMPERATURE	11.16		Degrees C

Sample Comments

Sample was received on ice at temperature .4 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01



Approved by: CHRISTOPHER BOYLE 24-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11167
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 09:40

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
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Sample Description CLIENT ID: MW-3 MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-8085

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 18:49	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 4.5	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter DISSOLVED SOLIDS	Result 150	Det. Limit 10	Units mg/L

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result 1.2	Det. Limit 1.0	Units mg/L

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0			
Analyst: K. KAMARA	Analysis Date: 14-MAR-14 09:00	Instrument: PREP	Test: P129.3.0
Parameter INITIAL WEIGHT OR VOLUME	Result 50	Det. Limit	Units mL

Sample ID: AA11167 MW-3

Parameter	Result	Det. Limit	Units
FINAL VOLUME	50		mL

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA

Analysis Date: 19-MAR-14 09:00

Instrument: PREP

Test: P129.3.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 18-MAR-14 03:28

Instrument: ICP

Test: M115.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
IRON	36	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 21-MAR-14 03:47

Instrument: ICP

Test: M131.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
SODIUM	6.2	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC.

Analysis Date: 28-MAR-14

Instrument: TOX

Test: O404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS

Analysis Date: 12-MAR-14 09:40

Instrument: FIELD

Test: G600.0.0

Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	626.02		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	630.80		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	4.78		ft

FIELD PH (AQUEOUS) SW846-9040C

NELAC:Y

Analysis Date: 12-MAR-14 09:40

Instrument: FIELD

Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	6.22	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A

NELAC:Y

Analysis Date: 12-MAR-14 09:40

Instrument: FIELD

Test: G604.0.0

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	229	1.0	umHOS/cm

Sample ID: AA11167 MW-3

FIELD TEMPERATURE SM2550 B 2000

NELAC:N

Analysis Date: 12-MAR-14 09:40 Instrument: FIELD

Test: G603.1.0

Parameter	Result	Det. Limit	Units
TEMPERATURE	9.56		Degrees C

Sample Comments

BDL Below Detection Limit

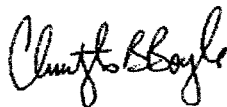
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

As indicated, some testing was performed at the following locations:

KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11168
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 11:00

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
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Sample Description CLIENT ID: MW-28D MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-7102

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 19:43	Instrument: IC	Test: G310.2.0
Parameter	Result	Det. Limit	Units
CHLORIDE	18	1.0	mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter	Result	Det. Limit	Units
CHEMICAL OXYGEN DEMAND	BDL	10	mg/L
MS and/or MSD do not meet control limits. Results for this sample are estimated.			

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	430	10	mg/L

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter	Result	Det. Limit	Units
TOTAL ORGANIC CARBON (TOC)	BDL	1.0	mg/L

Sample ID: AA11168 MW-28D

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA

Analysis Date: 14-MAR-14 09:00

Instrument: PREP

Test: P129.3.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA

Analysis Date: 19-MAR-14 09:00

Instrument: PREP

Test: P129.3.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 18-MAR-14 03:32

Instrument: ICP

Test: M115.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
IRON	2.4	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 21-MAR-14 03:50

Instrument: ICP

Test: M131.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
SODIUM	30	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC.

Analysis Date: 28-MAR-14

Instrument: TOX

Test: O404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS

Analysis Date: 12-MAR-14 11:00

Instrument: FIELD

Test: G600.0.0

Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	670.54		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	675.20		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	4.66		ft

FIELD PH (AQUEOUS) SW846-9040C

NELAC:Y

Analysis Date: 12-MAR-14 11:00

Instrument: FIELD

Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	5.48	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A

NELAC:Y

Analysis Date: 12-MAR-14 11:00

Instrument: FIELD

Test: G604.0.0

Parameter	Result	Det. Limit	Units
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Sample ID: AA11168 MW-28D

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	649	1.0	umHOS/cm

FIELD TEMPERATURE SM2550 B 2000

NELAC:N

Analysis Date: 12-MAR-14 11:00 Instrument: FIELD

Test: G603.1.0

Parameter	Result	Det. Limit	Units
TEMPERATURE	9.60		Degrees C

Sample Comments

BDL Below Detection Limit

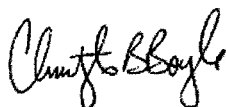
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

As indicated, some testing was performed at the following locations:

KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11169
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 11:35

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
---	---

Sample Description CLIENT ID: MW-28E MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-7103

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 20:18	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 1.9	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter DISSOLVED SOLIDS	Result 170	Det. Limit 10	Units mg/L

Sample fails precision (RPD is outside) control limits. Results for this sample are estimated.

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result BDL	Det. Limit 1.0	Units mg/L

Sample ID: AA11169 MW-28E

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA

Analysis Date: 14-MAR-14 09:00

Instrument: PREP

Test: P129.3.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA

Analysis Date: 19-MAR-14 09:00

Instrument: PREP

Test: P129.3.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 18-MAR-14 03:35

Instrument: ICP

Test: M115.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
IRON	0.031	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 19-MAR-14 23:37

Instrument: ICP

Test: M131.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
SODIUM	15	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC.

Analysis Date: 24-MAR-14

Instrument: TOX

Test: O404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS

Analysis Date: 12-MAR-14 11:35

Instrument: FIELD

Test: G600.0.0

Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	668.55		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	677.00		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	8.45		ft

FIELD PH (AQUEOUS) SW846-9040C

NELAC:Y

Analysis Date: 12-MAR-14 11:35

Instrument: FIELD

Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	6.46	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A

NELAC:Y

Analysis Date: 12-MAR-14 11:35

Instrument: FIELD

Test: G604.0.0

Parameter	Result	Det. Limit	Units
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Sample ID: AA11169 MW-28E

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	333	1.0	umHOS/cm

FIELD TEMPERATURE SM2550 B 2000		NELAC:N	
Analysis Date: 12-MAR-14 11:35 Instrument: FIELD		Test: G603 1.0	
Parameter	Result	Det. Limit	Units
TEMPERATURE	11.49		Degrees C

Sample Comments

BDL Below Detection Limit

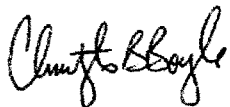
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

As indicated, some testing was performed at the following locations:

KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11170
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 12:10

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
---	---

Sample Description CLIENT ID: MW-28C MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-7101

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 20:36	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 12	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter DISSOLVED SOLIDS	Result 340	Det. Limit 10	Units mg/L

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result 1.3	Det. Limit 1.0	Units mg/L

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0			
Analyst: K. KAMARA	Analysis Date: 14-MAR-14 09:00	Instrument: PREP	Test: P129.3.0
Parameter INITIAL WEIGHT OR VOLUME	Result 50	Det. Limit	Units mL

Sample ID: AA11170 MW-28C

Parameter	Result	Det. Limit	Units
FINAL VOLUME	50		mL

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA

Analysis Date: 19-MAR-14 09:00

Instrument: PREP

Test: P129.3.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 18-MAR-14 03:38

Instrument: ICP

Test: M115.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
IRON	3.5	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 19-MAR-14 23:40

Instrument: ICP

Test: M131.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
SODIUM	16	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC.

Analysis Date: 28-MAR-14

Instrument: TOX

Test: O404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS

Analysis Date: 12-MAR-14 12:10

Instrument: FIELD

Test: G600.0.0

Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	670.42		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	674.40		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	3.98		ft

FIELD PH (AQUEOUS) SW846-9040C

NELAC:Y

Analysis Date: 12-MAR-14 12:10

Instrument: FIELD

Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	5.27	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A

NELAC:Y

Analysis Date: 12-MAR-14 12:10

Instrument: FIELD

Test: G604.0.0

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	526	1.0	umHOS/cm

Sample ID: AA11170 MW-28C

FIELD TEMPERATURE SM2550 B 2000		NELAC:N	
Analysis Date: 12-MAR-14 12:10 Instrument: FIELD		Test: G603.1.0	
Parameter	Result	Det. Limit	Units
TEMPERATURE	8.35		Degrees C

Sample Comments

BDL Below Detection Limit

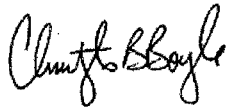
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

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KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11171
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 13:10

Report To	Bill To
DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003

Sample Description
CLIENT ID: MW-1 MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-8086

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 22:41	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 1.5	Det. Limit 1.0	Units mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter DISSOLVED SOLIDS	Result 28	Det. Limit 10	Units mg/L

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result BDL	Det. Limit 1.0	Units mg/L

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0			
Analyst: K. KAMARA	Analysis Date: 14-MAR-14 09:00	Instrument: PREP	Test: P129.3.0
Parameter INITIAL WEIGHT OR VOLUME	Result 50	Det. Limit	Units mL

Sample ID: AA11171 MW-1

Parameter	Result	Det. Limit	Units
FINAL VOLUME	50		mL

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA Analysis Date: 19-MAR-14 09:00 Instrument: PREP Test: P129.3.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER Analysis Date: 18-MAR-14 03:42 Instrument: ICP Test: M115.3.0
Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
IRON	0.68	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER Analysis Date: 21-MAR-14 03:54 Instrument: ICP Test: M131.3.0
Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
SODIUM	1.8	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC. Analysis Date: 28-MAR-14 Instrument: TOX Test: O404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS

Analysis Date: 12-MAR-14 13:10 Instrument: FIELD Test: G600.0.0

Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	613.65		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	617.80		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	4.15		ft

FIELD PH (AQUEOUS) SW846-9040C

NELAC:Y

Analysis Date: 12-MAR-14 13:10 Instrument: FIELD Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	6.40	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A

NELAC:Y

Analysis Date: 12-MAR-14 13:10 Instrument: FIELD Test: G604.0.0

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	70	1.0	umHOS/cm

Sample ID: AA11171 MW-1

FIELD TEMPERATURE SM2550 B 2000		NELAC:N	
Analysis Date: 12-MAR-14 13:10 Instrument: FIELD		Test: G603.1.0	
Parameter	Result	Det. Limit	Units
TEMPERATURE	11.43		Degrees C

Sample Comments

BDL Below Detection Limit

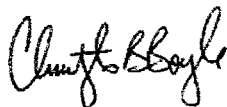
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

As indicated, some testing was performed at the following locations:

KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11172
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 11:05

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
---	---

Sample Description CLIENT ID: FB MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: N/A

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 22:23	Instrument: IC	Test: G310.2.0
Parameter	Result	Det. Limit	Units
CHLORIDE	BDL	1.0	mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter	Result	Det. Limit	Units
CHEMICAL OXYGEN DEMAND	BDL	10	mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	BDL	10	mg/L

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter	Result	Det. Limit	Units
TOTAL ORGANIC CARBON (TOC)	BDL	1.0	mg/L

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0			
Analyst: K. KAMARA	Analysis Date: 14-MAR-14 09:00	Instrument: PREP	Test: P129.3.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL

Sample ID: AA11172 FB

Parameter	Result	Det. Limit	Units
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 15-MAR-14 01:01 Instrument: ICP

Test: M115.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
IRON	BDL	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER

Analysis Date: 15-MAR-14 01:01 Instrument: ICP

Test: M131.3.0

Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0

Parameter	Result	Det. Limit	Units
SODIUM	BDL	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC.

Analysis Date: 28-MAR-14

Instrument: TOX

Test: Q404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

Sample Comments

BDL Below Detection Limit

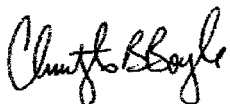
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

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KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11173
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 13:40

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
---	---

Sample Description CLIENT ID: MW-1A MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-2931
--

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056		NELAC:Y	
Analyst: K. VEST	Analysis Date: 17-MAR-14 22:58	Instrument: IC	Test: G310.2.0
Parameter	Result	Det. Limit	Units
CHLORIDE	3.5	1.0	mg/L

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)		NELAC:Y	
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter	Result	Det. Limit	Units
CHEMICAL OXYGEN DEMAND	BDL	10	mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997		NELAC:Y	
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter	Result	Det. Limit	Units
DISSOLVED SOLIDS	250	10	mg/L

TOTAL ORGANIC CARBON SW846-9060A		NELAC:Y	
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter	Result	Det. Limit	Units
TOTAL ORGANIC CARBON (TOC)	BDL	1.0	mg/L

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0			
Analyst: K. KAMARA	Analysis Date: 14-MAR-14 09:00	Instrument: PREP	Test: P129.3.0
Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL

Sample ID: AA11173 MW-1A

Parameter	Result	Det. Limit	Units
FINAL VOLUME	50		mL

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

Analyst: K. KAMARA Analysis Date: 19-MAR-14 09:00 Instrument: PREP Test: P129.3.1

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER Analysis Date: 18-MAR-14 03:45 Instrument: ICP Test: M115.3.0
Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
IRON	0.68	0.020	mg/L

SODIUM ICP SW846-6010B

NELAC:Y

Analyst: J. KRAMER Analysis Date: 21-MAR-14 03:57 Instrument: ICP Test: M131.3.0
Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.1

Parameter	Result	Det. Limit	Units
SODIUM	23	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B

NELAC:Y

Vendor: KEYSTONE LABORATORIES, INC. Analysis Date: 28-MAR-14 Instrument: TOX Test: O404.0.0

Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS

Analysis Date: 12-MAR-14 13:40 Instrument: FIELD Test: G600.0.0

Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	617.00		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	618.60		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	1.60		ft

FIELD PH (AQUEOUS) SW846-9040C

NELAC:Y

Analysis Date: 12-MAR-14 13:40 Instrument: FIELD Test: G607.0.0

Parameter	Result	Det. Limit	Units
PH	7.24	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A

NELAC:Y

Analysis Date: 12-MAR-14 13:40 Instrument: FIELD Test: G604.0.0

Parameter	Result	Det. Limit	Units
CONDUCTIVITY	384	1.0	umHOS/cm

Sample ID: AA11173 MW-1A

FIELD TEMPERATURE SM2550 B 2000		NELAC:N	
Analysis Date: 12-MAR-14 13:40 Instrument: FIELD		Test: G603.1.0	
Parameter	Result	Det. Limit	Units
TEMPERATURE	10.93		Degrees C

Sample Comments

BDL Below Detection Limit

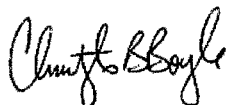
Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

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KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

As indicated, some testing was performed at the following locations:

KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208



Approved by: CHRISTOPHER BOYLE 31-MAR-14

CERTIFICATE OF ANALYSIS

Service Location PACE ANALYTICAL SERVICES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	Received 13-MAR-14	Lab ID AA11174
	Completed 01-APR-14	PO Number 4063197
	Printed 01-APR-14	Sampled 12-MAR-14 14:10

Report To DANIEL DEBORDE GREEN VALLEY LANDFILL PO BOX 9 RUSH, KY 41168	Bill To ALLIED WASTE SYSTEMS 258 North Fork Road Wheeling, WV 26003
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Sample Description CLIENT ID: MW-1B MATRIX TYPE: NON-SPECIFIC WATER SUBMITTER: 10497 - KY-ALLIED-GREEN VALLEY LANDFILL PROJECT NAME: GROUNDWATER - GREEN VALLEY LANDFILL DATA PACKAGE #: 65993 DESCRIPTION: GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS) LOCATION: GREEN VALLEY LANDFILL AKGWA #: 8000-2932
--

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056			NELAC:Y
Analyst: K. VEST	Analysis Date: 17-MAR-14 23:16	Instrument: IC	Test: G310.2.0
Parameter CHLORIDE	Result 45	Det. Limit 1.3	Units mg/L
1:5 Dilution.			

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)			NELAC:Y
Analyst: S. BOXUM	Analysis Date: 15-MAR-14 08:50		Test: G301.1.0
Parameter CHEMICAL OXYGEN DEMAND	Result BDL	Det. Limit 10	Units mg/L

TOTAL DISSOLVED SOLIDS SM2540 C 1997			NELAC:Y
Analyst: A. CORNWELL	Analysis Date: 14-MAR-14 09:15		Test: G402.9.0
Parameter DISSOLVED SOLIDS	Result 390	Det. Limit 10	Units mg/L

TOTAL ORGANIC CARBON SW846-9060A			NELAC:Y
Analyst: C. ANYANWUTAKU	Analysis Date: 17-MAR-14 09:59	Instrument: TOC	Test: O401.0.0
Parameter TOTAL ORGANIC CARBON (TOC)	Result BDL	Det. Limit 1.0	Units mg/L

FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0			
Analyst: K. KAMARA	Analysis Date: 18-MAR-14 09:00	Instrument: PREP	Test: P129.3.0

Sample ID: AA11174 MW-1B

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

IRON ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 19-MAR-14 03:55	Instrument: ICP	Test: M115.3.0
Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0			
Parameter	Result	Det. Limit	Units
IRON	0.41	0.020	mg/L

SODIUM ICP SW846-6010B			NELAC:Y
Analyst: J. KRAMER	Analysis Date: 19-MAR-14 03:55	Instrument: ICP	Test: M131.3.0
Prep: FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0 P129.3.0			
Parameter	Result	Det. Limit	Units
SODIUM	160	0.10	mg/L

TOTAL ORGANIC HALIDES (TOX) SW846-9020B			NELAC:Y
Vendor: KEYSTONE LABORATORIES, INC.		Analysis Date: 28-MAR-14	Instrument: TOX
		Test: O404.0.0	
Parameter	Result	Det. Limit	Units
TOTAL ORGANIC HALOGEN (TOX)	BDL	0.010	mg/L

GROUNDWATER MONITORING WELL DATA SAS			
		Analysis Date: 12-MAR-14 14:10	Instrument: FIELD
		Test: G600.0.0	
Parameter	Result	Det. Limit	Units
ELEVATION OF GROUNDWATER SURFACE	613.68		Feet/MSL
ELEVATION OF MEASURING PT (TOP OF CASING FT. MSL)	618.70		Feet/MSL
DEPTH TO WATER (FT. BELOW MEASURING POINT)	5.02		ft

FIELD PH (AQUEOUS) SW846-9040C			NELAC:Y
Analysis Date: 12-MAR-14 14:10		Instrument: FIELD	Test: G607.0.0
Parameter	Result	Det. Limit	Units
PH	7.81	0.1	Std. Units

FIELD SPECIFIC CONDUCTANCE SW846-9050A			NELAC:Y
Analysis Date: 12-MAR-14 14:10 Instrument: FIELD			Test: G604.0.0
Parameter	Result	Det. Limit	Units
CONDUCTIVITY	728	1.0	umHOS/cm

FIELD TEMPERATURE SM2550 B 2000			NELAC:N
Analysis Date: 12-MAR-14 14:10 Instrument: FIELD			Test: G603.1.0
Parameter	Result	Det. Limit	Units
TEMPERATURE	11.33		Degrees C

Sample Comments			
BDL Below Detection Limit			



Sample ID: AA11174 MW-1B

Sample Comments

Sample was received on ice at temperature .6 C.
Sample chain of custody number KENVIRONS.

This Certificate shall not be reproduced, except in full, without the written approval of the lab. The sample results relate only to the analytes of interest tested or to the sample as received by the lab. Pace Analytical Services, INC. certifies that the test results indicated as NELAP (National Environmental Laboratory Accreditation Program) accredited (Yes for NELAP) meet all requirements of NELAP and Kansas (KDHE) unless otherwise explained or justified as to the the exact nature of the deviations.

KS ELAP / NELAP Accreditation # E-10177 Indiana SDWA C-49-01

As indicated, some testing was performed at the following locations:

KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH , NEWTON, IA 50208

A handwritten signature in black ink, appearing to read 'Christopher Boyle', written over a horizontal line.

Approved by: CHRISTOPHER BOYLE 31-MAR-14



01102138

KENVIRONS, INC.
CHAIN OF CUSTODY RECORD

452 Versailles Road; Frankfort, KY 40601

www.kenvirons.com (502) 695-4357 Fax: (502) 695-4363

[illegible]

White - Kenvirons Laboratory
Yellow - Third Party Laboratory
Pink - Sampler

Sample Receiving Check Sheet

COC ID/Date Received: 0707138

	Sulfuric plastic <2	Sulfuric Diss Plastic <2	Sulfuric glass <2	Nitric plastic <2	Nitric Diss Plastic <2	NaOH/ZnAO <12	NaOH plastic <12	preservative added?	pH after addition	Residual Cl2 present Y/N	Headspace > 2/3	Sample is UNP or other than aqueous Y/N	HCL Preserved Containers*	Comments
Line 1 on COC				2										
Line 2 on COC	1			2										
Line 3 on COC	2			1										
Line 4 on COC	1			2										
Line 5 on COC														
Line 6 on COC														
Line 7 on COC														
Line 8 on COC														
Line 9 on COC														
Line 10 on COC														
Line 11 on COC														
Line 12 on COC														
Line 13 on COC														
Line 14 on COC														
Line 15 on COC														
Line 16 on COC														
Line 17 on COC														
Line 18 on COC														
Line 19 on COC														
Line 20 on COC														
Line 21 on COC														
Line 22 on COC														
Line 23 on COC														
Line 24 on COC														
Line 25 on COC														

Aqueous samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container then record the pH in the box. If approved by the project chemist then add acid or base to the sample to achieve the correct pH. Add up to two times the volume initially added to the sample container. Record pH after the addition of this preservative.

Preservative sizes for addition:
120ml NaOH 1 mL
500ml H2SO4 2 mL
1000ml H2SO4 4 mL
500ml HNO3 2 mL
1000ml HNO3 4 mL

Drop Off ☒ FedEx ☐ UPS ☐ Courier

Tracking # _____

Checked by: DR

*pH of HCL preserved containers checked by analysts

Comments: _____

KENVIRONS, INC.
CHAIN OF CUSTODY RECORD

www.kenvirons.com (502) 695-4357 Fax: (502) 695-4363

White - Kenvirons Laboratory
Yellow - Third Party Laboratory
Pink - Sampler

Sample Receiving Check Sheet

COC ID/Date Received: 01102147

	Sulfuric plastic <2	Sulfuric Diss Plastic <2	Sulfuric glass <2	Nitric plastic <2	Nitric Diss Plastic <2	NaOH/ZnAOC <12	NaOH plastic <12	preservative added?	pH after addition	Residual C12 present Y/N	Headspace 1/4*	Sample is UNP or other than aqueous Y/N	HCL Preserved Containers	Comments
Line 1 on COC	2		2											Aqueous samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container then record the pH in the box. If approved by the project chemist then add acid or base to the sample to achieve the correct pH. Add up to two times the volume initially added to the sample container. Record pH after the addition of this preservative.
Line 2 on COC	2		2											
Line 3 on COC	2		2											
Line 4 on COC	2		2											
Line 5 on COC	2		2											
Line 6 on COC	2		2											
Line 7 on COC	2		2											
Line 8 on COC	2		2											
Line 9 on COC														Preservative sizes for addition: 120ml NaOH 1 mL 500ml H2SO4 2 mL 1000ml H2SO4 4 mL 500ml HNO3 2 mL 1000ml HNO3 4 mL
Line 10 on COC														
Line 11 on COC														
Line 12 on COC														
Line 13 on COC														
Line 14 on COC														Drop Off <u>FedEx</u> UPS Courier
Line 15 on COC														
Line 16 on COC														Tracking #
Line 17 on COC														Checked by: <u>[Signature]</u>
Line 18 on COC														*pH of HCL preserved containers checked by analysts
Line 19 on COC														
Line 20 on COC														Comments:
Line 21 on COC														
Line 22 on COC														
Line 23 on COC														
Line 24 on COC														
Line 25 on COC														

Quality Assurance Report

65993

01-APR-14

Service Location

Pace Analytical Services, INC.
7901 West Morris Street
Indianapolis, IN 46231
(317) 243-8304

Submitter

DANIEL DEBORDE
GREEN VALLEY LANDFILL
PO BOX 9
RUSH, KY 41168

Sample ID	Client ID	Date/Time Sampled	Date Received	Date Released
AA11151	SW-3	12-Mar-14 09:50	13-Mar-14	25-Mar-2014
		DESCRIPTION : SURFACE WATERS - QUARTERLY		
		SITE : GREEN VALLEY LANDFILL		
AA11152	SW-1	12-Mar-14 10:15	13-Mar-14	25-Mar-2014
		DESCRIPTION : SURFACE WATERS - QUARTERLY		
		SITE : GREEN VALLEY LANDFILL		
AA11153	SW-4	12-Mar-14 10:30	13-Mar-14	25-Mar-2014
		DESCRIPTION : SURFACE WATERS - QUARTERLY		
		SITE : GREEN VALLEY LANDFILL		
AA11154	SW-5	12-Mar-14 12:35	13-Mar-14	24-Mar-2014
		DESCRIPTION : SURFACE WATERS - QUARTERLY		
		SITE : GREEN VALLEY LANDFILL		
AA11167	MW-3	12-Mar-14 09:40	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		
		LOCATION : GREEN VALLEY LANDFILL		
		AKGWA # : 8000-8085		
AA11168	MW-28D	12-Mar-14 11:00	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		
		LOCATION : GREEN VALLEY LANDFILL		
		AKGWA # : 8000-7102		
AA11169	MW-28E	12-Mar-14 11:35	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		
		LOCATION : GREEN VALLEY LANDFILL		
		AKGWA # : 8000-7103		
AA11170	MW-28C	12-Mar-14 12:10	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		
		LOCATION : GREEN VALLEY LANDFILL		
		AKGWA # : 8000-7101		
AA11171	MW-1	12-Mar-14 13:10	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		
		LOCATION : GREEN VALLEY LANDFILL		
		AKGWA # : 8000-8086		
AA11172	FB	12-Mar-14 11:05	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		
		LOCATION : GREEN VALLEY LANDFILL		
		AKGWA # : N/A		
AA11173	MW-1A	12-Mar-14 13:40	13-Mar-14	31-Mar-2014
		DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)		

**Quality Assurance Report****65993****01-APR-14**

Sample ID	Client ID	Date/Time Sampled	Date Received	Date Released
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LOCATION : GREEN VALLEY LANDFILL

AKGWA # : 8000-2931

AA11174 MW-1B

12-Mar-14 14:10

13-Mar-14

31-Mar-2014

DESCRIPTION : GROUNDWATER WELLS (1ST,3RD & 4TH QUARTERS)

LOCATION : GREEN VALLEY LANDFILL

AKGWA # : 8000-2932



Quality Assurance Report

65993

CHEMICAL OXYGEN DEMAND (COLORIMETRIC) EPA 410.4 REV. 2.0 (1993)										G301.1
R623107 Analytical	Analyst: S BOXUM Reviewer: P SPENCE		Run Date: 15-Mar-14 Review Date: 17-Mar-14							
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
CDL01	Q2795057		CHEMICAL OXYGEN DEMAND	10.0			12.8	mg/L	128.0	
ICV01	Q2795058		CHEMICAL OXYGEN DEMAND	100			97.2	mg/L	97.2	
CCV	Q2795062		CHEMICAL OXYGEN DEMAND	100			97.4	mg/L	97.4	
BLA01	Q2795063		CHEMICAL OXYGEN DEMAND			BDL	10	mg/L		
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
DUP01	Q2795064	AA11152	CHEMICAL OXYGEN DEMAND	0		BDL		mg/L		
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
CCV	Q2795065		CHEMICAL OXYGEN DEMAND	100			96.1	mg/L	96.1	
BLA01	Q2795066		CHEMICAL OXYGEN DEMAND			BDL	10	mg/L		
ICV01	Q2795067		CHEMICAL OXYGEN DEMAND	100			96.7	mg/L	96.7	
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SPI01	Q2795068	AA11168	CHEMICAL OXYGEN DEMAND	0	50.0		43.7	mg/L	87.4	
DPS01	Q2795069	AA11168	CHEMICAL OXYGEN DEMAND	0	50.0		47.0	mg/L	94.0	7.3
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11172		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
CCV	Q2795070		CHEMICAL OXYGEN DEMAND	100			98.2	mg/L	98.2	
BLA01	Q2795071		CHEMICAL OXYGEN DEMAND			BDL	10	mg/L		
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							
DUP01	Q2795072	AA11174	CHEMICAL OXYGEN DEMAND	0		BDL		mg/L		
CCV	Q2795073		CHEMICAL OXYGEN DEMAND	100			97.9	mg/L	97.9	
BLA01	Q2795074		CHEMICAL OXYGEN DEMAND			BDL	10	mg/L		
Q2795068	MS and/or MSD do not meet control limits. Results for this sample are									
Q2795068	estimated.									

CHLORIDE BY ION CHROMATOGRAPHY SW846-9056										G310.2
R623150 Analytical	Analyst: K VEST Reviewer: E WERNZ		Run Date: 14-Mar-14 Review Date: 17-Mar-14		Instrument: IC					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LFB01H	Q2795460		CHLORIDE	12.5			11.8	mg/L	94.4	
LFB01L	Q2795461		CHLORIDE	1.25			1.22	mg/L	97.6	
SPI01	Q2795463	AA11006	CHLORIDE	56000	6250		63000	mg/L	112.0	
DPS01	Q2795464	AA11006	CHLORIDE	56000	6250		63500	mg/L	120.0	6.9
CCVL	Q2795465		CHLORIDE	1.25			1.25	mg/L	100.0	
CCVH	Q2795466		CHLORIDE	5.00			4.75	mg/L	95.0	
BLA01	Q2795467		CHLORIDE			BDL	0.05	mg/L		
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
CCVL	Q2795470		CHLORIDE	1.25			1.26	mg/L	100.8	



Quality Assurance Report

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CHLORIDE BY ION CHROMATOGRAPHY SW846-9056

G310.2

R623150 Analytical	Analyst: K VEST Reviewer: E WERNZ		Run Date: 14-Mar-14 Review Date: 17-Mar-14		Continued					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
CCVH	Q2795471		CHLORIDE	5.00			4.84	mg/L	96.8	
BLA01	Q2795472		CHLORIDE			BDL	0.05	mg/L		
LFB01L	Q2795473		CHLORIDE	1.25			1.22	mg/L	97.6	
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
CCVL	Q2795476		CHLORIDE	1.25			1.25	mg/L	100.0	
CCVH	Q2795477		CHLORIDE	5.00			4.75	mg/L	95.0	
BLA01	Q2795478		CHLORIDE			J	0.061	mg/L		
LFB01L	Q2795479		CHLORIDE	1.25			1.22	mg/L	97.6	
Q2795463	1:5000 Dilution.									
Q2795464	1:5000 Dilution.									

R623198 Analytical	Analyst: K VEST Reviewer: E WERNZ		Run Date: 17-Mar-14 Review Date: 18-Mar-14		Instrument: IC					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA01	Q2795912		CHLORIDE			BDL	0.05	mg/L		
CCVL	Q2795913		CHLORIDE	1.25			1.29	mg/L	103.2	
CCVH	Q2795914		CHLORIDE	5.00			4.86	mg/L	97.2	
LFB01H	Q2795915		CHLORIDE	12.5			12.4	mg/L	99.2	
LFB01L	Q2795916		CHLORIDE	1.25			1.30	mg/L	104.0	
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SPI01	Q2795917	AA11167	CHLORIDE	4.01	1.25		5.21	mg/L	96.0	
DPS01	Q2795918	AA11167	CHLORIDE	4.01	1.25		5.18	mg/L	93.6	2.5
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
CCVL	Q2795919		CHLORIDE	1.25			1.27	mg/L	101.6	
CCVH	Q2795920		CHLORIDE	5.00			4.80	mg/L	96.0	
BLA01	Q2795921		CHLORIDE			BDL	0.05	mg/L		
SAMPLE	AA11172		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							
SPI01	Q2795922	AA11174	CHLORIDE	40.8	6.25		46.3	mg/L	88.0	
DPS01	Q2795923	AA11174	CHLORIDE	40.8	6.25		46.2	mg/L	86.4	1.8
CCVL	Q2795926		CHLORIDE	1.25			1.29	mg/L	103.2	
CCVH	Q2795927		CHLORIDE	5.00			4.84	mg/L	96.8	
BLA01	Q2795928		CHLORIDE			BDL	0.05	mg/L		
LFB01L	Q2795929		CHLORIDE	1.25			1.27	mg/L	101.6	
Q2795922	1:5 Dilution.									
Q2795923	1:5 Dilution.									



Quality Assurance Report

65993

FIELD PH (AQUEOUS) SW846-9040C										G607.0
R623193 Analytical	Analyst: Reviewer:		Run Date: 12-Mar-14 Review Date: 18-Mar-14			Instrument: FIELD				
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							

FIELD SPECIFIC CONDUCTANCE SW846-9050A										G604.0
R623193 Analytical	Analyst: Reviewer:		Run Date: 12-Mar-14 Review Date: 18-Mar-14			Instrument: FIELD				
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							

FIELD TEMPERATURE SM2550 B 2000										G603.1
R623193 Analytical	Analyst: Reviewer:		Run Date: 12-Mar-14 Review Date: 18-Mar-14			Instrument: FIELD				
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							



Quality Assurance Report

65993

GROUNDWATER MONITORING WELL DATA SAS										G600.0
R623193 Analytical	Analyst: Reviewer:	Run Date: 12-Mar-14 Review Date: 18-Mar-14		Instrument: FIELD						
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							

IRON ICP SW846-6010B										M115.3
Prep : FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A										
R623224 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN	Run Date: 19-Mar-14 Review Date: 19-Mar-14		Instrument: PREP						
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2796128		Analytical Run: R623275							
LCS	Q2796129		Analytical Run: R623275							
DUP02	Q2796130		Analytical Run: R623275							
SPI02	Q2796131		Analytical Run: R623275							
SAMPLE	AA11151	Rep: 0	Analytical Run: R623383							
SAMPLE	AA11152	Rep: 0	Analytical Run: R623383							
SAMPLE	AA11153	Rep: 0	Analytical Run: R623383							
SAMPLE	AA11154	Rep: 0	Analytical Run: R623354							
Q2796130	QC sample not homogeneous for this element. Matrix Duplicates had high RPD									
Q2796130	Results are estimated for this sample. (Fe)									

R623275 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN	Run Date: 19-Mar-14 Review Date: 20-Mar-14		Instrument: ICP						
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2796128		IRON				0.0102	mg/L		
LCS	Q2796129		IRON	1			1.03	mg/L	103.0	
DUP02	Q2796130	AA11151	IRON	0.868			0.671	mg/L		25.6
SPI02	Q2796131	AA11151	IRON	0.868	1.00		1.66	mg/L	79.2	
Q2796130	QC sample not homogeneous for this element. Matrix Duplicates had high RPD									
Q2796130	Results are estimated for this sample. (Fe)									

R623354 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN	Run Date: 20-Mar-14 Review Date: 21-Mar-14		Instrument: ICP						
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2797189		IRON	0.02			0.0198	mg/L	99.0	
ICV01	Q2797188		IRON	1			1.02	mg/L	102.0	
CDL01	Q2797179		IRON	10			10.0	mg/L	100.0	
ICS-A	Q2797181		IRON	200			180	mg/L	90.0	



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IRON ICP SW846-6010B										
Prep : FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A										
R623354 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 20-Mar-14 Review Date: 21-Mar-14		Continued					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
ICS-AB	Q2797152		IRON	200			178	mg/L	89.0	
SER01	Q2797184	AA11621	IRON	14.3			14.2	mg/L		0.7
CCV	Q2797156		IRON	5.00			4.94	mg/L	98.8	
BLA01	Q2797134		IRON			<	0.00800	mg/L		
BLA02	Q2796128		IRON				0.0102	mg/L		
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
CCV	Q2797157		IRON	5.00			4.88	mg/L	97.6	
BLA01	Q2797135		IRON				0.0857	mg/L		
SER01	Q2797186	AA11807	IRON	0.824			1.71	mg/L		69.9
CDL01	Q2797178		IRON	0.02			0.0220	mg/L	110.0	
ICS-A	Q2797182		IRON	200			173	mg/L	86.5	
ICS-AB	Q2797153		IRON	200			172	mg/L	86.0	
Q2797184	1:5 Dilution.									
Q2797186	1:5 Dilution.									
Q2797186	There was possible matrix interference for Fe									
Q2797186	as indicated by the serial dilution results.									

R623383 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 21-Mar-14 Review Date: 24-Mar-14		Instrument: ICP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2797588		IRON	0.02			0.0200	mg/L	100.0	
ICV01	Q2797587		IRON	1			1.05	mg/L	105.0	
CDL01	Q2797584		IRON	10			10.1	mg/L	101.0	
ICS-A	Q2797585		IRON	200			185	mg/L	92.5	
ICS-AB	Q2797581		IRON	200			186	mg/L	93.0	
LCCV	Q2797653		IRON	0.02			0.0214	mg/L	107.0	
SER01	Q2797648	AA11815	IRON	19.2			19.4	mg/L		1.0
CCV	Q2797618		IRON	5.00			4.85	mg/L	97.0	
BLA01	Q2797594		IRON			<	0.00800	mg/L		
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
CCV	Q2797619		IRON	5.00			4.81	mg/L	96.2	
BLA01	Q2797595		IRON			<	0.00800	mg/L		
CDL01	Q2797639		IRON	0.02			0.0165	mg/L	82.5	
ICS-A	Q2797643		IRON	200			175	mg/L	87.5	
ICS-AB	Q2797608		IRON	200			176	mg/L	88.0	
SER01	Q2797645	AA11553	IRON	0.0388		CNA	0.0421	mg/L		
Q2797645	1:5 Dilution.									
Q2797645	There was possible matrix interference for K									
Q2797645	as indicated by the serial dilution results.									
Q2797648	1:5 Dilution.									
Q2797648	There was possible matrix interference for K									
Q2797648	as indicated by the serial dilution results.									



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IRON ICP SW846-6010B

M115.3

Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0

R623058 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN		Run Date: 14-Mar-14 Review Date: 14-Mar-14		Instrument: PREP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2794596		Analytical Run: R623121							
LCS	Q2794597		Analytical Run: R623197							
DUP02	Q2794598		Analytical Run: R623121							
SPI02	Q2794599		Analytical Run: R623121							
SAMPLE	AA11167	Rep: 0	Analytical Run: R623197							
SAMPLE	AA11168	Rep: 0	Analytical Run: R623197							
SAMPLE	AA11169	Rep: 0	Analytical Run: R623197							
SAMPLE	AA11170	Rep: 0	Analytical Run: R623197							
SAMPLE	AA11171	Rep: 0	Analytical Run: R623197							
SAMPLE	AA11172	Rep: 0	Analytical Run: R623121							
SAMPLE	AA11173	Rep: 0	Analytical Run: R623197							

R623121 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 14-Mar-14 Review Date: 17-Mar-14		Instrument: ICP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2795275		IRON	0.02			0.0217	mg/L	108.5	
ICV01	Q2795274		IRON	1			1.06	mg/L	106.0	
CDL01	Q2795270		IRON	10			10.1	mg/L	101.0	
ICS-A	Q2795271		IRON	200			185	mg/L	92.5	
ICS-AB	Q2795265		IRON	200			186	mg/L	93.0	
LCCV	Q2795277		IRON	0.02			0.0216	mg/L	108.0	
BLA02	Q2794596		IRON			<	0.00800	mg/L		
LCS	Q2794597		IRON	1			1.20	mg/L	120.0	
SER01	Q2795322	AA10777	IRON	0.0677		CNA	0.0697	mg/L		
DUP02	Q2794598	AA10777	IRON	0.0677		CNA	0.0531	mg/L		
SPI02	Q2794599	AA10777	IRON	0.0677	1.00		1.07	mg/L	100.2	
CCV	Q2795300		IRON	5.00			4.91	mg/L	98.2	
BLA01	Q2795279		IRON			<	0.00800	mg/L		
SAMPLE	AA11172	See Certificate of Analysis, Rep: 0								
CCV	Q2795301		IRON	5.00			4.87	mg/L	97.4	
BLA01	Q2795280		IRON			<	0.00800	mg/L		
SER01	Q2795324	AA10992	IRON	0.160		CNA	0.160	mg/L		
CDL01	Q2795320		IRON	0.02			0.0214	mg/L	107.0	
ICS-A	Q2795321		IRON	200			180	mg/L	90.0	
ICS-AB	Q2795296		IRON	200			183	mg/L	91.5	
Q2795322	1:5 Dilution.									
Q2795322	There was possible matrix interference for K and Na									
Q2795322	as indicated by the serial dilution results.									
Q2795324	1:5 Dilution.									

R623173 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN		Run Date: 18-Mar-14 Review Date: 18-Mar-14		Instrument: PREP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2795647		Analytical Run: R623233							
LCS	Q2795648		Analytical Run: R623233							
DUP02	Q2795649		Analytical Run: R623233							



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IRON ICP SW846-6010B										M115.3
Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0										
R623173 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN		Run Date: 18-Mar-14 Review Date: 18-Mar-14		Continued					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SPI02	Q2795650		Analytical Run: R623233							
SAMPLE	AA11174	Rep: 0	Analytical Run: R623233							

R623197 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 17-Mar-14 Review Date: 18-Mar-14		Instrument: ICP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2795851		IRON	0.02			0.0212	mg/L	106.0	
ICV01	Q2795850		IRON	1			1.06	mg/L	106.0	
CDL01	Q2795846		IRON	10			10.0	mg/L	100.0	
ICS-A	Q2795847		IRON	200			183	mg/L	91.5	
LCCV	Q2795853		IRON	0.02			0.0195	mg/L	97.5	
ICS-AB	Q2795911		IRON	250			230	mg/L	92.0	
SER01	Q2795905	AA11008	IRON	1.43			1.46	mg/L		2.1
CCV	Q2795883		IRON	5.00			4.85	mg/L	97.0	
BLA01	Q2795860		IRON			<	0.00800	mg/L		
LCS	Q2794597		IRON	1			1.20	mg/L	120.0	
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
CCV	Q2795884		IRON	5.00			4.90	mg/L	98.0	
BLA01	Q2795861		IRON			<	0.00800	mg/L		
CDL01	Q2795901		IRON	0.02			0.0196	mg/L	98.0	
ICS-A	Q2795903		IRON	200			183	mg/L	91.5	
ICS-AB	Q2795876		IRON	200			178	mg/L	89.0	
SER01	Q2795907	AA11069	IRON	0.0369		CNA	0.372	mg/L		
Q2795905	1:5 Dilution.									
Q2795907	1:5 Dilution.									
Q2795907	There was possible matrix interference for K									
Q2795907	as indicated by the serial dilution results.									

R623233 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 18-Mar-14 Review Date: 19-Mar-14		Instrument: ICP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2796219		IRON	0.02			0.0222	mg/L	111.0	
ICV01	Q2796218		IRON	1			1.05	mg/L	105.0	
CDL01	Q2796209		IRON	10			10.1	mg/L	101.0	
ICS-A	Q2796210		IRON	200			184	mg/L	92.0	
ICS-AB	Q2796184		IRON	200			184	mg/L	92.0	
LCCV	Q2796221		IRON	0.02			0.0212	mg/L	106.0	
CCV	Q2796191		IRON	5.00			4.90	mg/L	98.0	
BLA01	Q2796171		IRON			<	0.00800	mg/L		
BLA02	Q2795647		IRON			<	0.00800	mg/L		
LCS	Q2795648		IRON	1			1.02	mg/L	102.0	



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IRON ICP SW846-6010B									
Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0									
M115.3									
R623233 Analytical	Analyst: J KRAMER		Run Date: 18-Mar-14						
	Reviewer: S ENDERSEN		Review Date: 19-Mar-14		Continued				
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec RPD
SER01	Q2796212	AA11174	IRON	0.409			0.421	mg/L	2.9
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0						
DUP02	Q2795649	AA11174	IRON	0.409			0.406	mg/L	0.7
SPI02	Q2795650	AA11174	IRON	0.409	1.00		1.36	mg/L	95.1
CCV	Q2796192		IRON	5.00			4.96	mg/L	99.2
BLA01	Q2796172		IRON			<	0.00800	mg/L	
SER01	Q2796214	AA11243	IRON	2.34			2.49	mg/L	6.2
CDL01	Q2796208		IRON	0.02			0.0207	mg/L	103.5
ICS-A	Q2796211		IRON	200			177	mg/L	88.5
ICS-AB	Q2796185		IRON	200			180	mg/L	90.0
Q2796212 1:5 Dilution.									
Q2796214 1:5 Dilution.									
Q2796214 There was possible matrix interference for K									
Q2796214 as indicated by the serial dilution results.									

SODIUM ICP SW846-6010B							M131.3			
Prep : FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A										
R623224	Analyst: K KAMARA		Run Date: 19-Mar-14		Instrument: PREP					
Prep	Reviewer: S ENDERSEN		Review Date: 19-Mar-14							
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2796128		Analytical Run: R623275							
LCS	Q2796129		Analytical Run: R623275							
DUP02	Q2796130		Analytical Run: R623275							
SPI02	Q2796131		Analytical Run: R623275							
SAMPLE	AA11151	Rep: 0	Analytical Run: R623275							
SAMPLE	AA11152	Rep: 0	Analytical Run: R623275							
SAMPLE	AA11153	Rep: 0	Analytical Run: R623275							
SAMPLE	AA11154	Rep: 0	Analytical Run: R623275							
Q2796130	QC sample not homogeneous for this element. Matrix Duplicates had high RPD									
Q2796130	Results are estimated for this sample. (Fe)									

R623275 Analytical	Analyst: J KRAMER		Run Date: 19-Mar-14		Instrument: ICP				
	Reviewer: S ENDERSEN		Review Date: 20-Mar-14						
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec RPD
LICV01	Q2796536		SODIUM	0.1			0.0854	mg/L	85.4
ICV01	Q2796535		SODIUM	20			20.6	mg/L	103.0
CDL01	Q2796530		SODIUM	0.1			0.0867	mg/L	86.7
LCCV	Q2796538		SODIUM	0.1			0.0884	mg/L	88.4
CCV	Q2796564		SODIUM	50			53.6	mg/L	107.2
BLA01	Q2796548		SODIUM			<	0.0400	mg/L	
BLA02	Q2796128		SODIUM			<	0.0400	mg/L	
LCS	Q2796129		SODIUM	100			94.0	mg/L	94.0
SER01	Q2796574	AA11151	SODIUM	8.40			7.41	mg/L	12.5
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0						
DUP02	Q2796130	AA11151	SODIUM	8.40			8.38	mg/L	0.2
SPI02	Q2796131	AA11151	SODIUM	8.40	100		105	mg/L	96.6



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SODIUM ICP SW846-6010B										M131.3
Prep : FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A										
R623275 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 19-Mar-14 Review Date: 20-Mar-14		Continued					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
CCV	Q2796565		SODIUM	50			54.8	mg/L	109.6	
BLA01	Q2796549		SODIUM			<	0.0400	mg/L		
SER01	Q2796578	AA11613	SODIUM	1370			1310	mg/L		4.5
CDL01	Q2796572		SODIUM	0.1			0.0831	mg/L	83.1	
Q2796130	QC sample not homogeneous for this element. Matrix Duplicates had high RPD									
Q2796130	Results are estimated for this sample. (Fe)									
Q2796533	1:5 Dilution.									
Q2796533	There was possible matrix interference for Na									
Q2796533	as indicated by the serial dilution results.									
Q2796574	1:5 Dilution.									
Q2796574	There was possible matrix interference for Na									
Q2796574	as indicated by the serial dilution results.									
Q2796576	1:5 Dilution.									
Q2796576	There was possible matrix interference for K and Na									
Q2796576	as indicated by the serial dilution results.									
Q2796578	1:5 Dilution.									

SODIUM ICP SW846-6010B										M131.3
Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0										
R623058 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN		Run Date: 14-Mar-14 Review Date: 14-Mar-14		Instrument: PREP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2794596		Analytical Run: R623121							
LCS	Q2794597		Analytical Run: R623121							
DUP02	Q2794598		Analytical Run: R623121							
SPI02	Q2794599		Analytical Run: R623121							
SAMPLE	AA11172	Rep: 0	Analytical Run: R623121							

R623121 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 14-Mar-14 Review Date: 17-Mar-14		Instrument: ICP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2795275		SODIUM	0.1			0.0875	mg/L	87.5	
ICV01	Q2795274		SODIUM	20			20.5	mg/L	102.5	
CDL01	Q2795269		SODIUM	0.1			0.0870	mg/L	87.0	
LCCV	Q2795277		SODIUM	0.1			0.103	mg/L	103.0	
BLA02	Q2794596		SODIUM			<	0.0400	mg/L		
LCS	Q2794597		SODIUM	100			123	mg/L	123.0	
SER01	Q2795322	AA10777	SODIUM	12.3			9.48	mg/L		25.9
DUP02	Q2794598	AA10777	SODIUM	12.3			12.2	mg/L		0.8
SPI02	Q2794599	AA10777	SODIUM	12.3	100		122	mg/L	109.7	
CCV	Q2795300		SODIUM	50			54.6	mg/L	109.2	
BLA01	Q2795279		SODIUM			<	0.0400	mg/L		
SAMPLE	AA11172		See Certificate of Analysis, Rep: 0							



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SODIUM ICP SW846-6010B**M131.3****Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0**

R623121 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 14-Mar-14 Review Date: 17-Mar-14		Continued					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
CCV	Q2795301		SODIUM	50			54.7	mg/L	109.4	
BLA01	Q2795280		SODIUM			<	0.0400	mg/L		
SER01	Q2795324	AA10992	SODIUM	14.9			13.2	mg/L		12.1
CDL01	Q2795320		SODIUM	0.1			0.0937	mg/L	93.7	
Q2795322	1:5 Dilution.									
Q2795322	There was possible matrix interference for K and Na									
Q2795322	as indicated by the serial dilution results.									
Q2795324	1:5 Dilution.									

R623173 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN		Run Date: 18-Mar-14 Review Date: 18-Mar-14		Instrument: PREP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2795647		Analytical Run: R623233							
LCS	Q2795648		Analytical Run: R623233							
DUP02	Q2795649		Analytical Run: R623233							
SPI02	Q2795650		Analytical Run: R623233							
SAMPLE	AA11174	Rep: 0	Analytical Run: R623233							

R623220 Prep	Analyst: K KAMARA Reviewer: S ENDERSEN		Run Date: 19-Mar-14 Review Date: 19-Mar-14		Instrument: PREP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA02	Q2796103		Analytical Run: R623275							
LCS	Q2796104		Analytical Run: R623275							
DUP02	Q2796105		Analytical Run: R623275							
SPI02	Q2796106		Analytical Run: R623275							
SAMPLE	AA11167	Rep: 0	Analytical Run: R623354							
SAMPLE	AA11168	Rep: 0	Analytical Run: R623354							
SAMPLE	AA11169	Rep: 0	Analytical Run: R623275							
SAMPLE	AA11170	Rep: 0	Analytical Run: R623275							
SAMPLE	AA11171	Rep: 0	Analytical Run: R623354							
SAMPLE	AA11173	Rep: 0	Analytical Run: R623354							

R623233 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 18-Mar-14 Review Date: 19-Mar-14		Instrument: ICP					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2796219		SODIUM	0.1			0.0879	mg/L	87.9	
ICV01	Q2796218		SODIUM	20			20.1	mg/L	100.5	
CDL01	Q2796207		SODIUM	0.1			0.0895	mg/L	89.5	
LCCV	Q2796221		SODIUM	0.1			0.0908	mg/L	90.8	
CCV	Q2796191		SODIUM	50			52.1	mg/L	104.2	
BLA01	Q2796171		SODIUM			<	0.0400	mg/L		
BLA02	Q2795647		SODIUM			<	0.0400	mg/L		
LCS	Q2795648		SODIUM	100			103	mg/L	103.0	
SER01	Q2796212	AA11174	SODIUM	162			158	mg/L		2.5
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							
DUP02	Q2795649	AA11174	SODIUM	162			164	mg/L		1.2



Quality Assurance Report

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SODIUM ICP SW846-6010B										M131.3
Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0										
R623233 Analytical	Analyst: J KRAMER		Run Date: 18-Mar-14		Review Date: 19-Mar-14		Continued			
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SPI02	Q2795650	AA11174	SODIUM	162	100		268	mg/L	106.0	
CCV	Q2796192		SODIUM	50			52.4	mg/L	104.8	
BLA01	Q2796172		SODIUM			<	0.0400	mg/L		
SER01	Q2796214	AA11243	SODIUM	57.1			53.4	mg/L		6.7
CDL01	Q2796208		SODIUM	0.1			0.0840	mg/L	84.0	
Q2796212	1:5 Dilution.									
Q2796214	1:5 Dilution.									
Q2796214	There was possible matrix interference for K									
Q2796214	as indicated by the serial dilution results.									

R623275 Analytical	Analyst: J KRAMER		Run Date: 19-Mar-14		Review Date: 20-Mar-14		Instrument: ICP			
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2796536		SODIUM	0.1			0.0854	mg/L	85.4	
ICV01	Q2796535		SODIUM	20			20.6	mg/L	103.0	
CDL01	Q2796530		SODIUM	0.1			0.0867	mg/L	86.7	
BLA02	Q2796103		SODIUM			<	0.0400	mg/L		
LCS	Q2796104		SODIUM	100			119	mg/L	119.0	
SER01	Q2796533	AA10777	SODIUM	12.3			9.37	mg/L		27.0
DUP02	Q2796105	AA10777	SODIUM	12.3			12.2	mg/L		0.8
SPI02	Q2796106	AA10777	SODIUM	12.3	100		120	mg/L	107.7	
LCCV	Q2796538		SODIUM	0.1			0.0884	mg/L	88.4	
CCV	Q2796527		SODIUM	50			49.2	mg/L	98.4	
BLA01	Q2796524		SODIUM			<	0.0400	mg/L		
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
CCV	Q2796528		SODIUM	50			49.7	mg/L	99.4	
BLA01	Q2796539		SODIUM			<	0.0400	mg/L		
SER01	Q2796576	AA11500	SODIUM	580			504	mg/L		14.0
CDL01	Q2796572		SODIUM	0.1			0.0831	mg/L	83.1	
Q2796130	QC sample not homogeneous for this element. Matrix Duplicates had high RPD									
Q2796130	Results are estimated for this sample. (Fe)									
Q2796533	1:5 Dilution.									
Q2796533	There was possible matrix interference for Na									
Q2796533	as indicated by the serial dilution results.									
Q2796574	1:5 Dilution.									
Q2796574	There was possible matrix interference for Na									
Q2796574	as indicated by the serial dilution results.									
Q2796576	1:5 Dilution.									
Q2796576	There was possible matrix interference for K and Na									
Q2796576	as indicated by the serial dilution results.									
Q2796578	1:5 Dilution.									

R623354 Analytical	Analyst: J KRAMER		Run Date: 20-Mar-14		Review Date: 21-Mar-14		Instrument: ICP			
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD



Quality Assurance Report

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SODIUM ICP SW846-6010B										M131.3
Prep : FAA/ ICP ACID DIGESTION (TOTAL RECOVERABLE) EPA 200.0										
R623354 Analytical	Analyst: J KRAMER Reviewer: S ENDERSEN		Run Date: 20-Mar-14 Review Date: 21-Mar-14		Continued					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LICV01	Q2797189		SODIUM	0.1			0.0835	mg/L	83.5	
ICV01	Q2797188		SODIUM	20			19.5	mg/L	97.5	
CDL01	Q2797177		SODIUM	0.1			0.0834	mg/L	83.4	
SER01	Q2797184	AA11621	SODIUM	24.0			20.8	mg/L		14.3
LCCV	Q2797191		SODIUM	0.1			0.0854	mg/L	85.4	
CCV	Q2797157		SODIUM	50			51.1	mg/L	102.2	
BLA01	Q2797135		SODIUM			<	0.0400	mg/L		
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
CCV	Q2797158		SODIUM	50			51.4	mg/L	102.8	
BLA01	Q2797136		SODIUM			<	0.0400	mg/L		
SER01	Q2797185	AA11760	SODIUM	426			392	mg/L		8.3
CDL01	Q2797178		SODIUM	0.1			0.0757	mg/L	75.7	
Q2797184	1:5 Dilution.									
Q2797185	1:5 Dilution.									

SULFATE BY ION CHROMATOGRAPHY SW846-9056										G310.7
R623150 Analytical	Analyst: K VEST Reviewer: E WERNZ		Run Date: 14-Mar-14 Review Date: 17-Mar-14		Instrument: IC					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
LFB01H	Q2795460		SULFATE	25.0			23.7	mg/L	94.8	
LFB01L	Q2795461		SULFATE	2.50			2.52	mg/L	100.8	
CCVL	Q2795465		SULFATE	2.50			2.47	mg/L	98.8	
CCVH	Q2795466		SULFATE	10.0			9.59	mg/L	95.9	
BLA01	Q2795467		SULFATE			BDL	0.05	mg/L		
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
CCVL	Q2795470		SULFATE	2.50			2.51	mg/L	100.4	
CCVH	Q2795471		SULFATE	10.0			9.68	mg/L	96.8	
BLA01	Q2795472		SULFATE			BDL	0.05	mg/L		
LFB01L	Q2795473		SULFATE	2.50			2.49	mg/L	99.6	
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SPI01	Q2795474	AA11195	SULFATE	279	62.5		335	mg/L	89.6	
DPS01	Q2795475	AA11195	SULFATE	279	62.5		340	mg/L	97.6	8.5
CCVL	Q2795476		SULFATE	2.50			2.44	mg/L	97.6	
CCVH	Q2795477		SULFATE	10.0			9.96	mg/L	99.6	
BLA01	Q2795478		SULFATE			J	0.13	mg/L		
LFB01L	Q2795479		SULFATE	2.50			2.48	mg/L	99.2	
Q2795474	1:25 Dilution.									
Q2795475	1:25 Dilution.									



Quality Assurance Report

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TOTAL DISSOLVED SOLIDS SM2540 C 1997										G402.9
R623090 Analytical	Analyst: A CORNWELL Reviewer: P SPENCE		Run Date: 14-Mar-14 Review Date: 20-Mar-14							
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA01	Q2794970		DISSOLVED SOLIDS			BDL	10	mg/L		
LFB01	Q2794971		DISSOLVED SOLIDS	500			477	mg/L	95.4	
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
DUP01	Q2794972	AA11152	DISSOLVED SOLIDS	706			702	mg/L		0.6
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SPI01	Q2794973	AA11169	DISSOLVED SOLIDS	84	250		312	mg/L	91.2	
DPS01	Q2794974	AA11169	DISSOLVED SOLIDS	84	250		325	mg/L	96.4	5.5
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11172		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							
LFB01	Q2794978		DISSOLVED SOLIDS	500			470	mg/L	94.0	
BLA01	Q2794979		DISSOLVED SOLIDS			BDL	10	mg/L		
Q2794973	Sample fails precision (RPD is outside) control limits. Results for this sample									
Q2794973	are estimated.									
Q2794974	Sample fails precision (RPD is outside) control limits. Results for this sample									
Q2794974	are estimated.									

TOTAL ORGANIC CARBON SW846-9060A										O401.0
R623203 Analytical	Analyst: C ANYANWUTAKU Reviewer: P SPENCE		Run Date: 17-Mar-14 Review Date: 19-Mar-14		Instrument: TOC					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA01	Q2795962		TOTAL ORGANIC CARBON (TOC)			BDL	0.5	mg/L		
CDL01	Q2795963		TOTAL ORGANIC CARBON (TOC)	1.00			1.06	mg/L	106.0	
ICV01	Q2795964		TOTAL ORGANIC CARBON (TOC)	12.5			13.2	mg/L	105.6	
ICV01	Q2795965		TOTAL ORGANIC CARBON (TOC)	12.5			13.1	mg/L	104.8	
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
CCVL	Q2795968		TOTAL ORGANIC CARBON (TOC)	5.00			5.13	mg/L	102.6	
BLA01	Q2795969		TOTAL ORGANIC CARBON (TOC)			BDL	0.5	mg/L		
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SPI01	Q2795970	AA11169	TOTAL ORGANIC CARBON (TOC)	0.735	25.0		25.3	mg/L	98.3	
DPS01	Q2795971	AA11169	TOTAL ORGANIC CARBON (TOC)	0.735	25.0		25.4	mg/L	98.7	0.4
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							



Quality Assurance Report

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TOTAL ORGANIC CARBON SW846-9060A										O401.0
R623203 Analytical	Analyst: C ANYANWUTAKU Reviewer: P SPENCE			Run Date: 17-Mar-14 Review Date: 19-Mar-14			Continued			
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11172		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							
CCVH	Q2795972		TOTAL ORGANIC CARBON (TOC)	15.0			14.2	mg/L	94.7	
BLA01	Q2795973		TOTAL ORGANIC CARBON (TOC)			BDL	1.0	mg/L		
ICV01	Q2795974		TOTAL ORGANIC CARBON (TOC)	12.5			12.3	mg/L	98.4	
CCVL	Q2795977		TOTAL ORGANIC CARBON (TOC)	5.00			4.83	mg/L	96.6	
Q2795970	1:2 Dilution.									
Q2795971	1:2 Dilution.									

TOTAL ORGANIC HALIDES (TOX) SW846-9020B										O404.0
R623041 Analytical	Analyst: KEYSTONE LABORATORIES, INC. Reviewer:			Run Date: 28-Mar-14 Review Date: 31-Mar-14			Instrument: TOX			
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
SAMPLE	AA11174		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11173		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11172		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11171		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11170		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11169		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11168		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11167		See Certificate of Analysis, Rep: 0							

TOTAL SOLIDS DRIED AT 103-105 DEGREES C SM2540 B 1997										G401.6
R623044 Analytical	Analyst: A CORNWELL Reviewer: P SPENCE			Run Date: 13-Mar-14 Review Date: 14-Mar-14						
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA01	Q2794503		SOLIDS			BDL	10	mg/L		
LFB01	Q2794504		SOLIDS	500			472	mg/L	94.4	
DUP01	Q2794505	AA10977	SOLIDS	3540			3500	mg/L		1.1
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SPI01	Q2794506	AA11153	SOLIDS	87	250		332	mg/L	98.0	
DPS01	Q2794507	AA11153	SOLIDS	87	250		326	mg/L	95.6	2.5
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
LFB01	Q2794508		SOLIDS	500			494	mg/L	98.8	
BLA01	Q2794509		SOLIDS			BDL	10	mg/L		



Quality Assurance Report

65993

TOTAL SUSPENDED SOLIDS DRIED AT 103-105 DEGREES C SM2540 D 19TH ED										G403.8
R623048 Analytical	Analyst: A CORNWELL Reviewer: P SPENCE				Run Date: 13-Mar-14 Review Date: 14-Mar-14					
QC Type	Lab ID	Source	Parameter	True / Sample	Spike Value	RQL	Observed	Units	Rec	RPD
BLA01	Q2794534		SUSPENDED SOLIDS			BDL	1	mg/L		
LFB01	Q2794535		SUSPENDED SOLIDS	194			166	mg/L	85.6	
DUP01	Q2794536	AA11049	SUSPENDED SOLIDS	77			75	mg/L		2.6
SAMPLE	AA11151		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11152		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11153		See Certificate of Analysis, Rep: 0							
SAMPLE	AA11154		See Certificate of Analysis, Rep: 0							
SPI01	Q2794537	AA11155	SUSPENDED SOLIDS	3	97		94	mg/L	93.8	
DPS01	Q2794538	AA11155	SUSPENDED SOLIDS	3	97		90	mg/L	89.7	4.5
LFB01	Q2794543		SUSPENDED SOLIDS	194			181	mg/L	93.3	
BLA01	Q2794544		SUSPENDED SOLIDS			BDL	1	mg/L		

RQL Result Qualifier Definition

<	Less Than
BDL	Below Detection Limit
CNA	RPD Calculation Not Applicable, < DL
J	Estimated, below calibration range.

QC Type Definition

BLA01	CALIBRATION (INSTRUMENT) BLANK
BLA02	PREPPED (CALIBRATION) BLANK OR METHOD BLANK
CCV	CONTINUING CALIBRATION VERIFICATION
CCVH	HIGH CONTINUING CALIBRATION VERIFICATION
CCVL	LOW CONTINUING CALIBRATION VERIFICATION
CDL01	DETECTION LIMIT STANDARD
DPS01	DUPLICATE MATRIX SPIKE
DUP01	DUPLICATE SAMPLE ANALYSIS
DUP02	PREPPED DUPLICATE SAMPLE ANALYSIS
ICS-A	INTERFERENCE CHECK SAMPLE A
ICS-AB	INTERFERENCE CHECK SAMPLE AB
ICV01	INITIAL CALIBRATION VERIFICATION DIFFERENT SOURCE
LCCV	LOW LEVEL CONTINUING CALIBRATION VERIFICATION
LCS	LABORATORY CONTROL SAMPLE PREPPED
LFB01	LABORATORY FORTIFIED BLANK
LFB01H	HIGH LEVEL LABORATORY FORTIFIED BLANK
LFB01L	LOW LEVEL LABORATORY FORTIFIED BLANK
LICV01	LOW LEVEL CALIBRATION VERIFICATION DIFFERENT SOURCE
SER01	ICP SERIAL DILUTION
SPI01	MATRIX SPIKE
SPI02	PREPPED MATRIX SPIKE

Approved By : CHRISTOPHER BOYLE



March 28 2014

Chris Boyle
Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

RE: Subcontract Analyses
R623041

Enclosed are the results of analyses for samples received by the laboratory on 03/14/14 10:55. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AA11174 MW-1B	1C40873-01	Water	03/12/14 14:10	03/14/14 10:55
AA11173 MW-1A	1C40873-02	Water	03/12/14 13:40	03/14/14 10:55
AA11172 FB	1C40873-03	Water	03/12/14 11:05	03/14/14 10:55
AA11171 MW-1	1C40873-04	Water	03/12/14 13:10	03/14/14 10:55
AA11170 MW-28C	1C40873-05	Water	03/12/14 12:10	03/14/14 10:55
AA11169 MW-28E	1C40873-06	Water	03/12/14 11:35	03/14/14 10:55
AA11168 MW-28D	1C40873-07	Water	03/12/14 11:00	03/14/14 10:55
AA11167 MW-3	1C40873-08	Water	03/12/14 09:40	03/14/14 10:55

Keystone

LABORATORIES, INC.



MEMBER
ACIL

Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

HES-14358

1040873

Pace Analytical Services, Inc

7901 West Morris Street - Indianapolis, IN 46231

www.pacelabs.com (800) 827-4374



Pace Analytical Services, Inc

Sample Transfer

PO#: _____

R#: R623041

Send To :
JODI KING
KEYSTONE LABORATORIES, INC.
600 EAST 17TH ST. SOUTH
NEWTON
641/792-8451

IA 50208

Report to:
Pace Analytical Services, Inc
7901 West Morris Street
Indianapolis, IN 46231
phone: (317) 390-3187
fax: (317) 486-5095

C. BOYLE

QC Summary Required

Email Results To :
subreports@heritage-enviro.com

If more than one replicate per sample, analyze each one from a separate container

SampleID	ClientID	Z Sample	Date Sampled	Time Sampled	Mx	Spike this Sample?	Param	Limit	Units	DueDate
AA11174	MMW-1B	Z144756	3/12/2014	14:10:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										
AA11173	MMW-1A	Z144756	3/12/2014	13:40:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										
AA11172	FB	Z144756	3/12/2014	11:35:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										
AA11171	MMW-1	Z144756	3/12/2014	13:10:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										
AA11170	MMW-2B	Z144756	3/12/2014	12:10:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										
AA11169	MMW-2B	Z144756	3/12/2014	11:35:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										
AA11168	MMW-2B	Z144756	3/12/2014	11:00:00	Water	N				
		# Reps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										

Relinquished by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
Received for Lab by: (Signature) <i>[Signature]</i>		Date/Time 3/13/14		Temp. 14C		BOI Yes		No			
Laboratory Use Only				Yes/No							
Custody seals present/intact?				Y/N							
Broken Containers?				Y/N							
COC agree with sample labels?				Y/N							
Preservative pH's Acceptable?				Y/N							
Was pH left unadjusted?				Y/N							
Container type:				Preservative Type:				Container/Preservative			
A = 1000 mL Plastic				1 = Unpreserved/None							
B = 500 mL Plastic				2 = HNO3							
C = 1000 mL Glass				3 = H2SO4							
D = 500 mL Glass				4 = HCl							
E = 250 mL Glass				5 = Na2S2O3							
F = 40 mL Vial				6 = NaOH							
G = 125 mL Plastic				7 = NaOH/2NaOAC							
								Page#: 1			

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Page 2 of 14

Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

Package # 65893

Keystone

LABORATORIES, INC.



MEMBER
ACIL

Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

1C40873 HES-14358

Pace Analytical Services, Inc
7901 West Morris Street - Indianapolis, IN 46231
www.pacelabs.com (800) 827-4374



Sample Transfer PO# : _____ R# : R623041

SampleID	ClientID	Z Sample	Date Sampled	Time Sampled	Mx	Spike this Sample?	Param	Limit	Units	DueDate
2144758	MMV3		3/13/2014	08:40:00	Water	N				
		# Raps 1	Method SW846-9020B				TOX	0.010	MG/L	
Task										

Relinquished by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Temp 14.0	ROI: Yes / No ☒ Yes	Laboratory Use Only Yes/No Custody seals present/intact? ☒ Y ☒ N Broken Containers? ☒ Y ☒ N COC agree with sample labels? ☒ Y ☒ N Preservative pH's Acceptable? ☒ Y ☒ N Was pH left unadjusted? ☒ Y ☒ N	Container type: A = 1000 mL Plastic B = 500 mL Plastic C = 1000 mL Glass D = 500 mL Glass E = 250 mL Glass F = 40 mL Vial G = 125 mL Plastic	Preservative Type: 1 = Unpreserved/None 2 = HNO3 3 = H2SO4 4 = HCl 5 = Na2S2O3 6 = NaOH 7 = NaOH/ZnOAC	Container/Preservative
Relinquished by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Received by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Temp 10.55	ROI: Yes / No ☒ Yes				
Received for Lab by: (Signature) <i>[Signature]</i>	Date/Time 3/13/14	Temp 10.55	ROI: Yes / No ☒ Yes						

Page#: 2 Last Page

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This report must be reproduced in its entirety.

Page 3 of 14

Phone 641-792-8451

600 East 17th Street South

Newton, IA 50208

Fax 641-792-7989

Package # 65993



Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11174 MW-1B

1C40873-01 (Water)

Date Sampled: 3/12/2014 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1XC0943	03/28/14	03/28/14 17:06	EPA 9020	
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Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11173 MW-1A

1C40873-02 (Water)

Date Sampled: 3/12/2014 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1XC0943	03/28/14	03/28/14 17:06	EPA 9020	



Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11172 FB

1C40873-03 (Water)

Date Sampled: 3/12/2014 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Total Organic Halogens (TOX)	ND	0.010	mg/L	1	LXC0943	03/28/14	03/28/14 17:06	EPA 9020	
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Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11171 MW-1

1C40873-04 (Water)

Date Sampled: 3/12/2014 1:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1XC0943	03/28/14	03/28/14 17:06	EPA 9020	
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Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11170 MW-28C

1C40873-05 (Water)

Date Sampled: 3/12/2014 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1XC0943	03/28/14	03/28/14 17:06	EPA 9020	
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Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11169 MW-28E

1C40873-06 (Water)

Date Sampled: 3/12/2014 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Total Organic Halogens (TOX)	ND	0.010	mg/L	1	1XC0743	03/24/14	03/24/14 16:49	EPA 9020	
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Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11168 MW-28D

1C40873-07 (Water)

Date Sampled: 3/12/2014 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Total Organic Halogens (TOX)	ND	0.010	mg/L	1	IXC0943	03/28/14	03/28/14 17:06	EPA 9020	
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Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

AA11167 MW-3
1C40873-08 (Water)

Date Sampled: 3/12/2014 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Organic Halogens (TOX)	ND	0.010	mg/L	1	IXC0943	03/28/14	03/28/14 17:06	EPA 9020	



Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1XC0743 - TOX/TX/EOX

Blank (1XC0743-BLK1)

Prepared & Analyzed: 03/24/14

Total Organic Halogens (TOX) ND 0.010 mg/L

LCS (1XC0743-BS1)

Prepared & Analyzed: 03/24/14

Total Organic Halogens (TOX) 0.0845 0.010 mg/L 0.0949060 89.1 80-120

Matrix Spike (1XC0743-MS1)

Source: 1C40539-07

Prepared & Analyzed: 03/24/14

Total Organic Halogens (TOX) 0.0914 0.010 mg/L 0.0949060 ND 96.3 65-136

Matrix Spike Dup (1XC0743-MSD1)

Source: 1C40539-07

Prepared & Analyzed: 03/24/14

Total Organic Halogens (TOX) 0.0976 0.010 mg/L 0.0949060 ND 103 65-136 6.57 20

Reference (1XC0743-SRM1)

Prepared & Analyzed: 03/24/14

Total Organic Halogens (TOX) 0.0906 0.010 mg/L 0.0953376 95.1 90-110

Reference (1XC0743-SRM2)

Prepared & Analyzed: 03/24/14

Total Organic Halogens (TOX) 0.0903 0.010 mg/L 0.0953376 94.7 90-110

Batch 1XC0943 - TOX/TX/EOX

Blank (1XC0943-BLK1)

Prepared & Analyzed: 03/28/14

Total Organic Halogens (TOX) ND 0.010 mg/L

Reference (1XC0943-SRM1)

Prepared & Analyzed: 03/28/14

Total Organic Halogens (TOX) 0.0920 0.010 mg/L 0.0953376 96.5 90-110

Certified Analyses Included in This Report

Method/Matrix

Analyte

Certifications

EPA 9020 in Water

Total Organic Halogens (TOX)

NELAC,KS-NT,SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2014
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2014
MO-KC	Missouri Department of Natural Resources	140	04/30/2014
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2014
SIA1X	Iowa Department of Natural Resources	95	02/01/2014



Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference



Pace Analytical-Indianapolis
7901 West Morris Street
Indianapolis, IN 46231

Project: Subcontract Analyses
Project Number: R623041
Project Manager: Chris Boyle

Reported
03/28/14 17:26

Sue Thompson

Sue Thompson
Project Manager II

KENVIRONS, INC.

Well / Spring Field Reading Log

Facility: Green Valley LF

Date: 3/12/14

Sampler(s) BFK III

Well / Spring No.	pH	Conductivity	Temp	DO	ORP	Turbidity
Well No. mw-1	6.40	70	6.49	11.43	179.1	—
Well No. mw-1A	7.24	384	10.93	5.32	150.7	—
Well No. mw-1B	7.81	728	11.33	2.20	-89.6	—
Well No. mw-3	6.22	229	9.56	3.47	30.5	—
Well No. mw-28C	5.27	526	8.35	1.62	241.9	—
Well No. mw-28D	5.48	649	9.60	6.02	200.7	—
Well No. mw-28E	6.46	333	11.49	5.37	169.6	
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						
Well No.						

Sampler(s) Signature: Bell P. K. III

Date: 3/12/14

METER CALIBRATION LOG

PROJECT NAME: Meter Calibration DATE: 2/28/14

PROJECT NUMBER: N/A TECHNICIAN: TSB

pH Meter

TIME	pH 10 Buffer Check	pH 7 Buffer Check	pH 4 Buffer Check	Temp of Calibration Soln @	Date
1332		7.01		24.56	2/28
1333	10.01			24.49	2/28
1335			4.00	25.21	2/28

TIME	pH 10 Buffer Check (mV)	pH 7 Buffer Check (mV)	pH 4 Buffer Check (mV)	Temp of Calibration Soln @	Date
	-165 to -180 from 7 buffer MV	0 MV +/- 50MV	+165 to +180 from 7 buffer MV		

Note: Span between pH 4 and 7 and 7 and 10, millivolt numbers should be ~ 165 to 185 MV

Conductivity Meter

Temp of Calibration Soln @	Corrected Cond @ 25 @	Time	Temp @	Eh Reading (mV)	Time
	Actual			Actual	
24.41	1386	1339	24.55	268.3	1345
	After Cal			After Cal	
	1413	1340		244.0	1345

Redox Meter

Turbidity Meter

Calibration Solution (NTU)	Reading (NTU)	Time	Barometric Pressure (mmHg)	DO (mg/L)	DO (%)
0-1 Range			743.0	8.69	98.2%
1-10 Range					
10-100 Range					
100-1,000 Range					

DO Meter

Color of DO Membrane Blue Black DO membrane changed? Y/N

Problems/Corrective Actions: Changed DO membrane & solution

Calibrated in Field Y/N Calibrated in Shop Y/N

Signature: TSB Date: 2/28/14

QC'd By: _____ Date: _____

**GREEN VALLEY LANDFILL
GROUNDWATER ELEVATION DATA
2007006**

Well	Top of Casing	AKGWA #	Total Depth of Well	Depth to Water	Groundwater Elevation	Date	Time
MW-1	617.80	8000-8086	14.80	4.15	613.65	3/12/14	1245
MW-1A	618.60	8000-2931	41.00	1.60	617.00	3/12/14	1315
MW-1B	618.70	8000-2932	61.00	5.02	613.68	3/12/14	1350
MW-3	630.80	8000-8085	14.10	4.78	626.02	3/12/14	0910
MW-28C	674.40	8005-7101	12.90	3.98	670.42	3/12/14	1152
MW-28D	675.20	8005-7102	16.30	4.66	670.54	3/12/14	1035
MW-28E	677.00	8005-7103	27.30	8.45	668.55	3/12/14	1115

TECHNICIAN Bill F. Knorr, III

DATE 3/12/14

QUARTER 1

KENVIRONS, INC.
 452 Versailles Road
 Frankfort, KY 40601
 502-695-4357
 502-695-4363 (fax)



Green Valley Landfill (2007006)

Well No.	Depth to water	Well Depth	AKGWA No.	Sample Collected		Well / Under Drain Dry	Insufficient Recharge
				YES	NO		
MW-1	4.15	14.80	8000-8086	☒	☐	☐	☐
MW-1A	1.60	41.00	8000-2931	☒	☐	☐	☐
MW-1B	5.02	61.00	8000-2932	☒	☐	☐	☐
MW-3	4.78	14.10	8000-8085	☒	☐	☐	☐
MW-28C	3.98	12.90	8000-2937	☒	☐	☐	☐
MW-28D	4.66	16.30	8000-2938	☒	☐	☐	☐
MW-28E	8.45	27.30	8000-2939	☒	☐	☐	☐
DUP		-	-				
FB		-	-	X			

Notes:

TECHNICIAN Bill E. Knorr, III

DATE 3/12/14

KENVIRONS INC., GROUNDWATER FIELD LOG

Site Name: Green Valley Landfill		Well No. MW-1	Total Depth (ft) 14.80	Initial Depth to Water (ft.) 4.15	Height of Water Column (ft.) 10.65	Date 3/12	Time 1245	Project No. 2007006				
Site Location Greenup Co., KY		AKGWA # 8000-8086	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4" - 0.67/2" - 0.16	Measuring Point (ft. MSL) 617.80	Groundwater Elevation 613.65	Well Volume (gallons) 7.14		Z # 144756				
☒ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Windy Temp. 45 (F) / C°												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Cont./Pres.	#
1248	0	4.15	100	0	7.18	78	11.40	6.92	162.1	—	GA- 40ml Vials HCL	
1258	10	6.99	100	1.0	6.54	72	11.37	6.44	175.9	—	G- 40ml Vials HCL	
1301	13	7.41	100	1.3	6.50	70	11.41	6.41	177.7	—	P-500 ml HNO ₃	1
1304	16	7.96	100	1.6	6.49	70	11.43	6.40	179.1	—	P-500 ml H ₂ SO ₄	1
											P-500 ml Unp.	1
											P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
For Three (3) Consecutive Readings		Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- .3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU			
Well Cond.	Pad Cond	Lock Funct.	Bladder Pump	Casing S.S. ☐	Casing PVC ☒	Field Blank Collected Time:						
OK	OK	☒ Yes ☐ No	☒ Yes ☐ No	Filtered: ☐ Yes ☒ No	Split Sample ☐ Yes ☒ No With:							
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
1310	8.01	None	None	6.49	70	11.43	6.40	179.1	—	Clear		
☐ Annual ☐ Semi-Annual ☒ Quarterly ☐ Monthly ☐ Other Duplicate Collected Time: DTW:												

Sampler(s) Signature

Bill P. K.

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number mw-1

AKGWA Number 8000-8086

	Y	N	NA	A
1) Is the well location appropriately shown on the facility permit/and or design drawing?	☒	☐	☐	☐
2) Are the wells in hard to find areas adequately flagged?	☒	☐	☐	☐
3) Is the elevation information correct?	☒	☐	☐	☐

Well Characteristics & Integrity

4) Is the well ☒ Aboveground? ☐ Flush with the surface?	☐	☐	☐	☐
5) No physical damage to well?	☐	☒	☐	☐
6) Is the well labeled on the inside?	☐	☒	☐	☐
7) Is the well labeled on the outside?	☒	☐	☐	☐
8) Does the well have protective posts (if warranted)?	☒	☐	☐	☐
9) No evidence of ponded water around the well?	☐	☒	☐	☐
10) Do aboveground well have weep holes at the base of the protective cover?	☒	☐	☐	☐
11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals?	☒	☐	☐	☐
12) Is the casing secure (attempt to move along perpendicular axes)?	☒	☐	☐	☐
13) Is the surface seal void of differential erosion around and under the base?	☒	☐	☐	☐
14) Is the surface seal free of cracks?	☒	☐	☐	☐
15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal?	☒	☐	☐	☐
16) Is the monitoring well locked to prevent unauthorized access?	☒	☐	☐	☐
17) Is the cap void of large gaps which would breach security?	☒	☐	☐	☐
18) Is the locking cap free of rust?	☐	☒	☐	☐

Comments:

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

KENVIRONS INC., GROUNDWATER FIELD LOG

Site Name: Green Valley Landfill		Well No. mw-1A	Total Depth (ft) 41.00	Initial Depth to Water (ft.) 1.6	Height of Water Column (ft.) 39.4	Date 3/12	Time 1315	Project No. 2007006				
Site Location Greenup Co., KY		AKGWA # 8000-2931	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4" - 0.67/2" - 0.16	Measuring Point (ft. MSL) 618.60	Groundwater Elevation 617	Well Volume (gallons) 26.39		Z # 144756				
☒ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Windy Temp. 45 (F) (C°)												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Cont./Pres.	#
1318	0	1.6	100	0	10.60	384	8.67	6.53	174.6	—	GA- 40ml Vials HCL	
1328	10	2.59	100	1.0	10.95	384	5.34	7.22	152.1	—	G- 40ml Vials HCL	
1331	13	2.88	100	1.3	10.95	383	5.32	7.24	151.3	—	P-500 ml HNO ₃	1
1334	16	2.88	100	1.6	10.93	384	5.32	7.24	150.7	—	P-500 ml H ₂ SO ₄	1
											P-500 ml Unp.	1
											P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
For Three (3) Consecutive Readings			Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- 3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU		
Well Cond.	Pad Cond	Lock Funct.	Bladder Pump	Casing S.S. ☐ Casing PVC ☒	☐ Field Blank Collected Time:							
OK	OK	☒ Yes ☐ No	☒ Yes ☐ No	Filtered: ☐ Yes ☒ No	Split Sample ☐ Yes ☒ No With:							
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
1340	2.27	None	None	10.93	384	5.32	7.24	150.7	—	clear		
☐ Annual ☐ Semi-Annual ☒ Quarterly ☐ Monthly ☐ Other		☐ Duplicate Collected Time: DTW:										

**Sampler(s)
Signature**

B. D. P. K. - TLL

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number mw-1A

AKGWA Number 8000-2931

	Y	N	NA	A
1) Is the well location appropriately shown on the facility permit/and or design drawing?	☒	☐	☐	☐
2) Are the wells in hard to find areas adequately flagged?	☒	☐	☐	☐
3) Is the elevation information correct?	☒	☐	☐	☐

Well Characteristics & Integrity

4) Is the well ☒ Aboveground? ☐ Flush with the surface?	☐	☐	☐	☐
5) No physical damage to well?	☐	☒	☐	☐
6) Is the well labeled on the inside?	☒	☐	☐	☐
7) Is the well labeled on the outside?	☒	☐	☐	☐
8) Does the well have protective posts (if warranted)?	☒	☐	☐	☐
9) No evidence of ponded water around the well?	☐	☒	☐	☐
10) Do aboveground well have weep holes at the base of the protective cover?	☒	☐	☐	☐
11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals?	☒	☐	☐	☐
12) Is the casing secure (attempt to move along perpendicular axes)?	☒	☐	☐	☐
13) Is the surface seal void of differential erosion around and under the base?	☒	☐	☐	☐
14) Is the surface seal free of cracks?	☒	☐	☐	☐
15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal?	☒	☐	☐	☐
16) Is the monitoring well locked to prevent unauthorized access?	☒	☐	☐	☐
17) Is the cap void of large gaps which would breach security?	☒	☐	☐	☐
18) Is the locking cap free of rust?	☐	☒	☐	☐

Comments:

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

KENVIRONS INC., GROUNDWATER FIELD LOG

Site Name: Green Valley Landfill	Well No. mw-18	Total Depth (ft) 61.00	Initial Depth to Water (ft.) 5.02	Height of Water Column (ft.) 55.98	Date 3/12	Time 1350	Project No. 2007006					
Site Location Greenup Co., KY	AKGWA # 8000-2932	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4"-0.6712"-0.16	Measuring Point (ft. MSL) 618.70	Groundwater Elevation 613.68	Well Volume (gallons) 37.51	Z # 144756						
☒ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Windy Temp. 45 (°F) (°C)												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Cont./Pres.	#
1351	0	5.02	100	0	9.72	704	8.81	7.46	5.1	—	GA- 40ml Vials HCL	
1401	10	7.95	100	1.0	11.34	729	2.26	7.78	-89.1	—	G- 40ml Vials HCL	
1404	13	8.49	100	1.3	11.36	728	2.24	7.79	-87.7	—	P-500 ml HNO ₃	1
1407	16	8.96	100	1.6	11.33	728	2.20	7.81	-89.6	—	P-500 ml H ₂ SO ₄	1
											P-500 ml Unp.	1
											P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
For Three (3) Consecutive Readings		Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- 3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU			
Well Cond.	Pad Cond.	Lock Funct.	Bladder Pump	Casing S.S. ☐	Casing PVC ☒	Field Blank Collected Time:						
OL	OL	☒ Yes ☐ No	☒ Yes ☐ No	Filtered: ☐ Yes ☒ No	Split Sample ☐ Yes ☒ No		With:					
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
1410	9.60	None	None	11.33	728	2.20	7.81	-89.6	—	Clear		
☐ Annual	☐ Semi-Annual	☒ Quarterly	☐ Monthly	☐ Other	☒ Duplicate Collected Time:		DTW:					

Sampler(s)
Signature

B-JL P. K. [Signature]

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number MW-18

AKGWA Number 8000-2932

	Y	N	NA	A
1) Is the well location appropriately shown on the facility permit/and or design drawing?	☒	☐	☐	☐
2) Are the wells in hard to find areas adequately flagged?	☒	☐	☐	☐
3) Is the elevation information correct?	☒	☐	☐	☐

Well Characteristics & Integrity

4) Is the well ☒ Aboveground? ☐ Flush with the surface?	☐	☐	☐	☐
5) No physical damage to well?	☐	☒	☐	☐
6) Is the well labeled on the inside?	☒	☐	☐	☐
7) Is the well labeled on the outside?	☒	☐	☐	☐
8) Does the well have protective posts (if warranted)?	☒	☐	☐	☐
9) No evidence of ponded water around the well?	☐	☒	☐	☐
10) Do aboveground well have weep holes at the base of the protective cover?	☒	☐	☐	☐
11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals?	☒	☐	☐	☐
12) Is the casing secure (attempt to move along perpendicular axes)?	☒	☐	☐	☐
13) Is the surface seal void of differential erosion around and under the base?	☒	☐	☐	☐
14) Is the surface seal free of cracks?	☒	☐	☐	☐
15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal?	☒	☐	☐	☐
16) Is the monitoring well locked to prevent unauthorized access?	☒	☐	☐	☐
17) Is the cap void of large gaps which would breach security?	☒	☐	☐	☐
18) Is the locking cap free of rust?	☐	☒	☐	☐

Comments:

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

Site Name: Green Valley Landfill		Well No. mw-3	Total Depth (ft) 14.80	Initial Depth to Water (ft.) 4.78	Height of Water Column (ft.) 10.02	Date 3/12	Time 905	Project No. 2007006				
Site Location Greenup Co., KY		AKGWA # 8000 - 8085	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4" - 0.67/2" - 0.16	Measuring Point (ft. MSL) 630.80	Groundwater Elevation 626.02	Well Volume (gallons) 6.71		Z # 144756				
☒ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Windy Temp. 50 (F) / C ()												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidit y (ntu)	Cont./Pres.	#
912	0	4.78	100	0	8.83	147	7.16	6.16	51.6	—	GA- 40ml Vials HCL	
922	10	6.51	100	1.0	9.47	181	2.98	6.29	22.2	—	G- 40ml Vials HCL	
925	13	6.63	100	1.3	9.48	190	2.96	6.25	24.4	—	P-500 ml HNO ₃	1
928	16	6.69	100	1.6	9.50	219	3.41	6.25	30.6	—	P-500 ml H ₂ SO ₄	1
931	19	6.74	100	1.9	9.50	221	3.51	6.23	30.1	—	P-500 ml Unp.	1
934	22	6.79	100	2.2	9.56	229	3.47	6.22	30.5	—	P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
For Three (3) Consecutive Readings			Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- .3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU		
Well Cond.	Pad Cond	Lock Funct.	Bladder Pump	Casing S.S. ☐ Casing PVC ☒	☐ Field Blank Collected Time:							
OK	OK	☒ Yes ☐ No	☒ Yes ☐ No	Filtered: ☐ Yes ☒ No	Split Sample ☐ Yes ☒ No With:							
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
0940	6.24	orange	none	9.56	229	3.47	6.22	30.5	—	murky		
☐ Annual		☐ Semi-Annual		☒ Quarterly		☐ Monthly		☐ Other		☐ Duplicate Collected Time: DTW:		

B-00 ♀. K. IV

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number MW-3

AKGWA Number 8000 - 8085

	Y	N	NA	A
1) Is the well location appropriately shown on the facility permit/and or design drawing?	☒	☐	☐	☐
2) Are the wells in hard to find areas adequately flagged?	☒	☐	☐	☐
3) Is the elevation information correct?	☒	☐	☐	☐

Well Characteristics & Integrity

4) Is the well ☒ Aboveground? ☐ Flush with the surface?	☐	☐	☐	☐
5) No physical damage to well?	☐	☒	☐	☐
6) Is the well labeled on the inside?	☒	☐	☐	☐
7) Is the well labeled on the outside?	☒	☐	☐	☐
8) Does the well have protective posts (if warranted)?	☒	☐	☐	☐
9) No evidence of ponded water around the well?	☐	☒	☐	☐
10) Do aboveground well have weep holes at the base of the protective cover?	☒	☐	☐	☐
11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals?	☒	☐	☐	☐
12) Is the casing secure (attempt to move along perpendicular axes)?	☒	☐	☐	☐
13) Is the surface seal void of differential erosion around and under the base?	☒	☐	☐	☐
14) Is the surface seal free of cracks?	☒	☐	☐	☐
15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal?	☒	☐	☐	☐
16) Is the monitoring well locked to prevent unauthorized access?	☒	☐	☐	☐
17) Is the cap void of large gaps which would breach security?	☒	☐	☐	☐
18) Is the locking cap free of rust?	☐	☒	☐	☐

Comments:

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

KENVIRONS INC., GROUNDWATER FIELD LOG

Site Name: Green Valley Landfill	Well No. mw-28C	Total Depth (ft) 12.90	Initial Depth to Water (ft.) 3.98	Height of Water Column (ft.) 8.92	Date 3/12	Time 1150	Project No. 2007006					
Site Location Greenup Co., KY	AKGWA # 8005-7101	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4" - 0.6712" - 0.16	Measuring Point (ft. MSL) 674.40	Groundwater Elevation 670.42	Well Volume (gallons) 5.97	Z # 144756						
☒ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Windy Temp. 50 (F) C°												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Cont./Pres.	#
1152	0	3.98	100	0	11.28	519	13.20	6.23	174.2	—	GA- 40ml Vials HCL	
1202	10	4.78	100	1.0	8.43	526	1.64	5.27	239.6	—	G- 40ml Vials HCL	
1205	13	4.96	100	1.3	8.40	526	1.65	5.27	241.7	—	P-500 ml HNO ₃	1
1208	16	5.06	100	1.6	8.35	526	1.62	5.27	241.9	—	P-500 ml H ₂ SO ₄	1
											P-500 ml Unp.	1
											P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
Needs new Lock.												
For Three (3) Consecutive Readings			Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- 3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU		
Well Cond.	Pad Cond	Lock Funct.	Bladder Pump	Casing S.S. ☐	☐ Field Blank Collected Time:							
OK	OK	☒ Yes ☒ No	☒ Yes ☐ No	Casing PVC ☒	Filtered: ☐ Yes ☒ No	Spilt Sample ☐ Yes ☒ No With:						
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
1210	5.15	None	None	8.35	526	1.62	5.27	241.9	—	clear		
☐ Annual		☐ Semi-Annual		☒ Quarterly		☐ Monthly		☐ Other		☐ Duplicate Collected Time: DTW:		

Sampler(s)
Signature

B.00 P. K. - IN

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number mw-28C

AKGWA Number 8005-7101

	Y	N	NA	A
1) Is the well location appropriately shown on the facility permit/and or design drawing?	☒	☐	☐	☐
2) Are the wells in hard to find areas adequately flagged?	☒	☐	☐	☐
3) Is the elevation information correct?	☒	☐	☐	☐

Well Characteristics & Integrity

4) Is the well ☒ Aboveground? ☐ Flush with the surface?	☐	☐	☐	☐
5) No physical damage to well?	☐	☒	☐	☐
6) Is the well labeled on the inside?	☐	☒	☐	☐
7) Is the well labeled on the outside?	☒	☐	☐	☐
8) Does the well have protective posts (if warranted)?	☒	☐	☐	☐
9) No evidence of ponded water around the well?	☐	☒	☐	☐
10) Do aboveground well have weep holes at the base of the protective cover?	☒	☐	☐	☐
11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals?	☒	☐	☐	☐
12) Is the casing secure (attempt to move along perpendicular axes)?	☒	☐	☐	☐
13) Is the surface seal void of differential erosion around and under the base?	☒	☐	☐	☐
14) Is the surface seal free of cracks?	☒	☐	☐	☐
15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal?	☒	☐	☐	☐
16) Is the monitoring well locked to prevent unauthorized access?	☐	☒	☐	☐
17) Is the cap void of large gaps which would breach security?	☒	☐	☐	☐
18) Is the locking cap free of rust?	☐	☒	☐	☐

Comments: Lock needs to be replaced.

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

KENVIRONS INC., GROUNDWATER FIELD LOG

Site Name: Green Valley Landfill		Well No. mw-2B1	Total Depth (ft) 16.30	Initial Depth to Water (ft.) 4.60	Height of Water Column (ft.) 11.64	Date 3/12	Time 1035	Project No. 2007006				
Site Location Greenup Co., KY		AKGWA # 8005-7102	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4" - 0.6712" - 0.16	Measuring Point (ft. MSL) 675.20	Groundwater Elevation 670.54	Well Volume (gallons) 7.80		Z # 144756				
☐ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☒ Overcast ☐ Windy Temp. 52 (F) / C°												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Cont./Pres.	#
1042	0	4.60	100	0	11.23	593	12.51	6.13	128.8	—	GA- 40ml Vials HCL	
1052	10	5.62	100	1.0	9.54	650	6.08	5.30	198.1	—	G- 40ml Vials HCL	
1053	13	5.76	100	1.3	9.57	649	6.07	5.50	200.6	—	P-500 ml HNO ₃	1
1058	16	5.90	100	1.6	9.60	649	6.02	5.48	200.7	—	P-500 ml H ₂ SO ₄	1
											P-500 ml Unp.	1
											P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
needs new Lock.												
For Three (3) Consecutive Readings			Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- .3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU		
Well Cond.	Pad Cond	Lock Funct.	Bladder Pump	Casing S.S. ☐ Casing PVC ☒	☒ Field Blank Collected Time: 1105							
OK	OK	☐ Yes ☒ No	☒ Yes ☐ No	Filtered: ☐ Yes ☒ No	Split Sample ☐ Yes ☒ No		With:					
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
1100	6.19	None	None	9.60	649	6.02	5.48	200.7	—	Clear		
☐ Annual		☐ Semi-Annual		☒ Quarterly		☐ Monthly		☐ Other		☐ Duplicate Collected Time: DTW:		

Sampler(s)
Signature

B. O. P. Ke III

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number mw-28D

AKGWA Number 8005-7102

	Y	N	NA	A
1) Is the well location appropriately shown on the facility permit/and or design drawing?	☒	☐	☐	☐
2) Are the wells in hard to find areas adequately flagged?	☒	☐	☐	☐
3) Is the elevation information correct?	☒	☐	☐	☐

Well Characteristics & Integrity

4) Is the well ☒ Aboveground? ☐ Flush with the surface?	☐	☐	☐	☐
5) No physical damage to well?	☐	☒	☐	☐
6) Is the well labeled on the inside?	☐	☒	☐	☐
7) Is the well labeled on the outside?	☒	☐	☐	☐
8) Does the well have protective posts (if warranted)?	☒	☐	☐	☐
9) No evidence of ponded water around the well?	☐	☒	☐	☐
10) Do aboveground well have weep holes at the base of the protective cover?	☒	☐	☐	☐
11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals?	☒	☐	☐	☐
12) Is the casing secure (attempt to move along perpendicular axes)?	☒	☐	☐	☐
13) Is the surface seal void of differential erosion around and under the base?	☒	☐	☐	☐
14) Is the surface seal free of cracks?	☒	☐	☐	☐
15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal?	☒	☐	☐	☐
16) Is the monitoring well locked to prevent unauthorized access?	☐	☒	☐	☐
17) Is the cap void of large gaps which would breach security?	☒	☐	☐	☐
18) Is the locking cap free of rust?	☐	☒	☐	☐

Comments: Lock needs to be replaced.

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

KENVIRONS INC., GROUNDWATER FIELD LOG

Site Name: Green Valley Landfill	Well No. mw-28E	Total Depth (ft) 27.30	Initial Depth to Water (ft.) 8.45	Height of Water Column (ft.) 18.85	Date 3/12	Time 1110	Project No. 2007006					
Site Location Greenup Co., KY	AKGWA # 8005 - 7103	Casing Diameter ☒ 4" ☐ 2" Conversion fact. 4" - 0.6712" - 0.16	Measuring Point (ft. MSL) 677.00	Groundwater Elevation 668.55	Well Volume (gallons) 12.62	Z # 144756						
☐ Rain ☐ Sleet/Freezing Rain ☐ Snow ☐ Fog ☐ Clear ☐ Partly Cloudy ☒ Overcast ☐ Windy Temp. 50° (F°/ C°)												
Time	ET (min)	Depth to Water (ft)	Purge Rate ml/min	Volume Purged (L)	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Cont./Pres.	#
1115	0	8.45	100	0	11.44	344	7.20	6.40	173.1	—	GA- 40ml Vials HCL	
1125	10		100	1.0	11.42	334	5.47	6.46	169.9	—	G- 40ml Vials HCL	
1128	13	9.45	100	1.3	11.47	333	5.42	6.46	169.7	—	P-500 ml HNO ₃	1
1131	16	9.55	100	1.6	11.49	333	5.37	6.46	169.6	—	P-500 ml H ₂ SO ₄	1
											P-500 ml Unp.	1
											P-1L Unp.	
											P-1L NaOH	
											P-1L NaOH + Zn A	
											P-120 ml Unp.	
											GA- 250 ml H ₂ SO ₄	2
											GA- 250 ml H ₃ PO ₄	
											GA- 500 ml H ₂ SO ₄	
											GA- 1L Unp.	
											G- 1L Unp.	
Comments												
For Three (3) Consecutive Readings			Required Purge	Actual Purge	+/- 1 (°C)	+/- 10%	+/- .3 (Mg/L)	+/- .10 SU	+/- 10% mV	+/- 10% unless <10 NTU		
Well Cond.	Pad Cond.	Lock Funct.	Bladder Pump	Casing S.S. ☐	Casing PVC ☒		☐ Field Blank Collected Time:					
OK	OK	☒ Yes ☐ No	☒ Yes ☐ No	Filtered: ☐ Yes ☒ No	Split Sample ☐ Yes ☒ No With:							
Sample Time	Depth to Water (ft)	Color	Odor	Temp (°C)	Sp. Cond (µS or mS)	DO (mg/L)	pH (SU)	eH/ORP (mV)	Turbidity (ntu)	Appearance		
1135	9.67	None	None	11.49	333	5.37	6.46	169.6	—	Clear		
☐ Annual		☐ Semi-Annual		☒ Quarterly		☐ Monthly		☐ Other		☐ Duplicate Collected Time: DTW:		

Sampler(s)
Signature

Bell P. K. JR

Date 3/12/14

MONITORING WELL INTEGRITY FIELD SURVEY

Facility Name: Green Valley Landfill

Evaluator: BFK III

Evaluation Date: 3/12/14

Well Identification Number MW-28E

AKGWA Number 8005-7103

- | | Y | N | NA | A |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| 1) Is the well location appropriately shown on the facility permit/and or design drawing? | ☒ | ☐ | ☐ | ☐ |
| 2) Are the wells in hard to find areas adequately flagged? | ☒ | ☐ | ☐ | ☐ |
| 3) Is the elevation information correct? | ☒ | ☐ | ☐ | ☐ |

Well Characteristics & Integrity

- | | | | | |
|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| 4) Is the well ☒ Aboveground? ☐ Flush with the surface? | ☐ | ☐ | ☐ | ☐ |
| 5) No physical damage to well? | ☐ | ☒ | ☐ | ☐ |
| 6) Is the well labeled on the inside? | ☐ | ☒ | ☐ | ☐ |
| 7) Is the well labeled on the outside? | ☒ | ☐ | ☐ | ☐ |
| 8) Does the well have protective posts (if warranted)? | ☒ | ☐ | ☐ | ☐ |
| 9) No evidence of ponded water around the well? | ☐ | ☒ | ☐ | ☐ |
| 10) Do aboveground well have weep holes at the base of the protective cover? | ☒ | ☐ | ☐ | ☐ |
| 11) Does the area around the well appear to be clean? (i.e., no mounds of waste; no dead animals? | ☒ | ☐ | ☐ | ☐ |
| 12) Is the casing secure (attempt to move along perpendicular axes)? | ☒ | ☐ | ☐ | ☐ |
| 13) Is the surface seal void of differential erosion around and under the base? | ☒ | ☐ | ☐ | ☐ |
| 14) Is the surface seal free of cracks? | ☒ | ☐ | ☐ | ☐ |
| 15) Is the surface seal slope to prevent ponding in the immediate vicinity of the of the surface seal? | ☒ | ☐ | ☐ | ☐ |
| 16) Is the monitoring well locked to prevent unauthorized access? | ☒ | ☐ | ☐ | ☐ |
| 17) Is the cap void of large gaps which would breach security? | ☒ | ☐ | ☐ | ☐ |
| 18) Is the locking cap free of rust? | ☐ | ☒ | ☐ | ☐ |

Comments:

NOTES: 1) Response box legend:

Y = YES

N = NO (A negative response must be identified as an "A" unless a comment is made that demonstrates compliance)

N/A = Not Applicable

2) Shaded boxes indicate that an issue and appropriate corrective action must be entered into CARS

KENVIRONS, INC.
POND / SURFACE WATER LOG

FACILITY	GREEN VALLEY	PROJECT NO.	2011033
LOCATION	GREENUP CO, KY	DATE	3/12/14
SAMPLE ID	SW-1	SAMPLER(S)	BFK III
WEATHER	Cloudy 50°	Z#	146799

CALIBRATION DATA

PH	4.0		7.0		10.0	
CONDUCTIVITY (US)					TEMP (°C)	

FIELD DATA

SAMPLE DATA			
COLOR	None	PH (S. U.)	7.41
ODOR	None	TEMP (°C)	11.07
APPEARANCE	Clear	CONDUCTIVITY (US)	942
TIME	1015	FLOW (GPM)	10

NUMBER AND TYPE OF CONTAINERS (1) 1 L P U_{up} (1) 500 ml P HNO₃ (1) 500 ml P H₂SO₄
(1) 500 ml P U_{up}

☐ ANNUAL ☐ SEMI-ANNUAL ☒ QUARTERLY ☐ MONTHLY ☐ OTHER

SPLIT SAMPLE ☐ YES ☒ NO IF YES,
WITH
WHOM _____

COMMENTS _____

SAMPLER(S)

SIGNATURE

Bill P. K. III

DATE 3/12/14

KENVIRONS, INC.
POND / SURFACE WATER LOG

FACILITY	GREEN VALLEY	PROJECT NO.	2011033
LOCATION	GREENUP CO, KY	DATE	3/12/14
SAMPLE ID	SW-2	SAMPLER(S)	BFK III
WEATHER	Cloudy 45°	Z#	146799

CALIBRATION DATA

PH	4.0		7.0		10.0	
CONDUCTIVITY (US)					TEMP (° C)	

FIELD DATA

SAMPLE DATA			
COLOR		PH (S. U.)	
ODOR		TEMP (° C)	
APPEARANCE		CONDUCTIVITY (US)	
TIME	1515	FLOW (GPM)	No Flow

NUMBER AND TYPE OF CONTAINERS _____

☐ ANNUAL ☐ SEMI-ANNUAL ☒ QUARTERLY ☐ MONTHLY ☐ OTHER

SPLIT SAMPLE ☐ YES ☒ NO IF YES,
WITH
WHOM _____

COMMENTS _____

SAMPLER(S)

SIGNATURE

B. J. P. K. III

DATE 3/12/14

KENVIRONS, INC.
POND / SURFACE WATER LOG

FACILITY	GREEN VALLEY	PROJECT NO.	2011033
LOCATION	GREENUP CO, KY	DATE	3/12/14
SAMPLE ID	SW-3	SAMPLER(S)	BFK III
WEATHER	Cloudy / Lt. Rain 50°	Z#	146799

CALIBRATION DATA

PH	4.0	7.0	10.0
CONDUCTIVITY (US)			TEMP (° C)

FIELD DATA

SAMPLE DATA			
COLOR	None	PH (S. U.)	6.97
ODOR	None	TEMP (° C)	11.85
APPEARANCE	clear	CONDUCTIVITY (US)	579
TIME	0950	FLOW (GPM)	15

NUMBER AND TYPE OF CONTAINERS 1012P Unp 11500ml P HNO3
11500ml P H2SO4 11500ml P Unp

☐ ANNUAL ☐ SEMI-ANNUAL ☒ QUARTERLY ☐ MONTHLY ☐ OTHER

SPLIT SAMPLE ☐ YES ☒ NO IF YES,
WITH
WHOM

COMMENTS

SAMPLER(S)

SIGNATURE

Bill F. Ke III

DATE 3/12/14

KENVIRONS, INC.
POND / SURFACE WATER LOG

FACILITY	GREEN VALLEY	PROJECT NO.	2011033
LOCATION	GREENUP CO, KY	DATE	3/12/14
SAMPLE ID	SW-4	SAMPLER(S)	Bfk III
WEATHER	Cloudy 50°	Z#	146799

CALIBRATION DATA

PH	4.0		7.0		10.0	
CONDUCTIVITY (US)				TEMP (° C)		

FIELD DATA

SAMPLE DATA			
COLOR	None	PH (S. U.)	7.29
ODOR	None	TEMP (° C)	10.33
APPEARANCE	Clear	CONDUCTIVITY (US)	303
TIME	1030	FLOW (GPM)	10

NUMBER AND TYPE OF CONTAINERS (1) 1L P Unp (1) 500ml P H₂O₃ (1) 500ml P H₂SO₄
(1) 500ml P Unp

☐ ANNUAL ☐ SEMI-ANNUAL ☒ QUARTERLY ☐ MONTHLY ☐ OTHER

SPLIT SAMPLE ☐ YES ☒ NO IF YES,
WITH
WHOM _____

COMMENTS _____

SAMPLER(S)
SIGNATURE

Bill P. K. III

DATE 3/12/14

KENVIRONS, INC.
POND / SURFACE WATER LOG

FACILITY	GREEN VALLEY	PROJECT NO.	2011033
LOCATION	GREENUP CO, KY	DATE	3/12/14
SAMPLE ID	SW-S	SAMPLER(S)	BFK III
WEATHER	Rain 45°	Z#	146799

CALIBRATION DATA

PH	4.0		7.0		10.0	
CONDUCTIVITY (US)					TEMP (° C)	

FIELD DATA

SAMPLE DATA			
COLOR	None	PH (S. U.)	6.86
ODOR	None	TEMP (° C)	11.16
APPEARANCE	cloudy	CONDUCTIVITY (US)	887
TIME	1225	FLOW (GPM)	15

NUMBER AND TYPE OF CONTAINERS 1) 12 P Unp 1) 500ml P HNO₃ 1) 500ml P H₂SO₄
1) 500 ml P Unp

☐ ANNUAL ☐ SEMI-ANNUAL ☒ QUARTERLY ☐ MONTHLY ☐ OTHER

SPLIT SAMPLE ☐ YES ☒ NO IF YES,
WITH
WHOM _____

COMMENTS _____

SAMPLER(S)
SIGNATURE

BFK III

DATE 3/12/14

KENVIRONS, INC.
POND / SURFACE WATER LOG

FACILITY	GREEN VALLEY	PROJECT NO.	2011033
LOCATION	GREENUP CO, KY	DATE	3/12/14
SAMPLE ID	SW-60	SAMPLER(S)	BK III
WEATHER	Cloudy 45°	Z#	146799

CALIBRATION DATA

PH	4.0		7.0		10.0	
CONDUCTIVITY (US)					TEMP (° C)	

FIELD DATA

SAMPLE DATA			
COLOR		PH (S. U.)	
ODOR		TEMP (° C)	
APPEARANCE		CONDUCTIVITY (US)	
TIME	1510	FLOW (GPM)	No Flow

NUMBER AND TYPE OF CONTAINERS _____

☐ ANNUAL ☐ SEMI-ANNUAL ☒ QUARTERLY ☐ MONTHLY ☐ OTHER

SPLIT SAMPLE ☐ YES ☒ NO IF YES,
WITH
WHOM _____

COMMENTS _____

SAMPLER(S)
SIGNATURE

Bill P. K. III

DATE 3/12/14

KENVIRONS, INC.
452 Versailles Road
Frankfort, KY 40601
502-695-4357
502-695-4363 (fax)



Green Valley Landfill -ALLIED - Greenup Co., KY Project No. 2007007

Sample Point	Z#	Date	Flow (Sampled)		No Flow	Preceding Precipitation Event Within 24 Hr. Period	
			YES	NO		YES	NO
SW-1A	146799	3/12/14	☒	☐	☐	☒	☐
SW-2	146799	3/12/14	☐	☒	☒	☒	☐
SW-3	146799	3/12/14	☒	☐	☐	☒	☐
SW-4	146799	3/12/14	☒	☐	☐	☒	☐
SW-5	146799	3/12/14	☒	☐	☐	☒	☐
SW-6	146799	3/12/14	☐	☒	☒	☒	☐

Notes:

TECHNICIAN Bill F. Knarr, III

DATE 3/12/14