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From: Acree, Matt J <Matt.Acree@terracon.com>
Sent: Friday, August 30, 2024 4:51 PM
To: EE GW Reports
Cc: Jaros, David G.; Owens, Bernard
Subject: City of Little Rock 1st Half of 2024 GWMR (AFIN: 60-01071)
Attachments: CoLR 1st Half23 GWMR.pdf

To whom it may concern,

Please find attached to this message the 1st Half of 2024 Groundwater Monitoring Report for the City of Little Rock Landfill (AFIN: 60-01071).

If you have any questions or concerns, please feel free to contact either David Jaros (David.Jaros@terracon.com) or myself.

Thank you,

Matt Acree, P.G.

Staff Geologist



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Terracon provides environmental, facilities, geotechnical, and materials consulting engineering services delivered with responsiveness, resourcefulness, and reliability.

Private and confidential as detailed here (www.terracon.com/disclaimer). If you cannot access the hyperlink, please e-mail sender.



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August 30, 2024

Office of Land Resources
Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72218-5317

Attn: Mr. Bill Sadler, P.G.

**Re: First Half 2024 Semi-Annual Groundwater Monitoring Report
City of Little Rock Class 1 Landfill
Permit No. 266-S AFIN: 60-01071
Terracon Project No. 35957056C**

Dear Mr. Sadler:

On behalf of the City of Little Rock, Terracon Consultants, Inc. is pleased to submit a copy of the First Half 2024 Semi-Annual Groundwater Monitoring Report for the City of Little Rock Class 1 Landfill.

If you have any questions concerning the subject report, please feel free to contact me at your convenience.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in blue ink that reads "Matt Acree".

Matt Acree, P.G.
Project Geologist

A handwritten signature in blue ink that reads "David Jaros".

David Jaros, P.G.
Project Manager

Attachments: First Half 2024 Groundwater Monitoring Report (w/ Certification)

CC: Bernard Owens – City of Little Rock

First Half 2024 Groundwater Monitoring Report

LITTLE ROCK MUNICIPAL LANDFILL
SOLID WASTE PERMIT 266-S
AFIN 60-01071

TERRACON PROJECT 35247081
August 30, 2024

Prepared for:
City of Little Rock Municipal Landfill
137 West Markham
Little Rock, AR 72211

Prepared by:
Terracon Consultants, Inc.
Little Rock, Arkansas

**Second Half 2023 Groundwater Monitoring Report
City of Little Rock Class 1 Solid Waste Landfill
Little Rock, Arkansas**

Prepared for

City of Little Rock

For Submittal to

**Office of Land Resources
Division of Environmental Quality**

Certification

I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences. I have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, which enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

The statistics herein are based upon the statistical program *SANITAS for Groundwater*TM that is guided by the relevant EPA Guidance, ASTM Standards, and in accordance with Arkansas Department of Environmental Quality Solid Waste Regulation 22. I further certify that this report was prepared by me or by a subordinate working under my direction.



Matt Acree, P.G.
Staff Geologist



8-30-2024

Date

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FIRST HALF 2024 GROUNDWATER MONITORING REPORT
LITTLE ROCK MUNICIPAL LANDFILL
TERRACON PROJECT 35247081

1.0 INTRODUCTION

The City of Little Rock (CLR) operates a Class 1 Municipal Solid Waste Landfill (Landfill) under Solid Waste Permit Number 266-S (Permit) issued by the Arkansas Department of Environmental Quality (ADEQ) on April 4, 1993. The current groundwater monitoring system consists of six monitoring wells designated MW-1A, MW-2A, MW-3A, MW-4A, MW-6B, and MW-7A. This groundwater monitoring report summarizes the First Half 2024 semi-annual sampling event which was conducted on March 19-20, 2024.

1.1 Site Location

The Landfill is located in an area that had previously been mined for kaolinite clay. The CLR Landfill lies approximately 1/2 mile southeast of the intersection of Arkansas Highways 338 and 367 in southeast Little Rock, Arkansas. More specifically, the Landfill is located in portions of Sections 9 and 10, Township 1 South, Range 12 West, in Pulaski County. FIGURE 1 displays the general landfill site location.

1.2 Site Groundwater Monitoring System

According to the *"Groundwater Monitoring Program for the City of Little Rock Solid Waste Management Facility"* prepared by R.W. Beck and Associates (September 1993), groundwater is to be monitored at two (2) levels at the facility: in the overburden soils, which include the mine spoil area (upper level) and at the boundary between the bedrock (syenite) and the overburden soils (lower level). Monitoring wells MW-1A through MW-4A monitor the lower-level groundwater regime downgradient from the facility. Wells MW-6B and MW-7A are utilized to monitor the lower-level flow regime upgradient of the facility. The gradient control system outflow points (GCS-1 and GCS-4) are used as the downgradient monitoring locations for the upper flow regime. Groundwater monitoring wells are identified on FIGURE 2.

In addition to the above-mentioned monitoring locations, eight (8) piezometers at the facility are utilized for water level measurements (HW-1 through HW-8). The primary purpose of the piezometers is to ensure that a positive inward gradient is maintained. However, during the initial sampling and analysis phase of the groundwater monitoring program, four (4) of these piezometers (HW-1, HW-3, HW-5, and HW-7) were used as sampling stations to collect baseline information in the mine spoils area of the upper groundwater flow regime, downgradient of the facility. Should the gradient become outward, these piezometers will be used as gradient monitoring stations again to monitor the upper flow regime, downgradient of the Landfill. The remaining four (4) piezometers (HW-2, HW-4, HW-6, and HW-8A) are only used for gradient monitoring, unless the need to use them for other purposes arises.

Finally, in the event that documented well contamination occurs at the facility, the piezometers serving as baseline monitoring locations could also serve as back-up monitoring points for the upper flow regime downgradient of the Landfill. The piezometers were utilized as permanent water level monitoring locations and were used only to collect groundwater samples during the initial phase of the monitoring program.

The six monitoring wells at the facility utilize dedicated bladder-type pumps. These pumps are used for purging and sample collection in each of the wells. FIGURE 2 shows the locations of all monitoring wells, piezometers, and gradient control monitoring points.

2.0 GROUNDWATER SAMPLING

This report covers the First Half 2024 semi-annual assessment monitoring event conducted at the Landfill. This is the first event for assessment monitoring for the facility. In preparation for assessment monitoring, the facility sampled for Appendix II parameters on January 30-31, 2024 at MW-2A, MW-4A, MW-6B, and MW-7A. Sulfite was added to the previous sampling list as it was the only additional parameter not listed previously that was detected during the Appendix II sampling event. All samples were collected in accordance with the *“Groundwater Monitoring Program for the City of Little Rock Solid Waste Management Facility”* prepared by R.W. Beck and Associates. The list of parameters analyzed in accordance with Condition Number 17 of the Permit is presented in TABLE 1 with the addition of sulfide.

TABLE 1
 CONSTITUENTS FOR ASSESSMENT MONITORING

ORGANIC CONSTITUENT	INORGANIC CONSTITUENT
<u>APPENDIX 1 VOLATILES</u>	<u>APPENDIX 1 METALS</u>
ACETONE	ANTIMONY
ACRYLONITRILE	ARSENIC
BENZENE	BARIUM
BROMOCHLOROMETHANE	BERYLLIUM
BROMODICHLOROMETHANE	CADMIUM
BROMOFORM; TRIBROMOMETHANE	CHROMIUM
CARBON DISULFIDE	COBALT
CARBON TETRACHLORIDE	COPPER
CHLOROBENZENE	LEAD
CHLOROETHANE	NICKEL
CHLOROFORM	SELENIUM
DIBROMOCHLOROMETHANE	SILVER
DBCP	THALLIUM
EDB	VANADIUM
1,2-DICHLOROBENZENE	ZINC
1,4-DICHLOROBENZENE	
TRANS-1,4-DICHLORO-2-BUTENE	
1,1-DICHLOROETHANE	<u>OTHER CONSTITUENTS</u>
1,2-DICHLOROETHANE	CHLORIDE
1,1-DICHLOROETHYLENE	IRON
CIS-1,2,-DICHLOROETHYLENE	MANGANESE
TRANS-1,2-DICHLOROETHYLENE	SULFATE
1,2-DICHLOROPROPANE	TOTAL HARDNESS
CIS-1,3-DICHLOROPROPENE	TOC
TRANS-1,3-DICHLOROPROPENE	TDS
ETHYLBENZENE	SULFIDE
2-HEXANONE	
METHYL BROMIDE	<u>FIELD</u>
METHYL CHLORIDE	TURBIDITY
METHYL ETHYL KETONE	TEMPERATURE (°C)
METHYL IODIDE	SPECIFIC CONDUCTANCE
4-METHYL-2-PENTANONE	pH
METHYLENE BROMIDE	
METHYLENE CHLORIDE	
STYRENE	
1,1,1,2-TETRACHLOROETHANE	
TETRACHLOROETHYLENE	
TOLUENE	
1,1,1-TRICHLOROETHANE	
1,1,2-TRICHLOROETHANE	
TRICHLOROETHYLENE	
TRICHLOROFLUOROMETHANE	
1,2,3-TRICHLOROPROPANE	
VINYL ACETATE	
VINYL CHLORIDE	
XYLENE	

2.1 Water level determination

Prior to purging each well for sampling, the depth to water was measured using an electronic water level probe. The measurements were taken to the nearest 0.01-foot from the top of the well casing and this information was used to calculate the volume of water in the well. Since non-dedicated equipment was used to obtain water levels, procedures were instituted to ensure the samples were not contaminated. The electronic water level probe is constructed of inert materials and was decontaminated with distilled water prior to use at each well or piezometer.

2.2 Well Evacuation

The water standing in a well prior to sampling may not be representative of in-situ groundwater quality. Therefore, the Terracon field representative purged three casing volumes from the well at a rate that did not cause recharge water to be excessively agitated. The evacuation procedure helped to ensure that all well water is replaced by fresh formation water upon completion of the process. Dedicated bladder pumps were used to purge the wells and disposable Nitrile gloves were worn by the sampling personnel. Measures were taken to prevent surface soils from coming in contact with the purging equipment and lines, which could introduce contaminants to the well.

In order to document that formation waters are entering the well, representative samples of the discharge water were periodically collected and tested for field water quality parameters. The parameters measured were specific conductance, temperature, pH, and turbidity. Water quality parameters (with the exception of turbidity) were considered stable if three successive readings did not vary more than 10 percent. Measures were taken to obtain turbidity readings as low as possible prior to sampling.

2.3 Equipment Decontamination Procedure

All devices that are used in the monitoring wells and have contact with the sample were thoroughly cleaned before use. These devices included a water level probe.

First, the water level probe is washed with potable water and phosphate-free laboratory detergent. Next, the probe is rinsed with potable water and finally, rinsed with distilled water. The water level probe is then placed in a plastic bag to reduce contact with air and taken into the field. After a water level is measured, a paper towel is soaked with distilled water and, as the probe is reeled up, the tape and probe are cleaned.

2.4 Sample Extraction

The technique used to withdraw each groundwater sample from the wells was selected based on a consideration of the parameters analyzed in the sample. To ensure the groundwater sample is representative of the formation, it is important to minimize physically altering or chemically contaminating the sample during the withdrawal process. In order to minimize the possibility of sample contamination, the Terracon field representative:

- *Assured that clean sampling equipment was not placed directly on the ground or other contaminated surfaces prior to insertion into the well.*
- *Utilized a new pair of disposable nitrile gloves at each monitoring point.*

- *Never drop sampling equipment into the well, which could result in the de-gassing of any volatile constituents upon impact.*
- *Transferred the samples to the appropriate containers in a manner that minimized agitation and aeration.*

The gradient control system (GCS) monitoring points GCS-1 and GCS-4 were sampled utilizing slightly different protocols. First, the gradient control pump system is turned on by an electrical switch inside the pump station. The GCS pump is allowed to pump out the underdrain water for several minutes to facilitate a “purging” period. The pumped water is discharged into the stormwater outlet that runs adjacent to the outfall pipe leading from the pump station. Once sufficient purging is complete, generally 3 or 4 minutes, the Terracon field representative collects the appropriate samples directly from the water discharge from the outfall pipe. Field parameters are measured at the time of sample collection and recorded on *Field Groundwater Monitoring Sampling Records*. Nitrile gloves are worn by the field representative(s) during all GCS sampling. This process is repeated for each GCS monitoring point. Once sufficient samples have been collected, the pump is turned off.

2.5 Field Testing

Some of the parameters evaluated are physically or chemically unstable and were tested immediately after collection by the Terracon representative using field test kits. Examples of unstable elements or properties include pH and temperature. Although the turbidity and specific conductance (inverse of electrical resistance) of an aqueous solution are relatively stable, these parameters were also determined in the field. Field measurements of pH, temperature, turbidity, and specific conductance were accomplished with the use of portable meters. Accurate measurements require close attention to equipment calibration, sample handling, measurement procedures, and decontamination. A conductivity/temperature meter, turbidity meter, and pH meter were utilized for this purpose. A summary of the field measurements for the First Half 2024 sampling event is presented in TABLE 2.

TABLE 2
 FIELD MEASUREMENTS

SAMPLE POINT	DATE SAMPLED	DATUM ELEV. (FMSL)	DEPTH TO WATER (ft.)	WATER SURFACE ELEV. (FMSL)	TEMP. (°C)	pH (SU)	SPEC. COND. (µS/cm)	TURBIDITY (NTU)
MW-1A	3/20/2024	283.35	12.12	271.23	19.9	7.86	793	2.46
MW-2A	3/19/2024	280.46	17.27	263.19	17.2	7.81	558	5.41
MW-3A	3/19/2024	296.54	25.38	271.16	16.1	6.40	315	4.06
MW-4A	3/19/2024	303.93	25.83	278.10	17.1	6.83	321	7.07
MW-6B	3/20/2024	345.47	14.44	331.03	15.2	6.87	378	7.64
MW-7A	3/20/2024	309.26	4.90	304.36	12.4	6.56	121.8	92.0
HW-1	3/19/2024	284.64	13.42	271.22	NA	NA	NA	NA
HW-2	3/19/2024	283.13	4.42	278.71	NA	NA	NA	NA
HW-2A	3/19/2024	282.99	10.51	272.48	NA	NA	NA	NA
HW-3	3/19/2024	296.13	17.48	278.65	NA	NA	NA	NA
HW-4	3/19/2024	295.62	8.04	287.58	NA	NA	NA	NA
HW-5	3/19/2024	307.60	13.58	294.02	NA	NA	NA	NA
HW-6	3/19/2024	306.79	10.71	296.08	NA	NA	NA	NA
HW-7	3/19/2024	312.06	22.19	289.87	NA	NA	NA	NA
HW-8A	3/19/2024	309.37	17.64	291.73	NA	NA	NA	NA

2.6 Field QA/QC Procedures

A duplicate of MW-2A was collected and labeled as Dup. The duplicate sample is used to verify the consistency and precision of the sampling and testing procedures. Procedures utilized for collecting the duplicate sample were identical to the sampling protocol detailed in Section 2.4. The duplicate sample was collected at the same time as the MW-2A sample.

A field blank was also collected and labeled FB. The field blank consisted of distilled water poured into a sample container under field conditions and returned for laboratory analysis. The Terracon field representative prepared the field blank for all the required monitoring parameters. The field blank was used to verify that the sample collection and handling process did not affect the quality of the samples.

An equipment blank was collected by pouring laboratory grade de-ionized water over the sampling equipment and into the sample containers. The equipment blank was used to verify that the equipment was properly cleaned between wells and to test the quality of the water used to decontaminate the field equipment.

A volatile organic analyte (VOA) trip blank was also included as part of the field QA/QC procedures. The trip blank was prepared in the laboratory utilizing de-ionized water, transported to the site, handled as a sample (yet never opened in the field), and returned to the laboratory for analysis. Trip blank results are used to verify that the sample containers were adequately prepared/handled in the laboratory, and that the groundwater samples were protected from contamination during transport.

2.7 Handling/Transport/Custody

Samples were accompanied by a Chain-of-Custody record that includes the name of the facility, collector's signatures, monitoring point identification, date, time, type of sample, number of containers, and analyses required. Samples collected from the Landfill site were placed in sample containers provided by the Laboratory. Containers are certified clean by the supplier.

Attached to the sample container at the time of collection is the sample label. The following information is recorded on the sample label:

- *project or facility name,*
- *sample type,*
- *sample location number (well number),*
- *preservative type,*
- *sampling date and time, and*
- *sample collector's name or initials.*

Documentation for the sample collection process and other important information was recorded on the contract laboratory Chain-of-Custody form. The standard format includes the date, time, type of sample collected, volume of each sample, code for sample analysis, unique sample number, sampling location, and field measurements. The entries were signed by the sample collector.

2.8 Sample Preservation

In accordance with the facility's approved *Sampling and Analysis Plan*, the samples were placed in an ice chest, filled with ice for preservation, and cooled to approximately 4 degrees Celsius immediately after collection. Custody was retained by the Terracon representative from the time of collection until delivery to American Interplex Laboratory (AI). A copy of the Chain-of-Custody form is included in APPENDIX C.

3.0 FIRST HALF 2024 SEMI-ANNUAL SAMPLING EVENT

Analytical results for this sampling event are provided in the following sections, tables, and appendices. In addition, all historical groundwater data was evaluated statistically to determine if significant differences exist in detected concentrations versus the background water quality concentrations at the Landfill.

3.1 Groundwater Elevation & Flow Direction

There are currently six monitoring wells and nine piezometers located around the Landfill area. Water level elevations have been collected from the monitoring wells during each of the sampling events conducted to date. In addition, water levels were also collected from piezometers HW-1, HW-2, HW-2A, HW-3, HW-4, HW-5, HW-6, and HW-8A during the First Half 2024 event. The results of the field measurements for this sampling event are presented in TABLE 2. The water levels were measured from a referenced mark on top of each well casing. These reference marks were surveyed in relation to established benchmarks. Based on the levels measured in each of the wells, potentiometric maps for both flow zones were created for the First Half 2024 sampling event and are labeled as FIGURES 2 and 3. From the results of this evaluation, and in concurrence with past hydrogeologic studies, the general groundwater flow direction for the upper flow regime is inward in the area of the waste disposal unit. The general flow for the lower regime is to the north.

Based on the principles of Darcian flow, the average linear velocities during the First Half 2024 event were calculated utilizing the following equation:

$$V_x = (K \cdot i) / N_e$$

where,

V_x is the average linear velocity (length/time),
 K is the hydraulic conductivity (length/time),
 i is the hydraulic gradient (length/length),
and n_e is the effective porosity (unitless).

Hydraulic gradient was calculated for the First Half 2024 sampling event by comparing the upgradient well, MW-6B, to a well located directly downgradient, MW-2A. The change in head of 67.84 feet between the two wells over a distance of approximately 2,736 feet produces a hydraulic gradient of 0.025 (ft/ft). An upper and lower limit for the hydraulic conductivity of the uppermost aquifer was estimated to be 2.0×10^{-5} cm/sec and 5.0×10^{-6} cm/sec respectively (Grubbs, Garner, and Hoskyn January 1993). An average porosity of 33 percent is representative of the uppermost aquifer silty to sandy clay materials (Freeze/Cherry, 1979).

The upper and lower linear velocity calculated for the First Half 2024 is 1.51×10^{-6} cm/sec and 3.79×10^{-7} cm/sec respectively.

$$\begin{aligned} \text{Upper Limit } V_x &= [(2.0 \times 10^{-5} \text{ cm/sec}) (0.025)] / (0.33) = 1.51 \times 10^{-6} \text{ cm/sec} \\ \text{Lower Limit } V_x &= [(5.0 \times 10^{-6} \text{ cm/sec}) (0.025)] / (0.33) = 3.79 \times 10^{-7} \text{ cm/sec} \end{aligned}$$

3.2 Groundwater Quality

The data presented in APPENDIX A represents the historical data compiled since the first sampling event was conducted at the Landfill in May 1999. The database also contains historical data for GCS-1 and GCS-4 compiled since November 1993 and April 1997, respectively. The data was utilized to identify increasing trends and to statistically determine if differences exist between background concentrations versus compliance concentrations. The groundwater monitoring records for the First Half 2024 sampling event are included in APPENDIX B. APPENDIX C presents the groundwater quality analytical results for the First Half 2024 sampling event.

3.2.1 Outlier Determination

After the analytical groundwater data has been entered into the EPA approved groundwater database, *SANITAS™ for Groundwater* evaluates the data for the presence of anomalies or outliers. An outlier as defined in the *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities (Final Guidance, March 2009)*, is "[a] groundwater constituent concentration value that is much different from most other values in a data set for the same ground-water constituent concentration."

Values identified as outliers using this procedure may be either legitimate outliers or observational errors. An outlier, as generally defined, is a valid sample value that has little chance of being observed. Thus, while the value is a legitimate member of the population sampled, its presence in a sample set distorts estimates of population characteristics that can be inferred from the sample set. Statistical analysis of such a sample set is more informative when outliers are identified and discounted. An observation error may appear to have the same properties as an outlier, but the

observation error is not a valid measurement. Observation errors may be introduced by poor sampling, sample handling techniques, improper analytical techniques, and laboratory errors. As a result, observation errors may also distort estimates of population characteristics.

Nickel and cobalt at MW-6B were calculated as statistical outliers during the First Half 2024 sampling event. Outlier analysis summary tables are available in APPENDIX D. Outlier values indicated on the summary table occurred during previous sampling events.

3.2.2 Statistical Evaluation

The statistical methods used to evaluate the groundwater data for statistically significant increases (SSIs) were based on statistical procedures outlined in the *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities (Final Guidance, March 2009)* and ASTM D6312-98 *Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs* (2005). The SANITAS™ for Groundwater program was utilized to compile and statistically evaluate the data for the First Half 2024 sampling event. A brief description of the procedures that were used in the statistical evaluation is provided on each statistical plot (See APPENDIX D).

When selecting a valid statistical method for the site, several considerations were taken into account. Inter-well comparisons, which compare a background pool of data to a downgradient compliance pool of data, were invalid because the uppermost aquifer groundwater quality has shown spatial variability in the background data. From this information, the following procedures were created:

Intra Well Prediction Intervals

The prediction interval is a statistical interval 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 constructed to contain all future observations with stated confidence. For the site, intra-well prediction intervals will be developed based on a 95% 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.

The statistical methods used to evaluate the groundwater data are further described in the sites approved Revised Groundwater Sampling and Analysis Plan dated December 2013.

It should be noted, when managing estimated concentrations between the MDL and PQL (J values), the guidance generally favors substituting the reporting limit (RL) itself as the imputation, rather than RL/2 for non-detects.

Inter-Well Prediction Intervals

The prediction interval is a statistical interval 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 well data. The interval is developed to contain all future observations, within a certain probability. For the site, inter-well prediction intervals have been developed based on a 99% confidence that future observations will fall within the range.

If any future observation exceeds this interval, this is statistically significant evidence that the observation is not representative of the background group.

During the parametric 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 non-detects, the non-detects 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™ 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.

Sen's Slope/Mann-Kendall

When used in conjunction with one another, the Mann-Kendall test for temporal trend and the Sen's slope estimate are two types of evaluation monitoring statistics useful in determining the significance of an apparent trend and to estimate the magnitude of that trend. Prior to performing prediction intervals, the Sen's Slope/Mann-Kendall was performed on each detected constituent from each well in order to determine whether a statistical trend is present. The Mann-Kendall test is non-parametric, meaning that it does not depend on an assumption of a particular underlying distribution. The test uses only the relative magnitude of data rather than actual values. Values reported by the lab as below the detection limit are assigned values equal to one half the PQL.

The results of the prediction intervals and Sen's Slope/Mann-Kendall associated with the First Half 2024 sampling event are presented in APPENDIX D.

3.2.3 Results of the Statistical Evaluation

Based on calculations performed with the SANITAS™ for Groundwater statistical program utilizing intra-well methods, statistically significant increases (SSIs) were calculated for the following parameters during the First Half 2024 sampling event.

Well	Parameter
MW-3A	zinc
MW-6B (Upgradient)	TOC
MW-7A (Upgradient)	sulfate

Exceedances for the Second Half of 2023 are as follows: zinc at MW-3A; TOC at upgradient well MW-6B and sulfate at upgradient well MW-7A.

The following are Natural Variations of Groundwater Quality (NVGQ) for this event for these SSIs:

- MW-6B and MW-7A are upgradient wells and any SSIs should be classified as a NVGQ.
- Interwell Prediction Intervals were performed on the Intrawell Prediction Interval exceedances to compare the up-gradient to down gradient wells. Zinc at MW-3A was not exceeded with the Interwell Prediction Intervals suggesting a source other than the landfill as an ASD.

3.2.4 Comparison to Established Water Quality Standards

The analytical results for the First Half 2024 sampling event are summarized in TABLE 3.

TABLE 3
GROUNDWATER QUALITY RESULTS

SAMPLE POINT	TDS (mg/L)	TOC (mg/L)	Antimony (ug/L)	Arsenic (ug/L)	Barium (ug/L)	Beryllium (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Cobalt (ug/L)
GCS-1	330	2.8	<10.0	3.6	240	<0.5	<0.5	<0.5	2.8 J
GCS-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-1A	480	1.5	<10.0	1.9	110	<0.5	0.036 J	0.98	<10.0
MW-2A	330	1.3	<10.0	3.0	130	<0.5	<0.5	<0.5	<10.0
MW-3A	200	1.7	<10.0	0.91	190	<0.5	0.046 J	<0.5	<10.0
MW-4A	200	1.4	<10.0	2.5	240	<0.5	0.078 J	<0.5	<10.0
MW-6B	280	28	<10.0	7.5	110	0.20 J	0.031 J	0.89	1.3 J
MW-7A	160	28	<10.0	0.66	57	0.17 J	0.044 J	<0.5	0.74 J
Field Blank	<25	1.0	<10.0	<0.5	<2.0	<0.5	<0.5	<0.5	<10.0
<i>EPA Standards</i>	---	500**	6*	10*	2000*	4*	5*	100*	---
SAMPLE POINT	Copper (ug/L)	Iron (ug/L)	Lead (ug/L)	Manganese (ug/L)	Nickel (ug/L)	Selenium (ug/L)	Silver (ug/L)	Thallium (ug/L)	Vanadium (ug/L)
GCS-1	0.43 J	87000	<0.5	12000 J	0.70	<2.0	<0.5	<0.5	3.4 J
GCS-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-1A	1.1	520	<0.5	110	1.3	<2.0	<0.5	<0.5	5.8 J
MW-2A	0.60	680	<0.5	130	1.1	<2.0	<0.5	<0.5	3.1 J
MW-3A	0.78	14000	<0.5	360	6.2	<2.0	<0.5	<0.5	23
MW-4A	0.68	7100	<0.5	350	0.99	<2.0	<0.5	<0.5	4.2 J
MW-6B	12	21000	0.65	4000	2.0	<2.0	<0.5	<0.5	6.1 J
MW-7A	1.2	740	0.37 J	180	0.85	<2.0	<0.5	<0.5	3.9 J
Field Blank	<0.5	<50	<0.5	<20	<0.5	<2.0	<0.5	<0.5	<10.0
<i>EPA Standards</i>	1,300*	300**	15*	50**	---	50*	100**	2*	---

*Primary Drinking Water Standard-Maximum Contaminant Level (MCL)

**Secondary Drinking Water Standard (SDWS)

Values in BOLD exceed applicable Drinking Water Standard

"J" values are estimated concentrations between the method detection level (MDL) and the practical quantitation level (PQL).

TABLE 3
 GROUNDWATER QUALITY RESULTS

SAMPLE POINT	pH (S.U.)	Zinc (ug/L)	Chloride (mg/L)	Sulfate (mg/L)
GCS-1	6.43	9.6 J	2.9	0.88
GCS-4	NA	NA	NA	NA
MW-1A	7.86	26	77	7.5
MW-2A	7.81	11	26	25
MW-3A	6.40	110	3.2	39
MW-4A	6.83	12	6.6	6.7
MW-6B	6.87	17	0.88	1.8
MW-7A	6.56	14	1.6	15
Field Blank	n/a	<10.0	<20	<20
<i>EPA Standards</i>	<i>6.5-8.5**</i>	<i>5000**</i>	<i>250**</i>	<i>250**</i>

*Primary Drinking Water Standard-Maximum Contaminant Level (MCL)

**Secondary Drinking Water Standard (SDWS)

***Blank Corrected in Database (Detected in Field Blank and Equipment Blank)

Values in BOLD exceed applicable Drinking Water Standard

"J" values are estimated concentrations between the method detection level (MDL) and the practical quantitation level (PQL).

TABLE 3, shows a comparison of concentrations reported for the First Half 2024 sampling event to the applicable Primary Drinking Water Standard-Maximum Contaminant Levels (MCLs) and the Secondary Drinking Water Standards. The Secondary Drinking Water Standards are set primarily for aesthetic reasons and are generally not considered health-based criteria. Constituents covered by these standards are those which may adversely affect the aesthetic qualities of drinking water such as taste, odor, color, and appearance and are not federally enforced.

No Primary Drinking Water Standard MCLs were exceeded during the First Half 2024 sampling event.

Secondary Drinking Water Standard MCLs were exceedances for the First Half 2024 for iron and manganese at MW-1A, MW-2A, MW-3A, MW-4A, MW-6B, and MW-7A.

No VOCs were detected in the monitoring well samples collected during the First Half 2024.

It should also be noted that no detections were determined in the equipment blank and trip blank. However, TOC was detected in the field blank during the First Half 2024 event.

3.2.5 QA/QC Comparison

A comparison of the First Half 2024 analytical results for MW-2A and the duplicate sample is presented in TABLE 3. There appears to be little variability in the duplicate groundwater quality analysis for this sampling period.

4.0 LEACHATE AND GRADIENT CONTROL PUMPING VOLUMES

In accordance with Permit Conditions 16 and 17 of CLR Solid Waste Permit 266-S, the CLR has included the pump minutes and volumes for the leachate pumps for pump stations 1-4; the Little Rock Wastewater Utilities meters volumes treated; and gradient control pumps at pump stations 1 and 4 (APPENDIX E). The first reporting period includes dates September 1 through February 28, and the second reporting period includes dates March 1 through August 31. During this period between September 1, 2023 through February 28, 2024, gradient control pumps pumped a total of 11,052,480 gallons. During the same period the leachate pumps pumped a total of 5,196,960 gallons according to the control panels on the pumping system. The volumes are calculated via the recorded pump minutes, not read from a flow meter. The amount of leachate disposed by the City to the Little Rock Wastewater Utilities was 4,662,141 gallons based on a flow meter reading for this reporting period. This amount should be considered the volumes of leachate treated for this time period.

5.0 CONCLUSIONS

Based on the results of the First Half 2024 groundwater sampling and laboratory analysis, Terracon reached the following conclusions:

Groundwater Flow

- *Based on the levels measured in each of the wells, potentiometric maps for both flow zones were created for the First Half 2024 sampling event. From the results of this evaluation, and in concurrence with past hydrogeologic studies, the general groundwater flow direction for the upper flow regime is inward in the area of the waste disposal. The overall flow for the lower regime is to the north. The upper and lower linear velocity calculated for the First Half 2024 is 1.51×10^{-6} cm/sec and 3.79×10^{-7} cm/sec respectively.*

Analytical Results

- *No Primary Drinking Water Standard MCLs were exceeded during the First Half 2024 sampling event.*
- *No VOCs were detected in the monitoring well samples collected during the First Half 2024.*
- *Nickel and cobalt at MW-6B were calculated as statistical outliers during the First Half 2024 sampling event. Outlier analysis summary tables are available in APPENDIX D. Additional outlier values indicated on the summary table occurred during previous sampling events.*
- *Based on calculations performed with the SANITAS™ for Groundwater statistical program utilizing intra-well methods, statistically significant increases (SSIs) were calculated for the following parameters during the First Half 2024 sampling event.*

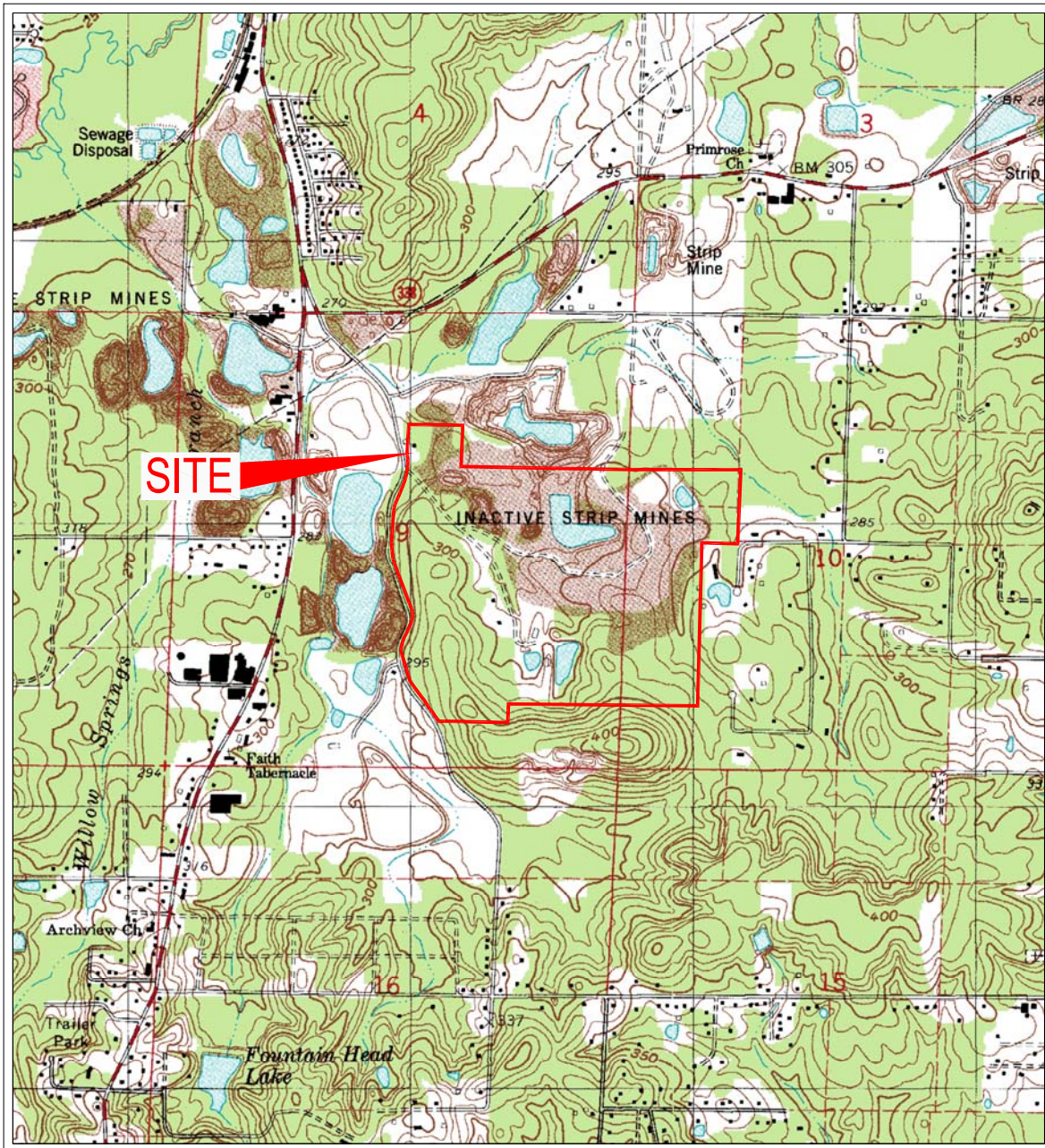
Well	Parameter
MW-3A	zinc
MW-6B (Upgradient)	TOC
MW-7A (Upgradient)	sulfate

Exceedances for the Second Half of 2023 are as follows: zinc at MW-3A; TOC at upgradient well MW-6B and sulfate at upgradient well MW-7A.

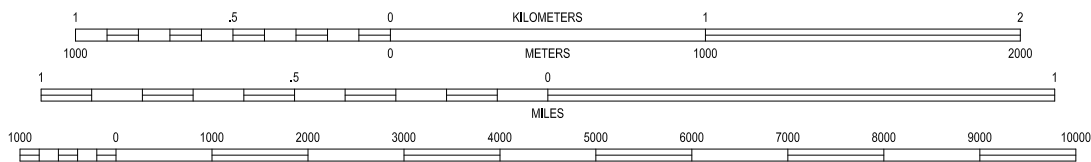
The following are Natural Variations of Groundwater Quality (NVGQ) for this event for these SSIs:

- *MW-6B and MW-7A are upgradient wells and any SSI's should be considered as a NVGQ.*
- *Interwell Prediction Intervals were performed on the Intrawell Prediction Interval exceedances to compare the up-gradient to down gradient wells. Zinc at MW-3A was not exceeded with the Interwell Prediction Intervals suggesting a source other than the landfill as an ASD.*
- *Based on comments received in DEQ Document ID 82584, 83305, & 84494, the City of Little Rock Landfill entered assessment monitoring for arsenic in monitoring wells MW-2A, MW-4A, MW-6B, and MW-7A; thallium at MW-7A; and cobalt, copper, nickel, and acetone at MW-6B. The facility sampled for Appendix II parameters on January 30-31, 2024. The only new constituent detected was for sulfide and it was added to the list along with other parameters to become the Assessment Monitoring parameters. This is the first of four events to build a background data set for these parameters before confidence intervals will be performed.*
- *The next semi-annual groundwater sampling event is tentatively scheduled for September 2024.*

Figures



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

LITTLE ROCK
QUADRANGLE
1986

7.5 MINUTE SERIES (TOPOGRAPHIC)



Project Mngjr:	DGJ
Drawn By:	PTG
Checked By:	DGJ
Approved By:	DGJ
Project No.	018-001-35957056C
Scale:	AS SHOWN
File No.	068
Date:	5/5/2016

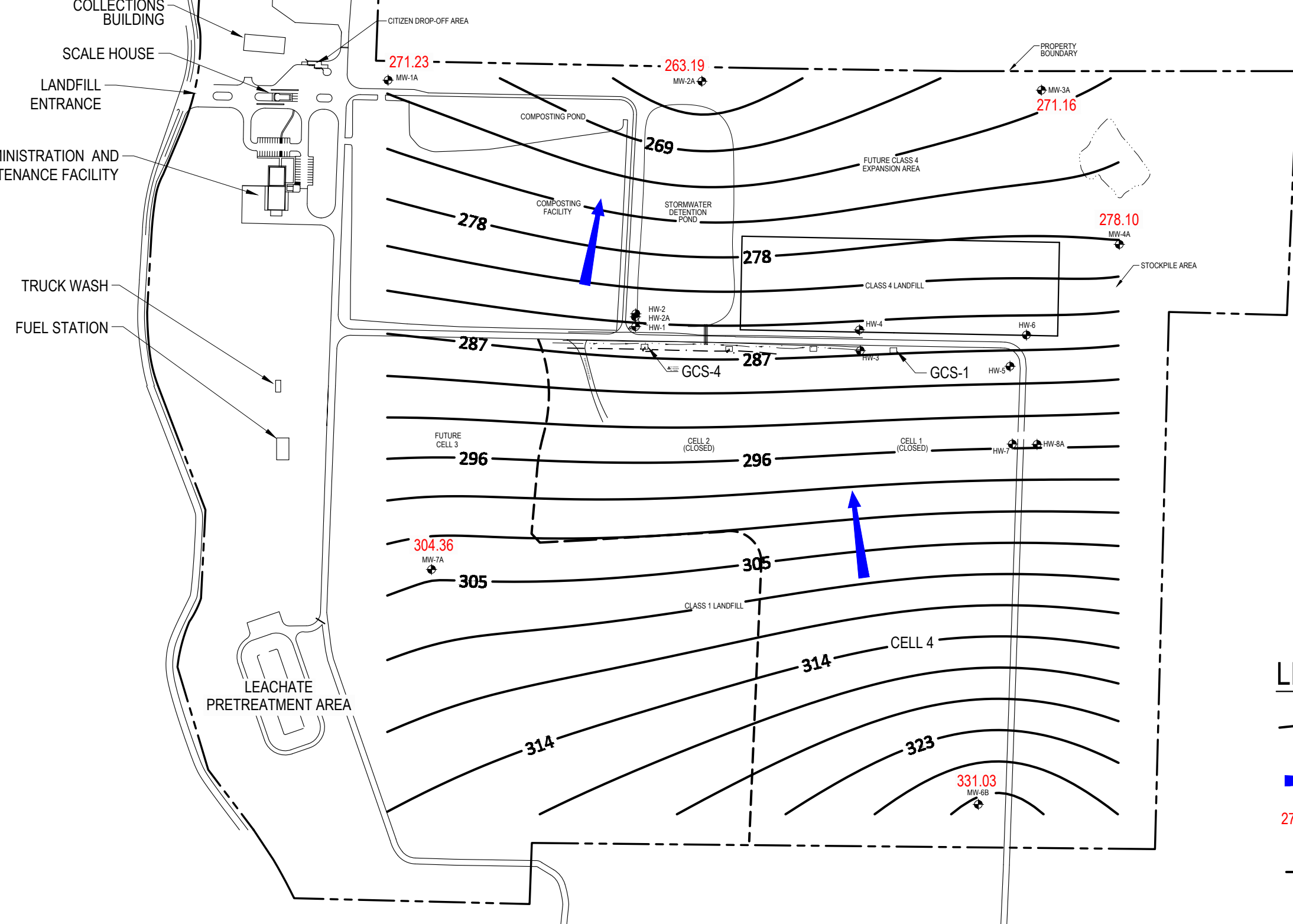
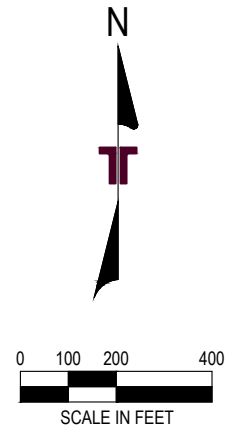
Terracon
Consulting Engineers and Scientists

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PH. (501) 847-9292 FAX. (501) 847-9210

SITE LOCATION MAP	
CITY OF LITTLE ROCK	
CLASS 1 LANDFILL	
LITTLE ROCK	ARKANSAS

FIG. No.	1
----------	---

COLLECTION VEHICLE PARKING
 COLLECTIONS BUILDING
 SCALE HOUSE
 LANDFILL ENTRANCE
 ADMINISTRATION AND MAINTENANCE FACILITY
 TRUCK WASH
 FUEL STATION



- LEGEND**
- 275 POTENTIOMETRIC SURFACE CONTOUR (fmsl)
 - GROUNDWATER FLOW DIRECTION
 - MW-1A MONITORING WELL WITH GROUNDWATER ELEVATION (fmsl)
 - WASTE MASS BOUNDARY

REV.	DATE	BY	DESCRIPTION

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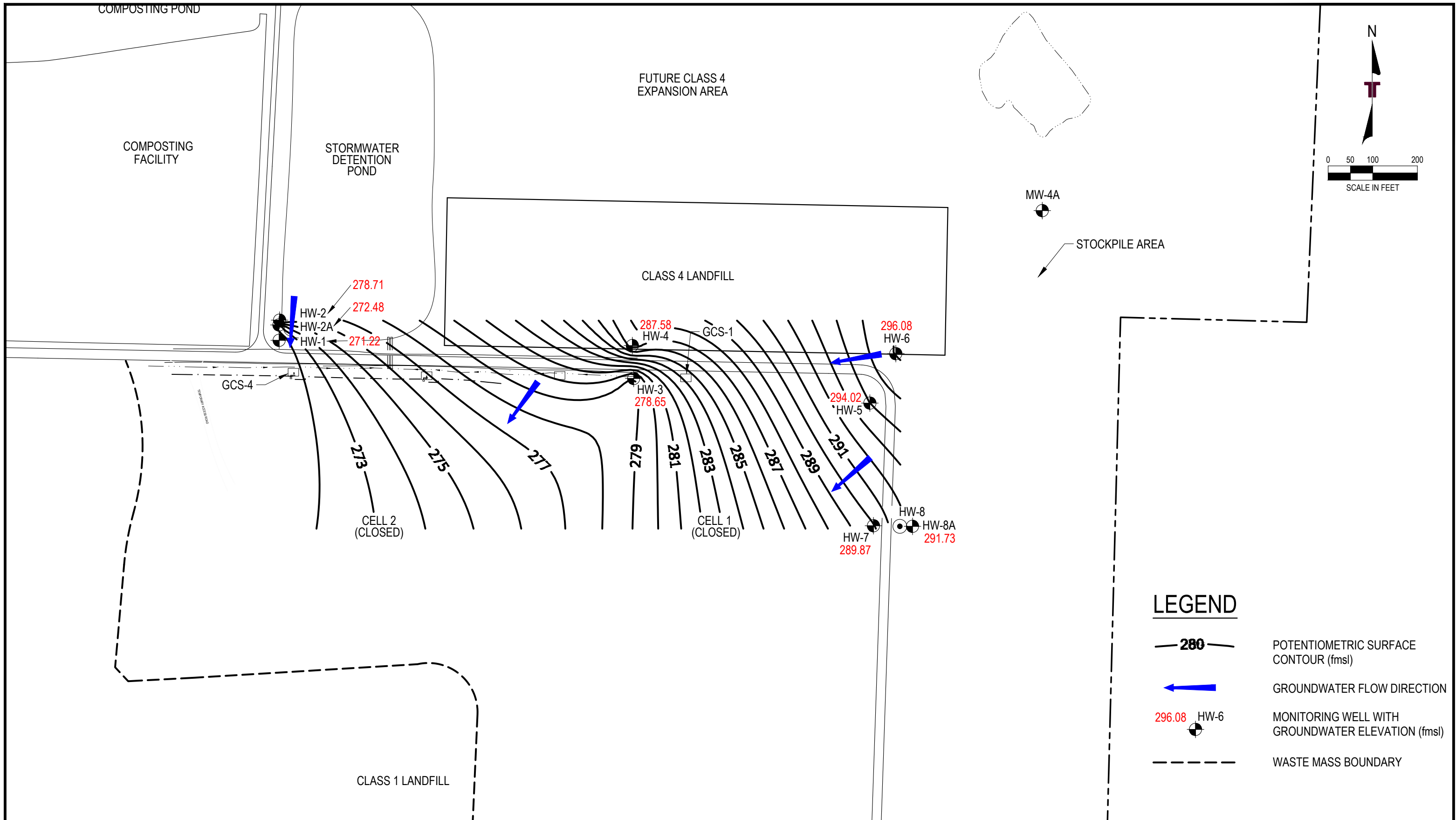
FIRST HALF 2024 POTENTIOMETRIC SURFACE MAP - LOWER FLOW REGIME

CITY OF LITTLE ROCK
 CLASS 1 LANDFILL

LITTLE ROCK ARKANSAS

FIGURE 2

DESIGNED BY:	PTG
DRAWN BY:	PTG
APPVD. BY:	DGJ
SCALE:	AS SHOWN
DATE:	4/2/2024
JOB NO.:	018-001-35957056C
ACAD NO.:	143
SHEET NO.:	OF



REV.	DATE	BY	DESCRIPTION



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FIRST HALF 2024 POTENTIOMETRIC SURFACE MAP - UPPER FLOW REGIME

CITY OF LITTLE ROCK
 CLASS 1 LANDFILL

LITTLE ROCK ARKANSAS

FIGURE 3

DESIGNED BY:	PTG
DRAWN BY:	PTG
APPVD. BY:	DGJ
SCALE:	AS SHOWN
DATE:	4/2/2024
JOB NO.:	018-001-35957056C
ACAD NO.:	144
SHEET NO.:	OF

Appendix A

Groundwater Sampling Records

Daily Project Groundwater Sampling Summary

Project No: 35957067C Date of Report: 3/19/2024
 Client Name: City of Little Rock Landfill
 Project Name: City of LR Environmentals
 Location: Little Rock, Arkansas
 Representative: Nathan Charles
 Technician(s): Wes Williams
 Sampling Area: Landfill
 Sampling Event: 1st Half 2024

WEATHER:			
<input checked="" type="checkbox"/>	Clear	<input type="checkbox"/>	Raining
<input type="checkbox"/>	Cloudy	<input type="checkbox"/>	Windy
<input type="checkbox"/>	Partly Cloudy	<input type="checkbox"/>	Foggy / Misty
<u>46</u>	Low Temp. (°F)	<u>58</u>	High Temp. (°F)
Notes:			

REPORTING TIMES:			
Depart Lab:	<u>8:00 AM</u>	Depart Site:	<u>4:00 PM</u>
Arrive Site:	<u>8:30 AM</u>	Arrive Lab:	<u>4:30 PM</u>

FIELD TESTING PERFORMED:			
<input checked="" type="checkbox"/>	Sample Retrieval	<input type="checkbox"/>	Well Development
<input type="checkbox"/>	Well Purge	<input type="checkbox"/>	Well Installation

EQUIPMENT USED:			
<u> </u>	Grundfos Pump	<u> 1 </u>	Air Compressor
<u> </u>	Peristaltic Pump	<u> 1 </u>	Control Box
<u> 1 </u>	Water Level Probe	<u> 1 </u>	pH Meter
<u> </u>	Bailer	<u> 1 </u>	Conductivity Meter
<u> 1 </u>	Generator	<u> </u>	

EQUIPMENT CALIBRATION:			
<u> WW </u>	pH	<u> </u>	<u> </u>
<u> </u>		<u> </u>	<u> </u>

DECON FIELD EQUIPMENT:	
<u>Alconox & Distilled Water</u>	

SUMMARY OF ACTIVITIES OBSERVED:

Actions performed:
 Terracon technician retrieved samples from monitoring wells to prepare for analytics shipment.

Notes:
 Water levels were also taken.

Wells Sampled	Sampling Method	Well Condition / Comments	Time
MW-2A/Dup	Dedicated	Good	1207/1210
MW-3A	Dedicated	Good	1320
MW-4A	Dedicated	Good	1428

Note: Copies of all completed "Project Field Record Forms" are to be submitted to the Project Manager at the end of each day and should be maintained with the Project Records.

Daily Project Groundwater Sampling Summary

Project No: 35957067C Date of Report: 3/20/2024
 Client Name: City of Little Rock Landfill
 Project Name: City of LR Environmentals
 Location: Little Rock, Arkansas
 Representative: Nathan Charles
 Technician(s): Wes Williams
 Sampling Area: Landfill
 Sampling Event: 1st Half 2024

WEATHER:

<input type="checkbox"/> Clear	<input type="checkbox"/> Raining
<input checked="" type="checkbox"/> Cloudy	<input type="checkbox"/> Windy
<input type="checkbox"/> Partly Cloudy	<input type="checkbox"/> Foggy / Misty
<u>46</u> Low Temp. (°F)	<u>68</u> High Temp. (°F)

Notes: _____

REPORTING TIMES:

Depart Lab: _____	Depart Site: <u>4:00 PM</u>
Arrive Site: <u>8:30 AM</u>	Arrive Lab: <u>4:30 PM</u>

FIELD TESTING PERFORMED:

<input checked="" type="checkbox"/> Sample Retrieval	<input type="checkbox"/> Well Development
<input type="checkbox"/> Well Purge	<input type="checkbox"/> Well Installation

EQUIPMENT USED:

_____ Grundfos Pump	_____
_____ Peristaltic Pump	_____
<u>1</u> Water Level Probe	<u>1</u> pH Meter
<u>2</u> Bailer	<u>1</u> Conductivity Meter
_____ Generator	_____

EQUIPMENT CALIBRATION:

<u>WW</u>	<u>pH</u>	_____	_____
_____	_____	_____	_____

DECON FIELD EQUIPMENT:

Alconox & Distilled Water

SUMMARY OF ACTIVITIES OBSERVED:

Actions performed:
Terracon technician retrieved samples from monitoring wells to prepare for analytics shipment.

Notes:

<u>Wells Sampled</u>	<u>Sampling Method</u>	<u>Well Condition / Comments</u>	<u>Time</u>
MW-1A/FB/EB	Dedicated	Good	1415/1300/1310
MW-6B	Dedicated	Good	1028
MW-7A	Bailer	Good	0845
GCS-1	Grab	NA	0805
Leachate	Bailer	NA	1230

Note: Copies of all completed "Project Field Record Forms" are to be submitted to the Project Manager at the end of each day and should be maintained with the Project Records.

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/20/2024</u>
SAMPLING LOCATION: <u>MW-1A</u>	WEATHER: <u>Clear 68°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	WELL PAINT CONDITION: <input type="checkbox"/> Ok <input checked="" type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>Unlabeled, worn paint</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>12.12</u>	TOTAL DEPTH OF WELL (feet): <u>85.41</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>11.95</u>	

WELL PURGING

INITIAL APPEARANCE: <u>Turbid</u>	INITIAL ODOR: <u>None</u>
PURGING DATE: <u>3/20/2024</u>	PURGING METHOD: <u>Dedicated</u>
TIME START PURGING: <u>1315</u>	TIME END PURGING: <u>1415</u>
VOLUME PURGED [Gallons]: <u>4.5</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/20/2024</u>	SAMPLE METHOD: <u>Dedicated</u>
TIME START SAMPLING: <u>1415</u>	TIME END SAMPLING: <u>1438</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [µS/cm]	TURBIDITY [NTU]
1325	1.00	19.49	21.9	8.01	761	5.72
1335	2.00	24.38	20.2	7.86	770	2.65
1345	3.00	28.85	19.4	7.92	767	2.43
1355	4.00	33.11	20.2	7.90	788	2.61
1405	4.25	33.11	20.1	7.84	795	2.41
1415	4.50	33.11	19.9	7.86	793	2.46

FIELD SAMPLE PRESERVATION: <u>Ice</u>	CONTAINER HANDLING: <u>Terracon Consultants, Inc.</u>
---------------------------------------	---

COMMENTS: <u>FB @ 1300; Equipment Blank @ 1310</u>
--

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/19/2024</u>
SAMPLING LOCATION: <u>MW-2A</u>	WEATHER: <u>Clear 46°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CASING CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>Good</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>17.27</u>	TOTAL DEPTH OF WELL (feet): <u>162.03</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>23.61</u>	

WELL PURGING

INITIAL APPEARANCE: <u>Clear</u>	INITIAL ODOR: <u>None</u>
PURGING DATE: <u>3/19/2024</u>	PURGING METHOD: <u>Dedicated</u>
TIME START PURGING: <u>1127</u>	TIME END PURGING: <u>1207</u>
VOLUME PURGED [Gallons]: <u>2.5</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/19/2024</u>	SAMPLE METHOD: <u>Dedicated</u>
TIME START SAMPLING: <u>1207</u>	TIME END SAMPLING: <u>1235</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [μ S/cm]	TURBIDITY [NTU]
1137	1.50	24.94	17.6	7.71	572	11.70
1147	2.00	25.74	18.6	7.72	569	2.09
1157	2.25	25.74	17.1	7.85	563	7.65
1207	2.50	25.74	17.2	7.81	558	5.41

FIELD SAMPLE PRESERVATION: Ice CONTAINER HANDLING: Terracon Consultants, Inc.

COMMENTS: Dup @ 1210

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/19/2024</u>
SAMPLING LOCATION: <u>MW-3A</u>	WEATHER: <u>Clear 55°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u>	WELL DIAMETER (in): <u>2</u>

WELL PHYSICAL CONDITION

WELL LOCKED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CASING CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>Good</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>25.38</u>	TOTAL DEPTH OF WELL (feet): <u>72.92</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>7.75</u>	

WELL PURGING

INITIAL APPEARANCE: <u>Clear</u>	INITIAL ODOR: <u>None</u>
PURGING DATE: <u>3/19/2024</u>	PURGING METHOD: <u>Dedicated</u>
TIME START PURGING: <u>1250</u>	TIME END PURGING: <u>1320</u>
VOLUME PURGED [Gallons]: <u>3.5</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/19/2024</u>	SAMPLE METHOD: <u>Dedicated</u>
TIME START SAMPLING: <u>1320</u>	TIME END SAMPLING: <u>1332</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [μ S/cm]	TURBIDITY [NTU]
1300	2.50	40.42	16.9	6.37	305	10.91
1310	3.00	40.42	16.3	6.33	317	4.97
1320	3.50	40.42	16.1	6.40	315	4.06

FIELD SAMPLE PRESERVATION: Ice CONTAINER HANDLING: Terracon Consultants, Inc.

COMMENTS

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/19/2024</u>
SAMPLING LOCATION: <u>MW-4A</u>	WEATHER: <u>Clear 58°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input checked="checked" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input checked="checked" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>Unlabeled, worn paint</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>25.83</u>	TOTAL DEPTH OF WELL (feet): <u>107.20</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>13.27</u>	

WELL PURGING

INITIAL APPEARANCE: <u>Clear</u>	INITIAL ODOR: <u>None</u>
PURGING DATE: <u>3/19/2024</u>	PURGING METHOD: <u>Dedicated</u>
TIME START PURGING: <u>1348</u>	TIME END PURGING: <u>1428</u>
VOLUME PURGED [Gallons]: <u>3.0</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input checked="checked" type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/19/2024</u>	SAMPLE METHOD: <u>Dedicated</u>
TIME START SAMPLING: <u>1428</u>	TIME END SAMPLING: <u>1447</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [µS/cm]	TURBIDITY [NTU]
1358	1.50	33.96	18.5	6.79	337	7.81
1408	2.00	35.71	17.7	6.83	328	5.24
1418	2.50	35.71	17.6	6.81	304	5.56
1428	3.00	35.71	17.1	6.83	321	7.07

FIELD SAMPLE PRESERVATION:	Ice	CONTAINER HANDLING:	Terracon Consultants, Inc.
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COMMENTS	
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GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/20/2024</u>
SAMPLING LOCATION: <u>MW-6B</u>	WEATHER: <u>Clear 47°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input type="checkbox"/> Ok <input checked="" type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>Label Faded, Paint worn</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>14.44</u>	TOTAL DEPTH OF WELL (feet): <u>33.98</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>3.19</u>	

WELL PURGING

INITIAL APPEARANCE: <u>Clear</u>	INITIAL ODOR: <u>None</u>
PURGING DATE: <u>3/20/2024</u>	PURGING METHOD: <u>Dedicated</u>
TIME START PURGING: <u>958</u>	TIME END PURGING: <u>1028</u>
VOLUME PURGED [Liters]: <u>3.00</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/20/2024</u>	SAMPLE METHOD: <u>Dedicated</u>
TIME START SAMPLING: <u>1028</u>	TIME END SAMPLING: <u>1059</u>

FIELD MEASUREMENTS

TIME	VOLUME [Liters]	WATER LEVEL [feet]	TEMP [°C]	pH [su]	CONDUCTIVITY [µS/cm]	TURBIDITY [NTU]
1008	1.0	16.29	15.1	6.95	347	10.91
1018	2.0	16.29	14.8	6.96	370	10.80
1028	3.0	16.29	15.2	6.87	378	7.64

FIELD SAMPLE PRESERVATION: Ice CONTAINER HANDLING: Terracon Consultants, Inc.

COMMENTS

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/19/2024</u>
SAMPLING LOCATION: <u>MW-7A</u>	WEATHER: <u>Clear 46°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input checked="" type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>Good</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>4.90</u>	TOTAL DEPTH OF WELL (feet): <u>30.35</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>4.15</u>	

WELL PURGING

INITIAL APPEARANCE: <u>Clear</u>	INITIAL ODOR: <u>None</u>
PURGING DATE: <u>3/19/2024</u>	PURGING METHOD: <u>Grab/Bailer</u>
TIME START PURGING: <u>1034</u>	TIME END PURGING: <u>1107</u>
VOLUME PURGED [Gallons]: <u>11.0</u>	WELL PURGED DRY? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/20/2024</u>	SAMPLE METHOD: <u>Disposable Bailer</u>
TIME START SAMPLING: <u>845</u>	TIME END SAMPLING: <u>856</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [μS/cm]	TURBIDITY [NTU]
1041	4.00	NA	15.5	6.45	214	250
1051	8.00	NA	14.8	6.24	192	>1000
1107	Dry @ 11 gals.	NA				
	3/20/2024					
845	NA	NA	12.4	6.56	121.8	92

FIELD SAMPLE PRESERVATION: <u>Ice</u>	CONTAINER HANDLING: <u>Terracon Consultants, Inc.</u>
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COMMENTS	
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GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/20/2024</u>
SAMPLING LOCATION: <u>Leachate</u>	WEATHER: <u>Clear 66°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>NA</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>NA</u>	TOTAL DEPTH OF WELL (feet): <u>NA</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>NA</u>	

WELL PURGING

INITIAL APPEARANCE: <u>NA</u>	INITIAL ODOR: <u>NA</u>
PURGING DATE: <u>NA</u>	PURGING METHOD: <u>NA</u>
TIME START PURGING: <u>NA</u>	TIME END PURGING: <u>NA</u>
VOLUME PURGED [Gallons]: <u>NA</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Turbid</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/20/2024</u>	SAMPLE METHOD: <u>Grab/Bailer</u>
TIME START SAMPLING: <u>1230</u>	TIME END SAMPLING: <u>1238</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [μ S/cm]	TURBIDITY [NTU]
1230	n/a	n/a	18.7	7.56	2420	64.5

FIELD SAMPLE PRESERVATION: Ice CONTAINER HANDLING: Terracon Consultants, Inc.

COMMENTS

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: <u>35957056C</u>	DATE: <u>3/20/2024</u>
SAMPLING LOCATION: <u>GCS-1</u>	WEATHER: <u>Clear 46°F</u>
DATUM FOR WATER DEPTH MEASUREMENT: <u>T.O.C.</u> WELL DIAMETER (in): <u>2</u>	

WELL PHYSICAL CONDITION

WELL LOCKED? <input type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: <u>NA</u>	

WATER CALCULATIONS

WATER DEPTH (feet): <u>NA</u>	TOTAL DEPTH OF WELL (feet): <u>NA</u>
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: <u>NA</u>	

WELL PURGING

INITIAL APPEARANCE: <u>NA</u>	INITIAL ODOR: <u>NA</u>
PURGING DATE: <u>NA</u>	PURGING METHOD: <u>NA</u>
TIME START PURGING: <u>NA</u>	TIME END PURGING: <u>NA</u>
VOLUME PURGED [Gallons]: <u>NA</u>	WELL PURGED DRY? <input type="checkbox"/> Yes <input type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: <u>Clear</u>	SAMPLE ODOR: <u>None</u>
SAMPLE DATE: <u>3/20/2024</u>	SAMPLE METHOD: <u>Grab</u>
TIME START SAMPLING: <u>0805</u>	TIME END SAMPLING: <u>0815</u>

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [μ S/cm]	TURBIDITY [NTU]
0805	NA	NA	21.0	6.43	567	21.3

FIELD SAMPLE PRESERVATION: <u>Ice</u>	CONTAINER HANDLING: <u>Terracon Consultants, Inc.</u>
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COMMENTS

GROUNDWATER MONITORING SAMPLING RECORDS

OVERVIEW

PROJECT NUMBER: 35957056C	DATE: _____
SAMPLING LOCATION: GCS-4	WEATHER: Clear °F
DATUM FOR WATER DEPTH MEASUREMENT: T.O.C.	WELL DIAMETER (in): 2

WELL PHYSICAL CONDITION

WELL LOCKED? <input type="checkbox"/> Yes <input type="checkbox"/> No	CASING CONDITION: <input type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
WELL NUMBER LABELED? <input type="checkbox"/> Yes <input type="checkbox"/> No	WELL PAINT CONDITION: <input type="checkbox"/> Ok <input type="checkbox"/> Needs Attention
GENERAL WELL INTERIOR/EXTERIOR CONDITIONS: NA	

WATER CALCULATIONS

WATER DEPTH (feet): NA	TOTAL DEPTH OF WELL (feet): NA
VOLUME OF WATER $V = 3.0408 \times [TD-WD(ft)] \times [Diameter(in)]^2$ in Gallons: NA	

WELL PURGING

INITIAL APPEARANCE: NA	INITIAL ODOR: NA
PURGING DATE: NA	PURGING METHOD: NA
TIME START PURGING: NA	TIME END PURGING: NA
VOLUME PURGED [Gallons]: NA	WELL PURGED DRY? <input type="checkbox"/> Yes <input type="checkbox"/> No

WELL SAMPLING

SAMPLE APPEARANCE: Clear	SAMPLE ODOR: None
SAMPLE DATE: _____	SAMPLE METHOD: NA
TIME START SAMPLING: _____	TIME END SAMPLING: _____

FIELD MEASUREMENTS

TIME	VOLUME [GAL]	WATER LEVEL [feet]	TEMP [°C]	pH [SU]	CONDUCTIVITY [µS/cm]	TURBIDITY [NTU]
	NA	NA	NA			

FIELD SAMPLE PRESERVATION: Ice CONTAINER HANDLING: Terracon Consultants, Inc.

COMMENTS

Appendix B

Laboratory Analytical Results



ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. David Jaros
Terracon Consultants Inc
25809 I-90
Bryant, Arkansas 72022
Generated 4/2/2024 12:54:27 PM

JOB DESCRIPTION

Groundwater - Landfill

JOB NUMBER

192-10523-1

Eurofins Arkansas

Job Notes

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Authorization



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Definitions/Glossary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Terracon Consultants Inc
Project: Groundwater - Landfill

Job ID: 192-10523-1

Job ID: 192-10523-1

Eurofins Arkansas

Job Narrative 192-10523-1

Receipt

The samples were received on 3/20/2024 3:55 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.9° C.

GC/MS VOA

Method 8260D: Due to the high concentration of Methylene Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 192-13957 and analytical batch 192-15224 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method SM 5310C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-152364 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Eurofins Arkansas

Client Sample Results

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-1A

Lab Sample ID: 192-10523-1

Date Collected: 03/20/24 14:15

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/21/24 23:10	1
Benzene	<1.5		5.0	1.5	ug/L			03/21/24 23:10	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/21/24 23:10	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/21/24 23:10	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/21/24 23:10	1
Bromoform	<1.3		5.0	1.3	ug/L			03/21/24 23:10	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/21/24 23:10	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/21/24 23:10	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/21/24 23:10	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/21/24 23:10	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/21/24 23:10	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/21/24 23:10	1
Chloroform	<2.1		4.0	2.1	ug/L			03/21/24 23:10	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/21/24 23:10	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/21/24 23:10	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/21/24 23:10	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/21/24 23:10	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/21/24 23:10	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/21/24 23:10	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/21/24 23:10	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/21/24 23:10	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 23:10	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/21/24 23:10	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/21/24 23:10	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/21/24 23:10	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/21/24 23:10	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/21/24 23:10	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/21/24 23:10	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/21/24 23:10	1
Iodomethane	<6.3		10	6.3	ug/L			03/21/24 23:10	1
2-Hexanone	<3.8		10	3.8	ug/L			03/21/24 23:10	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/21/24 23:10	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/21/24 23:10	1
Styrene	<3.0		5.0	3.0	ug/L			03/21/24 23:10	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/21/24 23:10	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/21/24 23:10	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/21/24 23:10	1
Toluene	<3.2		5.0	3.2	ug/L			03/21/24 23:10	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/21/24 23:10	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 23:10	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/21/24 23:10	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/21/24 23:10	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/21/24 23:10	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 23:10	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 23:10	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/21/24 23:10	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/21/24 23:10	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/21/24 23:10	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/21/24 23:10	1

Eurofins Arkansas

Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-1A
Date Collected: 03/20/24 14:15
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		91 - 109		03/21/24 23:10	1
Toluene-d8 (Surr)	99		87 - 112		03/21/24 23:10	1
4-Bromofluorobenzene (Surr)	94		86 - 112		03/21/24 23:10	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77		2.0	1.5	mg/L			03/21/24 17:37	10
Sulfate	7.5		2.0	1.2	mg/L			03/21/24 17:37	10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:26	1
Arsenic	0.0019		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:26	1
Barium	0.11		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 15:47	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:26	1
Cadmium	0.000036	J	0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:26	1
Chromium	0.00098		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:26	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:26	1
Copper	0.0011		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:26	1
Iron	0.52		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 14:26	1
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:26	1
Manganese	0.11		0.10	0.0017	mg/L		04/01/24 10:38	04/01/24 15:47	5
Nickel	0.0013		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:26	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:26	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:26	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:26	1
Vanadium	0.0058	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:26	1
Zinc	0.026		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	480		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	0.32		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	1.5		1.0	0.50	mg/L			03/28/24 18:35	1

Client Sample ID: MW-2A
Date Collected: 03/19/24 12:07
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/21/24 23:39	1
Benzene	<1.5		5.0	1.5	ug/L			03/21/24 23:39	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/21/24 23:39	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/21/24 23:39	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/21/24 23:39	1
Bromoform	<1.3		5.0	1.3	ug/L			03/21/24 23:39	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/21/24 23:39	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/21/24 23:39	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/21/24 23:39	1

Eurolins Arkansas

Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-2A

Lab Sample ID: 192-10523-2

Date Collected: 03/19/24 12:07

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/21/24 23:39	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/21/24 23:39	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/21/24 23:39	1
Chloroform	<2.1		4.0	2.1	ug/L			03/21/24 23:39	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/21/24 23:39	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/21/24 23:39	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/21/24 23:39	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/21/24 23:39	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/21/24 23:39	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/21/24 23:39	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/21/24 23:39	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/21/24 23:39	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 23:39	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/21/24 23:39	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/21/24 23:39	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/21/24 23:39	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/21/24 23:39	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/21/24 23:39	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/21/24 23:39	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/21/24 23:39	1
Iodomethane	<6.3		10	6.3	ug/L			03/21/24 23:39	1
2-Hexanone	<3.8		10	3.8	ug/L			03/21/24 23:39	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/21/24 23:39	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/21/24 23:39	1
Styrene	<3.0		5.0	3.0	ug/L			03/21/24 23:39	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/21/24 23:39	1
1,1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/21/24 23:39	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/21/24 23:39	1
Toluene	<3.2		5.0	3.2	ug/L			03/21/24 23:39	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/21/24 23:39	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 23:39	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/21/24 23:39	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/21/24 23:39	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/21/24 23:39	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 23:39	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 23:39	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/21/24 23:39	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/21/24 23:39	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/21/24 23:39	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/21/24 23:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		91 - 109		03/21/24 23:39	1
Toluene-d8 (Surr)	100		87 - 112		03/21/24 23:39	1
4-Bromofluorobenzene (Surr)	96		86 - 112		03/21/24 23:39	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26		2.0	1.5	mg/L			03/21/24 17:58	10
Sulfate	25		2.0	1.2	mg/L			03/21/24 17:58	10

Euofins Arkansas

Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-2A

Lab Sample ID: 192-10523-2

Date Collected: 03/19/24 12:07

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:30	1
Arsenic	0.0030		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:30	1
Barium	0.13		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 15:51	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:30	1
Cadmium	<0.000028		0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:30	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:30	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:30	1
Copper	0.00060		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:30	1
Iron	0.68		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 14:30	1
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:30	1
Manganese	0.13		0.10	0.0017	mg/L		04/01/24 10:38	04/01/24 15:51	5
Nickel	0.0011		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:30	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:30	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:30	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:30	1
Vanadium	0.0031	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:30	1
Zinc	0.011		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	330		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	0.15		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	1.3		1.0	0.50	mg/L			03/28/24 19:20	1

Client Sample ID: MW-3A

Lab Sample ID: 192-10523-3

Date Collected: 03/19/24 13:20

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 00:09	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 00:09	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 00:09	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 00:09	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 00:09	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 00:09	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 00:09	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 00:09	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 00:09	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 00:09	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 00:09	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 00:09	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 00:09	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 00:09	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 00:09	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 00:09	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 00:09	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 00:09	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 00:09	1

Eurofins Arkansas

Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-3A

Lab Sample ID: 192-10523-3

Date Collected: 03/19/24 13:20

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 00:09	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 00:09	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 00:09	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 00:09	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 00:09	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 00:09	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 00:09	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 00:09	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 00:09	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 00:09	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 00:09	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 00:09	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 00:09	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 00:09	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 00:09	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 00:09	1
1,1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 00:09	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 00:09	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 00:09	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 00:09	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 00:09	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 00:09	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 00:09	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 00:09	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 00:09	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 00:09	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 00:09	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 00:09	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 00:09	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 00:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	100		91 - 109					03/22/24 00:09	1
Toluene-d8 (Surr)	99		87 - 112					03/22/24 00:09	1
4-Bromofluorobenzene (Surr)	95		86 - 112					03/22/24 00:09	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.2		2.0	1.5	mg/L			03/21/24 18:18	10
Sulfate	39		2.0	1.2	mg/L			03/21/24 18:18	10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:34	1
Arsenic	0.00091		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:34	1
Barium	0.19		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 15:55	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:34	1
Cadmium	0.000046	J	0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:34	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:34	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:34	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-3A

Lab Sample ID: 192-10523-3

Date Collected: 03/19/24 13:20

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.00078		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:34	1
Iron	14		0.25	0.070	mg/L		04/01/24 10:38	04/01/24 15:55	5
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:34	1
Manganese	0.36		0.10	0.0017	mg/L		04/01/24 10:38	04/01/24 15:55	5
Nickel	0.0062		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:34	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:34	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:34	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:34	1
Vanadium	0.023		0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:34	1
Zinc	0.11		0.050	0.0090	mg/L		04/01/24 10:38	04/01/24 15:55	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	200		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	<0.0049		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	1.7		1.0	0.50	mg/L			03/28/24 19:36	1

Client Sample ID: MW-4A

Lab Sample ID: 192-10523-4

Date Collected: 03/19/24 14:28

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 00:39	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 00:39	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 00:39	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 00:39	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 00:39	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 00:39	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 00:39	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 00:39	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 00:39	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 00:39	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 00:39	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 00:39	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 00:39	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 00:39	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 00:39	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 00:39	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 00:39	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 00:39	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 00:39	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 00:39	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 00:39	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 00:39	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 00:39	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 00:39	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 00:39	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 00:39	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-4A

Lab Sample ID: 192-10523-4

Date Collected: 03/19/24 14:28

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 00:39	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 00:39	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 00:39	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 00:39	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 00:39	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 00:39	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 00:39	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 00:39	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 00:39	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 00:39	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 00:39	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 00:39	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 00:39	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 00:39	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 00:39	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 00:39	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 00:39	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 00:39	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 00:39	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 00:39	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 00:39	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 00:39	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		91 - 109		03/22/24 00:39	1
Toluene-d8 (Surr)	101		87 - 112		03/22/24 00:39	1
4-Bromofluorobenzene (Surr)	96		86 - 112		03/22/24 00:39	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.6		2.0	1.5	mg/L			03/21/24 18:39	10
Sulfate	6.7		2.0	1.2	mg/L			03/21/24 18:39	10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:37	1
Arsenic	0.0025		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:37	1
Barium	0.24		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 15:58	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:37	1
Cadmium	0.000078	J	0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:37	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:37	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:37	1
Copper	0.00068		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:37	1
Iron	7.1		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 14:37	1
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:37	1
Manganese	0.35		0.10	0.0017	mg/L		04/01/24 10:38	04/01/24 15:58	5
Nickel	0.00099		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:37	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:37	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:37	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-4A

Lab Sample ID: 192-10523-4

Date Collected: 03/19/24 14:28

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:37	1
Vanadium	0.0042	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:37	1
Zinc	0.012		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	200		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	0.043		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	1.4		1.0	0.50	mg/L			03/28/24 19:51	1

Client Sample ID: MW-6B

Lab Sample ID: 192-10523-5

Date Collected: 03/20/24 10:28

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 01:09	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 01:09	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 01:09	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 01:09	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 01:09	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 01:09	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 01:09	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 01:09	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 01:09	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 01:09	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 01:09	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 01:09	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 01:09	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 01:09	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 01:09	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 01:09	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 01:09	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 01:09	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 01:09	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 01:09	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 01:09	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 01:09	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 01:09	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 01:09	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 01:09	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 01:09	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 01:09	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 01:09	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 01:09	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 01:09	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 01:09	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 01:09	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 01:09	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-6B

Lab Sample ID: 192-10523-5

Date Collected: 03/20/24 10:28

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 01:09	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 01:09	1
1,1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 01:09	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 01:09	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 01:09	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 01:09	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 01:09	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 01:09	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 01:09	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 01:09	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 01:09	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 01:09	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 01:09	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 01:09	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 01:09	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 01:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		91 - 109					03/22/24 01:09	1
Toluene-d8 (Surr)	100		87 - 112					03/22/24 01:09	1
4-Bromofluorobenzene (Surr)	97		86 - 112					03/22/24 01:09	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.88		0.20	0.15	mg/L			03/22/24 16:20	1
Sulfate	1.8		0.20	0.12	mg/L			03/22/24 16:20	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:41	1
Arsenic	0.0075		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:41	1
Barium	0.11		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 16:09	5
Beryllium	0.00020	J	0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:41	1
Cadmium	0.000031	J	0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:41	1
Chromium	0.00089		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:41	1
Cobalt	0.0013	J	0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:41	1
Copper	0.012		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:41	1
Iron	21		0.25	0.070	mg/L		04/01/24 10:38	04/01/24 16:09	5
Lead	0.00065		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:41	1
Manganese	4.0		2.0	0.034	mg/L		04/01/24 10:38	04/01/24 16:02	100
Nickel	0.0020		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:41	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:41	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:41	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:41	1
Vanadium	0.0061	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:41	1
Zinc	0.017		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	280		25	25	mg/L			03/22/24 09:23	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-6B

Lab Sample ID: 192-10523-5

Date Collected: 03/20/24 10:28

Matrix: Water

Date Received: 03/20/24 15:55

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide (SM 4500 S2 G-2011)	0.13		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	28		10	5.0	mg/L			03/29/24 01:10	10

Client Sample ID: MW-7A

Lab Sample ID: 192-10523-6

Date Collected: 03/20/24 08:45

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 01:39	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 01:39	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 01:39	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 01:39	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 01:39	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 01:39	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 01:39	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 01:39	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 01:39	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 01:39	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 01:39	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 01:39	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 01:39	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 01:39	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 01:39	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 01:39	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 01:39	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 01:39	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 01:39	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 01:39	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 01:39	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 01:39	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 01:39	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 01:39	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 01:39	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 01:39	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 01:39	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 01:39	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 01:39	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 01:39	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 01:39	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 01:39	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 01:39	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 01:39	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 01:39	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 01:39	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 01:39	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 01:39	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 01:39	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 01:39	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 01:39	1

Eurofins Arkansas

Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-7A

Lab Sample ID: 192-10523-6

Date Collected: 03/20/24 08:45

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 01:39	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 01:39	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 01:39	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 01:39	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 01:39	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 01:39	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 01:39	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 01:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	98		91 - 109		03/22/24 01:39	1
Toluene-d8 (Surr)	99		87 - 112		03/22/24 01:39	1
4-Bromofluorobenzene (Surr)	97		86 - 112		03/22/24 01:39	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.6		0.20	0.15	mg/L			03/22/24 16:41	1
Sulfate	15		0.20	0.12	mg/L			03/22/24 16:41	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:49	1
Arsenic	0.00066		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:49	1
Barium	0.057		0.0020	0.00026	mg/L		04/01/24 10:38	04/01/24 14:49	1
Beryllium	0.00017	J	0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:49	1
Cadmium	0.000044	J	0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:49	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:49	1
Cobalt	0.00074	J	0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:49	1
Copper	0.0012		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:49	1
Iron	0.74		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 14:49	1
Lead	0.00037	J	0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:49	1
Manganese	0.18		0.10	0.0017	mg/L		04/01/24 10:38	04/01/24 16:24	5
Nickel	0.00085		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:49	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:49	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:49	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:49	1
Vanadium	0.0039	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:49	1
Zinc	0.014		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	160		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	<0.0049		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	2.3		1.0	0.50	mg/L			03/29/24 00:55	1

Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: GCS-1

Lab Sample ID: 192-10523-7

Date Collected: 03/20/24 08:05

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 02:09	1
Benzene	2.3	J	5.0	1.5	ug/L			03/22/24 02:09	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 02:09	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 02:09	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 02:09	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 02:09	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 02:09	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 02:09	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 02:09	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 02:09	1
Chlorobenzene	1.7	J	5.0	1.1	ug/L			03/22/24 02:09	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 02:09	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 02:09	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 02:09	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 02:09	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 02:09	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 02:09	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 02:09	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 02:09	1
1,4-Dichlorobenzene	3.1	J	5.0	1.4	ug/L			03/22/24 02:09	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 02:09	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 02:09	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 02:09	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 02:09	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 02:09	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 02:09	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 02:09	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 02:09	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 02:09	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 02:09	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 02:09	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 02:09	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 02:09	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 02:09	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 02:09	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 02:09	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 02:09	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 02:09	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 02:09	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 02:09	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 02:09	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 02:09	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 02:09	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 02:09	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 02:09	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 02:09	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 02:09	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 02:09	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 02:09	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: GCS-1
Date Collected: 03/20/24 08:05
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-7
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		91 - 109		03/22/24 02:09	1
Toluene-d8 (Surr)	99		87 - 112		03/22/24 02:09	1
4-Bromofluorobenzene (Surr)	97		86 - 112		03/22/24 02:09	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.9		0.20	0.15	mg/L			03/22/24 17:02	1
Sulfate	0.88		0.20	0.12	mg/L			03/22/24 17:02	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:52	1
Arsenic	0.0036		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:52	1
Barium	0.24		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 16:35	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:52	1
Cadmium	<0.000028		0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:52	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:52	1
Cobalt	0.0028	J	0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:52	1
Copper	0.00043	J	0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:52	1
Iron	87		5.0	1.4	mg/L		04/01/24 10:38	04/01/24 16:32	100
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:52	1
Manganese	12	J	20	0.34	mg/L		04/01/24 10:38	04/01/24 16:28	1000
Nickel	0.00070		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:52	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:52	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:52	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:52	1
Vanadium	0.0034	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:52	1
Zinc	0.0096	J	0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	330		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	0.033		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	2.8	F1	1.0	0.50	mg/L			03/28/24 20:36	1

Client Sample ID: Leachate
Date Collected: 03/20/24 12:30
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	58		10	6.3	ug/L			03/22/24 02:39	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 02:39	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 02:39	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 02:39	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 02:39	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 02:39	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 02:39	1
2-Butanone (MEK)	55		10	3.3	ug/L			03/22/24 02:39	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 02:39	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Leachate

Lab Sample ID: 192-10523-8

Date Collected: 03/20/24 12:30

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 02:39	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 02:39	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 02:39	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 02:39	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 02:39	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 02:39	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 02:39	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 02:39	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 02:39	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 02:39	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 02:39	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 02:39	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 02:39	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 02:39	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 02:39	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 02:39	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 02:39	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 02:39	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 02:39	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 02:39	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 02:39	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 02:39	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 02:39	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 02:39	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 02:39	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 02:39	1
1,1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 02:39	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 02:39	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 02:39	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 02:39	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 02:39	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 02:39	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 02:39	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 02:39	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 02:39	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 02:39	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 02:39	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 02:39	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 02:39	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 02:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	100		91 - 109		03/22/24 02:39	1
Toluene-d8 (Surr)	99		87 - 112		03/22/24 02:39	1
4-Bromofluorobenzene (Surr)	95		86 - 112		03/22/24 02:39	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	210		2.0	1.5	mg/L			03/21/24 20:02	10
Sulfate	7.0		2.0	1.2	mg/L			03/21/24 20:02	10

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Leachate

Lab Sample ID: 192-10523-8

Date Collected: 03/20/24 12:30

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 14:56	1
Arsenic	0.048		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 14:56	1
Barium	0.15		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 16:46	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 14:56	1
Cadmium	0.000035	J	0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 14:56	1
Chromium	0.026		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 14:56	1
Cobalt	0.0045	J	0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 14:56	1
Copper	0.0018		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 14:56	1
Iron	1.6		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 14:56	1
Lead	0.0010		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 14:56	1
Manganese	1.3	J	2.0	0.034	mg/L		04/01/24 10:38	04/01/24 16:43	100
Nickel	0.017		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 14:56	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 14:56	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 14:56	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 14:56	1
Vanadium	0.012		0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 14:56	1
Zinc	0.028		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 14:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	1200		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	9.3		1.3	0.25	mg/L			03/25/24 10:51	50
Total Organic Carbon (SM 5310C)	110		10	5.0	mg/L			03/29/24 01:25	10

Client Sample ID: Dup

Lab Sample ID: 192-10523-9

Date Collected: 03/19/24 12:10

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 03:09	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 03:09	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 03:09	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 03:09	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 03:09	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 03:09	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 03:09	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 03:09	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 03:09	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 03:09	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 03:09	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 03:09	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 03:09	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 03:09	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 03:09	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 03:09	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 03:09	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 03:09	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 03:09	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Dup
Date Collected: 03/19/24 12:10
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 03:09	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 03:09	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 03:09	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 03:09	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 03:09	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 03:09	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 03:09	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 03:09	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 03:09	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 03:09	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 03:09	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 03:09	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 03:09	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 03:09	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 03:09	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 03:09	1
1,1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 03:09	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 03:09	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 03:09	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 03:09	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 03:09	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 03:09	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 03:09	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 03:09	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 03:09	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 03:09	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 03:09	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 03:09	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 03:09	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 03:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		91 - 109					03/22/24 03:09	1
Toluene-d8 (Surr)	99		87 - 112					03/22/24 03:09	1
4-Bromofluorobenzene (Surr)	96		86 - 112					03/22/24 03:09	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26		2.0	1.5	mg/L			03/21/24 20:23	10
Sulfate	26		2.0	1.2	mg/L			03/21/24 20:23	10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 15:03	1
Arsenic	0.0030		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 15:03	1
Barium	0.13		0.010	0.0013	mg/L		04/01/24 10:38	04/01/24 16:50	5
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 15:03	1
Cadmium	<0.000028		0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 15:03	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 15:03	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 15:03	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Dup
Date Collected: 03/19/24 12:10
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-9
Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.0011		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 15:03	1
Iron	0.69		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 15:03	1
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 15:03	1
Manganese	0.12		0.10	0.0017	mg/L		04/01/24 10:38	04/01/24 16:50	5
Nickel	0.0014		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 15:03	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 15:03	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 15:03	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 15:03	1
Vanadium	0.0037	J	0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 15:03	1
Zinc	0.014		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 15:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	330		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	0.16		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	1.5		1.0	0.50	mg/L			03/28/24 23:24	1

Client Sample ID: FB
Date Collected: 03/20/24 13:00
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/22/24 03:39	1
Benzene	<1.5		5.0	1.5	ug/L			03/22/24 03:39	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/22/24 03:39	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/22/24 03:39	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/22/24 03:39	1
Bromoform	<1.3		5.0	1.3	ug/L			03/22/24 03:39	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/22/24 03:39	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/22/24 03:39	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/22/24 03:39	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/22/24 03:39	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/22/24 03:39	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/22/24 03:39	1
Chloroform	<2.1		4.0	2.1	ug/L			03/22/24 03:39	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/22/24 03:39	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/22/24 03:39	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/22/24 03:39	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/22/24 03:39	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/22/24 03:39	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/22/24 03:39	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/22/24 03:39	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/22/24 03:39	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 03:39	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/22/24 03:39	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/22/24 03:39	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/22/24 03:39	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/22/24 03:39	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: FB

Lab Sample ID: 192-10523-10

Date Collected: 03/20/24 13:00

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/22/24 03:39	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/22/24 03:39	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/22/24 03:39	1
Iodomethane	<6.3		10	6.3	ug/L			03/22/24 03:39	1
2-Hexanone	<3.8		10	3.8	ug/L			03/22/24 03:39	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/22/24 03:39	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/22/24 03:39	1
Styrene	<3.0		5.0	3.0	ug/L			03/22/24 03:39	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/22/24 03:39	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/22/24 03:39	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/22/24 03:39	1
Toluene	<3.2		5.0	3.2	ug/L			03/22/24 03:39	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/22/24 03:39	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/22/24 03:39	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/22/24 03:39	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/22/24 03:39	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/22/24 03:39	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 03:39	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/22/24 03:39	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/22/24 03:39	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/22/24 03:39	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/22/24 03:39	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/22/24 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		91 - 109		03/22/24 03:39	1
Toluene-d8 (Surr)	99		87 - 112		03/22/24 03:39	1
4-Bromofluorobenzene (Surr)	97		86 - 112		03/22/24 03:39	1

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.15		0.20	0.15	mg/L			03/21/24 14:51	1
Sulfate	<0.12		0.20	0.12	mg/L			03/21/24 14:51	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 13:31	1
Arsenic	<0.00035		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 13:31	1
Barium	<0.00026		0.0020	0.00026	mg/L		04/01/24 10:38	04/01/24 13:31	1
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 13:31	1
Cadmium	<0.000028		0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 13:31	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 13:31	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 13:31	1
Copper	<0.00028		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 13:31	1
Iron	<0.014		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 13:31	1
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 13:31	1
Manganese	<0.00034		0.020	0.00034	mg/L		04/01/24 10:38	04/01/24 13:31	1
Nickel	<0.00019		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 13:31	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 13:31	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 13:31	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: FB

Date Collected: 03/20/24 13:00

Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-10

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 13:31	1
Vanadium	<0.0016		0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 13:31	1
Zinc	<0.0018		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 13:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	<25		25	25	mg/L			03/22/24 09:23	1
Sulfide (SM 4500 S2 G-2011)	<0.0049		0.025	0.0049	mg/L			03/25/24 10:51	1
Total Organic Carbon (SM 5310C)	1.0		1.0	0.50	mg/L			03/28/24 22:38	1

Client Sample ID: Equipment Blank

Date Collected: 03/20/24 13:10

Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-11

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/21/24 22:10	1
Benzene	<1.5		5.0	1.5	ug/L			03/21/24 22:10	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/21/24 22:10	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/21/24 22:10	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/21/24 22:10	1
Bromoform	<1.3		5.0	1.3	ug/L			03/21/24 22:10	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/21/24 22:10	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/21/24 22:10	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/21/24 22:10	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/21/24 22:10	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/21/24 22:10	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/21/24 22:10	1
Chloroform	<2.1		4.0	2.1	ug/L			03/21/24 22:10	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/21/24 22:10	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/21/24 22:10	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/21/24 22:10	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/21/24 22:10	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/21/24 22:10	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/21/24 22:10	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/21/24 22:10	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/21/24 22:10	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 22:10	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/21/24 22:10	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/21/24 22:10	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/21/24 22:10	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/21/24 22:10	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/21/24 22:10	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/21/24 22:10	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/21/24 22:10	1
Iodomethane	<6.3		10	6.3	ug/L			03/21/24 22:10	1
2-Hexanone	<3.8		10	3.8	ug/L			03/21/24 22:10	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/21/24 22:10	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/21/24 22:10	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Equipment Blank

Lab Sample ID: 192-10523-11

Date Collected: 03/20/24 13:10

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	<3.0		5.0	3.0	ug/L			03/21/24 22:10	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/21/24 22:10	1
1,1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/21/24 22:10	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/21/24 22:10	1
Toluene	<3.2		5.0	3.2	ug/L			03/21/24 22:10	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/21/24 22:10	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 22:10	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/21/24 22:10	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/21/24 22:10	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/21/24 22:10	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 22:10	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 22:10	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/21/24 22:10	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/21/24 22:10	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/21/24 22:10	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/21/24 22:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	100		91 - 109					03/21/24 22:10	1
Toluene-d8 (Surr)	100		87 - 112					03/21/24 22:10	1
4-Bromofluorobenzene (Surr)	97		86 - 112					03/21/24 22:10	1

Client Sample ID: Trip Blank

Lab Sample ID: 192-10523-12

Date Collected: 03/20/24 00:00

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<6.3		10	6.3	ug/L			03/21/24 22:40	1
Benzene	<1.5		5.0	1.5	ug/L			03/21/24 22:40	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/21/24 22:40	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/21/24 22:40	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/21/24 22:40	1
Bromoform	<1.3		5.0	1.3	ug/L			03/21/24 22:40	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/21/24 22:40	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/21/24 22:40	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/21/24 22:40	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/21/24 22:40	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/21/24 22:40	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/21/24 22:40	1
Chloroform	<2.1		4.0	2.1	ug/L			03/21/24 22:40	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/21/24 22:40	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/21/24 22:40	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/21/24 22:40	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/21/24 22:40	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/21/24 22:40	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/21/24 22:40	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/21/24 22:40	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/21/24 22:40	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 22:40	1

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Client Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Trip Blank

Lab Sample ID: 192-10523-12

Date Collected: 03/20/24 00:00

Matrix: Water

Date Received: 03/20/24 15:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/21/24 22:40	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/21/24 22:40	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/21/24 22:40	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/21/24 22:40	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/21/24 22:40	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/21/24 22:40	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/21/24 22:40	1
Iodomethane	<6.3		10	6.3	ug/L			03/21/24 22:40	1
2-Hexanone	<3.8		10	3.8	ug/L			03/21/24 22:40	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/21/24 22:40	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/21/24 22:40	1
Styrene	<3.0		5.0	3.0	ug/L			03/21/24 22:40	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/21/24 22:40	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/21/24 22:40	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/21/24 22:40	1
Toluene	<3.2		5.0	3.2	ug/L			03/21/24 22:40	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/21/24 22:40	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 22:40	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/21/24 22:40	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/21/24 22:40	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/21/24 22:40	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 22:40	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 22:40	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/21/24 22:40	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/21/24 22:40	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/21/24 22:40	1
o-Xylene	<1.8		5.0	1.8	ug/L			03/21/24 22:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		91 - 109		03/21/24 22:40	1
Toluene-d8 (Surr)	100		87 - 112		03/21/24 22:40	1
4-Bromofluorobenzene (Surr)	96		86 - 112		03/21/24 22:40	1

Surrogate Summary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBFM	TOL	BFB
		(91-109)	(87-112)	(86-112)
192-10523-1	MW-1A	99	99	94
192-10523-2	MW-2A	99	100	96
192-10523-3	MW-3A	100	99	95
192-10523-4	MW-4A	97	101	96
192-10523-5	MW-6B	99	100	97
192-10523-6	MW-7A	98	99	97
192-10523-7	GCS-1	97	99	97
192-10523-8	Leachate	100	99	95
192-10523-9	Dup	99	99	96
192-10523-10	FB	99	99	97
192-10523-11	Equipment Blank	100	100	97
192-10523-12	Trip Blank	101	100	96
LCS 192-15224/1005	Lab Control Sample	103	99	99
MB 192-15224/7	Method Blank	101	100	95

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: TCLP

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBFM	TOL	BFB
		(91-109)	(87-112)	(86-112)
192-10424-C-1-E MS	Matrix Spike	101	99	99
192-10424-C-1-E MSD	Matrix Spike Duplicate	101	99	98

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 192-15224/7
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	<6.3		10	6.3	ug/L			03/21/24 19:41	1
Benzene	<1.5		5.0	1.5	ug/L			03/21/24 19:41	1
Acrylonitrile	<5.6		10	5.6	ug/L			03/21/24 19:41	1
Bromochloromethane	<2.0		5.0	2.0	ug/L			03/21/24 19:41	1
Bromodichloromethane	<1.1		5.0	1.1	ug/L			03/21/24 19:41	1
Bromoform	<1.3		5.0	1.3	ug/L			03/21/24 19:41	1
Bromomethane	<2.8		5.0	2.8	ug/L			03/21/24 19:41	1
2-Butanone (MEK)	<3.3		10	3.3	ug/L			03/21/24 19:41	1
Carbon disulfide	<5.8		10	5.8	ug/L			03/21/24 19:41	1
Carbon tetrachloride	<1.8		2.0	1.8	ug/L			03/21/24 19:41	1
Chlorobenzene	<1.1		5.0	1.1	ug/L			03/21/24 19:41	1
Chloroethane	<2.9		5.0	2.9	ug/L			03/21/24 19:41	1
Chloroform	<2.1		4.0	2.1	ug/L			03/21/24 19:41	1
Chloromethane	<2.7		5.0	2.7	ug/L			03/21/24 19:41	1
1,2-Dibromo-3-Chloropropane	<1.6		5.0	1.6	ug/L			03/21/24 19:41	1
Dibromochloromethane	<1.1		5.0	1.1	ug/L			03/21/24 19:41	1
1,2-Dibromoethane	<1.2		5.0	1.2	ug/L			03/21/24 19:41	1
Dibromomethane	<1.2		5.0	1.2	ug/L			03/21/24 19:41	1
1,2-Dichlorobenzene	<1.3		5.0	1.3	ug/L			03/21/24 19:41	1
1,4-Dichlorobenzene	<1.4		5.0	1.4	ug/L			03/21/24 19:41	1
1,1-Dichloroethane	<1.4		5.0	1.4	ug/L			03/21/24 19:41	1
1,2-Dichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 19:41	1
1,1-Dichloroethene	<2.6		5.0	2.6	ug/L			03/21/24 19:41	1
cis-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			03/21/24 19:41	1
trans-1,2-Dichloroethene	<1.5		2.0	1.5	ug/L			03/21/24 19:41	1
1,2-Dichloropropane	<1.2		5.0	1.2	ug/L			03/21/24 19:41	1
cis-1,3-Dichloropropene	<1.2		5.0	1.2	ug/L			03/21/24 19:41	1
trans-1,3-Dichloropropene	<2.5		5.0	2.5	ug/L			03/21/24 19:41	1
Ethylbenzene	<2.0		5.0	2.0	ug/L			03/21/24 19:41	1
Iodomethane	<6.3		10	6.3	ug/L			03/21/24 19:41	1
2-Hexanone	<3.8		10	3.8	ug/L			03/21/24 19:41	1
4-Methyl-2-pentanone	<2.9		10	2.9	ug/L			03/21/24 19:41	1
Methylene Chloride	<4.7		5.0	4.7	ug/L			03/21/24 19:41	1
Styrene	<3.0		5.0	3.0	ug/L			03/21/24 19:41	1
1,1,1,2-Tetrachloroethane	<1.1		5.0	1.1	ug/L			03/21/24 19:41	1
1,1,2,2-Tetrachloroethane	<1.4		5.0	1.4	ug/L			03/21/24 19:41	1
Tetrachloroethene	<2.6		5.0	2.6	ug/L			03/21/24 19:41	1
Toluene	<3.2		5.0	3.2	ug/L			03/21/24 19:41	1
1,1,1-Trichloroethane	<2.2		5.0	2.2	ug/L			03/21/24 19:41	1
1,1,2-Trichloroethane	<1.3		5.0	1.3	ug/L			03/21/24 19:41	1
Trichloroethene	<2.0		5.0	2.0	ug/L			03/21/24 19:41	1
Trichlorofluoromethane	<3.2		5.0	3.2	ug/L			03/21/24 19:41	1
1,2,3-Trichloropropane	<1.5		5.0	1.5	ug/L			03/21/24 19:41	1
1,2,4-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 19:41	1
1,3,5-Trimethylbenzene	<1.8		5.0	1.8	ug/L			03/21/24 19:41	1
Vinyl acetate	<5.8		10	5.8	ug/L			03/21/24 19:41	1
Vinyl chloride	<1.6		2.0	1.6	ug/L			03/21/24 19:41	1
m,p-Xylenes	<5.9		10	5.9	ug/L			03/21/24 19:41	1

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QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 192-15224/7
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<1.8		5.0	1.8	ug/L			03/21/24 19:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		91 - 109		03/21/24 19:41	1
Toluene-d8 (Surr)	100		87 - 112		03/21/24 19:41	1
4-Bromofluorobenzene (Surr)	95		86 - 112		03/21/24 19:41	1

Lab Sample ID: LCS 192-15224/1005
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	100	97.1		ug/L		97	70 - 130
Benzene	50.1	46.4		ug/L		93	70 - 130
Acrylonitrile	251	247		ug/L		98	70 - 130
Bromochloromethane	50.4	47.2		ug/L		94	70 - 130
Bromodichloromethane	49.8	49.7		ug/L		100	70 - 130
Bromoform	50.6	52.8		ug/L		104	70 - 130
Bromomethane	49.6	45.7		ug/L		92	70 - 130
2-Butanone (MEK)	100	91.1		ug/L		91	70 - 130
Carbon disulfide	100	97.5		ug/L		97	70 - 130
Carbon tetrachloride	50.0	50.3		ug/L		101	70 - 130
Chlorobenzene	49.9	49.5		ug/L		99	70 - 130
Chloroethane	50.4	46.6		ug/L		93	70 - 130
Chloroform	50.5	44.6		ug/L		88	70 - 130
Chloromethane	49.4	41.7		ug/L		84	70 - 130
1,2-Dibromo-3-Chloropropane	50.2	50.6		ug/L		101	70 - 130
Dibromochloromethane	49.6	45.4		ug/L		92	70 - 130
1,2-Dibromoethane	50.1	49.5		ug/L		99	70 - 130
Dibromomethane	50.6	49.1		ug/L		97	70 - 130
1,2-Dichlorobenzene	50.0	49.0		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.5	50.0		ug/L		99	70 - 130
1,1-Dichloroethane	50.0	46.5		ug/L		93	70 - 130
1,2-Dichloroethane	50.1	49.1		ug/L		98	70 - 130
1,1-Dichloroethene	50.0	48.6		ug/L		97	70 - 130
cis-1,2-Dichloroethene	50.1	49.6		ug/L		99	70 - 130
1,2-Dichloropropane	50.1	46.4		ug/L		93	70 - 130
cis-1,3-Dichloropropene	50.1	43.5		ug/L		87	70 - 130
trans-1,3-Dichloropropene	50.2	45.6		ug/L		91	70 - 130
Ethylbenzene	50.1	47.8		ug/L		95	70 - 130
Iodomethane	100	94.6		ug/L		94	70 - 130
2-Hexanone	100	94.5		ug/L		94	70 - 130
4-Methyl-2-pentanone	100	97.0		ug/L		97	70 - 130
Methylene Chloride	50.0	42.2		ug/L		84	70 - 130
Styrene	49.9	48.3		ug/L		97	70 - 130
1,1,1,2-Tetrachloroethane	49.5	48.9		ug/L		99	70 - 130
1,1,1,2-Tetrachloroethane	50.4	47.2		ug/L		94	70 - 130
Tetrachloroethene	50.1	49.5		ug/L		99	70 - 130

QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 192-15224/1005
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	50.1	47.5		ug/L		95	70 - 130
1,1,1-Trichloroethane	50.0	49.9		ug/L		100	70 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	49.9	48.9		ug/L		98	70 - 130
Trichlorofluoromethane	50.1	50.3		ug/L		100	70 - 130
1,2,3-Trichloropropane	50.1	48.3		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.1	49.0		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	50.0	47.1		ug/L		94	70 - 130
Vinyl acetate	101	81.8		ug/L		81	70 - 130
Vinyl chloride	50.0	47.2		ug/L		94	70 - 130
m,p-Xylenes	100	98.8		ug/L		99	70 - 130
o-Xylene	50.1	48.8		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	103		91 - 109
Toluene-d8 (Surr)	99		87 - 112
4-Bromofluorobenzene (Surr)	99		86 - 112

Lab Sample ID: 192-10424-C-1-E MS
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	4100		10000	14500		ug/L		103	70 - 130
Benzene	<150		5010	4540		ug/L		91	70 - 130
Acrylonitrile	<560		25100	24400		ug/L		97	70 - 130
Bromochloromethane	1500		5040	6110		ug/L		92	70 - 130
Bromodichloromethane	<110		4980	4920		ug/L		99	70 - 130
Bromoform	<130		5060	5190		ug/L		103	70 - 130
Bromomethane	<280		4960	4540		ug/L		91	70 - 130
2-Butanone (MEK)	<330		10000	9010		ug/L		90	70 - 130
Carbon disulfide	<580		10000	9230		ug/L		92	70 - 130
Carbon tetrachloride	<180		5000	4800		ug/L		96	70 - 130
Chlorobenzene	<110		4990	4810		ug/L		96	70 - 130
Chloroethane	<290		5040	4590		ug/L		91	70 - 130
Chloroform	<210		5050	4350		ug/L		86	70 - 130
Chloromethane	<270		4940	4120		ug/L		83	70 - 130
1,2-Dibromo-3-Chloropropane	<160		5020	4880		ug/L		97	70 - 130
Dibromochloromethane	<110		4960	4460		ug/L		90	70 - 130
1,2-Dibromoethane	<120		5010	4860		ug/L		97	70 - 130
Dibromomethane	<120		5060	4910		ug/L		97	70 - 130
1,2-Dichlorobenzene	<130		5000	4800		ug/L		96	70 - 130
1,4-Dichlorobenzene	<140		5050	4820		ug/L		95	70 - 130
1,1-Dichloroethane	<140		5000	4540		ug/L		91	70 - 130
1,2-Dichloroethane	<130		5010	4980		ug/L		100	70 - 130
1,1-Dichloroethene	<260		5000	4700		ug/L		94	70 - 130
cis-1,2-Dichloroethene	<100		5010	4880		ug/L		97	70 - 130
1,2-Dichloropropane	<120		5010	4580		ug/L		91	70 - 130

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QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 192-10424-C-1-E MS
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,3-Dichloropropene	<120		5010	4270		ug/L		85	70 - 130
trans-1,3-Dichloropropene	<250		5020	4440		ug/L		88	70 - 130
Ethylbenzene	<200		5010	4630		ug/L		92	70 - 130
Iodomethane	<630		10000	9010		ug/L		90	70 - 130
2-Hexanone	<380		10000	9260		ug/L		92	70 - 130
4-Methyl-2-pentanone	<290		10000	9570		ug/L		96	70 - 130
Methylene Chloride	51000	E	5000	57300	E 4	ug/L		118	70 - 130
Styrene	<300		4990	4680		ug/L		94	70 - 130
1,1,1,2-Tetrachloroethane	<110		4950	4790		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	<140		5040	4690		ug/L		93	70 - 130
Tetrachloroethene	<260		5010	4810		ug/L		96	70 - 130
Toluene	<320		5010	4630		ug/L		93	70 - 130
1,1,1-Trichloroethane	<220		5000	4840		ug/L		97	70 - 130
1,1,2-Trichloroethane	<130		5000	4740		ug/L		95	70 - 130
Trichloroethene	<200		4990	4760		ug/L		95	70 - 130
Trichlorofluoromethane	<320		5010	4850		ug/L		97	70 - 130
1,2,3-Trichloropropane	<150		5010	4770		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	<180		5010	4690		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	<180		5000	4550		ug/L		91	70 - 130
Vinyl acetate	<580		10100	7930		ug/L		79	70 - 130
Vinyl chloride	<160		5000	4550		ug/L		91	70 - 130
m,p-Xylenes	<590		10000	9550		ug/L		95	70 - 130
o-Xylene	<180		5010	4740		ug/L		95	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Dibromofluoromethane (Surr)	101		91 - 109
Toluene-d8 (Surr)	99		87 - 112
4-Bromofluorobenzene (Surr)	99		86 - 112

Lab Sample ID: 192-10424-C-1-E MSD
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	4100		10000	14400		ug/L		102	70 - 130	1	20
Benzene	<150		5010	4640		ug/L		93	70 - 130	2	20
Acrylonitrile	<560		25100	24500		ug/L		98	70 - 130	1	20
Bromochloromethane	1500		5040	6060		ug/L		91	70 - 130	1	20
Bromodichloromethane	<110		4980	4990		ug/L		100	70 - 130	1	20
Bromoform	<130		5060	5230		ug/L		104	70 - 130	1	20
Bromomethane	<280		4960	4680		ug/L		94	70 - 130	3	20
2-Butanone (MEK)	<330		10000	8970		ug/L		90	70 - 130	0	20
Carbon disulfide	<580		10000	9540		ug/L		95	70 - 130	3	20
Carbon tetrachloride	<180		5000	4990		ug/L		100	70 - 130	4	20
Chlorobenzene	<110		4990	4980		ug/L		100	70 - 130	3	20
Chloroethane	<290		5040	4720		ug/L		94	70 - 130	3	20
Chloroform	<210		5050	4460		ug/L		88	70 - 130	2	20
Chloromethane	<270		4940	4200		ug/L		85	70 - 130	2	20

QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 192-10424-C-1-E MSD
Matrix: Water
Analysis Batch: 15224

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,2-Dibromo-3-Chloropropane	<160		5020	4990		ug/L		99	70 - 130	2	20
Dibromochloromethane	<110		4960	4550		ug/L		92	70 - 130	2	20
1,2-Dibromoethane	<120		5010	4960		ug/L		99	70 - 130	2	20
Dibromomethane	<120		5060	4980		ug/L		99	70 - 130	1	20
1,2-Dichlorobenzene	<130		5000	4950		ug/L		99	70 - 130	3	20
1,4-Dichlorobenzene	<140		5050	4980		ug/L		99	70 - 130	3	20
1,1-Dichloroethane	<140		5000	4610		ug/L		92	70 - 130	2	20
1,2-Dichloroethane	<130		5010	5010		ug/L		100	70 - 130	1	20
1,1-Dichloroethene	<260		5000	4780		ug/L		96	70 - 130	2	20
cis-1,2-Dichloroethene	<100		5010	4970		ug/L		99	70 - 130	2	20
1,2-Dichloropropane	<120		5010	4690		ug/L		94	70 - 130	2	20
cis-1,3-Dichloropropene	<120		5010	4310		ug/L		86	70 - 130	1	20
trans-1,3-Dichloropropene	<250		5020	4500		ug/L		90	70 - 130	1	20
Ethylbenzene	<200		5010	4780		ug/L		95	70 - 130	3	20
Iodomethane	<630		10000	9120		ug/L		91	70 - 130	1	20
2-Hexanone	<380		10000	9260		ug/L		92	70 - 130	0	20
4-Methyl-2-pentanone	<290		10000	9630		ug/L		96	70 - 130	1	20
Methylene Chloride	51000	E	5000	55900	E 4	ug/L		91	70 - 130	2	20
Styrene	<300		4990	4810		ug/L		96	70 - 130	3	20
1,1,1,2-Tetrachloroethane	<110		4950	4900		ug/L		99	70 - 130	2	20
1,1,2,2-Tetrachloroethane	<140		5040	4750		ug/L		94	70 - 130	1	20
Tetrachloroethene	<260		5010	4980		ug/L		100	70 - 130	4	20
Toluene	<320		5010	4730		ug/L		95	70 - 130	2	20
1,1,1-Trichloroethane	<220		5000	4950		ug/L		99	70 - 130	2	20
1,1,2-Trichloroethane	<130		5000	4830		ug/L		97	70 - 130	2	20
Trichloroethene	<200		4990	4880		ug/L		98	70 - 130	3	20
Trichlorofluoromethane	<320		5010	5030		ug/L		100	70 - 130	4	20
1,2,3-Trichloropropane	<150		5010	4770		ug/L		95	70 - 130	0	20
1,2,4-Trimethylbenzene	<180		5010	4880		ug/L		97	70 - 130	4	20
1,3,5-Trimethylbenzene	<180		5000	4720		ug/L		94	70 - 130	4	20
Vinyl acetate	<580		10100	8050		ug/L		80	70 - 130	1	20
Vinyl chloride	<160		5000	4690		ug/L		94	70 - 130	3	20
m,p-Xylenes	<590		10000	9950		ug/L		99	70 - 130	4	20
o-Xylene	<180		5010	4890		ug/L		98	70 - 130	3	20

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	101		91 - 109
Toluene-d8 (Surr)	99		87 - 112
4-Bromofluorobenzene (Surr)	98		86 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 192-15190/3
Matrix: Water
Analysis Batch: 15190

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.15		0.20	0.15	mg/L			03/21/24 11:21	1
Sulfate	<0.12		0.20	0.12	mg/L			03/21/24 11:21	1

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QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 192-15190/4
Matrix: Water
Analysis Batch: 15190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	24.8		mg/L		99	90 - 110
Sulfate	25.0	25.4		mg/L		102	90 - 110

Lab Sample ID: 192-10551-A-1 MS
Matrix: Water
Analysis Batch: 15190

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	41		2500	2540		mg/L		100	80 - 120
Sulfate	52		2500	2630		mg/L		103	80 - 120

Lab Sample ID: 192-10551-A-1 MSD
Matrix: Water
Analysis Batch: 15190

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Chloride	41		2500	2550		mg/L		100	80 - 120	0	10
Sulfate	52		2500	2640		mg/L		103	80 - 120	0	10

Lab Sample ID: MB 192-15263/3
Matrix: Water
Analysis Batch: 15263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.15		0.20	0.15	mg/L			03/22/24 13:55	1
Sulfate	<0.12		0.20	0.12	mg/L			03/22/24 13:55	1

Lab Sample ID: LCS 192-15263/4
Matrix: Water
Analysis Batch: 15263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	24.5		mg/L		98	90 - 110
Sulfate	25.0	25.2		mg/L		101	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 192-15639/1-A
Matrix: Water
Analysis Batch: 15674

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 15639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0029		0.010	0.0029	mg/L		04/01/24 10:38	04/01/24 13:11	1
Arsenic	<0.00035		0.00050	0.00035	mg/L		04/01/24 10:38	04/01/24 13:11	1
Barium	<0.00026		0.0020	0.00026	mg/L		04/01/24 10:38	04/01/24 13:11	1
Beryllium	<0.000098		0.00050	0.000098	mg/L		04/01/24 10:38	04/01/24 13:11	1
Cadmium	<0.000028		0.00050	0.000028	mg/L		04/01/24 10:38	04/01/24 13:11	1
Chromium	<0.00047		0.00050	0.00047	mg/L		04/01/24 10:38	04/01/24 13:11	1
Cobalt	<0.00072		0.010	0.00072	mg/L		04/01/24 10:38	04/01/24 13:11	1
Copper	<0.00028		0.00050	0.00028	mg/L		04/01/24 10:38	04/01/24 13:11	1

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QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 192-15639/1-A
Matrix: Water
Analysis Batch: 15674

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 15639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.014		0.050	0.014	mg/L		04/01/24 10:38	04/01/24 13:11	1
Lead	<0.00021		0.00050	0.00021	mg/L		04/01/24 10:38	04/01/24 13:11	1
Manganese	<0.00034		0.020	0.00034	mg/L		04/01/24 10:38	04/01/24 13:11	1
Nickel	<0.00019		0.00050	0.00019	mg/L		04/01/24 10:38	04/01/24 13:11	1
Selenium	<0.00072		0.0020	0.00072	mg/L		04/01/24 10:38	04/01/24 13:11	1
Silver	<0.000069		0.00050	0.000069	mg/L		04/01/24 10:38	04/01/24 13:11	1
Thallium	<0.000045		0.00050	0.000045	mg/L		04/01/24 10:38	04/01/24 13:11	1
Vanadium	<0.0016		0.010	0.0016	mg/L		04/01/24 10:38	04/01/24 13:11	1
Zinc	<0.0018		0.010	0.0018	mg/L		04/01/24 10:38	04/01/24 13:11	1

Lab Sample ID: LCS 192-15639/2-A
Matrix: Water
Analysis Batch: 15674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 15639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0200	0.0197		mg/L		98	85 - 115
Arsenic	0.0200	0.0190		mg/L		95	85 - 115
Barium	0.0200	0.0197		mg/L		99	85 - 115
Beryllium	0.0200	0.0201		mg/L		101	85 - 115
Cadmium	0.0200	0.0201		mg/L		101	85 - 115
Chromium	0.0200	0.0199		mg/L		99	85 - 115
Cobalt	0.0200	0.0199		mg/L		99	85 - 115
Copper	0.0200	0.0201		mg/L		101	85 - 115
Iron	2.00	1.90		mg/L		95	85 - 115
Lead	0.0200	0.0203		mg/L		101	85 - 115
Manganese	0.0200	0.0198	J	mg/L		99	85 - 115
Nickel	0.0200	0.0202		mg/L		101	85 - 115
Selenium	0.0200	0.0204		mg/L		102	85 - 115
Silver	0.0200	0.0203		mg/L		101	85 - 115
Thallium	0.0200	0.0203		mg/L		101	85 - 115
Vanadium	0.0200	0.0192		mg/L		96	85 - 115
Zinc	0.0200	0.0202		mg/L		101	85 - 115

Lab Sample ID: 192-10523-10 MS
Matrix: Water
Analysis Batch: 15674

Client Sample ID: FB
Prep Type: Total/NA
Prep Batch: 15639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0029		0.0200	0.0199		mg/L		100	75 - 125
Arsenic	<0.00035		0.0200	0.0189		mg/L		94	75 - 125
Barium	<0.00026		0.0200	0.0199		mg/L		99	75 - 125
Beryllium	<0.000098		0.0200	0.0201		mg/L		101	75 - 125
Cadmium	<0.000028		0.0200	0.0203		mg/L		101	75 - 125
Chromium	<0.00047		0.0200	0.0199		mg/L		100	75 - 125
Cobalt	<0.00072		0.0200	0.0200		mg/L		100	75 - 125
Copper	<0.00028		0.0200	0.0202		mg/L		101	75 - 125
Iron	<0.014		2.00	1.94		mg/L		97	75 - 125
Lead	<0.00021		0.0200	0.0202		mg/L		101	75 - 125
Manganese	<0.00034		0.0200	0.0200		mg/L		100	75 - 125

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QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 192-10523-10 MS
Matrix: Water
Analysis Batch: 15674

Client Sample ID: FB
Prep Type: Total/NA
Prep Batch: 15639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nickel	<0.00019		0.0200	0.0203		mg/L		101	75 - 125
Selenium	<0.00072		0.0200	0.0200		mg/L		100	75 - 125
Silver	<0.000069		0.0200	0.0204		mg/L		102	75 - 125
Thallium	<0.000045		0.0200	0.0203		mg/L		102	75 - 125
Vanadium	<0.0016		0.0200	0.0189		mg/L		94	75 - 125
Zinc	<0.0018		0.0200	0.0202		mg/L		101	75 - 125

Lab Sample ID: 192-10523-10 MSD
Matrix: Water
Analysis Batch: 15674

Client Sample ID: FB
Prep Type: Total/NA
Prep Batch: 15639

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0029		0.0200	0.0205		mg/L		102	75 - 125	3	20
Arsenic	<0.00035		0.0200	0.0190		mg/L		95	75 - 125	1	20
Barium	<0.00026		0.0200	0.0198		mg/L		99	75 - 125	1	20
Beryllium	<0.000098		0.0200	0.0201		mg/L		101	75 - 125	0	20
Cadmium	<0.000028		0.0200	0.0203		mg/L		102	75 - 125	0	20
Chromium	<0.00047		0.0200	0.0205		mg/L		102	75 - 125	3	20
Cobalt	<0.00072		0.0200	0.0201		mg/L		101	75 - 125	0	20
Copper	<0.00028		0.0200	0.0202		mg/L		101	75 - 125	0	20
Iron	<0.014		2.00	1.94		mg/L		97	75 - 125	0	20
Lead	<0.00021		0.0200	0.0202		mg/L		101	75 - 125	0	20
Manganese	<0.00034		0.0200	0.0202		mg/L		101	75 - 125	1	20
Nickel	<0.00019		0.0200	0.0205		mg/L		103	75 - 125	1	20
Selenium	<0.00072		0.0200	0.0202		mg/L		101	75 - 125	1	20
Silver	<0.000069		0.0200	0.0205		mg/L		102	75 - 125	0	20
Thallium	<0.000045		0.0200	0.0203		mg/L		102	75 - 125	0	20
Vanadium	<0.0016		0.0200	0.0193		mg/L		96	75 - 125	2	20
Zinc	<0.0018		0.0200	0.0204		mg/L		102	75 - 125	1	20

Method: 2540C - 2015 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 192-15227/1
Matrix: Water
Analysis Batch: 15227

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<25		25	25	mg/L			03/22/24 09:23	1

Lab Sample ID: LCS 192-15227/2
Matrix: Water
Analysis Batch: 15227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	2000	2030		mg/L		101	85 - 115

QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: 2540C - 2015 - Total Dissolved Solids (Dried at 180 °C) (Continued)

Lab Sample ID: 192-10558-A-2 DU
Matrix: Water
Analysis Batch: 15227

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300		1310		mg/L		1	10

Method: 4500 S2 G-2011 - Sulfide, Total

Lab Sample ID: MB 192-15292/1
Matrix: Water
Analysis Batch: 15292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<0.0049		0.025	0.0049	mg/L			03/25/24 10:51	1

Lab Sample ID: LCS 192-15292/2
Matrix: Water
Analysis Batch: 15292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.100	0.103		mg/L		103	87 - 125

Lab Sample ID: 192-10482-C-1 MS
Matrix: Water
Analysis Batch: 15292

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	<0.0049		0.100	0.126		mg/L		126	86 - 132

Lab Sample ID: 192-10482-C-1 MSD
Matrix: Water
Analysis Batch: 15292

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	<0.0049		0.100	0.128		mg/L		128	86 - 132	1	10

Method: SM 5310C - TOC

Lab Sample ID: MB 860-152364/38
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<0.50		1.0	0.50	mg/L			03/28/24 21:52	1

Lab Sample ID: MB 860-152364/5
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<0.50		1.0	0.50	mg/L			03/28/24 13:31	1

QC Sample Results

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 860-152364/39
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	5.00	4.96		mg/L		99	90 - 110

Lab Sample ID: LCS 860-152364/6
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	5.00	4.84		mg/L		97	90 - 110

Lab Sample ID: LCSD 860-152364/40
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	5.00	4.94		mg/L		99	90 - 110	0	15

Lab Sample ID: LCSD 860-152364/7
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	5.00	4.89		mg/L		98	90 - 110	1	15

Lab Sample ID: 192-10523-4 MS
Matrix: Water
Analysis Batch: 152364

Client Sample ID: MW-4A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	1.4		5.00	6.12		mg/L		95	90 - 110

Lab Sample ID: 192-10523-4 MSD
Matrix: Water
Analysis Batch: 152364

Client Sample ID: MW-4A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	1.4		5.00	6.16		mg/L		95	90 - 110	1	15

Lab Sample ID: 192-10523-7 MS
Matrix: Water
Analysis Batch: 152364

Client Sample ID: GCS-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	2.8	F1	5.00	7.22	F1	mg/L		88	90 - 110

Lab Sample ID: 192-10523-7 MSD
Matrix: Water
Analysis Batch: 152364

Client Sample ID: GCS-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	2.8	F1	5.00	7.25	F1	mg/L		89	90 - 110	0	15

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QC Sample Results

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method: SM 5310C - TOC

Lab Sample ID: 192-10523-9 MS
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Dup
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	1.5		5.00	6.16		mg/L		93	90 - 110

Lab Sample ID: 192-10523-9 MSD
Matrix: Water
Analysis Batch: 152364

Client Sample ID: Dup
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	1.5		5.00	6.20		mg/L		94	90 - 110	1	15

Lab Sample ID: 192-10523-10 MS
Matrix: Water
Analysis Batch: 152364

Client Sample ID: FB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	1.0		5.00	5.69		mg/L		94	90 - 110

Lab Sample ID: 192-10523-10 MSD
Matrix: Water
Analysis Batch: 152364

Client Sample ID: FB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	1.0		5.00	5.76		mg/L		95	90 - 110	1	15

QC Association Summary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

GC/MS VOA

Leach Batch: 13957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10424-C-1-E MS	Matrix Spike	TCLP	Water	1311	
192-10424-C-1-E MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 15224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	8260D	
192-10523-2	MW-2A	Total/NA	Water	8260D	
192-10523-3	MW-3A	Total/NA	Water	8260D	
192-10523-4	MW-4A	Total/NA	Water	8260D	
192-10523-5	MW-6B	Total/NA	Water	8260D	
192-10523-6	MW-7A	Total/NA	Water	8260D	
192-10523-7	GCS-1	Total/NA	Water	8260D	
192-10523-8	Leachate	Total/NA	Water	8260D	
192-10523-9	Dup	Total/NA	Water	8260D	
192-10523-10	FB	Total/NA	Water	8260D	
192-10523-11	Equipment Blank	Total/NA	Water	8260D	
192-10523-12	Trip Blank	Total/NA	Water	8260D	
MB 192-15224/7	Method Blank	Total/NA	Water	8260D	
LCS 192-15224/1005	Lab Control Sample	Total/NA	Water	8260D	
192-10424-C-1-E MS	Matrix Spike	TCLP	Water	8260D	13957
192-10424-C-1-E MSD	Matrix Spike Duplicate	TCLP	Water	8260D	13957

HPLC/IC

Analysis Batch: 15190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	9056A	
192-10523-2	MW-2A	Total/NA	Water	9056A	
192-10523-3	MW-3A	Total/NA	Water	9056A	
192-10523-4	MW-4A	Total/NA	Water	9056A	
192-10523-8	Leachate	Total/NA	Water	9056A	
192-10523-9	Dup	Total/NA	Water	9056A	
192-10523-10	FB	Total/NA	Water	9056A	
MB 192-15190/3	Method Blank	Total/NA	Water	9056A	
LCS 192-15190/4	Lab Control Sample	Total/NA	Water	9056A	
192-10551-A-1 MS	Matrix Spike	Total/NA	Water	9056A	
192-10551-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	9056A	

Analysis Batch: 15263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-5	MW-6B	Total/NA	Water	9056A	
192-10523-6	MW-7A	Total/NA	Water	9056A	
192-10523-7	GCS-1	Total/NA	Water	9056A	
MB 192-15263/3	Method Blank	Total/NA	Water	9056A	
LCS 192-15263/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 15639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	3010A	
192-10523-2	MW-2A	Total/NA	Water	3010A	

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QC Association Summary

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Metals (Continued)

Prep Batch: 15639 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-3	MW-3A	Total/NA	Water	3010A	
192-10523-4	MW-4A	Total/NA	Water	3010A	
192-10523-5	MW-6B	Total/NA	Water	3010A	
192-10523-6	MW-7A	Total/NA	Water	3010A	
192-10523-7	GCS-1	Total/NA	Water	3010A	
192-10523-8	Leachate	Total/NA	Water	3010A	
192-10523-9	Dup	Total/NA	Water	3010A	
192-10523-10	FB	Total/NA	Water	3010A	
MB 192-15639/1-A	Method Blank	Total/NA	Water	3010A	
LCS 192-15639/2-A	Lab Control Sample	Total/NA	Water	3010A	
192-10523-10 MS	FB	Total/NA	Water	3010A	
192-10523-10 MSD	FB	Total/NA	Water	3010A	

Analysis Batch: 15673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-3	MW-3A	Total/NA	Water	6020B	15639
192-10523-4	MW-4A	Total/NA	Water	6020B	15639
192-10523-8	Leachate	Total/NA	Water	6020B	15639

Analysis Batch: 15674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	6020B	15639
192-10523-1	MW-1A	Total/NA	Water	6020B	15639
192-10523-2	MW-2A	Total/NA	Water	6020B	15639
192-10523-2	MW-2A	Total/NA	Water	6020B	15639
192-10523-3	MW-3A	Total/NA	Water	6020B	15639
192-10523-3	MW-3A	Total/NA	Water	6020B	15639
192-10523-4	MW-4A	Total/NA	Water	6020B	15639
192-10523-4	MW-4A	Total/NA	Water	6020B	15639
192-10523-5	MW-6B	Total/NA	Water	6020B	15639
192-10523-5	MW-6B	Total/NA	Water	6020B	15639
192-10523-5	MW-6B	Total/NA	Water	6020B	15639
192-10523-6	MW-7A	Total/NA	Water	6020B	15639
192-10523-6	MW-7A	Total/NA	Water	6020B	15639
192-10523-7	GCS-1	Total/NA	Water	6020B	15639
192-10523-7	GCS-1	Total/NA	Water	6020B	15639
192-10523-7	GCS-1	Total/NA	Water	6020B	15639
192-10523-7	GCS-1	Total/NA	Water	6020B	15639
192-10523-8	Leachate	Total/NA	Water	6020B	15639
192-10523-8	Leachate	Total/NA	Water	6020B	15639
192-10523-8	Leachate	Total/NA	Water	6020B	15639
192-10523-9	Dup	Total/NA	Water	6020B	15639
192-10523-9	Dup	Total/NA	Water	6020B	15639
192-10523-10	FB	Total/NA	Water	6020B	15639
MB 192-15639/1-A	Method Blank	Total/NA	Water	6020B	15639
LCS 192-15639/2-A	Lab Control Sample	Total/NA	Water	6020B	15639
192-10523-10 MS	FB	Total/NA	Water	6020B	15639
192-10523-10 MSD	FB	Total/NA	Water	6020B	15639

QC Association Summary

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

General Chemistry

Analysis Batch: 15227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	2540C - 2015	
192-10523-2	MW-2A	Total/NA	Water	2540C - 2015	
192-10523-3	MW-3A	Total/NA	Water	2540C - 2015	
192-10523-4	MW-4A	Total/NA	Water	2540C - 2015	
192-10523-5	MW-6B	Total/NA	Water	2540C - 2015	
192-10523-6	MW-7A	Total/NA	Water	2540C - 2015	
192-10523-7	GCS-1	Total/NA	Water	2540C - 2015	
192-10523-8	Leachate	Total/NA	Water	2540C - 2015	
192-10523-9	Dup	Total/NA	Water	2540C - 2015	
192-10523-10	FB	Total/NA	Water	2540C - 2015	
MB 192-15227/1	Method Blank	Total/NA	Water	2540C - 2015	
LCS 192-15227/2	Lab Control Sample	Total/NA	Water	2540C - 2015	
192-10558-A-2 DU	Duplicate	Total/NA	Water	2540C - 2015	

Analysis Batch: 15292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	4500 S2 G-2011	
192-10523-2	MW-2A	Total/NA	Water	4500 S2 G-2011	
192-10523-3	MW-3A	Total/NA	Water	4500 S2 G-2011	
192-10523-4	MW-4A	Total/NA	Water	4500 S2 G-2011	
192-10523-5	MW-6B	Total/NA	Water	4500 S2 G-2011	
192-10523-6	MW-7A	Total/NA	Water	4500 S2 G-2011	
192-10523-7	GCS-1	Total/NA	Water	4500 S2 G-2011	
192-10523-8	Leachate	Total/NA	Water	4500 S2 G-2011	
192-10523-9	Dup	Total/NA	Water	4500 S2 G-2011	
192-10523-10	FB	Total/NA	Water	4500 S2 G-2011	
MB 192-15292/1	Method Blank	Total/NA	Water	4500 S2 G-2011	
LCS 192-15292/2	Lab Control Sample	Total/NA	Water	4500 S2 G-2011	
192-10482-C-1 MS	Matrix Spike	Total/NA	Water	4500 S2 G-2011	
192-10482-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	4500 S2 G-2011	

Analysis Batch: 152364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-1	MW-1A	Total/NA	Water	SM 5310C	
192-10523-2	MW-2A	Total/NA	Water	SM 5310C	
192-10523-3	MW-3A	Total/NA	Water	SM 5310C	
192-10523-4	MW-4A	Total/NA	Water	SM 5310C	
192-10523-5	MW-6B	Total/NA	Water	SM 5310C	
192-10523-6	MW-7A	Total/NA	Water	SM 5310C	
192-10523-7	GCS-1	Total/NA	Water	SM 5310C	
192-10523-8	Leachate	Total/NA	Water	SM 5310C	
192-10523-9	Dup	Total/NA	Water	SM 5310C	
192-10523-10	FB	Total/NA	Water	SM 5310C	
MB 860-152364/38	Method Blank	Total/NA	Water	SM 5310C	
MB 860-152364/5	Method Blank	Total/NA	Water	SM 5310C	
LCS 860-152364/39	Lab Control Sample	Total/NA	Water	SM 5310C	
LCS 860-152364/6	Lab Control Sample	Total/NA	Water	SM 5310C	
LCSD 860-152364/40	Lab Control Sample Dup	Total/NA	Water	SM 5310C	
LCSD 860-152364/7	Lab Control Sample Dup	Total/NA	Water	SM 5310C	
192-10523-4 MS	MW-4A	Total/NA	Water	SM 5310C	
192-10523-4 MSD	MW-4A	Total/NA	Water	SM 5310C	

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QC Association Summary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

General Chemistry (Continued)

Analysis Batch: 152364 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
192-10523-7 MS	GCS-1	Total/NA	Water	SM 5310C	
192-10523-7 MSD	GCS-1	Total/NA	Water	SM 5310C	
192-10523-9 MS	Dup	Total/NA	Water	SM 5310C	
192-10523-9 MSD	Dup	Total/NA	Water	SM 5310C	
192-10523-10 MS	FB	Total/NA	Water	SM 5310C	
192-10523-10 MSD	FB	Total/NA	Water	SM 5310C	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-1A
Date Collected: 03/20/24 14:15
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/21/24 23:10
Total/NA	Analysis	9056A		10	15190	LC5	EET ARK	03/21/24 17:37
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:26
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 15:47
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 18:35

Client Sample ID: MW-2A
Date Collected: 03/19/24 12:07
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/21/24 23:39
Total/NA	Analysis	9056A		10	15190	LC5	EET ARK	03/21/24 17:58
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:30
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 15:51
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 19:20

Client Sample ID: MW-3A
Date Collected: 03/19/24 13:20
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 00:09
Total/NA	Analysis	9056A		10	15190	LC5	EET ARK	03/21/24 18:18
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15673	EQ5	EET ARK	04/01/24 14:34
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:34
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 15:55
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 19:36

Lab Chronicle

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: MW-4A
Date Collected: 03/19/24 14:28
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 00:39
Total/NA	Analysis	9056A		10	15190	LC5	EET ARK	03/21/24 18:39
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15673	EQ5	EET ARK	04/01/24 14:37
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:37
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 15:58
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 19:51

Client Sample ID: MW-6B
Date Collected: 03/20/24 10:28
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 01:09
Total/NA	Analysis	9056A		1	15263	LC5	EET ARK	03/22/24 16:20
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:41
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		100	15674	EQ5	EET ARK	04/01/24 16:02
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 16:09
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		10	152364	YG	EET HOU	03/29/24 01:10

Client Sample ID: MW-7A
Date Collected: 03/20/24 08:45
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 01:39
Total/NA	Analysis	9056A		1	15263	LC5	EET ARK	03/22/24 16:41
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:49
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 16:24
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/29/24 00:55

Lab Chronicle

Client: Terracon Consultants Inc
 Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: GCS-1
Date Collected: 03/20/24 08:05
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 02:09
Total/NA	Analysis	9056A		1	15263	LC5	EET ARK	03/22/24 17:02
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:52
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1000	15674	EQ5	EET ARK	04/01/24 16:28
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		100	15674	EQ5	EET ARK	04/01/24 16:32
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 16:35
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 20:36

Client Sample ID: Leachate
Date Collected: 03/20/24 12:30
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 02:39
Total/NA	Analysis	9056A		10	15190	LC5	EET ARK	03/21/24 20:02
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15673	EQ5	EET ARK	04/01/24 14:56
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 14:56
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		100	15674	EQ5	EET ARK	04/01/24 16:43
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 16:46
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		50	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		10	152364	YG	EET HOU	03/29/24 01:25

Client Sample ID: Dup
Date Collected: 03/19/24 12:10
Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 03:09
Total/NA	Analysis	9056A		10	15190	LC5	EET ARK	03/21/24 20:23
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 15:03
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		5	15674	EQ5	EET ARK	04/01/24 16:50

Eurofins Arkansas

Lab Chronicle

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Client Sample ID: Dup

Date Collected: 03/19/24 12:10

Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 23:24

Client Sample ID: FB

Date Collected: 03/20/24 13:00

Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/22/24 03:39
Total/NA	Analysis	9056A		1	15190	LC5	EET ARK	03/21/24 14:51
Total/NA	Prep	3010A			15639	EQ5	EET ARK	04/01/24 10:38
Total/NA	Analysis	6020B		1	15674	EQ5	EET ARK	04/01/24 13:31
Total/NA	Analysis	2540C - 2015		1	15227	JD	EET ARK	03/22/24 09:23
Total/NA	Analysis	4500 S2 G-2011		1	15292	JAM	EET ARK	03/25/24 10:51
Total/NA	Analysis	SM 5310C		1	152364	YG	EET HOU	03/28/24 22:38

Client Sample ID: Equipment Blank

Date Collected: 03/20/24 13:10

Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/21/24 22:10

Client Sample ID: Trip Blank

Date Collected: 03/20/24 00:00

Date Received: 03/20/24 15:55

Lab Sample ID: 192-10523-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	15224	LC5	EET ARK	03/21/24 22:40

Laboratory References:

EET ARK = Eurofins Arkansas, 8600 Kanis Rd, Little Rock, AR 72204, TEL (501)224-5060

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Laboratory: Eurofins Arkansas

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	60-0889	03-02-25

Laboratory: Eurofins Houston

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00759	08-03-24
Florida	NELAP	E871002	06-30-24
Louisiana (All)	NELAP	03054	06-30-24
Oklahoma	NELAP	1306	08-31-24
Oklahoma	State	2023-139	08-31-24
Texas	NELAP	T104704215	06-30-24
Texas	TCEQ Water Supply	T104704215	12-28-25
USDA	US Federal Programs	525-23-79-79507	03-20-26

Method Summary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ARK
9056A	Anions, Ion Chromatography	SW846	EET ARK
6020B	Metals (ICP/MS)	SW846	EET ARK
2540C - 2015	Total Dissolved Solids (Dried at 180 °C)	SM	EET ARK
4500 S2 G-2011	Sulfide, Total	SM	EET ARK
SM 5310C	TOC	SM	EET HOU
3010A	Preparation, Total Metals	SW846	EET ARK
5030C	Purge and Trap	SW846	EET ARK

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ARK = Eurofins Arkansas, 8600 Kanis Rd, Little Rock, AR 72204, TEL (501)224-5060

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Terracon Consultants Inc
Project/Site: Groundwater - Landfill

Job ID: 192-10523-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
192-10523-1	MW-1A	Water	03/20/24 14:15	03/20/24 15:55
192-10523-2	MW-2A	Water	03/19/24 12:07	03/20/24 15:55
192-10523-3	MW-3A	Water	03/19/24 13:20	03/20/24 15:55
192-10523-4	MW-4A	Water	03/19/24 14:28	03/20/24 15:55
192-10523-5	MW-6B	Water	03/20/24 10:28	03/20/24 15:55
192-10523-6	MW-7A	Water	03/20/24 08:45	03/20/24 15:55
192-10523-7	GCS-1	Water	03/20/24 08:05	03/20/24 15:55
192-10523-8	Leachate	Water	03/20/24 12:30	03/20/24 15:55
192-10523-9	Dup	Water	03/19/24 12:10	03/20/24 15:55
192-10523-10	FB	Water	03/20/24 13:00	03/20/24 15:55
192-10523-11	Equipment Blank	Water	03/20/24 13:10	03/20/24 15:55
192-10523-12	Trip Blank	Water	03/20/24 00:00	03/20/24 15:55



Eurofins Arkansas

8600 Kanis Rd
 Little Rock, AR 72204
 Phone (501) 224-5060 Phone (501) 224-5075

Chain of Custody Record



100g



Client Information		Sampler: <u>Wes Williams</u>		Lab PM:		Carrier Tracking No(s)		COC No:			
Client Contact: <u>City of Little Rock LIF</u>		Phone: <u>501 350-8827</u>		E-Mail:		State of Origin:		Page:			
Company: <u>TERRACON</u>				PWSID:				Job #: <u>192-10523 COC</u>			
Address: <u>25809 I 30 South</u>		Due Date Requested:		Analysis Requested Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) <u>APP I VOC's</u> <u>APP I METALS + Fe + Mn</u> <u>APP I TOC</u> <u>APP I 504 TDS</u> <u>Sulfide</u>						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify) Other:	
City: <u>Little Rock AR</u>		TAT Requested (days):									
State Zip: <u>ARKANSAS</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No									
Phone: <u>501-350-5040</u>		PO #:									
Email: <u>djaros@terracon.com</u>		WVO #:									
Project Name: <u>CITY OF LITTLE ROCK</u>		Project #:		Total Number of containers		Special Instructions/Note:					
Site: <u>LAND FILL</u>		SSOW#:									
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:		
				Preservation Code		X	N	X			
<u>MW-1A</u>		<u>3-20-24</u>	<u>1415</u>			✓	✓	✓	✓		
<u>MW-2A</u>		<u>3-19-24</u>	<u>1207</u>			✓	✓	✓	✓		
<u>MW-3A</u>		<u>3-19-24</u>	<u>1320</u>			✓	✓	✓	✓		
<u>MW-4A</u>		<u>3-19-24</u>	<u>1428</u>			✓	✓	✓	✓		
<u>MW-6B</u>		<u>3-20-24</u>	<u>1028</u>			✓	✓	✓	✓		
<u>MW-7A</u>		<u>3-20-24</u>	<u>845</u>			✓	✓	✓	✓		
<u>GCS-1</u>		<u>3-20-24</u>	<u>805</u>			✓	✓	✓	✓		
<u>Leachate</u>		<u>3-20-24</u>	<u>1230</u>			✓	✓	✓	✓		
<u>DWP</u>		<u>3-19-24</u>	<u>1210</u>			✓	✓	✓	✓		
<u>FB</u>		<u>3-20-24</u>	<u>1308</u>			✓	✓	✓	✓		
<u>Equipment Blank</u>		<u>3-20-24</u>	<u>1310</u>			✓					
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested I, II, III, IV, Other (specify)					Special Instructions/QC Requirements.						
Empty Kit Relinquished by:		Date		Time		Method of Shipment:					
Relinquished by: <u>Wes Williams</u>		Date/Time: <u>3-20-24 1555</u>		Company:		Received by: <u>Greg Hayes</u>		Date/Time: <u>3-20-24 1555</u>			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks. <u>1.9°C / 1.3°C</u>							



Login Sample Receipt Checklist

Client: Terracon Consultants Inc

Job Number: 192-10523-1

Login Number: 10523
List Number: 1
Creator: Vang, Matthew

List Source: Eurofins Arkansas

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Terracon Consultants Inc

Job Number: 192-10523-1

Login Number: 10523

List Number: 2

Creator: Baker, Jeremiah

List Source: Eurofins Houston

List Creation: 03/22/24 01:51 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

Appendix C
Key to Parameters
Abbreviations/Statistical
Database Revision

Appendix D

Statistical Evaluation

Outlier Analysis

City of Little Rock

Client: Terracon

Data: CoLR Sanitas Database

Printed 4/10/2024, 12:36 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Arsenic (ug/l)	MW-1A	No	n/a	n/a	NP (nrm)	NaN	54	3.944	4.488	unknown	ShapiroFrancia
Arsenic Total (ug/l)	MW-2A	Yes	97	3/10/2022	NP (nrm)	NaN	56	5.95	13.5	unknown	ShapiroFrancia
Arsenic Total (ug/l)	MW-3A	No	n/a	n/a	NP (nrm)	NaN	54	2.449	2.23	unknown	ShapiroFrancia
Arsenic Total (ug/l)	MW-4A	No	n/a	n/a	EPA 1989	0.05	54	3.754	2.466	ln(x)	ShapiroFrancia
Arsenic Total (ug/l)	MW-6B (bg)	No	n/a	n/a	NP (nrm)	NaN	41	8.166	10.7	unknown	ShapiroWilk
Arsenic Total (ug/l)	MW-7A (bg)	Yes	170	3/27/2023	NP (nrm)	NaN	53	8.571	25.04	unknown	ShapiroFrancia
Barium Total (ug/l)	MW-1A	No	n/a	n/a	NP (nrm)	NaN	54	89.78	41.48	unknown	ShapiroFrancia
Barium Total (ug/l)	MW-2A	Yes	256	8/14/2001	NP (nrm)	NaN	54	107.6	48.35	unknown	ShapiroFrancia
Barium Total (ug/l)	MW-3A	Yes	4200,10,1...	5/24/1999...	NP (nrm)	NaN	54	272.2	549.7	unknown	ShapiroFrancia
Barium Total (ug/l)	MW-4A	Yes	350,10,10...	5/24/1999...	NP (nrm)	NaN	54	216.4	73.17	unknown	ShapiroFrancia
Barium Total (ug/l)	MW-6B (bg)	Yes	1590	3/2/2005	Rosner's	0.01	41	178.8	285.1	ln(x)	ShapiroWilk
Barium Total (ug/l)	MW-7A (bg)	Yes	453.5	8/14/2001	NP (nrm)	NaN	53	73.82	67.01	unknown	ShapiroFrancia
Beryllium Total (ug/l)	MW-6B (bg)	n/a	n/a	n/a	NP (nrm)	NaN	41	28.03	176.4	unknown	ShapiroWilk
Beryllium Total (ug/l)	MW-7A (bg)	n/a	n/a	n/a	NP (nrm)	NaN	53	0.5587	0.3164	unknown	ShapiroFrancia
Cadmium Total (ug/l)	MW-1A	n/a	n/a	n/a	NP (nrm)	NaN	54	2.844	1.532	unknown	ShapiroFrancia
Cadmium Total (ug/l)	MW-3A	n/a	n/a	n/a	NP (nrm)	NaN	54	2.908	1.478	unknown	ShapiroFrancia
Cadmium Total (ug/l)	MW-4A	n/a	n/a	n/a	NP (nrm)	NaN	54	2.845	1.531	unknown	ShapiroFrancia
Cadmium Total (ug/l)	MW-6B (bg)	n/a	n/a	n/a	NP (nrm)	NaN	41	3.297	1.354	unknown	ShapiroWilk
Cadmium Total (ug/l)	MW-7A (bg)	n/a	n/a	n/a	NP (nrm)	NaN	53	2.823	1.538	unknown	ShapiroFrancia
Chloride (ug/l)	MW-1A	No	n/a	n/a	NP (nrm)	NaN	54	83253	20926	unknown	ShapiroFrancia
Chloride (ug/l)	MW-2A	Yes	68300,270...	12/18/200...	NP (nrm)	NaN	54	30514	8707	unknown	ShapiroFrancia
Chloride (ug/l)	MW-3A	Yes	50,50,50,...	2/6/2002,...	NP (nrm)	NaN	54	3998	3398	unknown	ShapiroFrancia
Chloride (ug/l)	MW-4A	Yes	18500,1600	5/24/1999...	NP (nrm)	NaN	54	7239	2433	unknown	ShapiroFrancia
Chloride (ug/l)	MW-6B (bg)	Yes	15000,50,...	2/4/2003,...	NP (nrm)	NaN	41	2077	2424	unknown	ShapiroWilk
Chloride (ug/l)	MW-7A (bg)	Yes	28000,500...	5/24/1999...	NP (nrm)	NaN	53	3652	7672	unknown	ShapiroFrancia
Chromium Total (ug/l)	MW-1A	n/a	n/a	n/a	NP (nrm)	NaN	54	5.583	3.342	unknown	ShapiroFrancia
Chromium Total (ug/l)	MW-6B (bg)	n/a	n/a	n/a	NP (nrm)	NaN	41	7.4	6.333	unknown	ShapiroWilk
Cobalt Total (ug/l)	MW-6B (bg)	Yes	0.062,85,1.3	8/13/2020...	NP (nrm)	NaN	41	8.826	12.39	unknown	ShapiroWilk
Cobalt Total (ug/l)	MW-7A (bg)	n/a	n/a	n/a	NP (nrm)	NaN	53	6.637	3.44	unknown	ShapiroFrancia
Copper Total (ug/l)	MW-1A	No	n/a	n/a	NP (nrm)	NaN	54	4.557	3.185	unknown	ShapiroFrancia
Copper Total (ug/l)	MW-2A	No	n/a	n/a	NP (nrm)	NaN	54	3.325	3.288	unknown	ShapiroFrancia
Copper Total (ug/l)	MW-3A	No	n/a	n/a	NP (nrm)	NaN	54	2.597	2.847	unknown	ShapiroFrancia
Copper Total (ug/l)	MW-4A	No	n/a	n/a	NP (nrm)	NaN	54	3.195	4.561	unknown	ShapiroFrancia
Copper Total (ug/l)	MW-6B (bg)	No	n/a	n/a	EPA 1989	0.05	41	36.28	78.67	ln(x)	ShapiroWilk
Copper Total (ug/l)	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	3.22	4.74	unknown	ShapiroFrancia
Iron Total (ug/l)	MW-1A	No	n/a	n/a	NP (nrm)	NaN	53	703.6	390.1	unknown	ShapiroFrancia
Iron Total (ug/l)	MW-2A	Yes	11000,100...	5/24/1999...	Rosner's	0.01	53	962.1	2005	ln(x)	ShapiroFrancia
Iron Total (ug/l)	MW-3A	No	n/a	n/a	Rosner's	0.01	53	11333	4989	normal	ShapiroFrancia
Iron Total (ug/l)	MW-4A	No	n/a	n/a	NP (nrm)	NaN	53	5736	4017	unknown	ShapiroFrancia
Iron Total (ug/l)	MW-6B (bg)	No	n/a	n/a	NP (nrm)	NaN	40	15862	18884	unknown	ShapiroWilk
Iron Total (ug/l)	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	264.9	340.5	unknown	ShapiroFrancia
Lead Total (ug/l)	MW-6B (bg)	Yes	192,920	8/22/2005...	NP (nrm)	NaN	41	28.7	145.7	unknown	ShapiroWilk
Lead Total (ug/l)	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	1.304	1.394	unknown	ShapiroFrancia
Manganese Total (ug/l)	MW-1A	No	n/a	n/a	EPA 1989	0.05	53	306.2	248.6	ln(x)	ShapiroFrancia
Manganese Total (ug/l)	MW-2A	No	n/a	n/a	NP (nrm)	NaN	53	179.9	135.5	unknown	ShapiroFrancia
Manganese Total (ug/l)	MW-3A	Yes	1200	5/24/1999	Rosner's	0.01	53	413.1	216.3	ln(x)	ShapiroFrancia
Manganese Total (ug/l)	MW-4A	No	n/a	n/a	NP (nrm)	NaN	53	587	509.1	unknown	ShapiroFrancia
Manganese Total (ug/l)	MW-6B (bg)	No	n/a	n/a	NP (nrm)	NaN	40	3474	2956	unknown	ShapiroWilk
Manganese Total (ug/l)	MW-7A (bg)	No	n/a	n/a	EPA 1989	0.05	53	738.2	875.5	ln(x)	ShapiroFrancia
Nickel Total (ug/l)	MW-1A	No	n/a	n/a	NP (nrm)	NaN	54	7.056	4.297	unknown	ShapiroFrancia

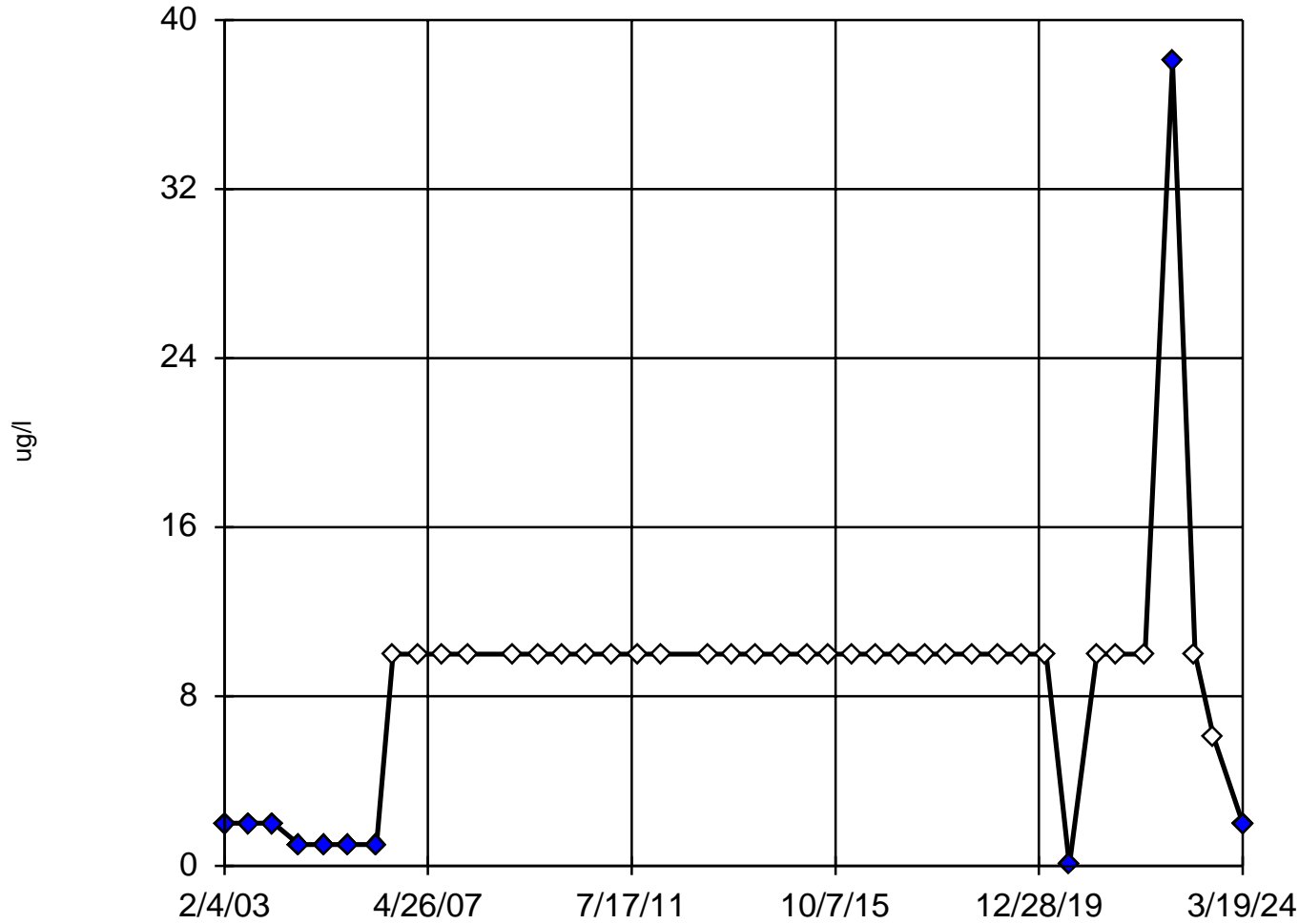
Outlier Analysis

City of Little Rock Client: Terracon Data: CoLR Sanitas Database Printed 4/10/2024, 12:36 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Nickel Total (ug/l)	MW-2A	n/a	n/a	n/a	NP (nrm)	NaN	54	7.228	4.148	unknown	ShapiroFrancia
Nickel Total (ug/l)	MW-3A	n/a	n/a	n/a	NP (nrm)	NaN	54	7.285	4.233	unknown	ShapiroFrancia
Nickel Total (ug/l)	MW-4A	No	n/a	n/a	NP (nrm)	NaN	54	7.146	4.238	unknown	ShapiroFrancia
Nickel Total (ug/l)	MW-6B (bg)	Yes	2,2,2,2,1...	2/4/2003,...	NP (nrm)	NaN	41	8.686	5.933	unknown	ShapiroWilk
Nickel Total (ug/l)	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	7.033	4.276	unknown	ShapiroFrancia
pH (SU)	MW-1A	Yes	4.9,4.9	8/9/2000,...	Rosner's	0.01	54	7.591	0.6215	normal	ShapiroFrancia
pH (SU)	MW-2A	Yes	10.81,4.94	2/14/2017...	Rosner's	0.01	54	7.785	0.7638	normal	ShapiroFrancia
pH (SU)	MW-3A	Yes	7.6	8/11/2009	NP (nrm)	NaN	54	6.236	0.3557	unknown	ShapiroFrancia
pH (SU)	MW-4A	Yes	3.96	12/18/2000	Rosner's	0.01	54	6.659	0.4831	normal	ShapiroFrancia
pH (SU)	MW-6B (bg)	No	n/a	n/a	NP (nrm)	NaN	41	6.273	0.4162	unknown	ShapiroWilk
pH (SU)	MW-7A (bg)	Yes	3.8	12/18/2001	Rosner's	0.01	51	6.762	0.6042	ln(x)	ShapiroFrancia
Sulfate (mg/l)	MW-1A	Yes	77.7,116,...	5/24/1999...	NP (nrm)	NaN	54	23.81	17.51	unknown	ShapiroFrancia
Sulfate (mg/l)	MW-2A	Yes	4.9,10.43	8/4/1999,...	Rosner's	0.01	54	28.13	5.313	ln(x)	ShapiroFrancia
Sulfate (mg/l)	MW-3A	No	n/a	n/a	NP (nrm)	NaN	54	32.93	13.85	unknown	ShapiroFrancia
Sulfate (mg/l)	MW-4A	Yes	3.16	11/11/1999	NP (nrm)	NaN	54	11.07	4.507	unknown	ShapiroFrancia
Sulfate (mg/l)	MW-6B (bg)	No	n/a	n/a	Rosner's	0.01	41	29.06	81.95	ln(x)	ShapiroWilk
Sulfate (mg/l)	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	6.998	4.373	unknown	ShapiroFrancia
Total Dissolved Solids [TDS] (m...	MW-1A	No	n/a	n/a	NP (nrm)	NaN	54	472.3	35.98	unknown	ShapiroFrancia
Total Dissolved Solids [TDS] (m...	MW-2A	No	n/a	n/a	NP (nrm)	NaN	54	310.6	35.05	unknown	ShapiroFrancia
Total Dissolved Solids [TDS] (m...	MW-3A	Yes	100	2/20/2020	NP (nrm)	NaN	54	193.3	26.62	unknown	ShapiroFrancia
Total Dissolved Solids [TDS] (m...	MW-4A	Yes	420,120	1/30/2009...	Rosner's	0.01	54	211.4	40.66	ln(x)	ShapiroFrancia
Total Dissolved Solids [TDS] (m...	MW-6B (bg)	Yes	1644,1122	8/20/2004...	Rosner's	0.01	41	247.7	285.5	ln(x)	ShapiroWilk
Total Dissolved Solids [TDS] (m...	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	169.7	54.1	unknown	ShapiroFrancia
Total Organic Carbon [TOC] (mg/l)	MW-1A	Yes	4.26,2.98...	5/24/1999...	NP (nrm)	NaN	54	1.231	0.6886	unknown	ShapiroFrancia
Total Organic Carbon [TOC] (mg/l)	MW-2A	Yes	3.9	2/16/2016	NP (nrm)	NaN	54	1.117	0.5276	unknown	ShapiroFrancia
Total Organic Carbon [TOC] (mg/l)	MW-3A	Yes	17.3	5/24/1999	NP (nrm)	NaN	54	1.94	2.388	unknown	ShapiroFrancia
Total Organic Carbon [TOC] (mg/l)	MW-4A	Yes	3.73,3.71...	8/4/1999,...	NP (nrm)	NaN	54	1.226	0.7271	unknown	ShapiroFrancia
Total Organic Carbon [TOC] (mg/l)	MW-6B (bg)	No	n/a	n/a	NP (nrm)	NaN	41	8.34	7.708	unknown	ShapiroWilk
Total Organic Carbon [TOC] (mg/l)	MW-7A (bg)	Yes	9.1	8/4/1999	NP (nrm)	NaN	53	1.436	1.251	unknown	ShapiroFrancia
Vanadium Total (ug/l)	MW-1A	n/a	n/a	n/a	NP (nrm)	NaN	54	13.56	11.63	unknown	ShapiroFrancia
Vanadium Total (ug/l)	MW-2A	n/a	n/a	n/a	NP (nrm)	NaN	54	13.35	11.72	unknown	ShapiroFrancia
Vanadium Total (ug/l)	MW-3A	n/a	n/a	n/a	NP (nrm)	NaN	54	13.63	11.77	unknown	ShapiroFrancia
Vanadium Total (ug/l)	MW-4A	n/a	n/a	n/a	NP (nrm)	NaN	54	13.32	11.77	unknown	ShapiroFrancia
Vanadium Total (ug/l)	MW-6B (bg)	Yes	47,49,790	3/17/2015...	NP (nrm)	NaN	41	31.12	121.9	unknown	ShapiroWilk
Vanadium Total (ug/l)	MW-7A (bg)	n/a	n/a	n/a	NP (nrm)	NaN	53	13.39	11.88	unknown	ShapiroFrancia
Zinc Total (ug/l)	MW-1A	No	n/a	n/a	EPA 1989	0.05	54	15.27	31.11	ln(x)	ShapiroFrancia
Zinc Total (ug/l)	MW-2A	Yes	958	5/24/1999	Rosner's	0.01	54	31.12	129.6	ln(x)	ShapiroFrancia
Zinc Total (ug/l)	MW-3A	No	n/a	n/a	NP (nrm)	NaN	54	17	23.75	unknown	ShapiroFrancia
Zinc Total (ug/l)	MW-4A	No	n/a	n/a	NP (nrm)	NaN	54	13.66	10.59	unknown	ShapiroFrancia
Zinc Total (ug/l)	MW-6B (bg)	No	n/a	n/a	EPA 1989	0.05	41	128.5	196.7	ln(x)	ShapiroWilk
Zinc Total (ug/l)	MW-7A (bg)	No	n/a	n/a	NP (nrm)	NaN	53	15.03	18.49	unknown	ShapiroFrancia

Tukey's Outlier Screening

MW-6B (bg)



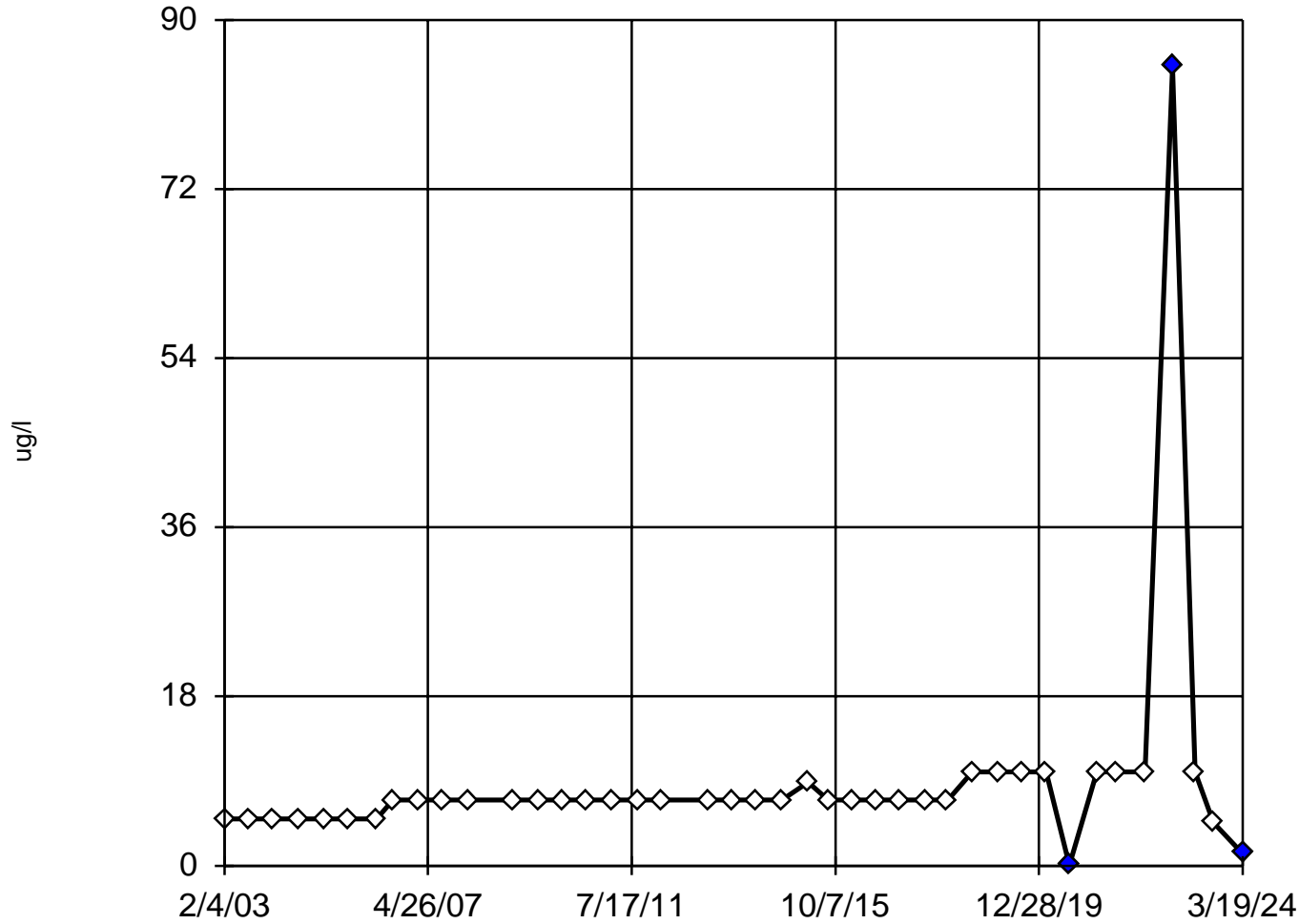
n = 41
Outliers are drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.
Data were cube root transformed to achieve best W statistic (graph shown in original units).
High cutoff = 18.51, low cutoff = 3.374, based on IQR multiplier of 3.

Constituent: Nickel Total Analysis Run 4/10/2024 12:31 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Tukey's Outlier Screening

MW-6B (bg)



n = 41

Outliers are drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 16.31, low cutoff = 2.038, based on IQR multiplier of 3.

Constituent: Cobalt Total Analysis Run 4/10/2024 12:30 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Trend Test

City of Little Rock Client: Terracon Data: CoLR Sanitas Database Printed 4/10/2024, 12:28 PM

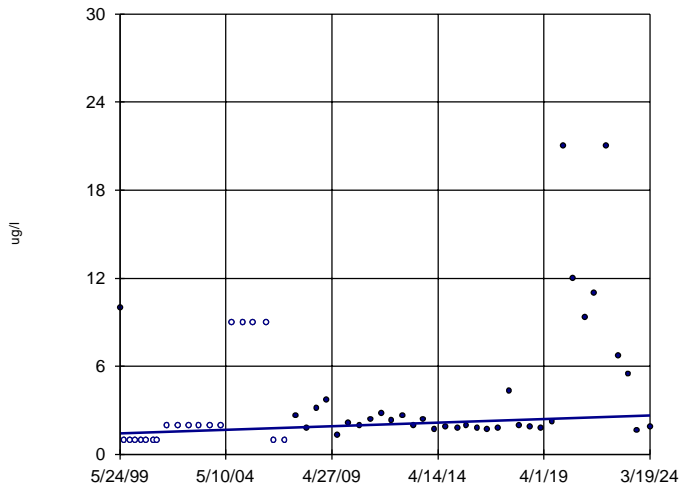
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic Total (ug/l)	MW-1A	0.04996	2.464	2.33	Yes	54	35.19	n/a	n/a	0.02	NP
Arsenic Total (ug/l)	MW-2A	0.1229	4.863	2.33	Yes	56	32.14	n/a	n/a	0.02	NP
Arsenic Total (ug/l)	MW-3A	0	-0.1739	-2.33	No	54	48.15	n/a	n/a	0.02	NP
Arsenic Total (ug/l)	MW-4A	0.06671	2.53	2.33	Yes	54	33.33	n/a	n/a	0.02	NP
Arsenic Total (ug/l)	MW-6B (bg)	0.3779	3.465	2.33	Yes	41	36.59	n/a	n/a	0.02	NP
Arsenic Total (ug/l)	MW-7A (bg)	0	-1.244	-2.33	No	53	64.15	n/a	n/a	0.02	NP
Barium Total (ug/l)	MW-1A	2.451	4.526	2.33	Yes	54	14.81	n/a	n/a	0.02	NP
Barium Total (ug/l)	MW-2A	0.7075	1.492	2.33	No	54	14.81	n/a	n/a	0.02	NP
Barium Total (ug/l)	MW-3A	-3.781	-3.161	-2.33	Yes	54	7.407	n/a	n/a	0.02	NP
Barium Total (ug/l)	MW-4A	0	0.5473	2.33	No	54	7.407	n/a	n/a	0.02	NP
Barium Total (ug/l)	MW-6B (bg)	1.81	0.8107	2.33	No	41	0	n/a	n/a	0.02	NP
Barium Total (ug/l)	MW-7A (bg)	1.911	2.39	2.33	Yes	53	15.09	n/a	n/a	0.02	NP
Beryllium Total (ug/l)	MW-6B (bg)	0	-1.46	-2.33	No	41	78.05	n/a	n/a	0.02	NP
Beryllium Total (ug/l)	MW-7A (bg)	-0.00...	-3.997	-2.33	Yes	53	94.34	n/a	n/a	0.02	NP
Cadmium Total (ug/l)	MW-1A	0	4.477	2.33	Yes	54	96.3	n/a	n/a	0.02	NP
Cadmium Total (ug/l)	MW-3A	0	4.603	2.33	Yes	54	94.44	n/a	n/a	0.02	NP
Cadmium Total (ug/l)	MW-4A	0	4.494	2.33	Yes	54	96.3	n/a	n/a	0.02	NP
Cadmium Total (ug/l)	MW-6B (bg)	0	2.255	2.33	No	41	95.12	n/a	n/a	0.02	NP
Cadmium Total (ug/l)	MW-7A (bg)	0	4.456	2.33	Yes	53	96.23	n/a	n/a	0.02	NP
Chloride (ug/l)	MW-1A	-428.6	-2.866	-2.33	Yes	54	1.852	n/a	n/a	0.02	NP
Chloride (ug/l)	MW-2A	-109.6	-1.434	-2.33	No	54	0	n/a	n/a	0.02	NP
Chloride (ug/l)	MW-3A	-39.89	-1.907	-2.33	No	54	5.556	n/a	n/a	0.02	NP
Chloride (ug/l)	MW-4A	-18.17	-0.7188	-2.33	No	54	0	n/a	n/a	0.02	NP
Chloride (ug/l)	MW-6B (bg)	-24.88	-1.185	-2.33	No	41	12.2	n/a	n/a	0.02	NP
Chloride (ug/l)	MW-7A (bg)	-44.87	-2.331	-2.33	Yes	53	9.434	n/a	n/a	0.02	NP
Chromium Total (ug/l)	MW-1A	0.2824	5.88	2.33	Yes	54	94.44	n/a	n/a	0.02	NP
Chromium Total (ug/l)	MW-6B (bg)	0.199	3.791	2.33	Yes	41	92.68	n/a	n/a	0.02	NP
Cobalt Total (ug/l)	MW-6B (bg)	0.1744	3.977	2.33	Yes	41	87.8	n/a	n/a	0.02	NP
Cobalt Total (ug/l)	MW-7A (bg)	0.2481	5.857	2.33	Yes	53	96.23	n/a	n/a	0.02	NP
Copper Total (ug/l)	MW-1A	0.1187	2.308	2.33	No	54	46.3	n/a	n/a	0.02	NP
Copper Total (ug/l)	MW-2A	-0.07046	-1.981	-2.33	No	54	46.3	n/a	n/a	0.02	NP
Copper Total (ug/l)	MW-3A	-0.02999	-3.088	-2.33	Yes	54	61.11	n/a	n/a	0.02	NP
Copper Total (ug/l)	MW-4A	-0.0698	-2.252	-2.33	No	54	50	n/a	n/a	0.02	NP
Copper Total (ug/l)	MW-6B (bg)	1.068	3.971	2.33	Yes	41	24.39	n/a	n/a	0.02	NP
Copper Total (ug/l)	MW-7A (bg)	-0.07529	-2.191	-2.33	No	53	50.94	n/a	n/a	0.02	NP
Iron Total (ug/l)	MW-1A	8.859	1.175	2.33	No	53	0	n/a	n/a	0.02	NP
Iron Total (ug/l)	MW-2A	-2.348	-0.2916	-2.33	No	53	1.887	n/a	n/a	0.02	NP
Iron Total (ug/l)	MW-3A	-305.6	-3.371	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Iron Total (ug/l)	MW-4A	-216.3	-2.938	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Iron Total (ug/l)	MW-6B (bg)	1147	281	201	Yes	40	0	n/a	n/a	0.02	NP
Iron Total (ug/l)	MW-7A (bg)	6.445	2.302	2.33	No	53	3.774	n/a	n/a	0.02	NP
Lead Total (ug/l)	MW-6B (bg)	-0.05977	-3.766	-2.33	Yes	41	60.98	n/a	n/a	0.02	NP
Lead Total (ug/l)	MW-7A (bg)	-0.02991	-4.58	-2.33	Yes	53	83.02	n/a	n/a	0.02	NP
Manganese Total (ug/l)	MW-1A	-19.38	-5.843	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Manganese Total (ug/l)	MW-2A	-12.41	-5.579	-2.33	Yes	53	1.887	n/a	n/a	0.02	NP
Manganese Total (ug/l)	MW-3A	-20.84	-7.198	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Manganese Total (ug/l)	MW-4A	-46.86	-7.971	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Manganese Total (ug/l)	MW-6B (bg)	300.1	458	201	Yes	40	0	n/a	n/a	0.02	NP
Manganese Total (ug/l)	MW-7A (bg)	-34.08	-4.013	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Nickel Total (ug/l)	MW-1A	0	4.379	2.33	Yes	54	94.44	n/a	n/a	0.02	NP

Trend Test

City of Little Rock Client: Terracon Data: CoLR Sanitas Database Printed 4/10/2024, 12:28 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Nickel Total (ug/l)	MW-2A	0	4.071	2.33	Yes	54	92.59	n/a	n/a	0.02	NP
Nickel Total (ug/l)	MW-3A	0	4.047	2.33	Yes	54	90.74	n/a	n/a	0.02	NP
Nickel Total (ug/l)	MW-4A	0	3.981	2.33	Yes	54	94.44	n/a	n/a	0.02	NP
Nickel Total (ug/l)	MW-6B (bg)	0	2.23	2.33	No	41	87.8	n/a	n/a	0.02	NP
Nickel Total (ug/l)	MW-7A (bg)	0	3.221	2.33	Yes	53	90.57	n/a	n/a	0.02	NP
pH (SU)	MW-1A	-0.00199	-0.3584	-2.33	No	54	0	n/a	n/a	0.02	NP
pH (SU)	MW-2A	0.02893	2.858	2.33	Yes	54	0	n/a	n/a	0.02	NP
pH (SU)	MW-3A	-0.00601	-1.433	-2.33	No	54	0	n/a	n/a	0.02	NP
pH (SU)	MW-4A	-0.00...	-0.9779	-2.33	No	54	0	n/a	n/a	0.02	NP
pH (SU)	MW-6B (bg)	0.006857	0.5956	2.33	No	41	0	n/a	n/a	0.02	NP
pH (SU)	MW-7A (bg)	-0.01527	-1.69	-2.33	No	51	0	n/a	n/a	0.02	NP
Sulfate (mg/l)	MW-1A	-0.6536	-3.51	-2.33	Yes	54	0	n/a	n/a	0.02	NP
Sulfate (mg/l)	MW-2A	-0.0793	-1.011	-2.33	No	54	0	n/a	n/a	0.02	NP
Sulfate (mg/l)	MW-3A	1.239	6.056	2.33	Yes	54	0	n/a	n/a	0.02	NP
Sulfate (mg/l)	MW-4A	-0.184	-3.15	-2.33	Yes	54	0	n/a	n/a	0.02	NP
Sulfate (mg/l)	MW-6B (bg)	-0.3035	-1.786	-2.33	No	41	2.439	n/a	n/a	0.02	NP
Sulfate (mg/l)	MW-7A (bg)	0.4024	5.987	2.33	Yes	53	16.98	n/a	n/a	0.02	NP
Total Dissolved Solids [TDS] (m...	MW-1A	-0.9511	-1.819	-2.33	No	54	0	n/a	n/a	0.02	NP
Total Dissolved Solids [TDS] (m...	MW-2A	-0.9973	-2.159	-2.33	No	54	0	n/a	n/a	0.02	NP
Total Dissolved Solids [TDS] (m...	MW-3A	-1.483	-4.62	-2.33	Yes	54	0	n/a	n/a	0.02	NP
Total Dissolved Solids [TDS] (m...	MW-4A	-2.416	-5.417	-2.33	Yes	54	0	n/a	n/a	0.02	NP
Total Dissolved Solids [TDS] (m...	MW-6B (bg)	2.844	1.519	2.33	No	41	0	n/a	n/a	0.02	NP
Total Dissolved Solids [TDS] (m...	MW-7A (bg)	-6.334	-6.533	-2.33	Yes	53	0	n/a	n/a	0.02	NP
Total Organic Carbon [TOC] (mg/l)	MW-1A	0	0.2557	2.33	No	54	44.44	n/a	n/a	0.02	NP
Total Organic Carbon [TOC] (mg/l)	MW-2A	0.008611	2.551	2.33	Yes	54	40.74	n/a	n/a	0.02	NP
Total Organic Carbon [TOC] (mg/l)	MW-3A	-0.03979	-4.357	-2.33	Yes	54	22.22	n/a	n/a	0.02	NP
Total Organic Carbon [TOC] (mg/l)	MW-4A	0	-0.2633	-2.33	No	54	38.89	n/a	n/a	0.02	NP
Total Organic Carbon [TOC] (mg/l)	MW-6B (bg)	0.1869	1.359	2.33	No	41	0	n/a	n/a	0.02	NP
Total Organic Carbon [TOC] (mg/l)	MW-7A (bg)	0.01628	1.609	2.33	No	53	22.64	n/a	n/a	0.02	NP
Vanadium Total (ug/l)	MW-1A	0	-0.8918	-2.33	No	54	98.15	n/a	n/a	0.02	NP
Vanadium Total (ug/l)	MW-2A	0	-1.529	-2.33	No	54	98.15	n/a	n/a	0.02	NP
Vanadium Total (ug/l)	MW-3A	0	-1.271	-2.33	No	54	92.59	n/a	n/a	0.02	NP
Vanadium Total (ug/l)	MW-4A	0	-2.226	-2.33	No	54	92.59	n/a	n/a	0.02	NP
Vanadium Total (ug/l)	MW-6B (bg)	0.3018	3.732	2.33	Yes	41	68.29	n/a	n/a	0.02	NP
Vanadium Total (ug/l)	MW-7A (bg)	0	-2.109	-2.33	No	53	92.45	n/a	n/a	0.02	NP
Zinc Total (ug/l)	MW-1A	-0.07676	-1.078	-2.33	No	54	40.74	n/a	n/a	0.02	NP
Zinc Total (ug/l)	MW-2A	-0.07599	-1.239	-2.33	No	54	44.44	n/a	n/a	0.02	NP
Zinc Total (ug/l)	MW-3A	-0.1537	-1.219	-2.33	No	54	37.04	n/a	n/a	0.02	NP
Zinc Total (ug/l)	MW-4A	-0.3646	-2.339	-2.33	Yes	54	37.04	n/a	n/a	0.02	NP
Zinc Total (ug/l)	MW-6B (bg)	2.023	1.764	2.33	No	41	2.439	n/a	n/a	0.02	NP
Zinc Total (ug/l)	MW-7A (bg)	-0.1128	-0.8841	-2.33	No	53	28.3	n/a	n/a	0.02	NP

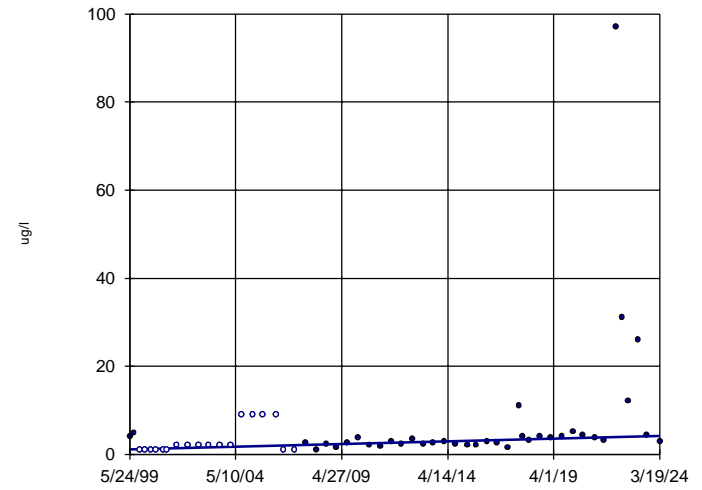
Sen's Slope Estimator MW-1A



n = 54
Slope = 0.04996
units per year.
Mann-Kendall
normal approx. =
2.464
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Arsenic Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

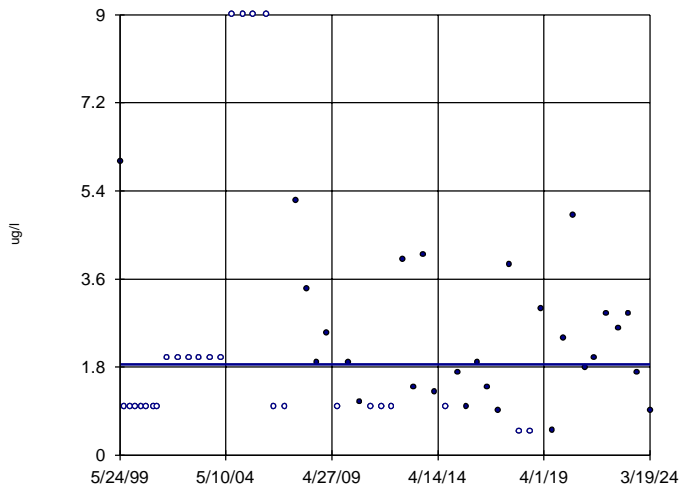
Sen's Slope Estimator MW-2A



n = 56
Slope = 0.1229
units per year.
Mann-Kendall
normal approx. =
4.863
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Arsenic Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

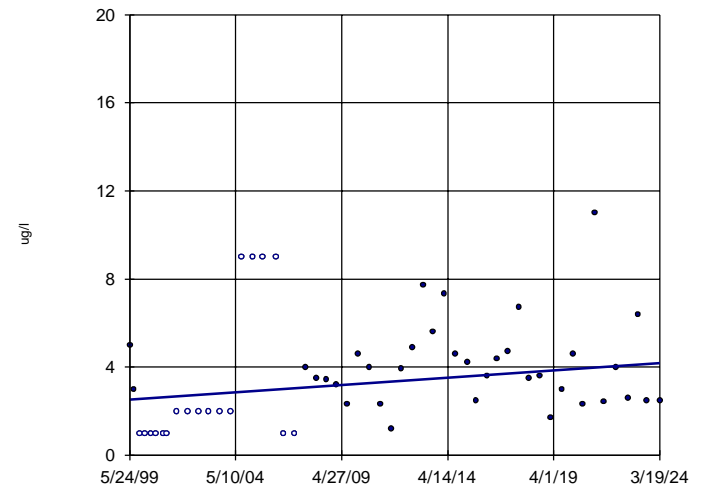
Sen's Slope Estimator MW-3A



n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
-0.1739
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Arsenic Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

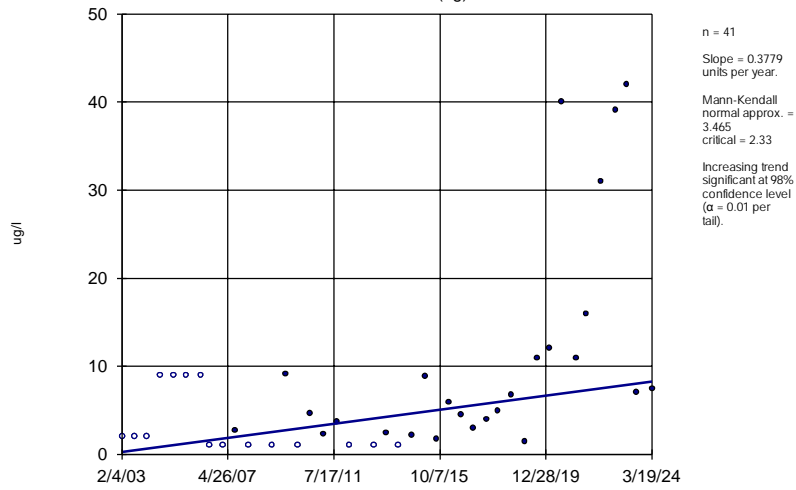
Sen's Slope Estimator MW-4A



n = 54
Slope = 0.06671
units per year.
Mann-Kendall
normal approx. =
2.53
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

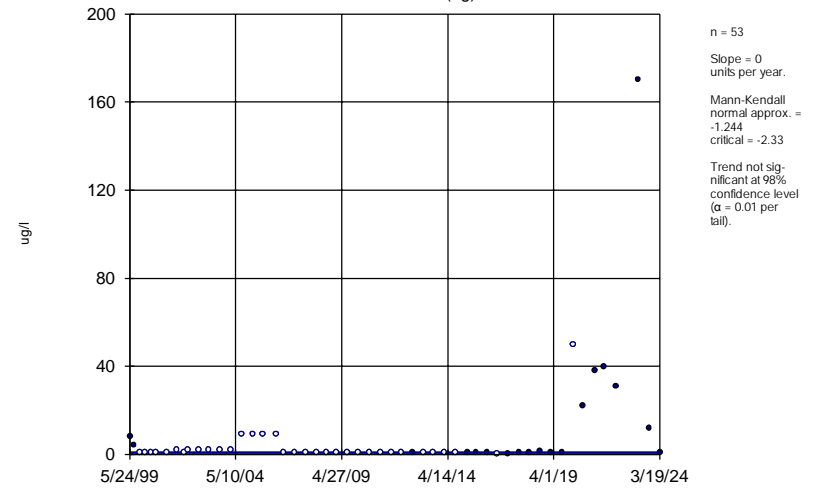
Constituent: Arsenic Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-6B (bg)



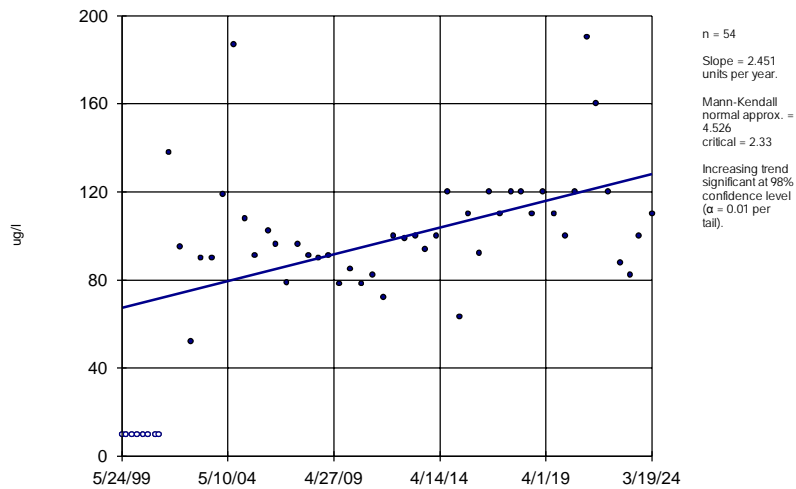
Constituent: Arsenic Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-7A (bg)



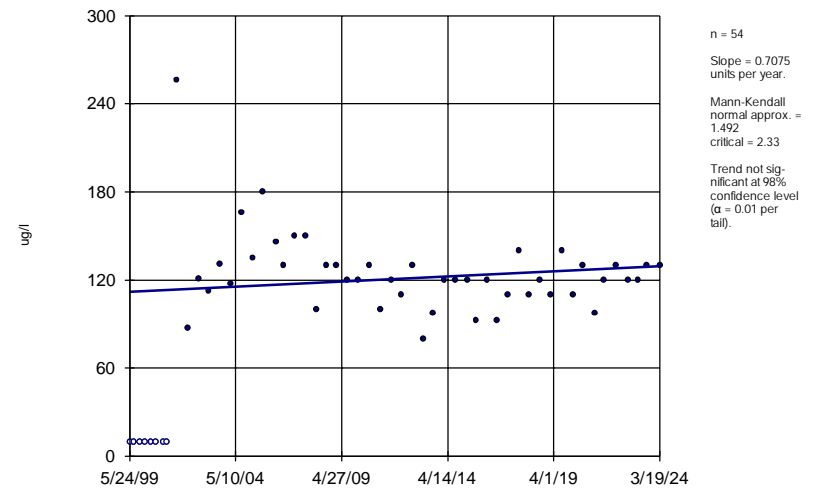
Constituent: Arsenic Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-1A



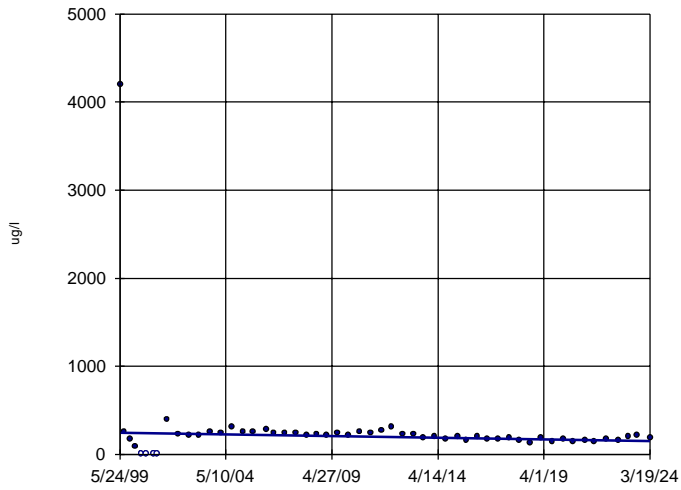
Constituent: Barium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-2A



Constituent: Barium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

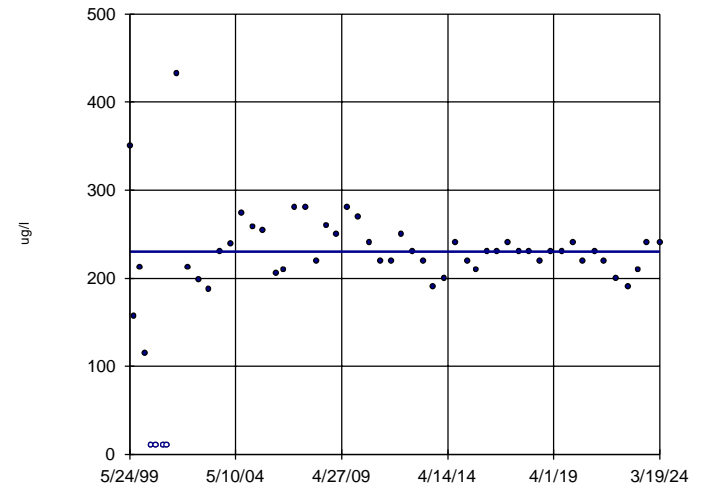
Sen's Slope Estimator MW-3A



n = 54
Slope = -3.781
units per year.
Mann-Kendall
normal approx. =
-3.161
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Barium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

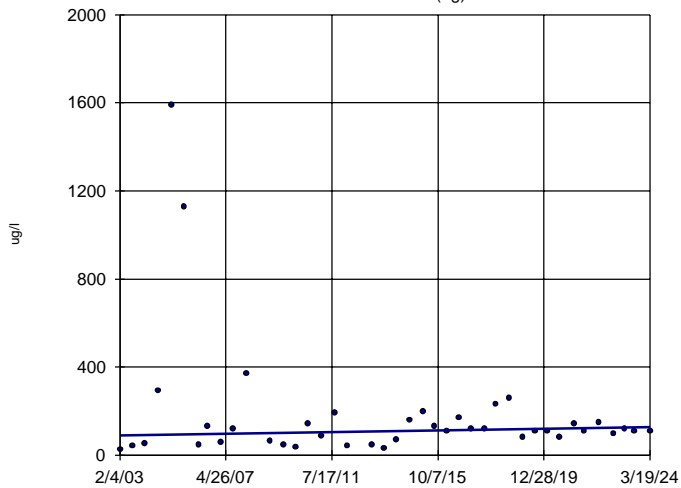
Sen's Slope Estimator MW-4A



n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
0.5473
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Barium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

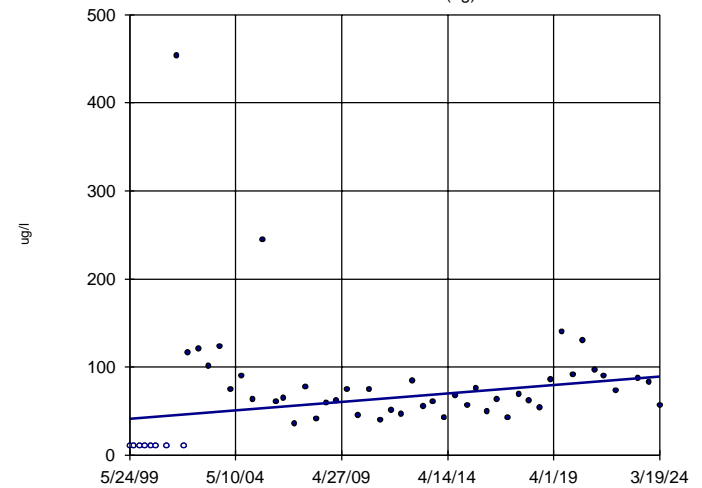
Sen's Slope Estimator MW-6B (bg)



n = 41
Slope = 1.81
units per year.
Mann-Kendall
normal approx. =
0.8107
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Barium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

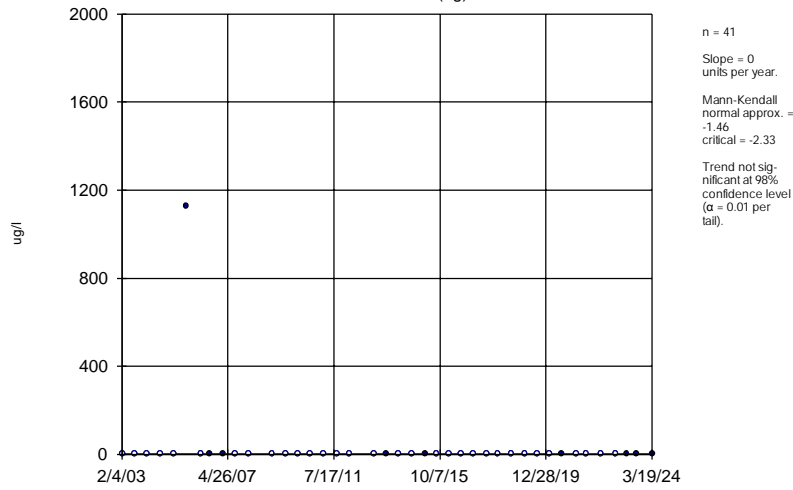
Sen's Slope Estimator MW-7A (bg)



n = 53
Slope = 1.911
units per year.
Mann-Kendall
normal approx. =
2.39
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

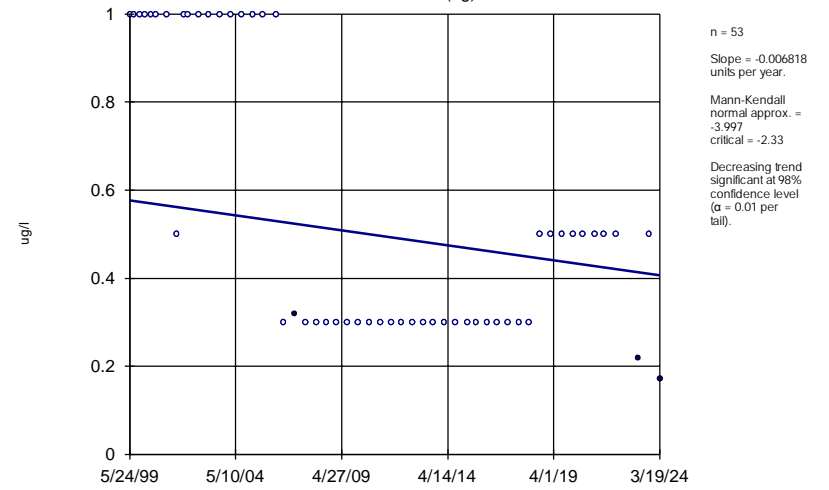
Constituent: Barium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-6B (bg)



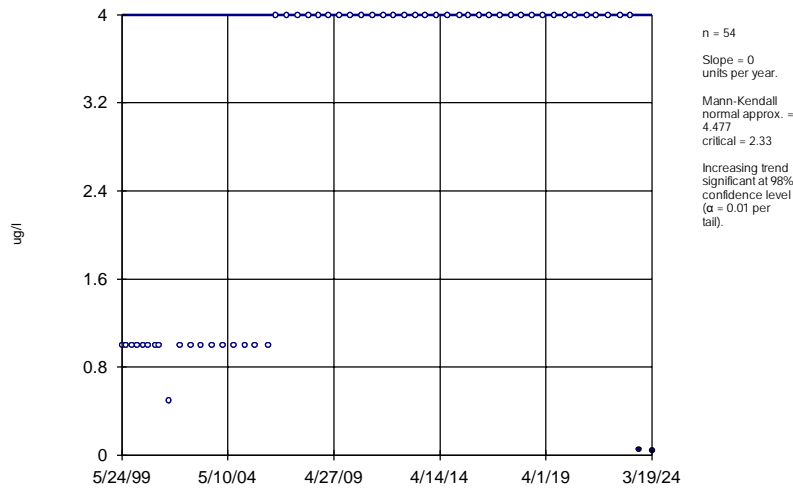
Constituent: Beryllium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-7A (bg)



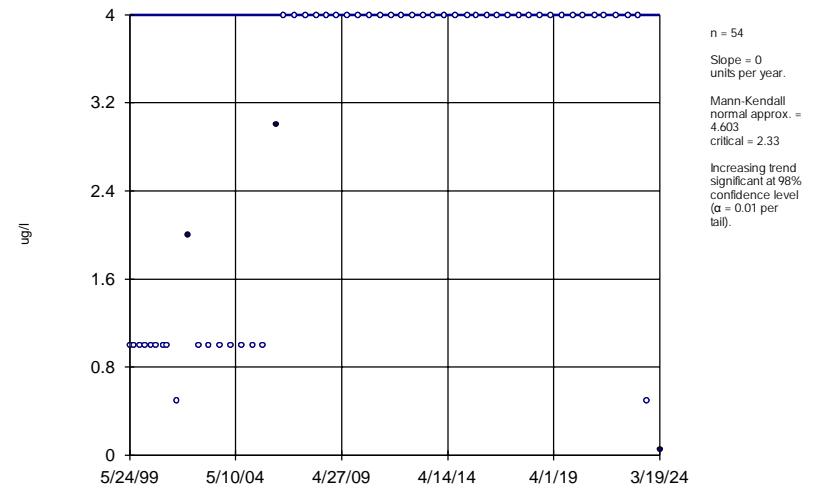
Constituent: Beryllium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-1A



Constituent: Cadmium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

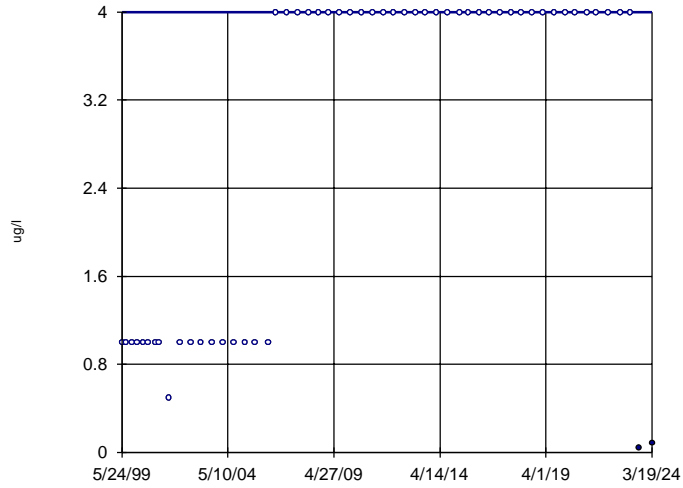
Sen's Slope Estimator MW-3A



Constituent: Cadmium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-4A

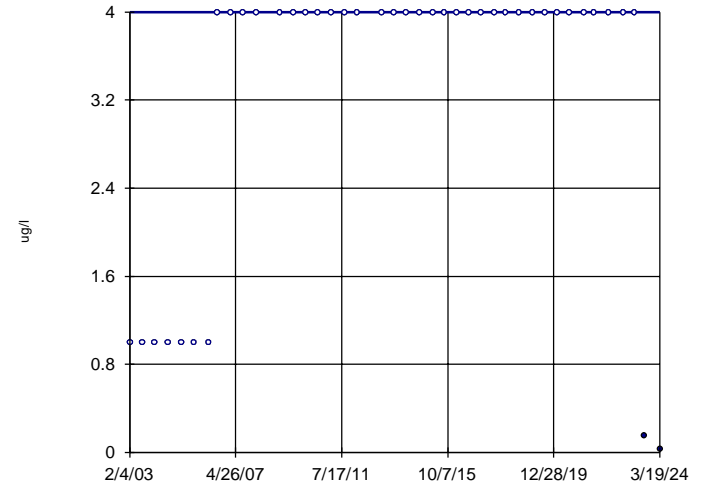


n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
4.494
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Cadmium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-6B (bg)

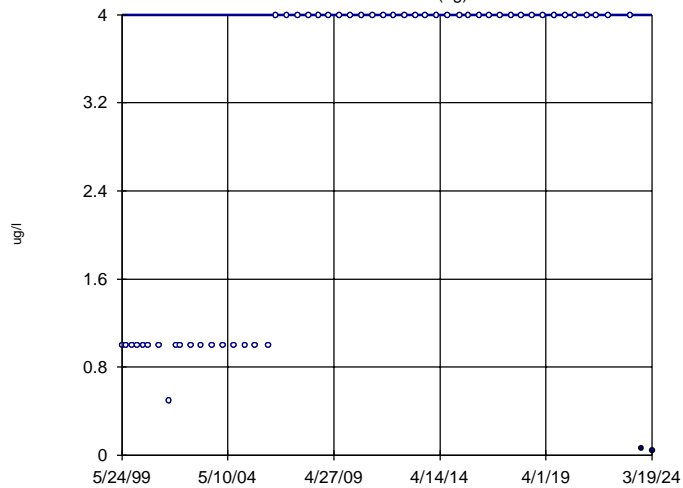


n = 41
Slope = 0
units per year.
Mann-Kendall
normal approx. =
2.255
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Cadmium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-7A (bg)

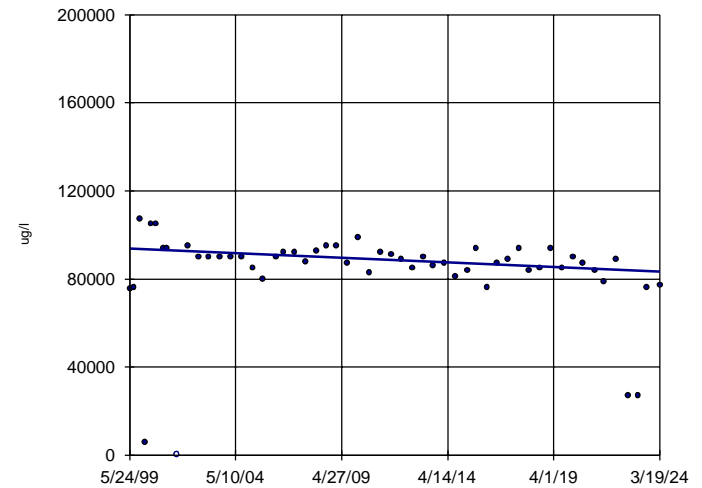


n = 53
Slope = 0
units per year.
Mann-Kendall
normal approx. =
4.456
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Cadmium Total Analysis Run 4/10/2024 12:22 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

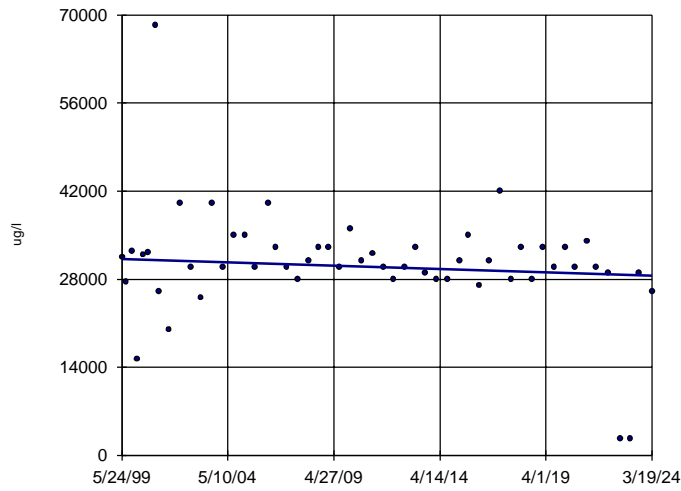
MW-1A



n = 54
Slope = -428.6
units per year.
Mann-Kendall
normal approx. =
-2.866
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Chloride Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

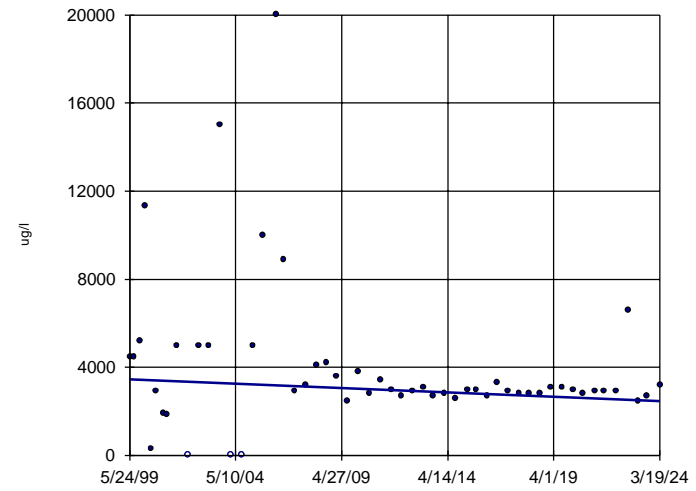
Sen's Slope Estimator MW-2A



n = 54
 Slope = -109.6
 units per year.
 Mann-Kendall
 normal approx. =
 -1.434
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Chloride Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

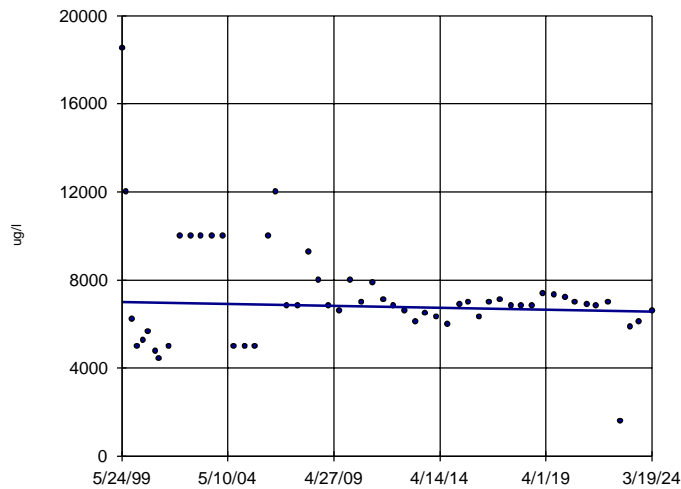
Sen's Slope Estimator MW-3A



n = 54
 Slope = -39.89
 units per year.
 Mann-Kendall
 normal approx. =
 -1.907
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Chloride Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

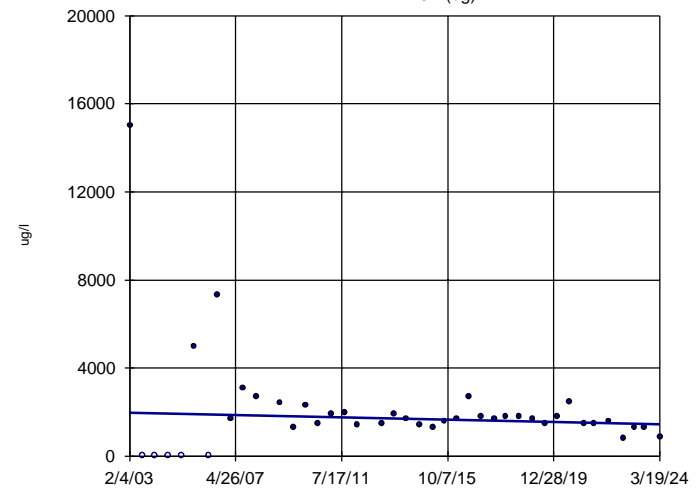
Sen's Slope Estimator MW-4A



n = 54
 Slope = -18.17
 units per year.
 Mann-Kendall
 normal approx. =
 -0.7188
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Chloride Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

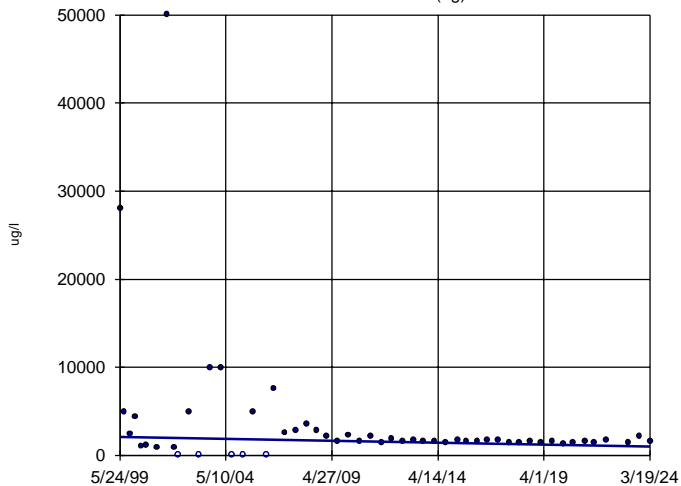
Sen's Slope Estimator MW-6B (bg)



n = 41
 Slope = -24.88
 units per year.
 Mann-Kendall
 normal approx. =
 -1.185
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Chloride Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

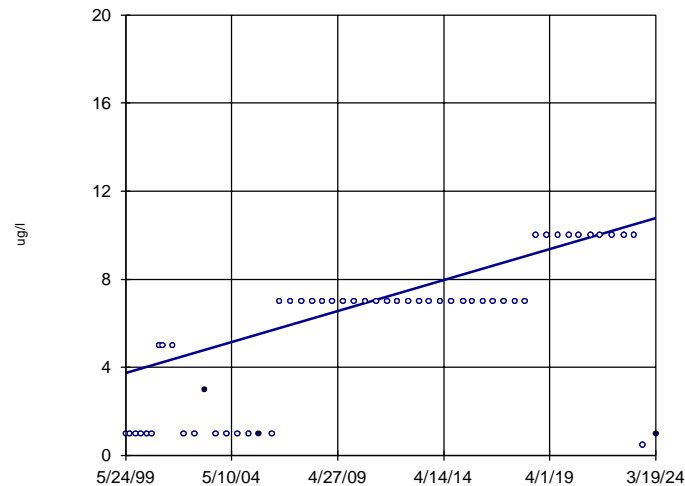
Sen's Slope Estimator MW-7A (bg)



n = 53
Slope = -44.87
units per year.
Mann-Kendall
normal approx. =
-2.331
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Chloride Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

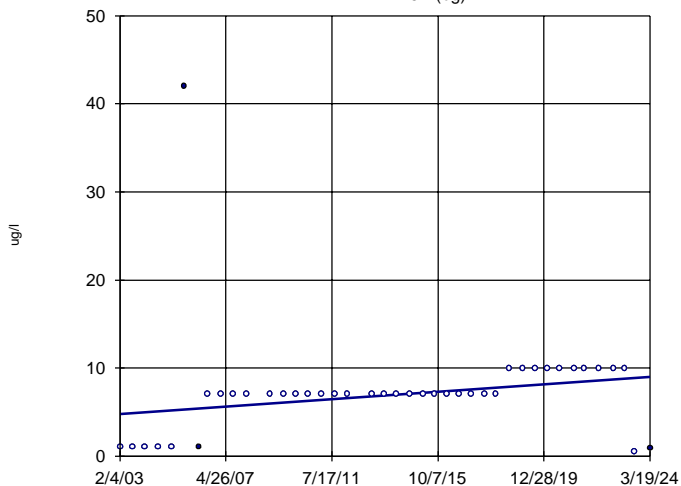
Sen's Slope Estimator MW-1A



n = 54
Slope = 0.2824
units per year.
Mann-Kendall
normal approx. =
5.88
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Chromium Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

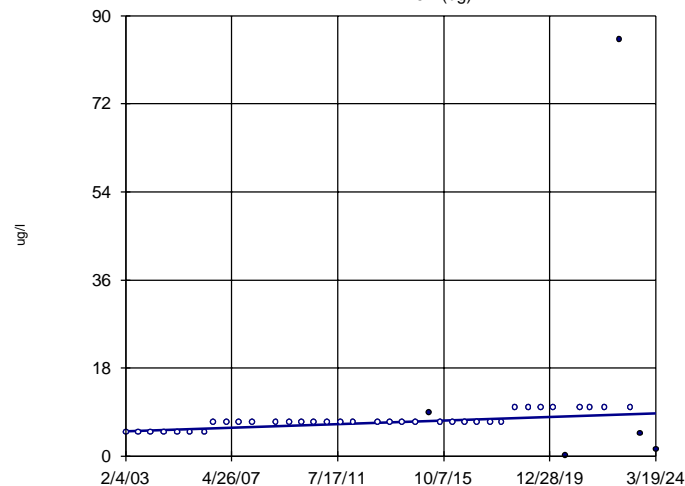
Sen's Slope Estimator MW-6B (bg)



n = 41
Slope = 0.199
units per year.
Mann-Kendall
normal approx. =
3.791
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Chromium Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

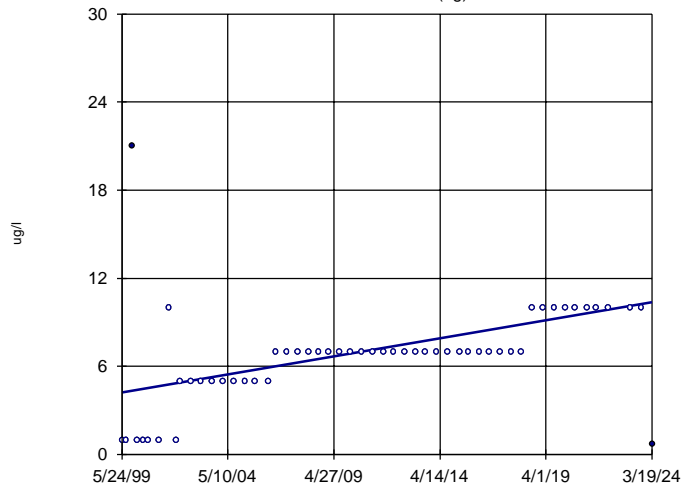
Sen's Slope Estimator MW-6B (bg)



n = 41
Slope = 0.1744
units per year.
Mann-Kendall
normal approx. =
3.977
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

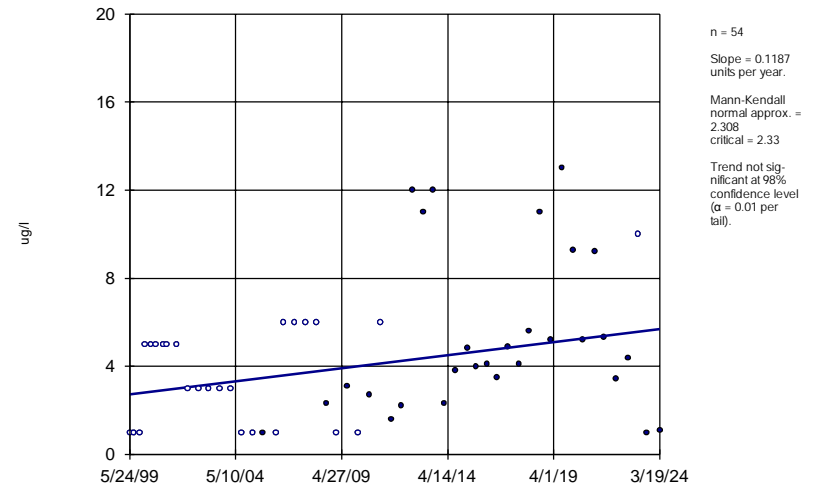
Constituent: Cobalt Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-7A (bg)



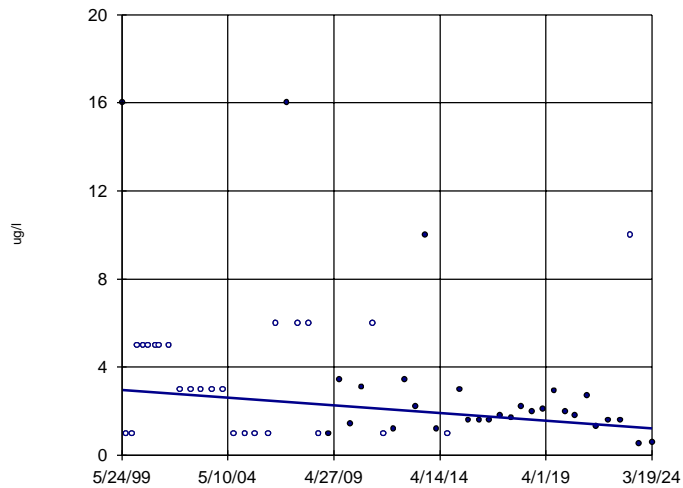
Constituent: Cobalt Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-1A



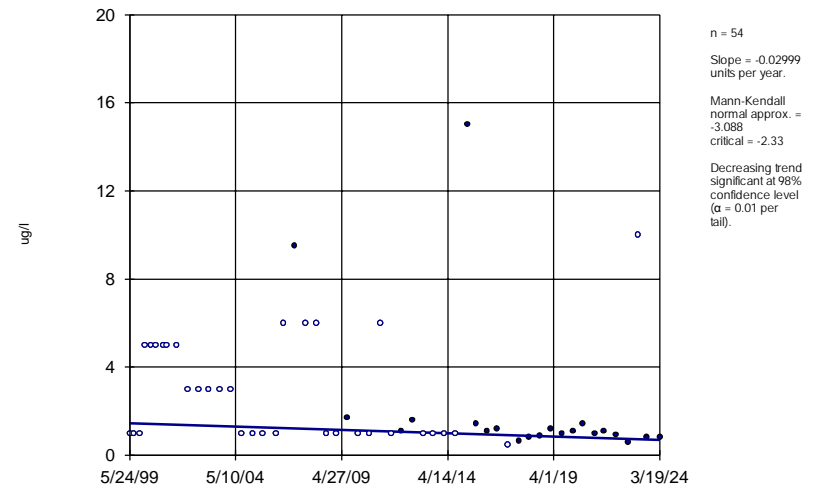
Constituent: Copper Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-2A



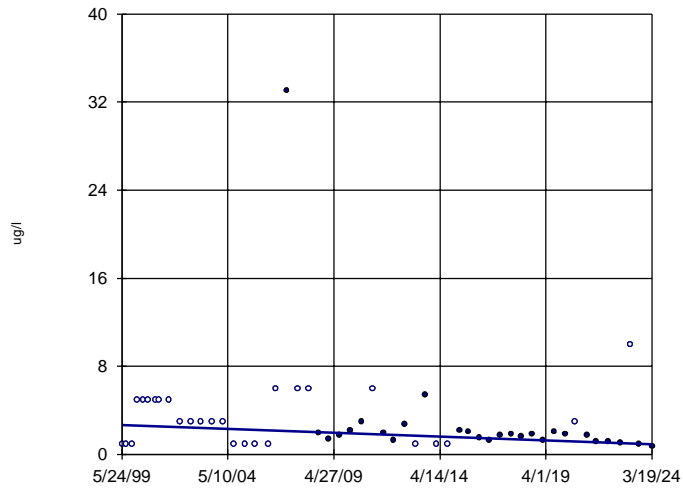
Constituent: Copper Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-3A



Constituent: Copper Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

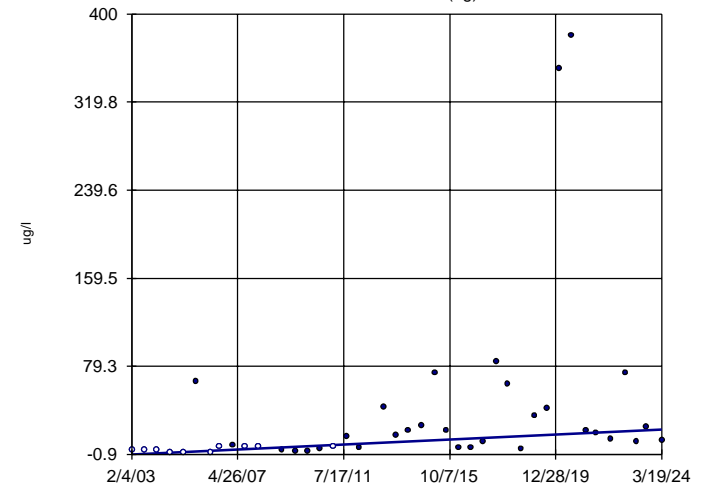
Sen's Slope Estimator MW-4A



n = 54
Slope = -0.0698
units per year.
Mann-Kendall
normal approx. =
-2.252
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Copper Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

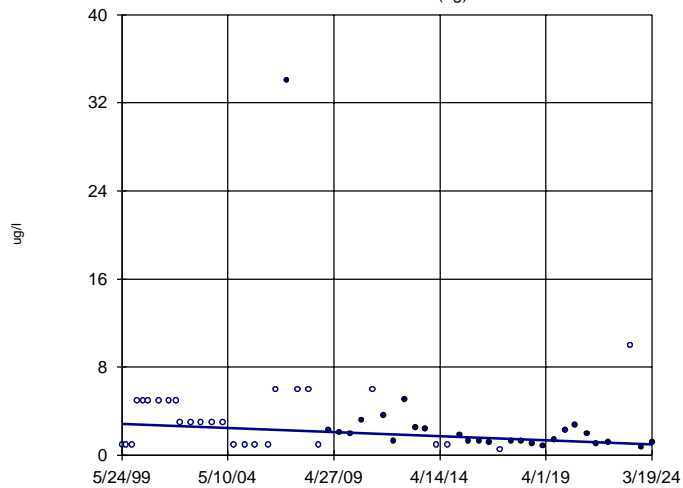
Sen's Slope Estimator MW-6B (bg)



n = 41
Slope = 1.068
units per year.
Mann-Kendall
normal approx. =
3.971
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Copper Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

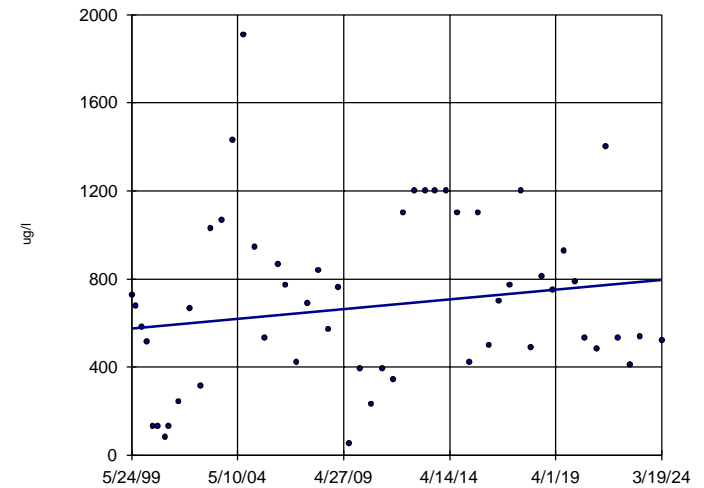
Sen's Slope Estimator MW-7A (bg)



n = 53
Slope = -0.07529
units per year.
Mann-Kendall
normal approx. =
-2.191
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Copper Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-1A

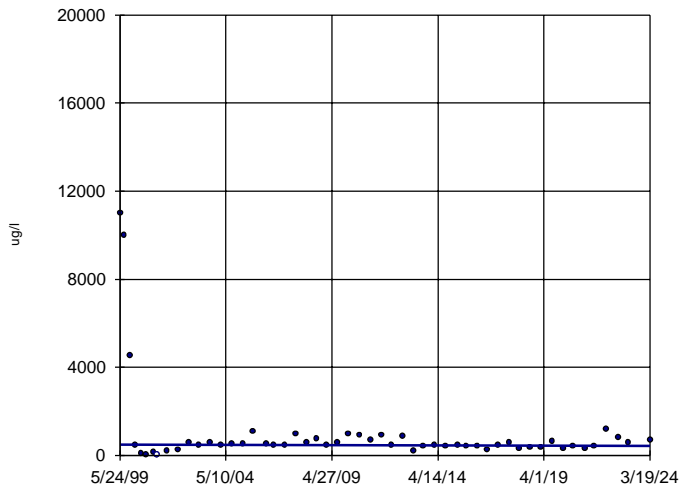


n = 53
Slope = 8.859
units per year.
Mann-Kendall
normal approx. =
1.175
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Iron Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-2A

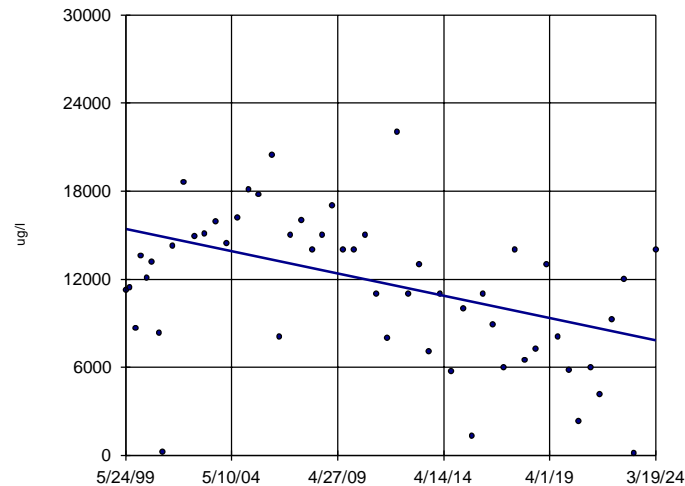


n = 53
Slope = -2.348
units per year.
Mann-Kendall
normal approx. =
-0.2916
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Iron Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-3A

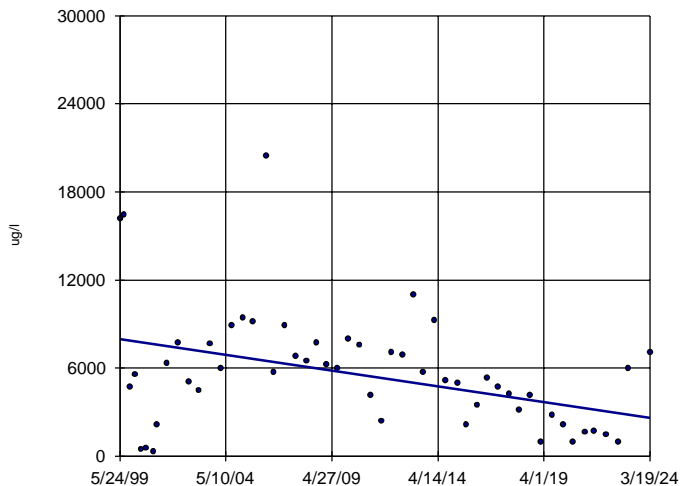


n = 53
Slope = -305.6
units per year.
Mann-Kendall
normal approx. =
-3.371
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Iron Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-4A

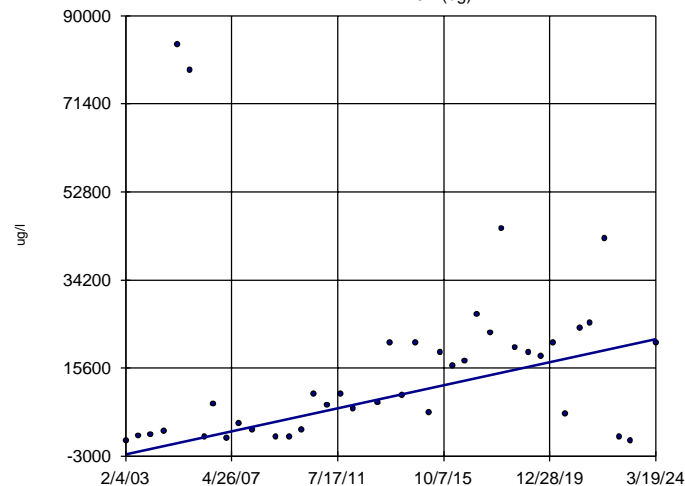


n = 53
Slope = -216.3
units per year.
Mann-Kendall
normal approx. =
-2.938
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Iron Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

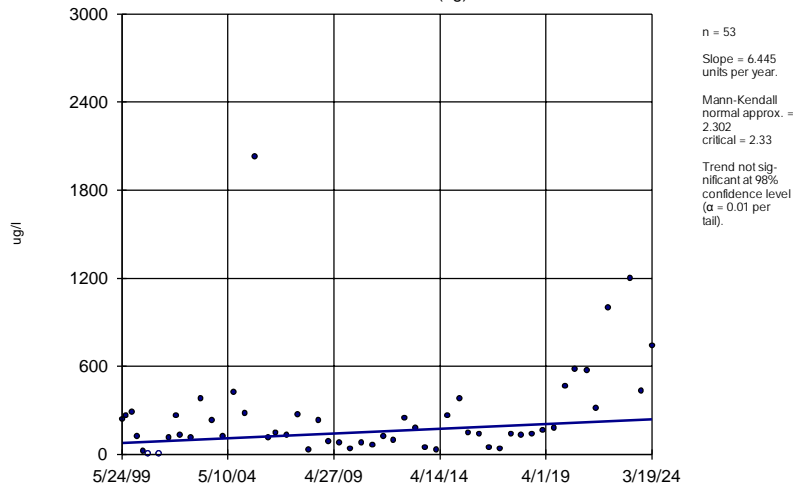
MW-6B (bg)



n = 40
Slope = 1147
units per year.
Mann-Kendall
statistic = 281
critical = 201
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

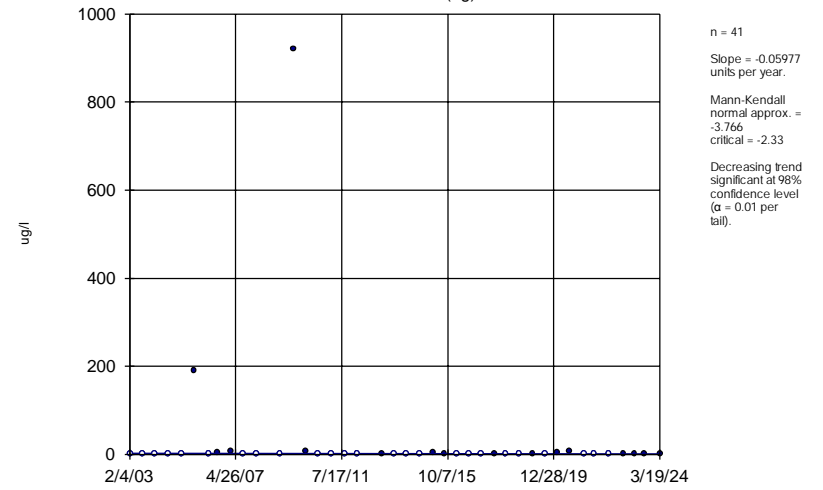
Constituent: Iron Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-7A (bg)



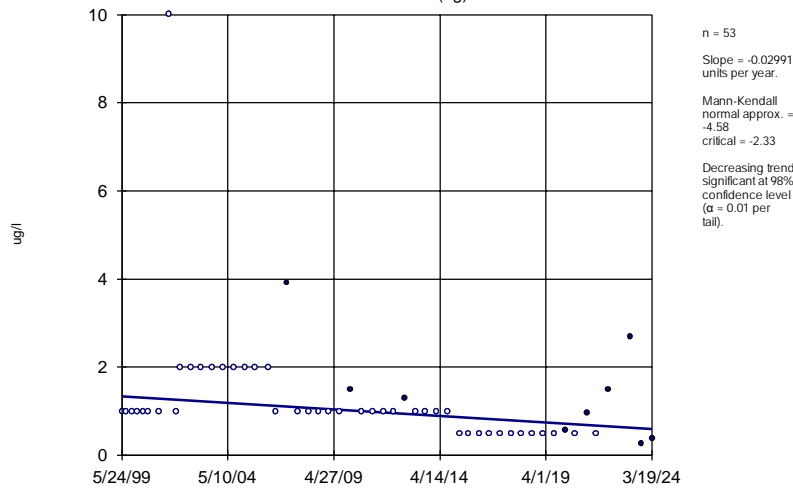
Constituent: Iron Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-6B (bg)



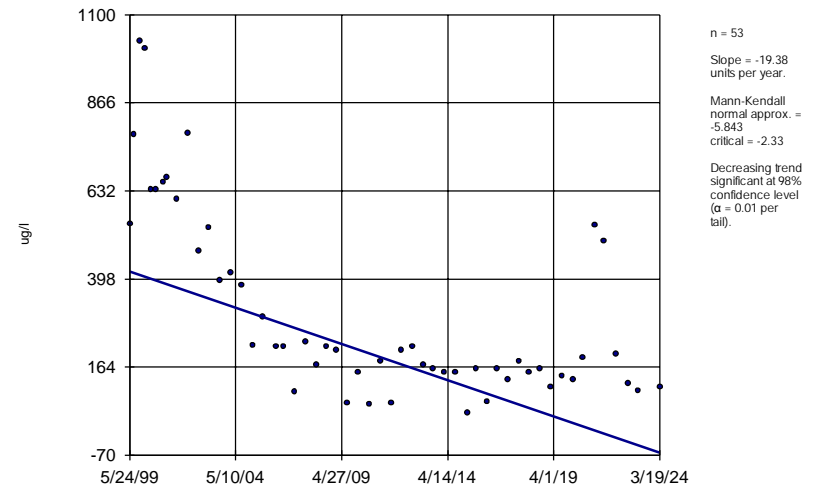
Constituent: Lead Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-7A (bg)



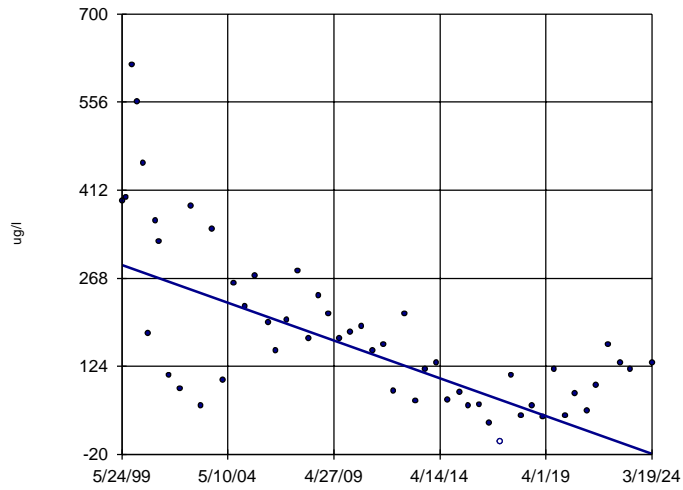
Constituent: Lead Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-1A



Constituent: Manganese Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

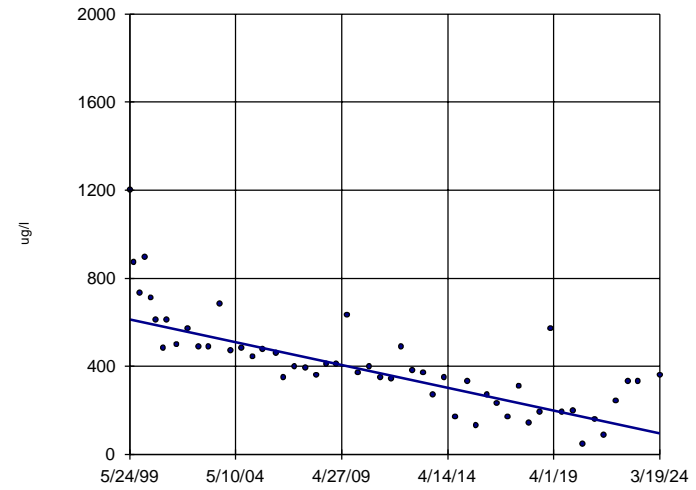
Sen's Slope Estimator MW-2A



n = 53
Slope = -12.41
units per year.
Mann-Kendall
normal approx. =
-5.579
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Manganese Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

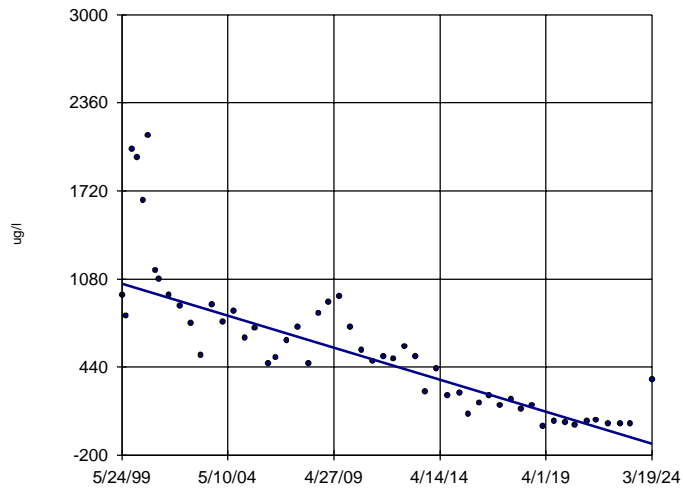
Sen's Slope Estimator MW-3A



n = 53
Slope = -20.84
units per year.
Mann-Kendall
normal approx. =
-7.198
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Manganese Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

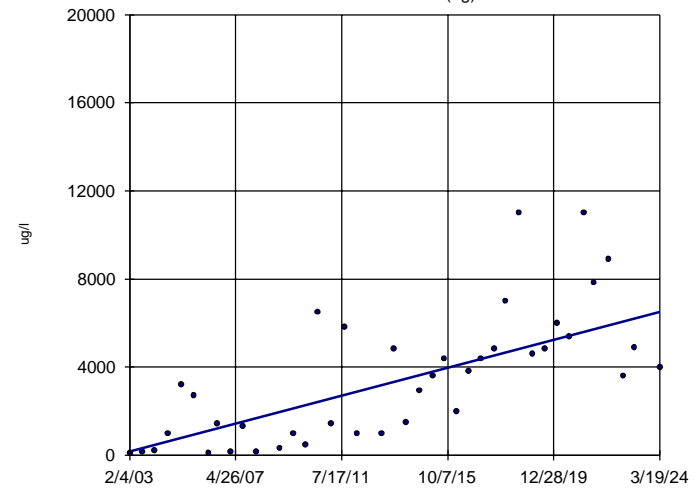
Sen's Slope Estimator MW-4A



n = 53
Slope = -46.86
units per year.
Mann-Kendall
normal approx. =
-7.971
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Manganese Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-6B (bg)

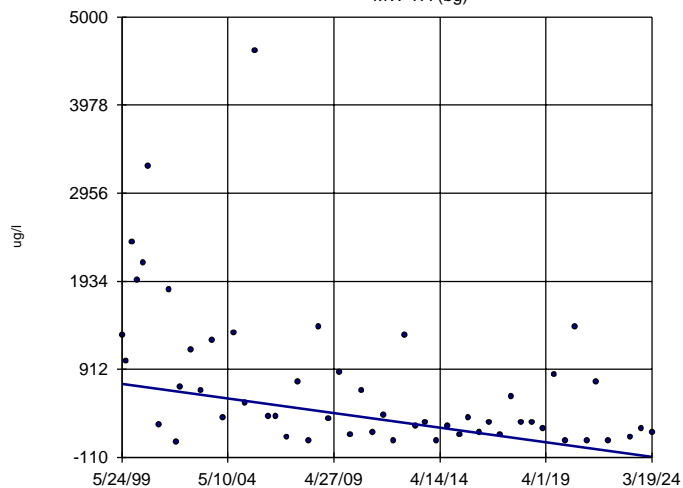


n = 40
Slope = 300.1
units per year.
Mann-Kendall
statistic = 458
critical = 201
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Manganese Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-7A (bg)



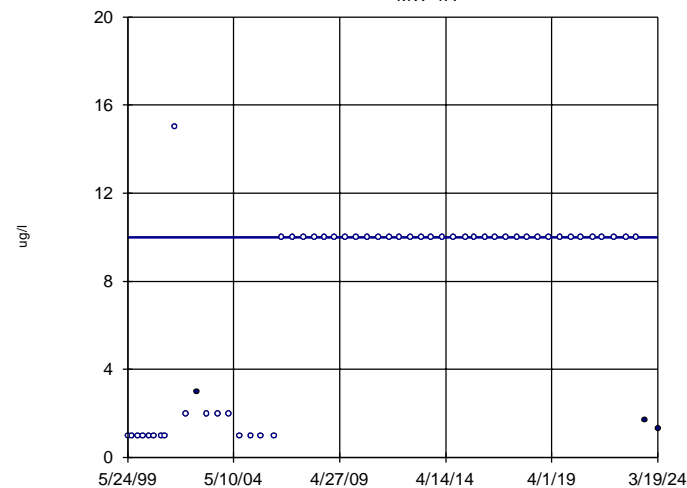
n = 53
 Slope = -34.08
 units per year.
 Mann-Kendall
 normal approx. =
 -4.013
 critical = -2.33
 Decreasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Manganese Total Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1A



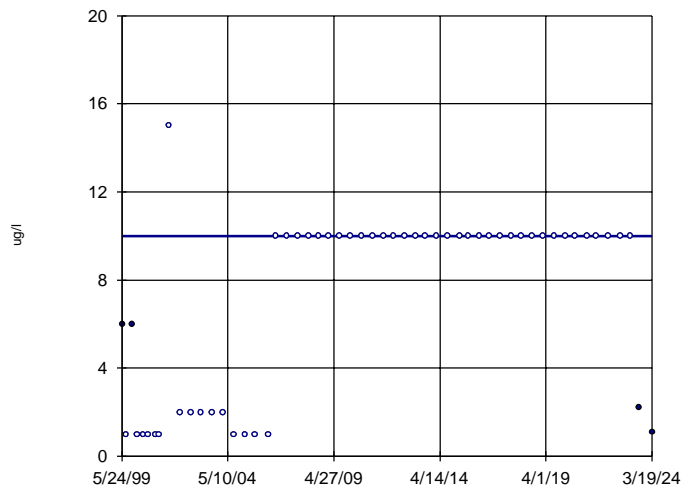
n = 54
 Slope = 0
 units per year.
 Mann-Kendall
 normal approx. =
 4.379
 critical = 2.33
 Increasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Nickel Total Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-2A



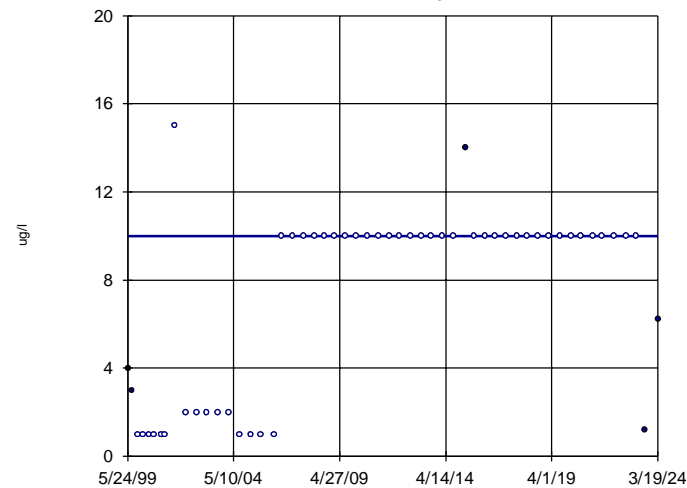
n = 54
 Slope = 0
 units per year.
 Mann-Kendall
 normal approx. =
 4.071
 critical = 2.33
 Increasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Nickel Total Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Hollow symbols indicate censored values.

Sen's Slope Estimator

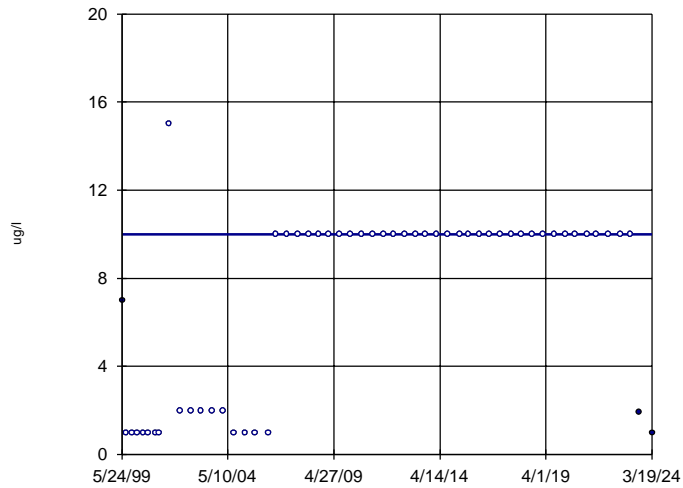
MW-3A



n = 54
 Slope = 0
 units per year.
 Mann-Kendall
 normal approx. =
 4.047
 critical = 2.33
 Increasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Nickel Total Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

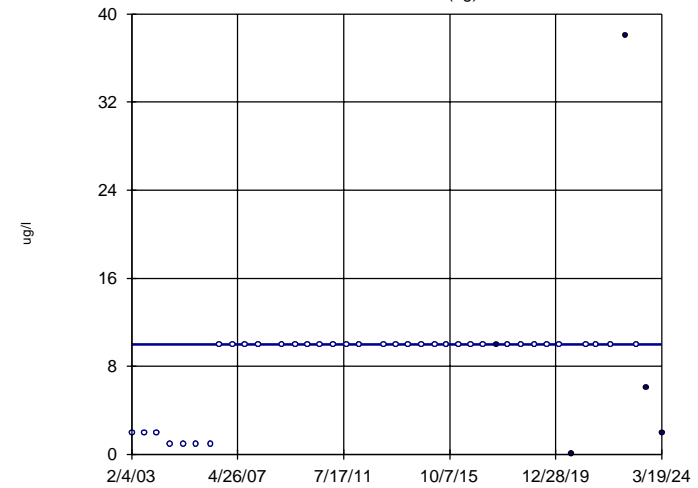
Sen's Slope Estimator MW-4A



n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
3.981
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Nickel Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

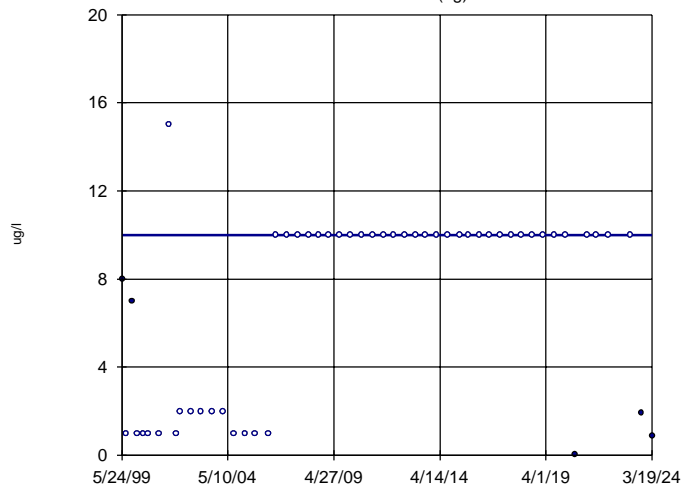
Sen's Slope Estimator MW-6B (bg)



n = 41
Slope = 0
units per year.
Mann-Kendall
normal approx. =
2.23
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Nickel Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

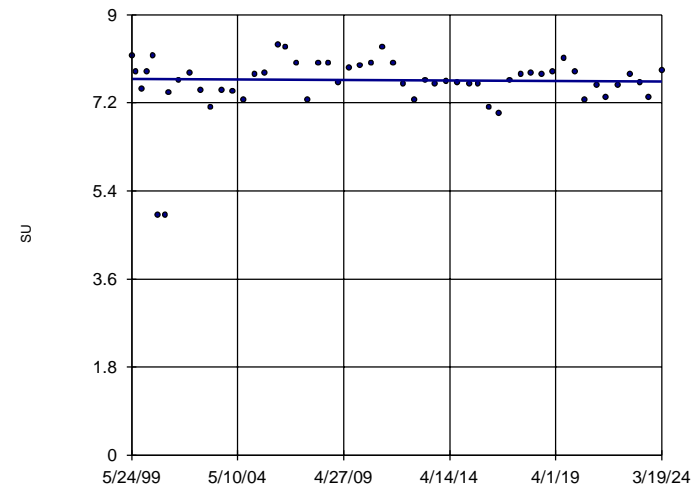
Sen's Slope Estimator MW-7A (bg)



n = 53
Slope = 0
units per year.
Mann-Kendall
normal approx. =
3.221
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Nickel Total Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-1A

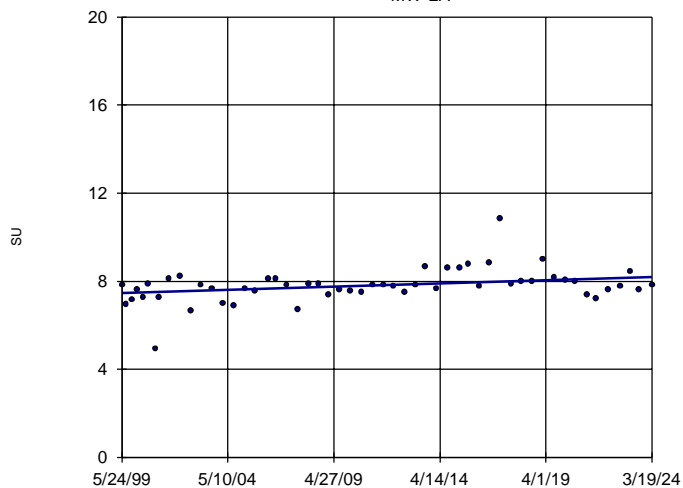


n = 54
Slope = -0.00199
units per year.
Mann-Kendall
normal approx. =
-0.3584
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: pH Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

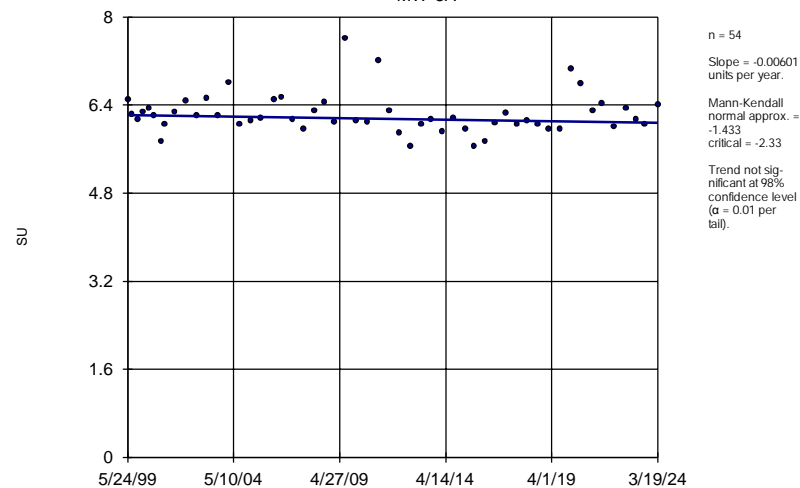
MW-2A



Constituent: pH Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

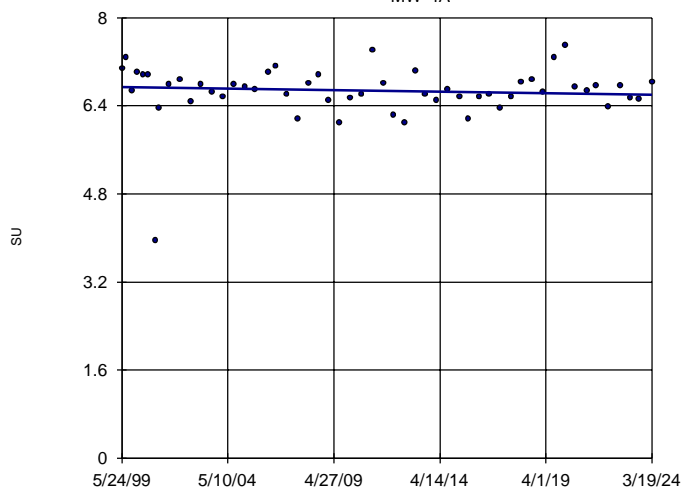
MW-3A



Constituent: pH Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

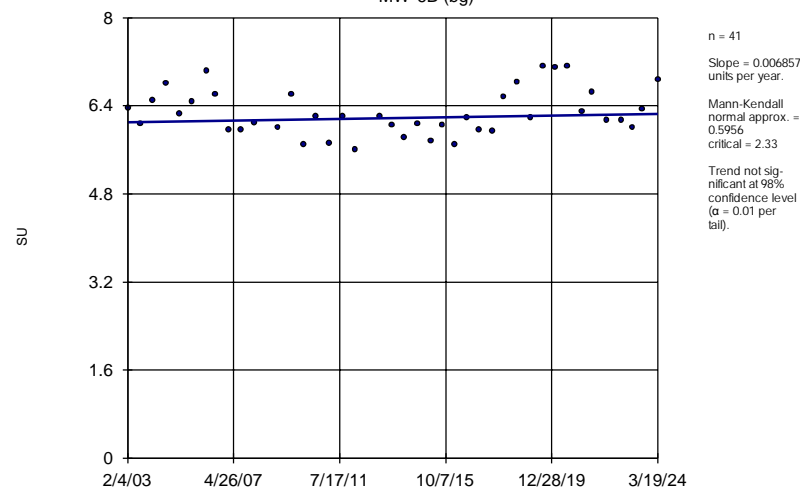
MW-4A



Constituent: pH Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

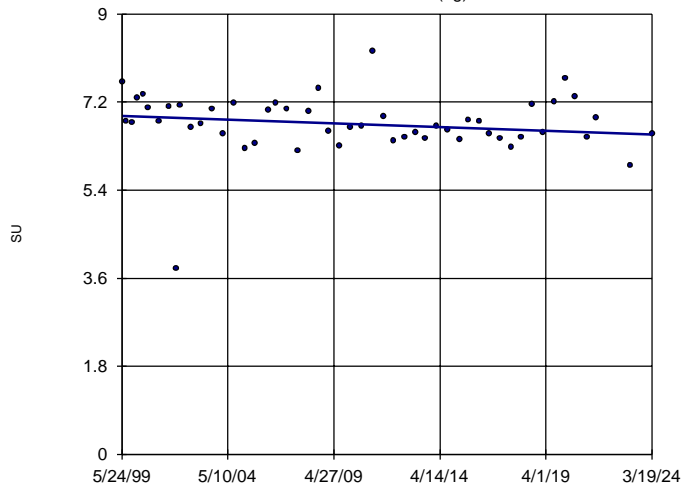
Sen's Slope Estimator

MW-6B (bg)



Constituent: pH Analysis Run 4/10/2024 12:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

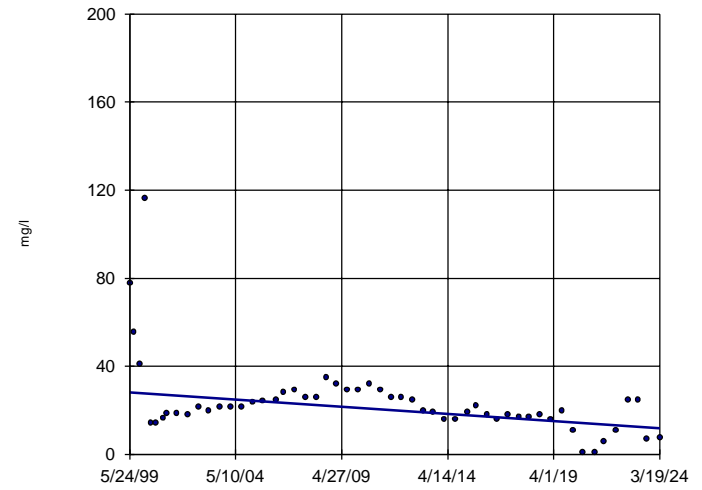
Sen's Slope Estimator MW-7A (bg)



n = 51
 Slope = -0.01527
 units per year.
 Mann-Kendall
 normal approx. =
 -1.69
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: pH Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

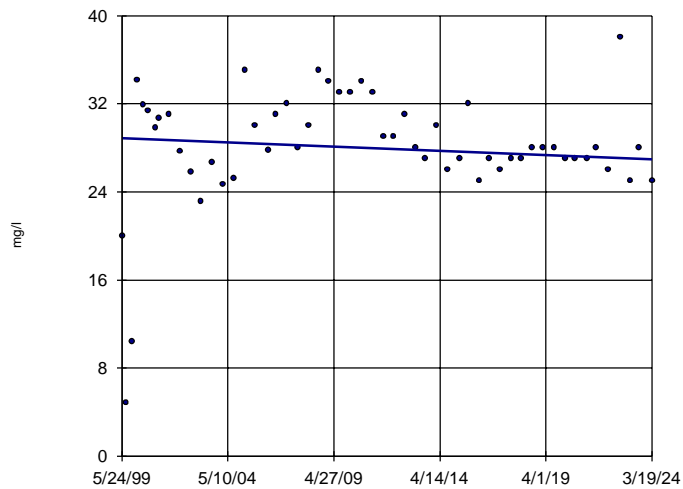
Sen's Slope Estimator MW-1A



n = 54
 Slope = -0.6536
 units per year.
 Mann-Kendall
 normal approx. =
 -3.51
 critical = -2.33
 Decreasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Sulfate Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

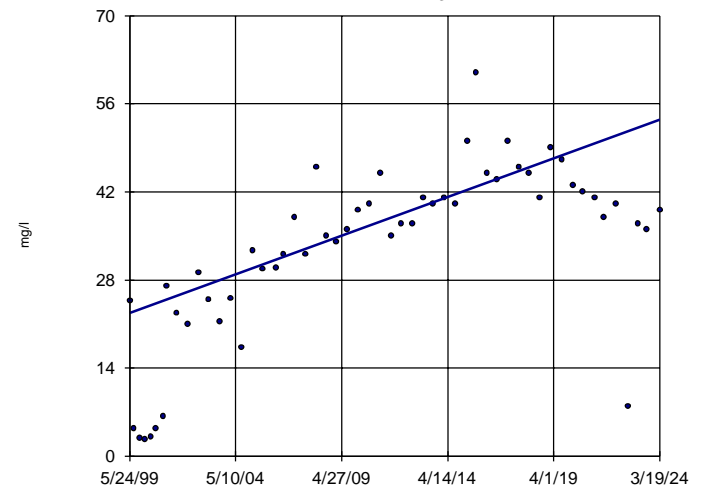
Sen's Slope Estimator MW-2A



n = 54
 Slope = -0.0793
 units per year.
 Mann-Kendall
 normal approx. =
 -1.011
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Sulfate Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-3A

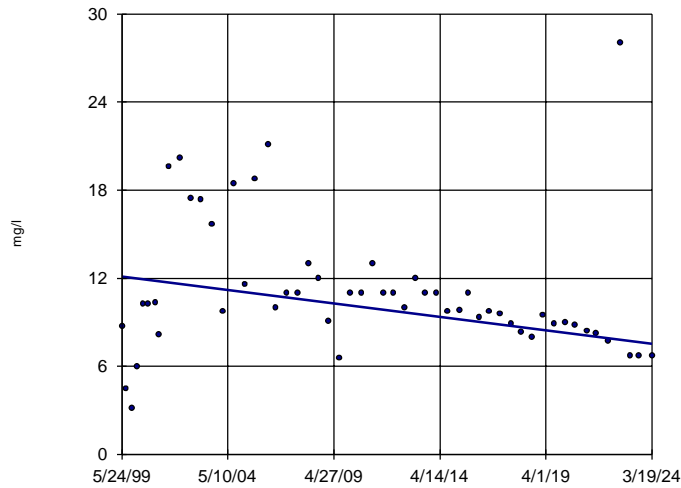


n = 54
 Slope = 1.239
 units per year.
 Mann-Kendall
 normal approx. =
 6.056
 critical = 2.33
 Increasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Sulfate Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-4A

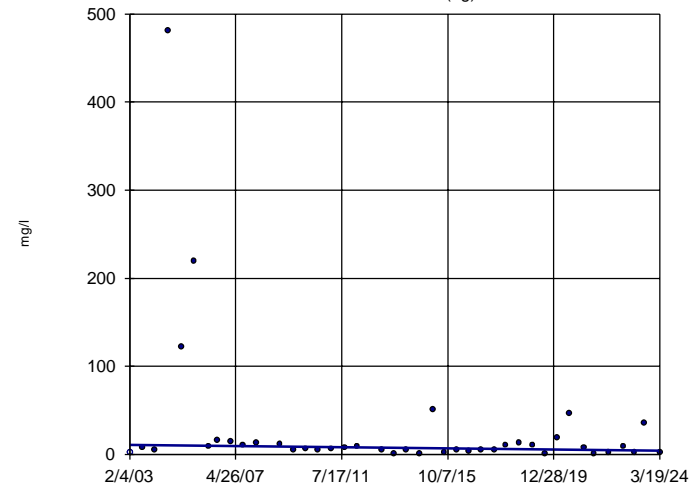


n = 54
 Slope = -0.184
 units per year.
 Mann-Kendall
 normal approx. =
 -3.15
 critical = -2.33
 Decreasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Sulfate Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-6B (bg)

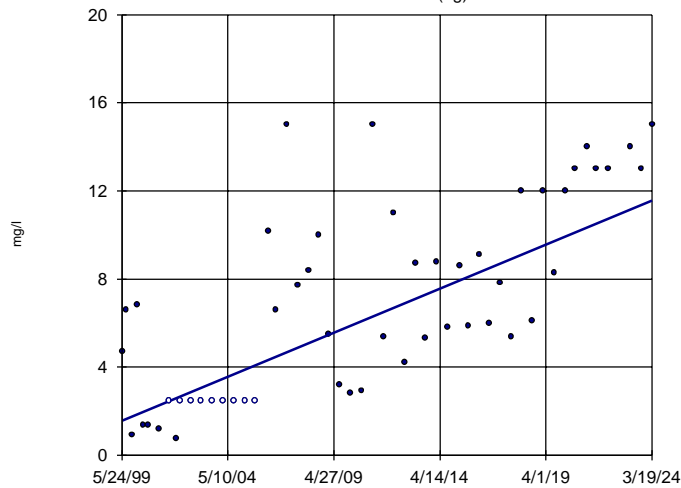


n = 41
 Slope = -0.3035
 units per year.
 Mann-Kendall
 normal approx. =
 -1.786
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Sulfate Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-7A (bg)

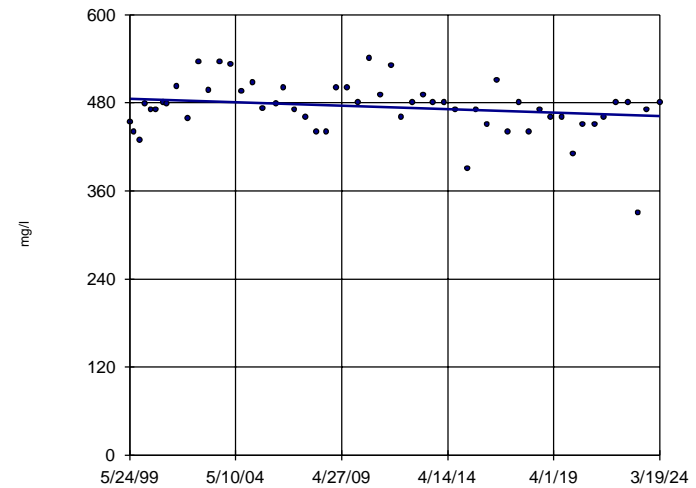


n = 53
 Slope = 0.4024
 units per year.
 Mann-Kendall
 normal approx. =
 5.987
 critical = 2.33
 Increasing trend
 significant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Sulfate Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-1A

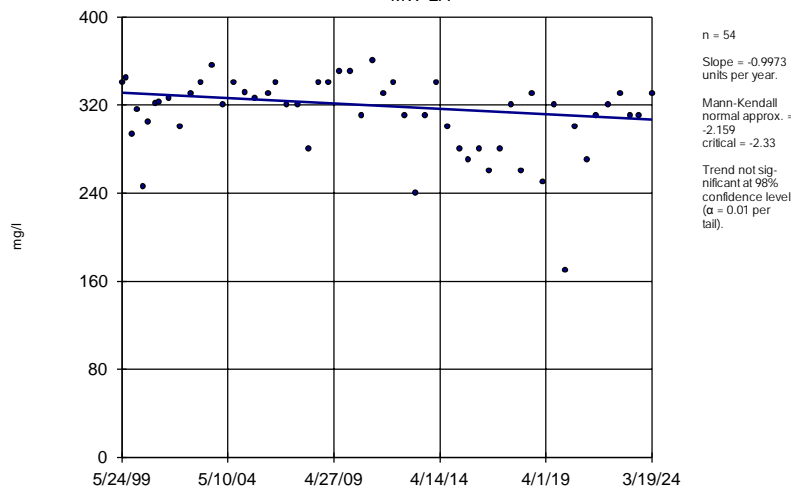


n = 54
 Slope = -0.9511
 units per year.
 Mann-Kendall
 normal approx. =
 -1.819
 critical = -2.33
 Trend not sig-
 nificant at 98%
 confidence level
 ($\alpha = 0.01$ per
 tail).

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 12:23 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

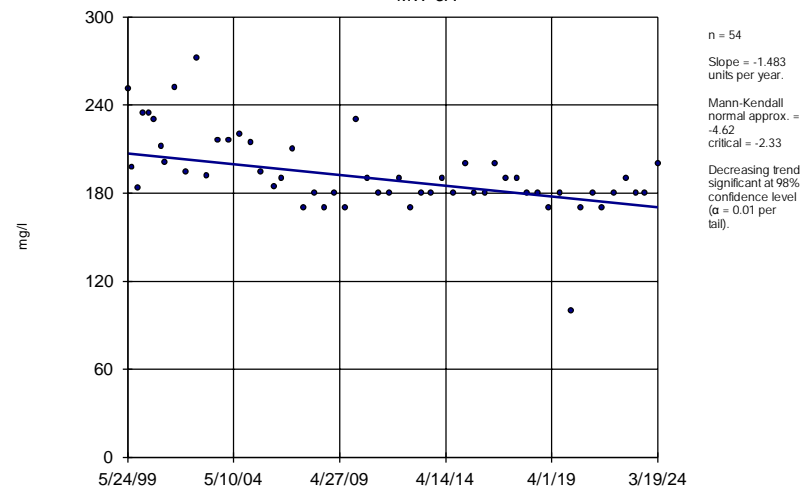
MW-2A



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

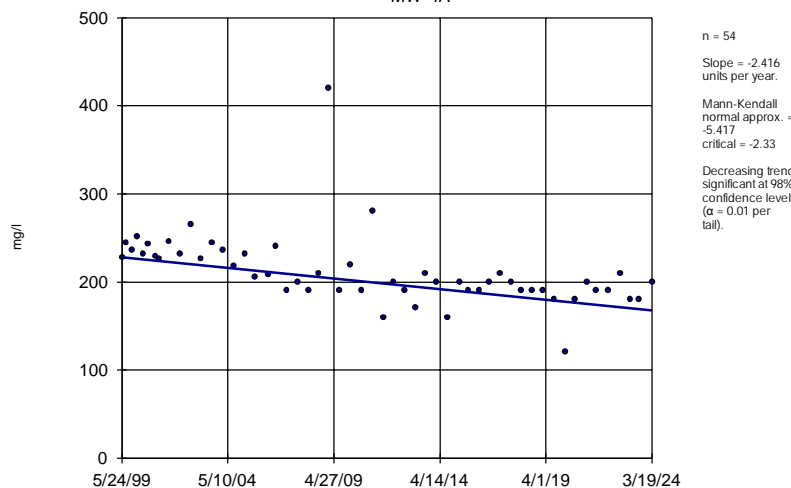
MW-3A



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

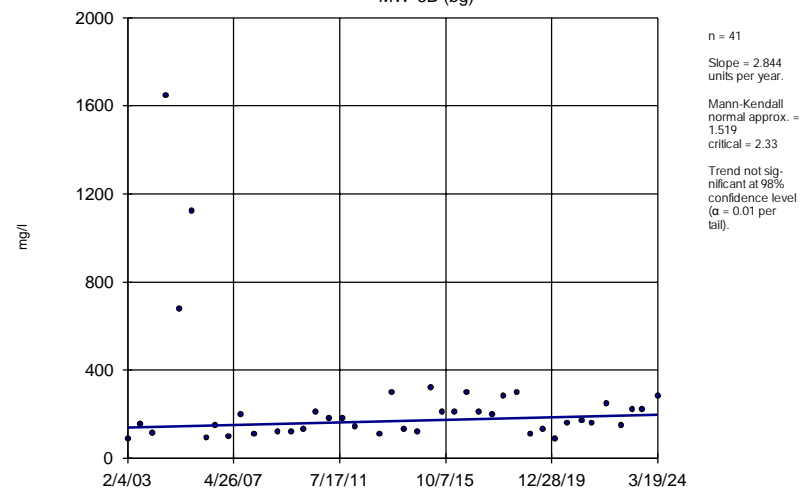
MW-4A



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

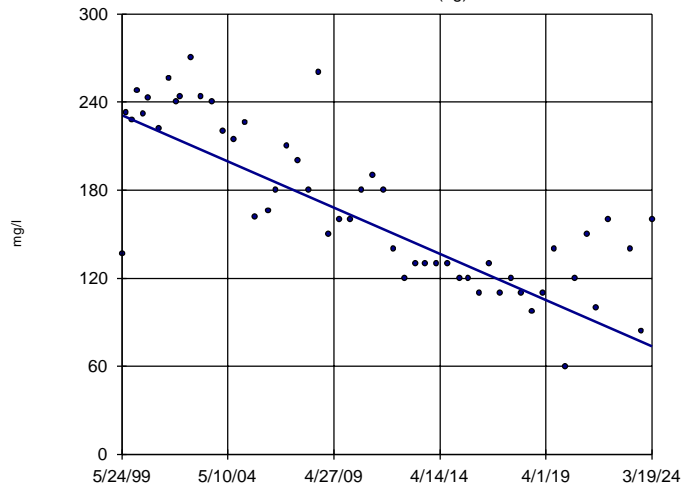
Sen's Slope Estimator

MW-6B (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

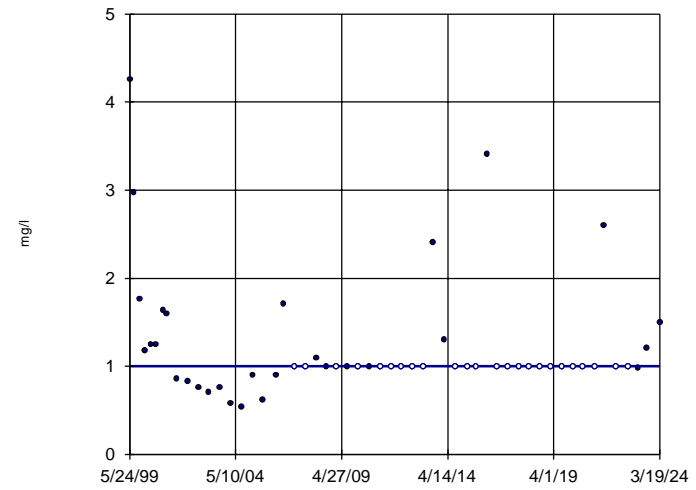
Sen's Slope Estimator
MW-7A (bg)



n = 53
Slope = -6.334
units per year.
Mann-Kendall
normal approx. =
-6.533
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

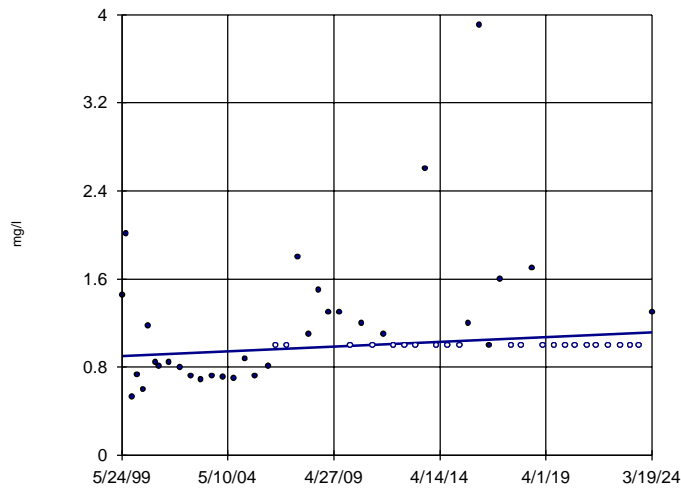
Sen's Slope Estimator
MW-1A



n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
0.2557
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

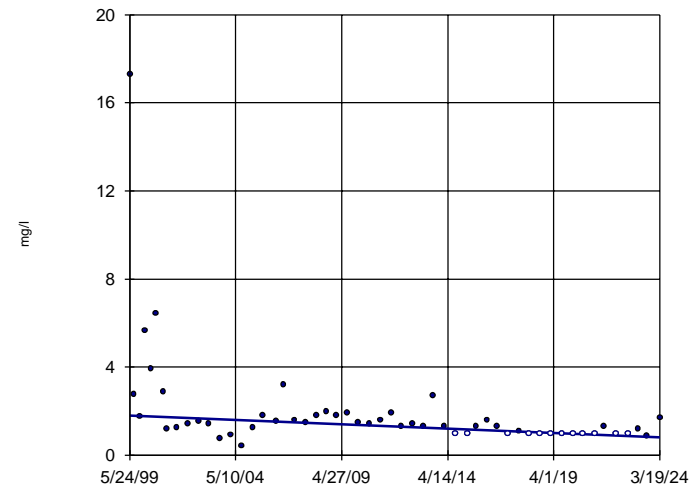
Sen's Slope Estimator
MW-2A



n = 54
Slope = 0.008611
units per year.
Mann-Kendall
normal approx. =
2.551
critical = 2.33
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator
MW-3A

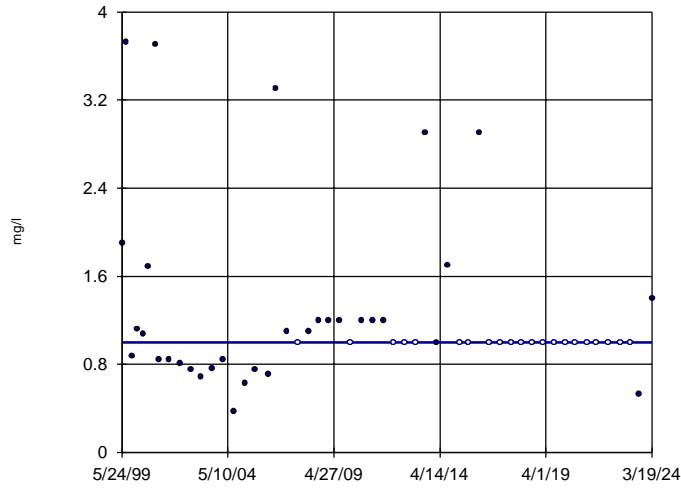


n = 54
Slope = -0.03979
units per year.
Mann-Kendall
normal approx. =
-4.357
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-4A

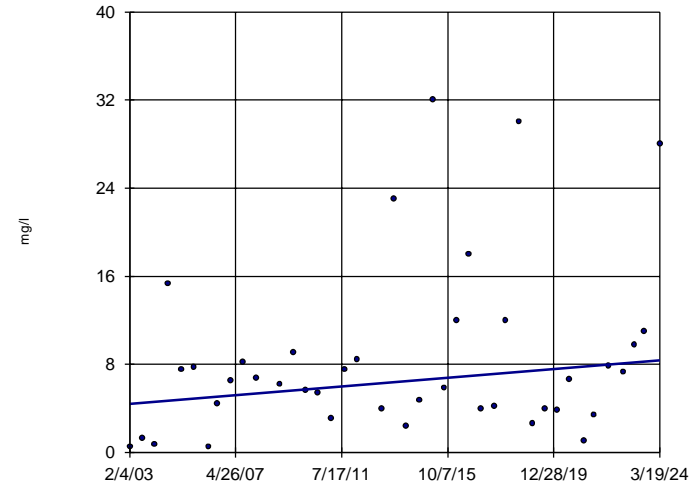


n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
-0.2633
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-6B (bg)

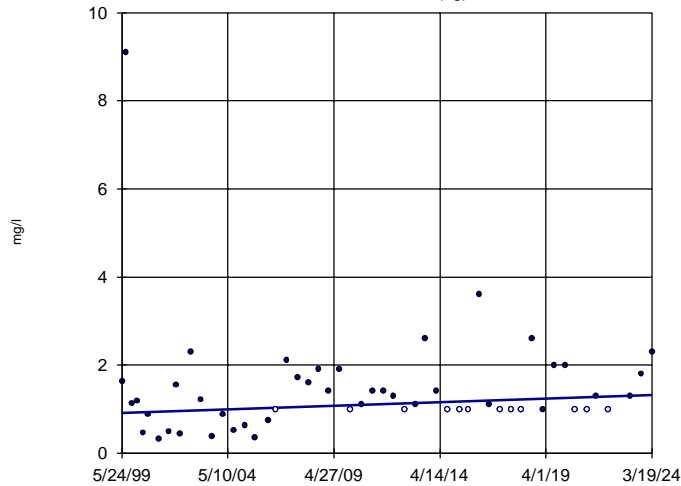


n = 41
Slope = 0.1869
units per year.
Mann-Kendall
normal approx. =
1.359
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-7A (bg)

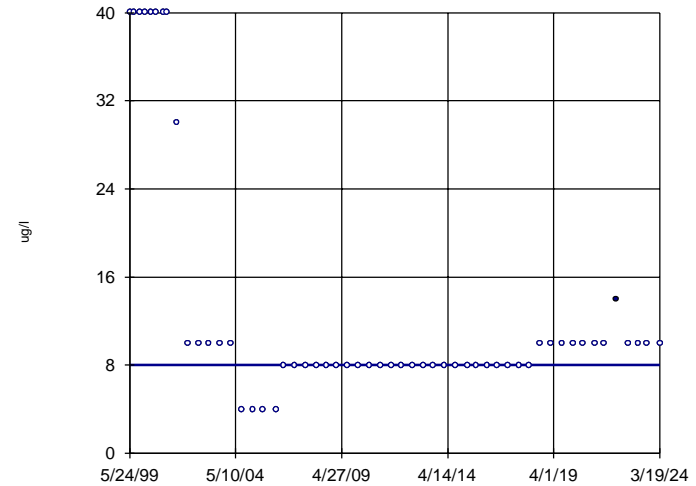


n = 53
Slope = 0.01628
units per year.
Mann-Kendall
normal approx. =
1.609
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-1A

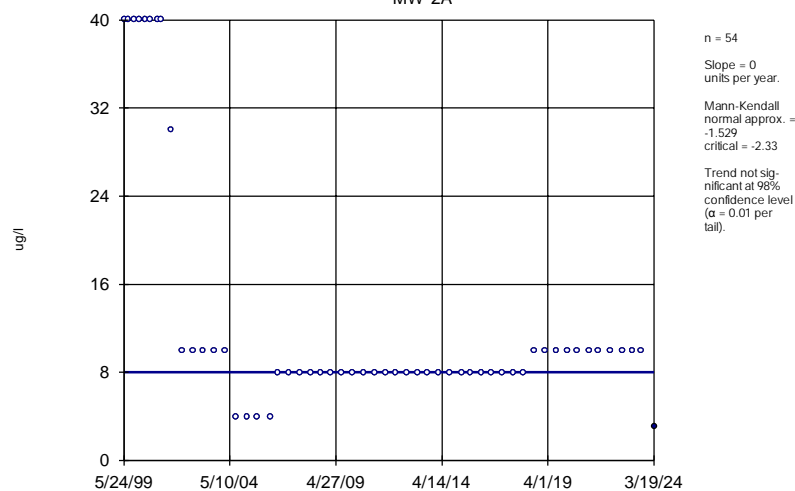


n = 54
Slope = 0
units per year.
Mann-Kendall
normal approx. =
-0.8918
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Vanadium Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

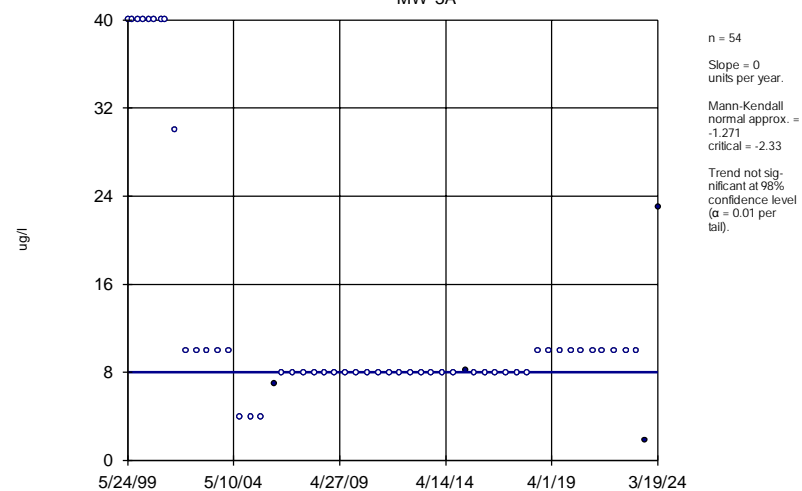
MW-2A



Constituent: Vanadium Total Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

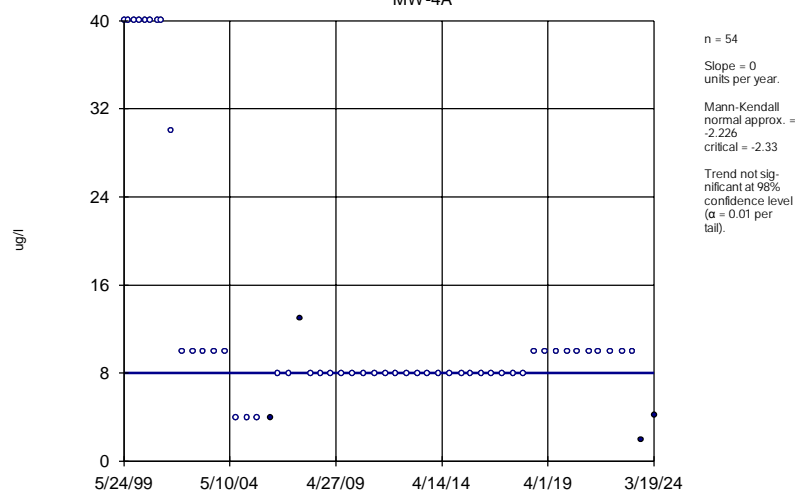
MW-3A



Constituent: Vanadium Total Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

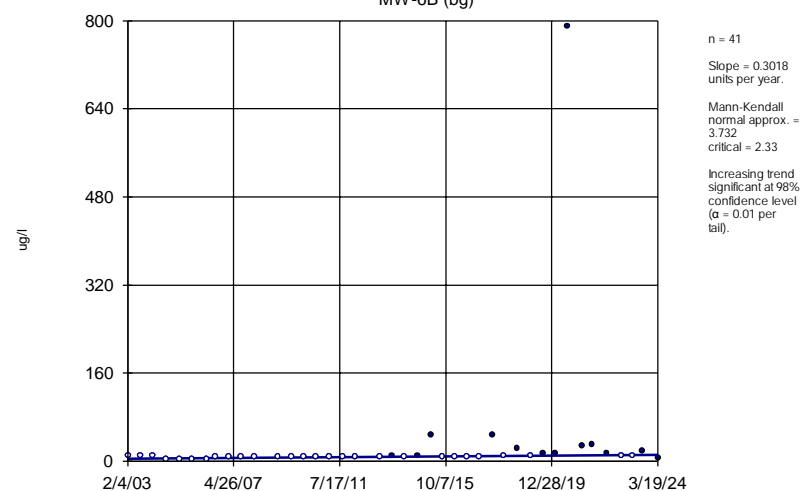
MW-4A



Constituent: Vanadium Total Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

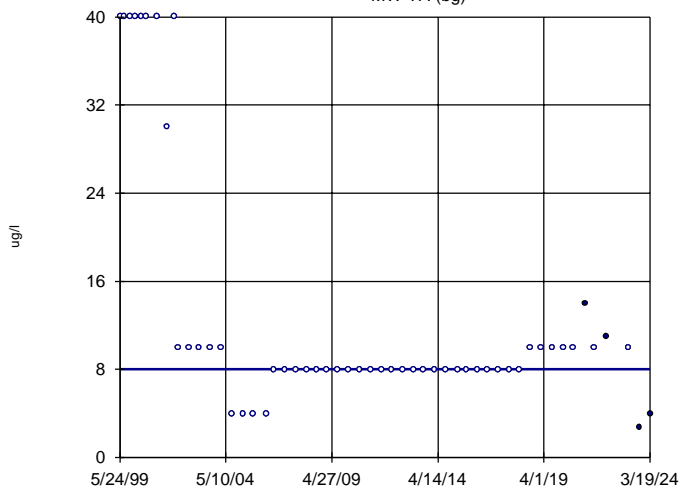
Sen's Slope Estimator

MW-6B (bg)



Constituent: Vanadium Total Analysis Run 4/10/2024 12:24 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

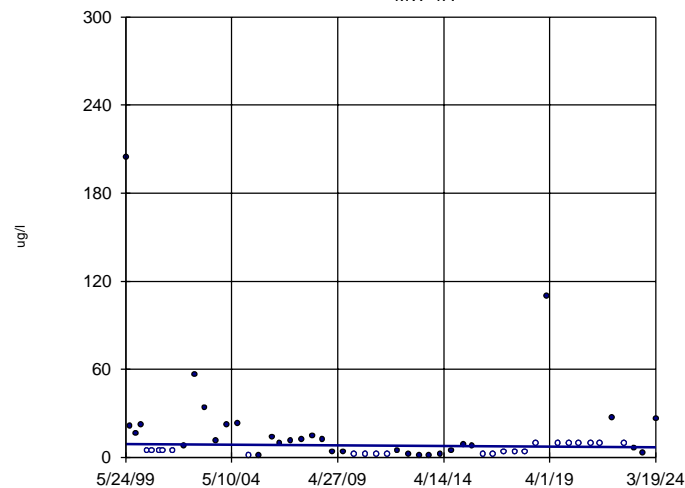
Sen's Slope Estimator MW-7A (bg)



n = 53
Slope = 0
units per year.
Mann-Kendall
normal approx. =
-2.109
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Vanadium Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

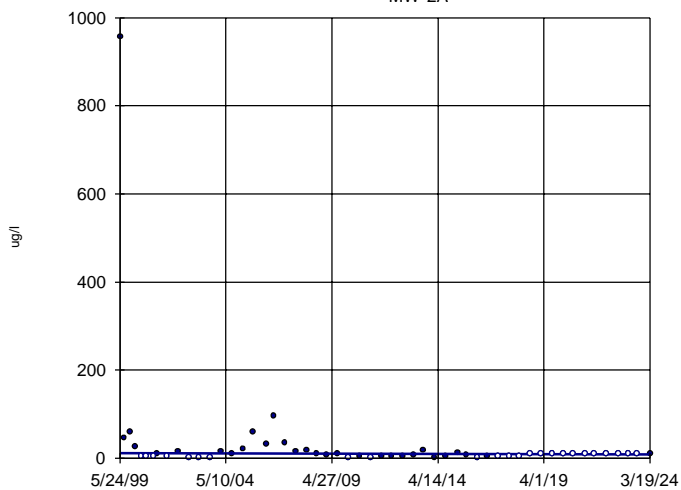
Sen's Slope Estimator MW-1A



n = 54
Slope = -0.07676
units per year.
Mann-Kendall
normal approx. =
-1.078
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Zinc Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

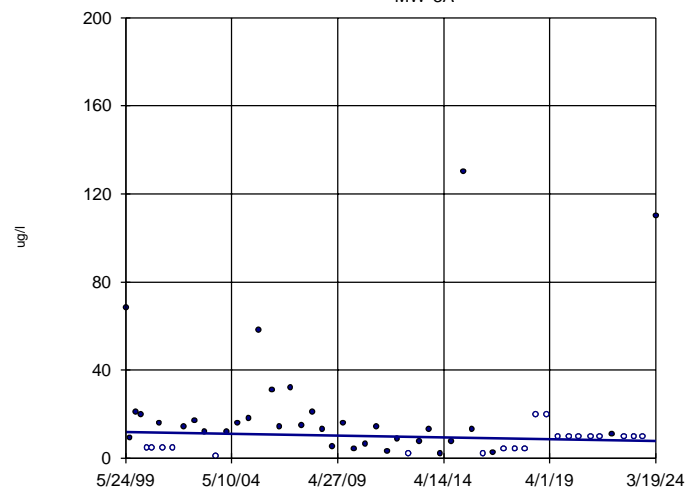
Sen's Slope Estimator MW-2A



n = 54
Slope = -0.07599
units per year.
Mann-Kendall
normal approx. =
-1.239
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Zinc Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator MW-3A

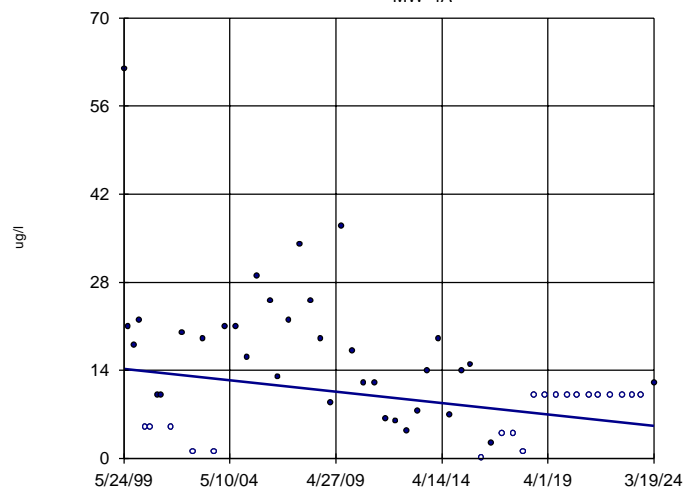


n = 54
Slope = -0.1537
units per year.
Mann-Kendall
normal approx. =
-1.219
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Zinc Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-4A

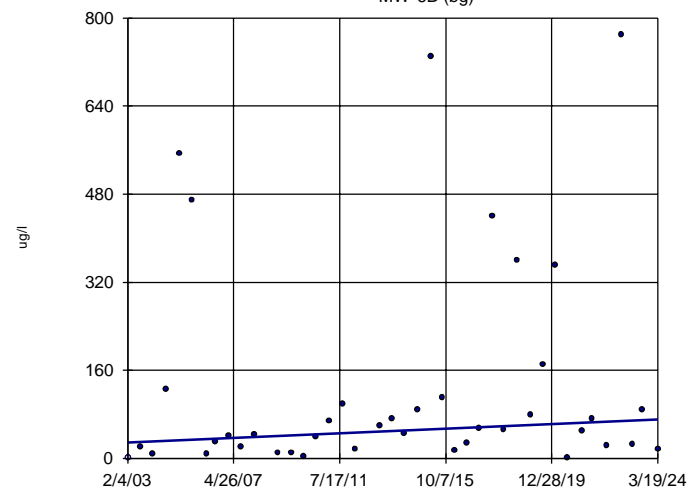


n = 54
Slope = -0.3646
units per year.
Mann-Kendall
normal approx. =
-2.339
critical = -2.33
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Zinc Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-6B (bg)

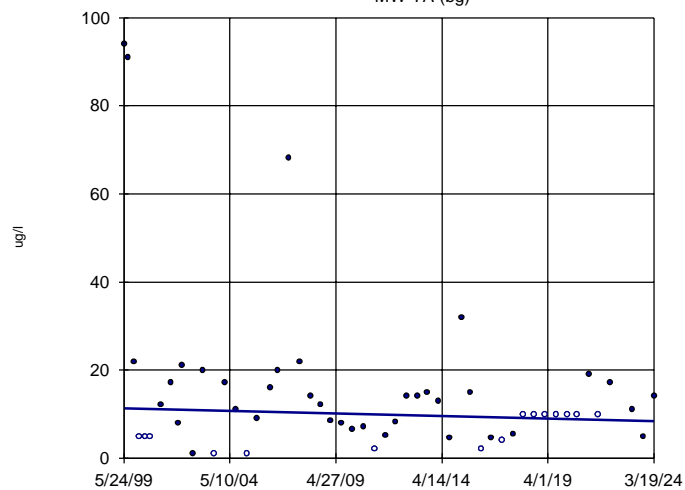


n = 41
Slope = 2.023
units per year.
Mann-Kendall
normal approx. =
1.764
critical = 2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Zinc Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Sen's Slope Estimator

MW-7A (bg)



n = 53
Slope = -0.1128
units per year.
Mann-Kendall
normal approx. =
-0.8841
critical = -2.33
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Zinc Total Analysis Run 4/10/2024 12:24 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Prediction Limit

City of Little Rock Client: Terracon Data: CoLR Sanitas Database Printed 4/10/2024, 2:30 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Nickel Total (ug/l)	MW-2A	20.08	n/a	3/19/2024	1.1	No	4	50	No	0.000...	Param Intra 1 of 2
Vanadium Total (ug/l)	MW-2A	40	n/a	3/19/2024	3.1	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2
Zinc Total (ug/l)	MW-2A	359.3	n/a	3/19/2024	11	No	33	27.27	ln(x)	0.000...	Param Intra 1 of 2
Total Dissolved Solids [TDS] (m...	MW-2A	376.6	n/a	3/19/2024	330	No	37	0	x^2	0.000...	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/l)	MW-2A	1.935	n/a	3/19/2024	1.3	No	37	27.03	x^(1/3)	0.000...	Param Intra 1 of 2
Chloride (ug/l)	MW-2A	68300	n/a	3/19/2024	26000	No	33	0	n/a	0.001688	NP Intra (normality) ...
Sulfate (mg/l)	MW-2A	47.42	n/a	3/19/2024	25	No	16	0	No	0.000...	Param Intra 1 of 2
pH (SU)	MW-2A	8.617	5.942	3/19/2024	7.81	No	29	0	x^3	0.000...	Param Intra 1 of 2
Arsenic Total (ug/l)	MW-3A	9	n/a	3/19/2024	0.91	No	33	69.7	n/a	0.001688	NP Intra (NDs) 1 of 2
Barium Total (ug/l)	MW-3A	4200	n/a	3/19/2024	190	No	37	10.81	n/a	0.001353	NP Intra (normality) ...
Cadmium Total (ug/l)	MW-3A	1	n/a	3/19/2024	0.046	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2
Copper Total (ug/l)	MW-3A	9.5	n/a	3/19/2024	0.78	No	33	87.88	n/a	0.001688	NP Intra (NDs) 1 of 2
Iron Total (ug/l)	MW-3A	23320	n/a	3/19/2024	14000	No	33	0	No	0.000...	Param Intra 1 of 2
Manganese Total (ug/l)	MW-3A	997.4	n/a	3/19/2024	360	No	33	0	x^(1/3)	0.000...	Param Intra 1 of 2
Nickel Total (ug/l)	MW-3A	15	n/a	3/19/2024	6.2	No	27	92.59	n/a	0.002475	NP Intra (NDs) 1 of 2
Vanadium Total (ug/l)	MW-3A	40	n/a	3/19/2024	23	No	33	96.97	n/a	0.001688	NP Intra (NDs) 1 of 2
Zinc Total (ug/l)	MW-3A	52.49	n/a	3/19/2024	110	Yes	33	18.18	sqrt(x)	0.000...	Param Intra 1 of 2
Chloride (ug/l)	MW-3A	16583	n/a	3/19/2024	3200	No	33	9.091	sqrt(x)	0.000...	Param Intra 1 of 2
Sulfate (mg/l)	MW-3A	48	n/a	3/19/2024	39	No	33	0	x^2	0.000...	Param Intra 1 of 2
Total Dissolved Solids [TDS] (m...	MW-3A	263.6	n/a	3/19/2024	200	No	33	0	No	0.000...	Param Intra 1 of 2
Chromium Total (ug/l)	MW-6B	42	n/a	3/19/2024	0.89	No	16	87.5	n/a	0.006299	NP Intra (NDs) 1 of 2
Cobalt Total (ug/l)	MW-6B	7	n/a	3/19/2024	1.3	No	20	100	n/a	0.004219	NP Intra (NDs) 1 of 2
Copper Total (ug/l)	MW-6B	65	n/a	3/19/2024	12	No	12	75	n/a	0.01038	NP Intra (NDs) 1 of 2
Iron Total (ug/l)	MW-6B	200057	n/a	3/19/2024	21000	No	20	0	ln(x)	0.000...	Param Intra 1 of 2
Lead Total (ug/l)	MW-6B	920	n/a	3/19/2024	0.65	No	20	70	n/a	0.004219	NP Intra (NDs) 1 of 2
Manganese Total (ug/l)	MW-6B	6884	n/a	3/19/2024	4000	No	16	0	sqrt(x)	0.000...	Param Intra 1 of 2
Nickel Total (ug/l)	MW-6B	10	n/a	3/19/2024	2	No	24	100	n/a	0.003083	NP Intra (NDs) 1 of 2
Vanadium Total (ug/l)	MW-6B	8	n/a	3/19/2024	6.1	No	12	100	n/a	0.01038	NP Intra (NDs) 1 of 2
Zinc Total (ug/l)	MW-6B	678.2	n/a	3/19/2024	17	No	24	4.167	x^(1/3)	0.000...	Param Intra 1 of 2
Chloride (ug/l)	MW-6B	15000	n/a	3/19/2024	880	No	24	20.83	n/a	0.003083	NP Intra (normality) ...
Sulfate (mg/l)	MW-6B	481.6	n/a	3/19/2024	1.8	No	20	5	n/a	0.004219	NP Intra (normality) ...
Total Dissolved Solids [TDS] (m...	MW-6B	1644	n/a	3/19/2024	280	No	24	0	n/a	0.003083	NP Intra (normality) ...
Total Organic Carbon [TOC] (mg/l)	MW-6B	27.81	n/a	3/19/2024	28	Yes	24	0	sqrt(x)	0.000...	Param Intra 1 of 2
pH (SU)	MW-6B	7.15	5.287	3/19/2024	6.87	No	20	0	No	0.000...	Param Intra 1 of 2
Arsenic Total (ug/l)	MW-7A	9	n/a	3/19/2024	0.66	No	37	86.49	n/a	0.001353	NP Intra (NDs) 1 of 2
Barium Total (ug/l)	MW-7A	275.2	n/a	3/19/2024	57	No	37	21.62	ln(x)	0.000...	Param Intra 1 of 2
Beryllium Total (ug/l)	MW-7A	1	n/a	3/19/2024	0.17	No	25	96	n/a	0.002799	NP Intra (NDs) 1 of 2
Cadmium Total (ug/l)	MW-7A	1	n/a	3/19/2024	0.044	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2
Cobalt Total (ug/l)	MW-7A	21	n/a	3/19/2024	0.74	No	4	75	n/a	0.05367	NP Intra (NDs) 1 of 2
Copper Total (ug/l)	MW-7A	34	n/a	3/19/2024	1.2	No	24	91.67	n/a	0.003083	NP Intra (NDs) 1 of 2
Iron Total (ug/l)	MW-7A	2028	n/a	3/19/2024	740	No	33	6.061	n/a	0.001688	NP Intra (normality) ...
Lead Total (ug/l)	MW-7A	10	n/a	3/19/2024	0.37	No	25	96	n/a	0.002799	NP Intra (NDs) 1 of 2
Manganese Total (ug/l)	MW-7A	3777	n/a	3/19/2024	180	No	33	0	sqrt(x)	0.000...	Param Intra 1 of 2
Nickel Total (ug/l)	MW-7A	15	n/a	3/19/2024	0.85	No	37	94.59	n/a	0.001353	NP Intra (NDs) 1 of 2
Vanadium Total (ug/l)	MW-7A	8	n/a	3/19/2024	3.9	No	33	100	n/a	0.001688	NP Intra (NDs) 1 of 2
Zinc Total (ug/l)	MW-7A	152.7	n/a	3/19/2024	14	No	33	18.18	ln(x)	0.000...	Param Intra 1 of 2
Chloride (ug/l)	MW-7A	50000	n/a	3/19/2024	1600	No	37	13.51	n/a	0.001353	NP Intra (normality) ...
Sulfate (mg/l)	MW-7A	8.681	n/a	3/19/2024	15	Yes	13	38.46	No	0.000...	Param Intra 1 of 2
Total Dissolved Solids [TDS] (m...	MW-7A	300.9	n/a	3/19/2024	160	No	33	0	No	0.000...	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/l)	MW-7A	6.394	n/a	3/19/2024	2.3	No	25	4	ln(x)	0.000...	Param Intra 1 of 2

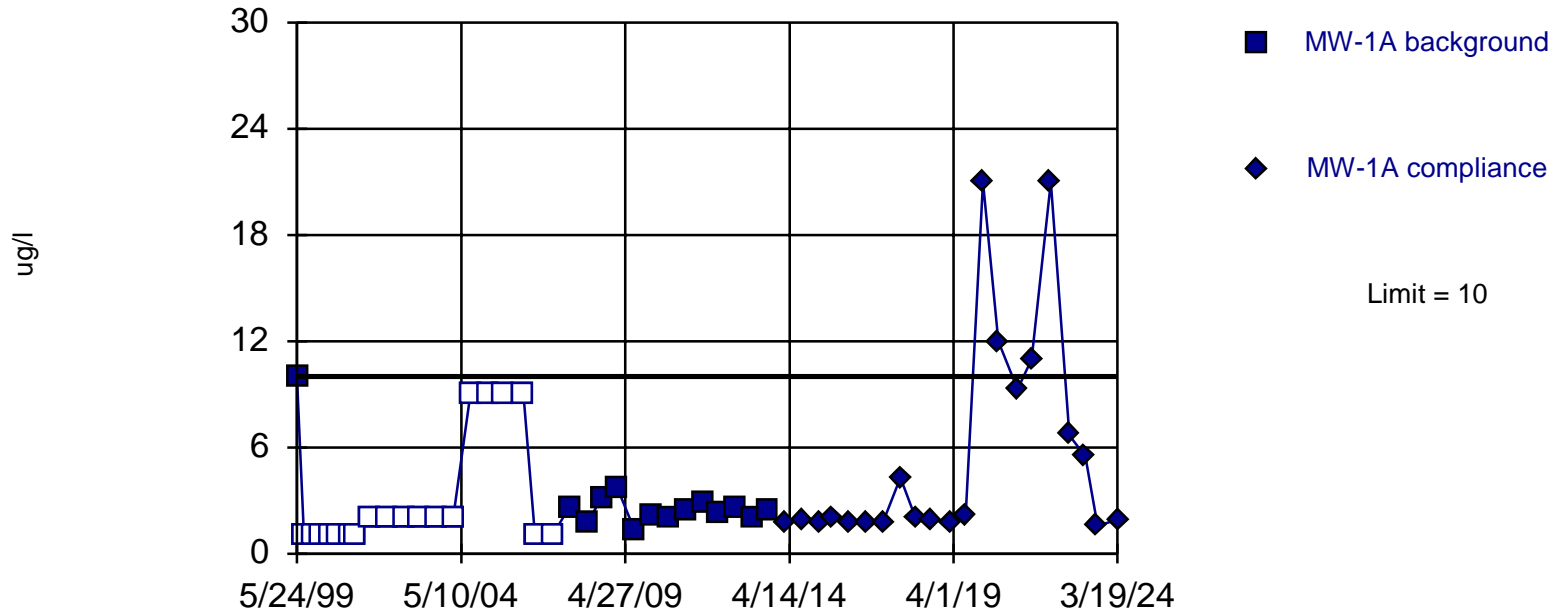
Prediction Limit

City of Little Rock Client: Terracon Data: CoLR Sanitas Database Printed 4/10/2024, 2:30 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
pH (SU)	MW-7A	7.977	5.122	3/19/2024	6.56	No	33	0	x^3	0.000...	Param Intra 1 of 2
Arsenic Total (ug/l)	MW-1A	10	n/a	3/19/2024	1.9	No	33	57.58	n/a	0.001688	NP Intra (NDs) 1 of 2
Barium Total (ug/l)	MW-1A	187	n/a	3/19/2024	110	No	33	24.24	n/a	0.001688	NP Intra (normality) ...
Cadmium Total (ug/l)	MW-1A	1	n/a	3/19/2024	0.036	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2
Chromium Total (ug/l)	MW-1A	5	n/a	3/19/2024	0.98	No	16	93.75	n/a	0.006299	NP Intra (NDs) 1 of 2
Copper Total (ug/l)	MW-1A	6	n/a	3/19/2024	1.1	No	25	88	n/a	0.002799	NP Intra (NDs) 1 of 2
Iron Total (ug/l)	MW-1A	1676	n/a	3/19/2024	520	No	33	0	No	0.000...	Param Intra 1 of 2
Manganese Total (ug/l)	MW-1A	1173	n/a	3/19/2024	110	No	33	0	sqrt(x)	0.000...	Param Intra 1 of 2
Nickel Total (ug/l)	MW-1A	15	n/a	3/19/2024	1.3	No	25	96	n/a	0.002799	NP Intra (NDs) 1 of 2
Vanadium Total (ug/l)	MW-1A	8	n/a	3/19/2024	10ND	No	33	100	n/a	0.001688	NP Intra (NDs) 1 of 2
Zinc Total (ug/l)	MW-1A	121	n/a	3/19/2024	26	No	33	30.3	ln(x)	0.000...	Param Intra 1 of 2
Total Dissolved Solids [TDS] (m...	MW-1A	552.8	n/a	3/19/2024	480	No	37	0	No	0.000...	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/l)	MW-1A	4.26	n/a	3/19/2024	1.5	No	37	32.43	n/a	0.001353	NP Intra (normality) ...
Chloride (ug/l)	MW-1A	106039	n/a	3/19/2024	77000	No	37	2.703	x^4	0.000...	Param Intra 1 of 2
Sulfate (mg/l)	MW-1A	116	n/a	3/19/2024	7.5	No	37	0	n/a	0.001353	NP Intra (normality) ...
pH (SU)	MW-1A	8.495	5.938	3/19/2024	7.86	No	37	0	x^6	0.000...	Param Intra 1 of 2
Arsenic Total (ug/l)	MW-2A	9	n/a	3/19/2024	3	No	33	54.55	n/a	0.001688	NP Intra (NDs) 1 of 2
Barium Total (ug/l)	MW-2A	256	n/a	3/19/2024	130	No	37	21.62	n/a	0.001353	NP Intra (normality) ...
Copper Total (ug/l)	MW-2A	16	n/a	3/19/2024	0.6	No	37	64.86	n/a	0.001353	NP Intra (NDs) 1 of 2
Iron Total (ug/l)	MW-2A	11000	n/a	3/19/2024	680	No	33	3.03	n/a	0.001688	NP Intra (normality) ...
Manganese Total (ug/l)	MW-2A	557.4	n/a	3/19/2024	130	No	33	0	No	0.000...	Param Intra 1 of 2
Total Organic Carbon [TOC] (mg/l)	MW-3A	17.3	n/a	3/19/2024	1.7	No	33	0	n/a	0.001688	NP Intra (normality) ...
pH (SU)	MW-3A	7.6	5.66	3/19/2024	6.4	No	33	0	n/a	0.003376	NP Intra (normality) ...
Arsenic Total (ug/l)	MW-4A	9	n/a	3/19/2024	2.5	No	25	72	n/a	0.002799	NP Intra (NDs) 1 of 2
Barium Total (ug/l)	MW-4A	433	n/a	3/19/2024	240	No	37	10.81	n/a	0.001353	NP Intra (normality) ...
Cadmium Total (ug/l)	MW-4A	1	n/a	3/19/2024	0.078	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2
Copper Total (ug/l)	MW-4A	33	n/a	3/19/2024	0.68	No	33	69.7	n/a	0.001688	NP Intra (NDs) 1 of 2
Iron Total (ug/l)	MW-4A	20353	n/a	3/19/2024	7100	No	33	0	sqrt(x)	0.000...	Param Intra 1 of 2
Manganese Total (ug/l)	MW-4A	2053	n/a	3/19/2024	350	No	33	0	x^(1/3)	0.000...	Param Intra 1 of 2
Nickel Total (ug/l)	MW-4A	7	n/a	3/19/2024	0.99	No	4	75	n/a	0.05367	NP Intra (NDs) 1 of 2
Vanadium Total (ug/l)	MW-4A	40	n/a	3/19/2024	4.2	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2
Zinc Total (ug/l)	MW-4A	87.48	n/a	3/19/2024	12	No	12	33.33	sqrt(x)	0.000...	Param Intra 1 of 2
Chloride (ug/l)	MW-4A	14665	n/a	3/19/2024	6600	No	37	0	ln(x)	0.000...	Param Intra 1 of 2
Sulfate (mg/l)	MW-4A	22.96	n/a	3/19/2024	6.7	No	37	0	sqrt(x)	0.000...	Param Intra 1 of 2
Total Dissolved Solids [TDS] (m...	MW-4A	420	n/a	3/19/2024	200	No	37	0	n/a	0.001353	NP Intra (normality) ...
Total Organic Carbon [TOC] (mg/l)	MW-4A	3.73	n/a	3/19/2024	1.4	No	33	15.15	n/a	0.001688	NP Intra (normality) ...
pH (SU)	MW-4A	7.505	5.424	3/19/2024	6.83	No	33	0	x^4	0.000...	Param Intra 1 of 2
Arsenic Total (ug/l)	MW-6B	9.1	n/a	3/19/2024	7.5	No	20	70	n/a	0.004219	NP Intra (NDs) 1 of 2
Barium Total (ug/l)	MW-6B	1365	n/a	3/19/2024	110	No	24	0	ln(x)	0.000...	Param Intra 1 of 2
Beryllium Total (ug/l)	MW-6B	1130	n/a	3/19/2024	0.2	No	20	80	n/a	0.004219	NP Intra (NDs) 1 of 2
Cadmium Total (ug/l)	MW-6B	1	n/a	3/19/2024	0.031	No	4	100	n/a	0.05367	NP Intra (NDs) 1 of 2

Within Limit

Prediction Limit
Intrawell Non-parametric

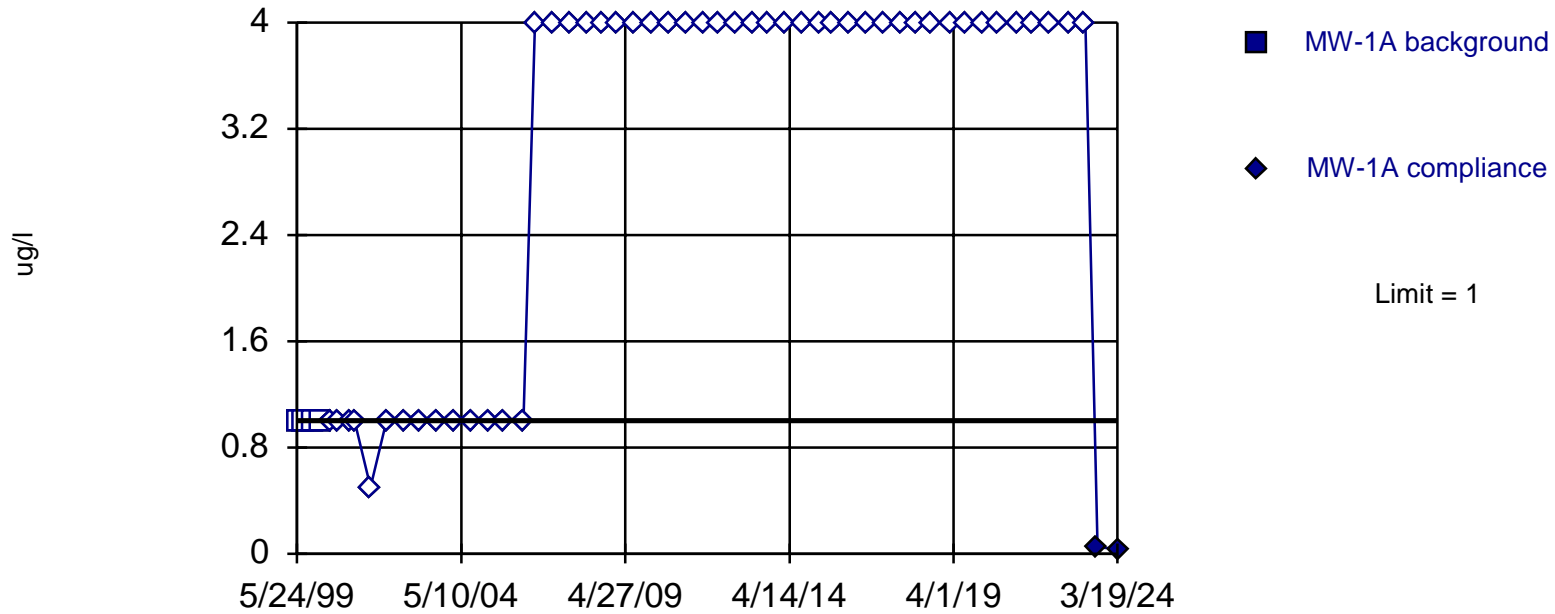


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 33 background values. 57.58% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Within Limit

Prediction Limit

Intrawell Non-parametric

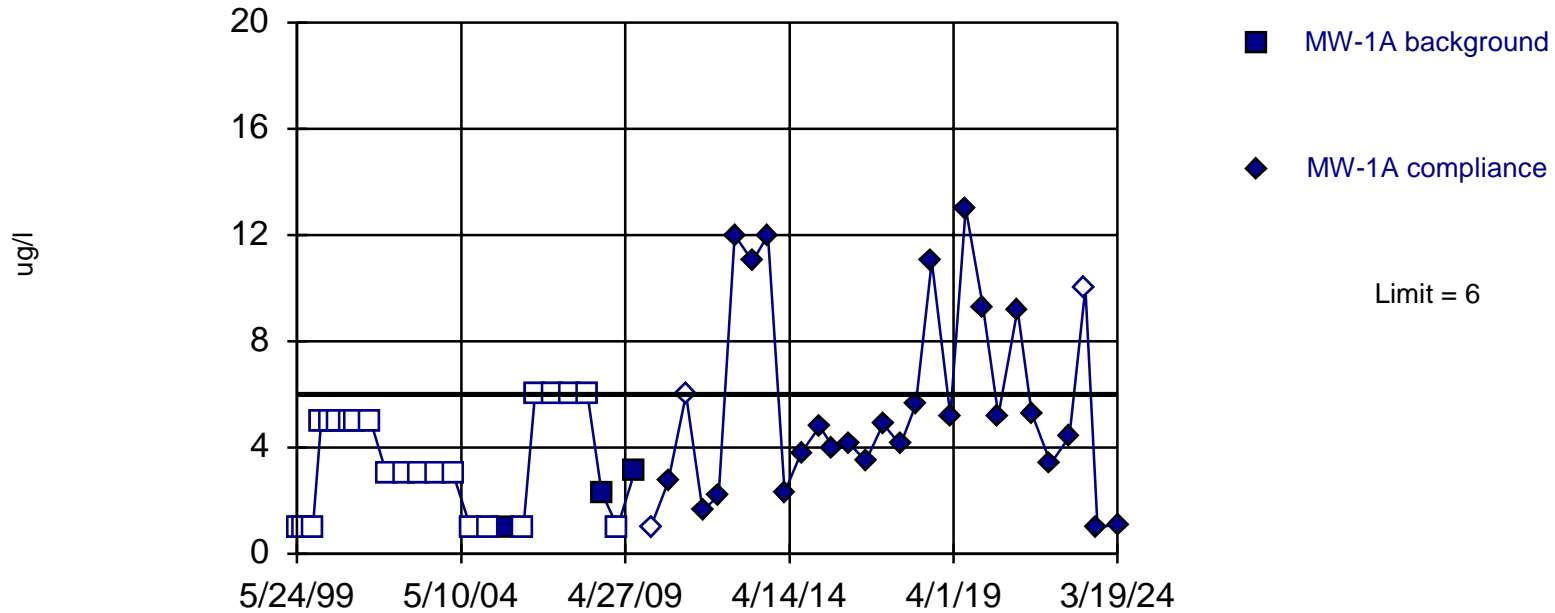


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values ($n = 4$) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.198. Individual comparison alpha = 0.05367 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Cadmium Total Analysis Run 4/10/2024 12:45 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

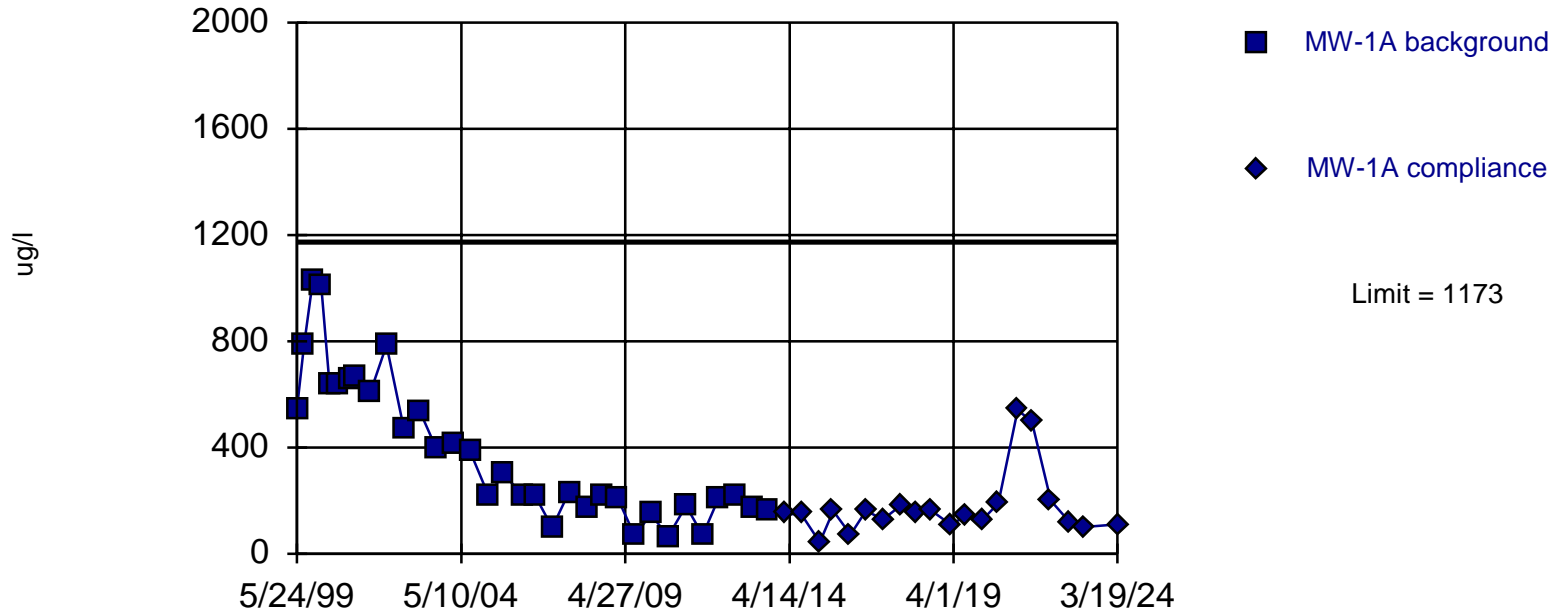


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 88% NDs. Well-constituent pair annual alpha = 0.01115. Individual comparison alpha = 0.002799 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Copper Total Analysis Run 4/10/2024 1:00 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric



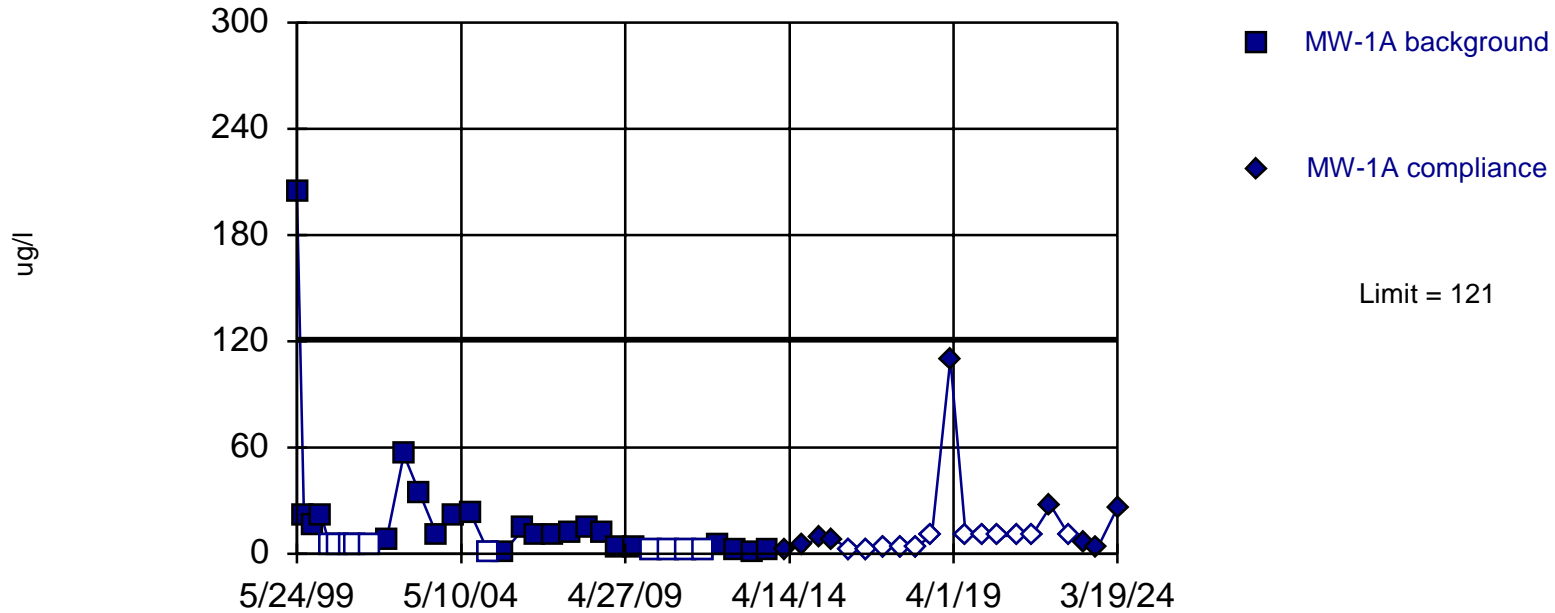
Background Data Summary (based on square root transformation): Mean=18.45, Std. Dev.=6.846, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.935, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Manganese Total Analysis Run 4/10/2024 1:01 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Parametric

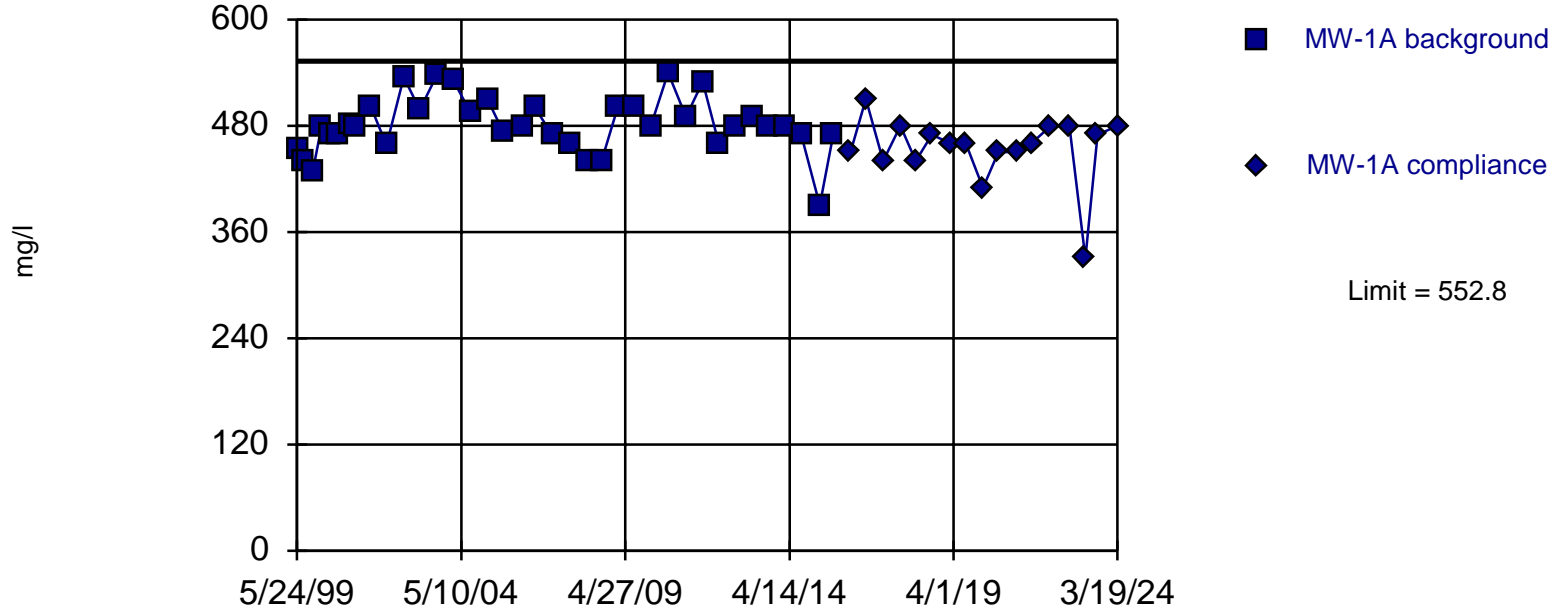


Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=1.523, Std. Dev.=1.419, n=33, 30.3% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9619, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Within Limit

Prediction Limit

Intrawell Parametric



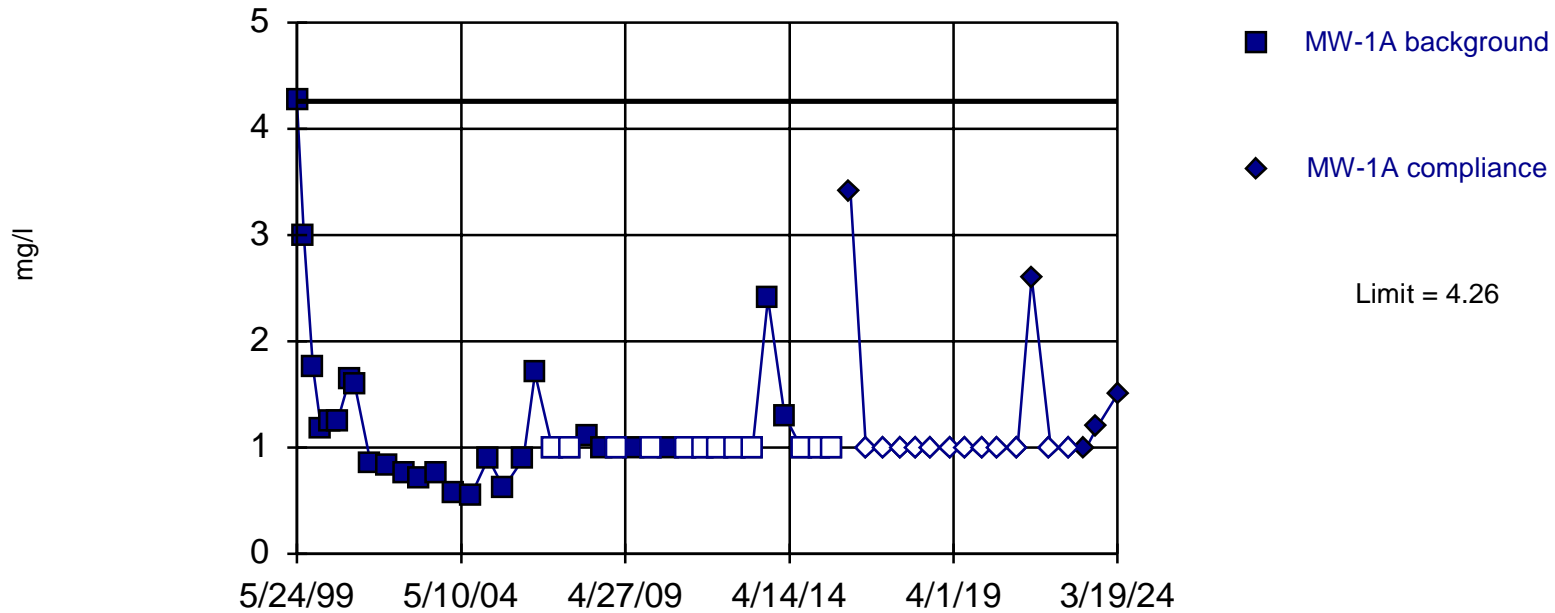
Background Data Summary: Mean=480.7, Std. Dev.=31.69, n=37. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9589, critical = 0.914. Kappa = 2.275 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 1:07 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric



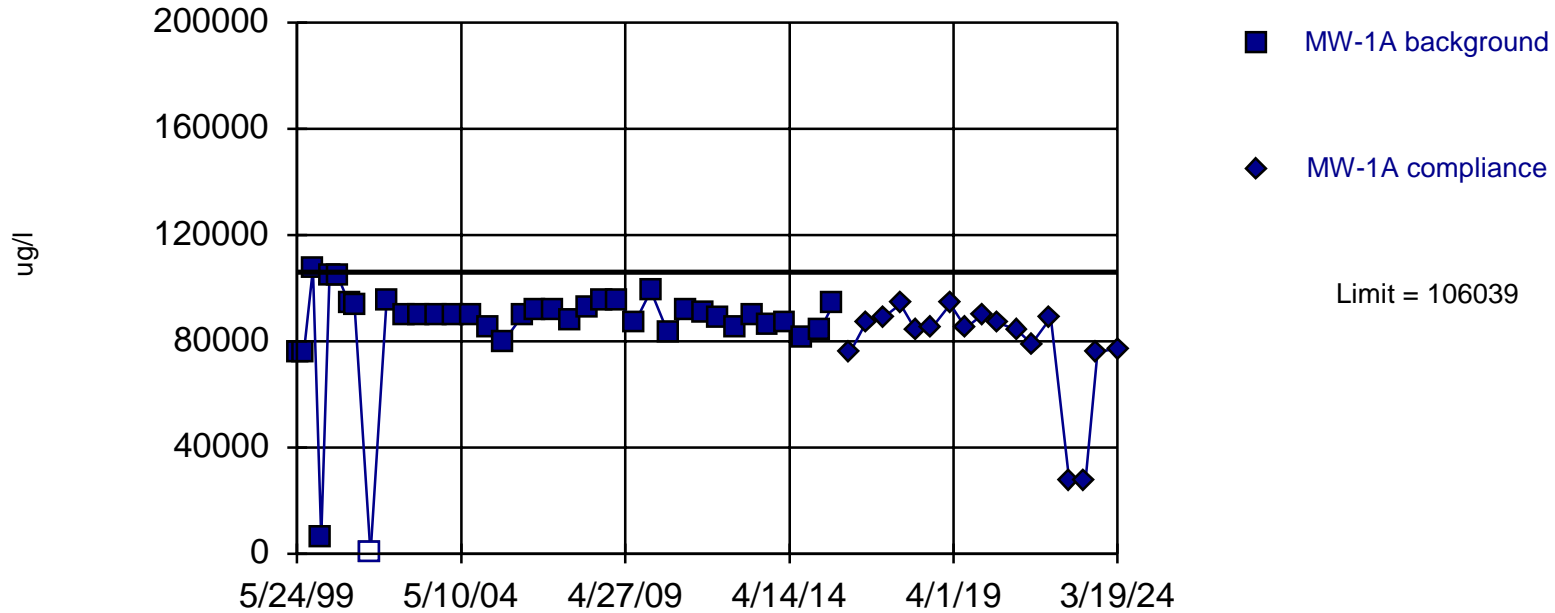
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 37 background values. 32.43% NDs. Well-constituent pair annual alpha = 0.005401. Individual comparison alpha = 0.001353 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 1:07 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric

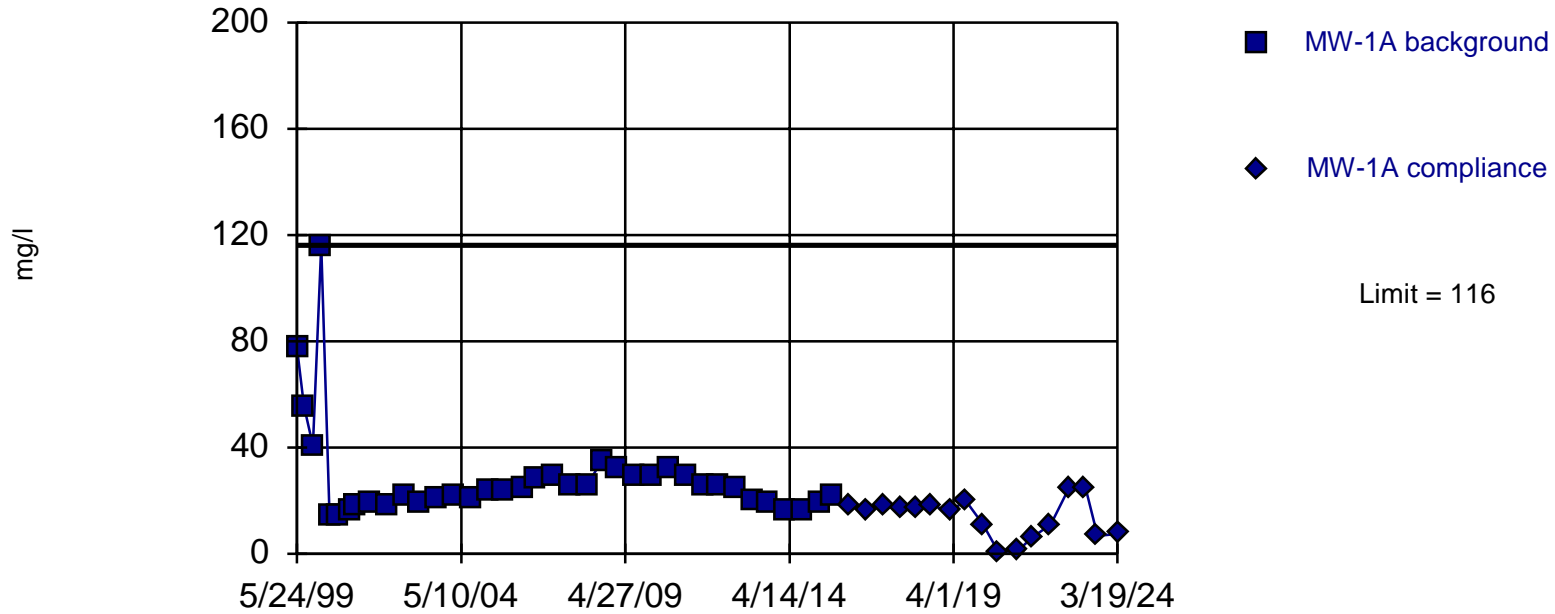


Background Data Summary (based on x^4 transformation): Mean= $6.5e19$, Std. Dev.= $2.7e19$, $n=37$, 2.703% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @ $\alpha = 0.01$, calculated = 0.9277, critical = 0.914. Kappa = 2.275 ($c=23$, $w=3$, 1 of 2, event $\alpha = 0.026$). Report $\alpha = 0.0003817$.

Constituent: Chloride Analysis Run 4/10/2024 1:08 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

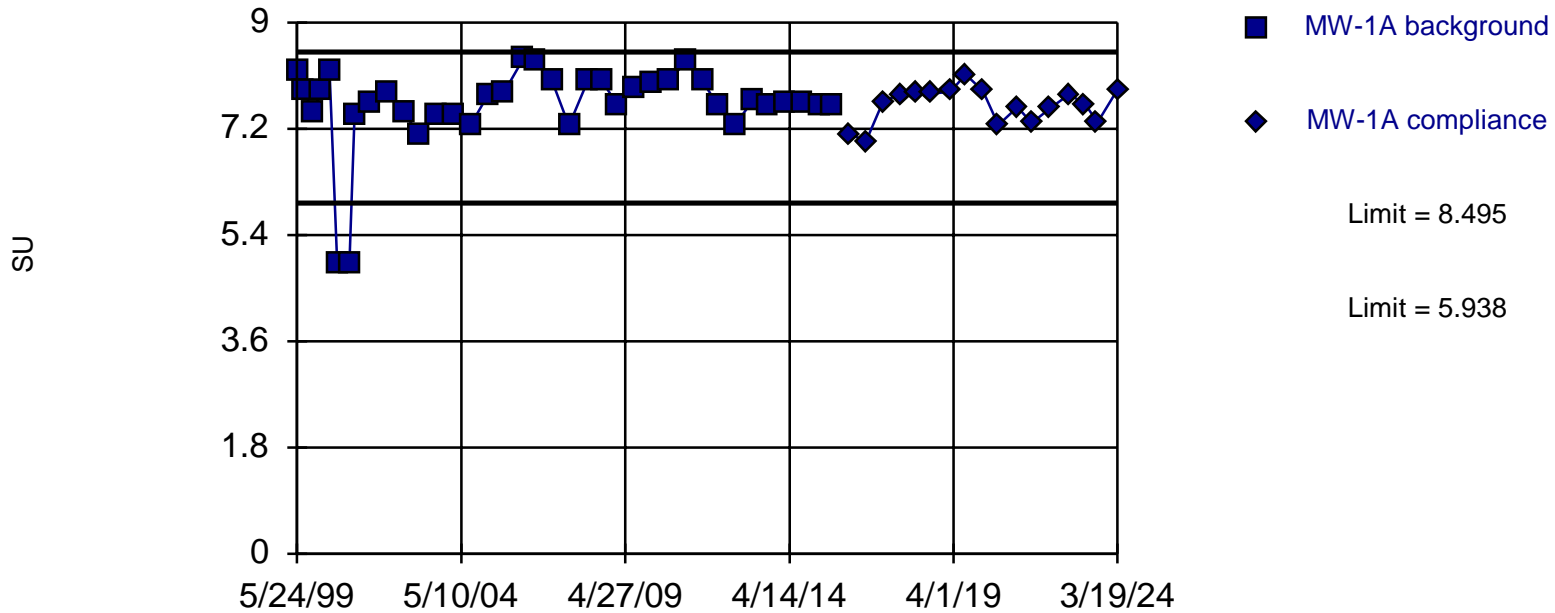


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 37 background values. Well-constituent pair annual alpha = 0.005401. Individual comparison alpha = 0.001353 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 4/10/2024 1:08 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limits

Prediction Limit Intrawell Parametric



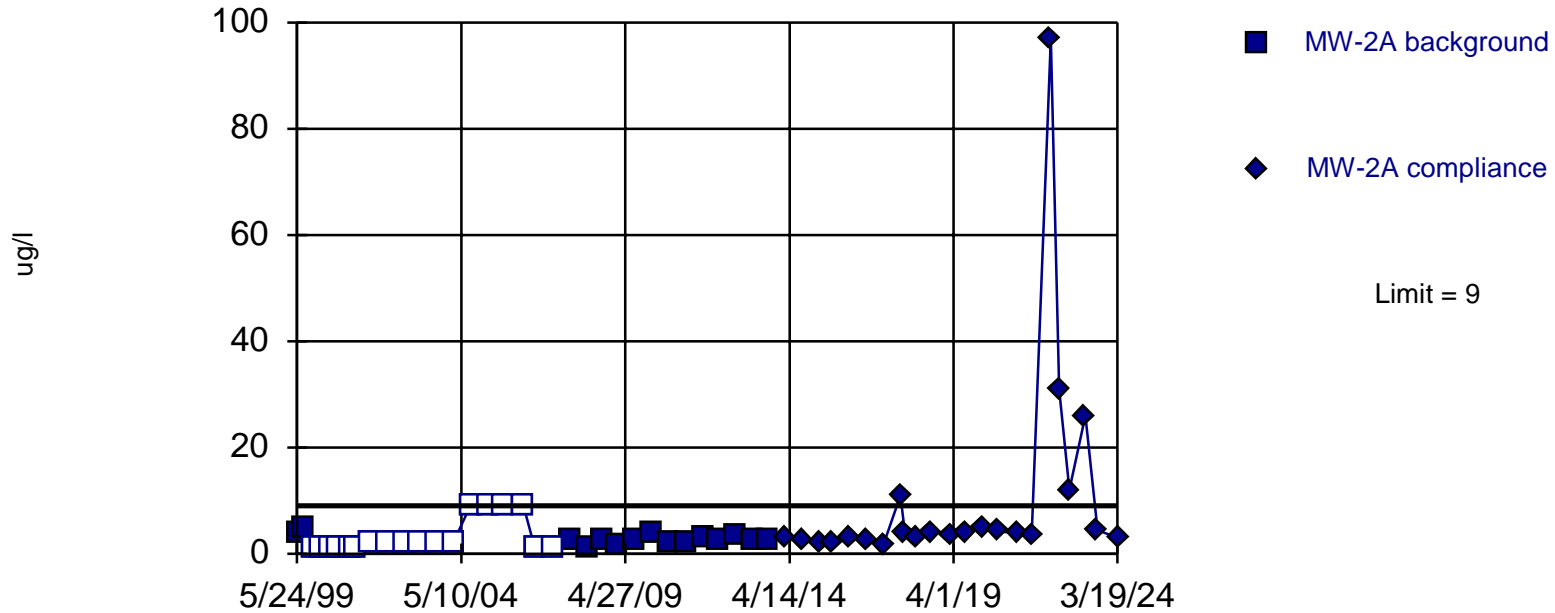
Background Data Summary (based on x^6 transformation): Mean=209784, Std. Dev.=72950, n=37. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9391, critical = 0.914. Kappa = 2.275 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: pH Analysis Run 4/10/2024 1:08 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

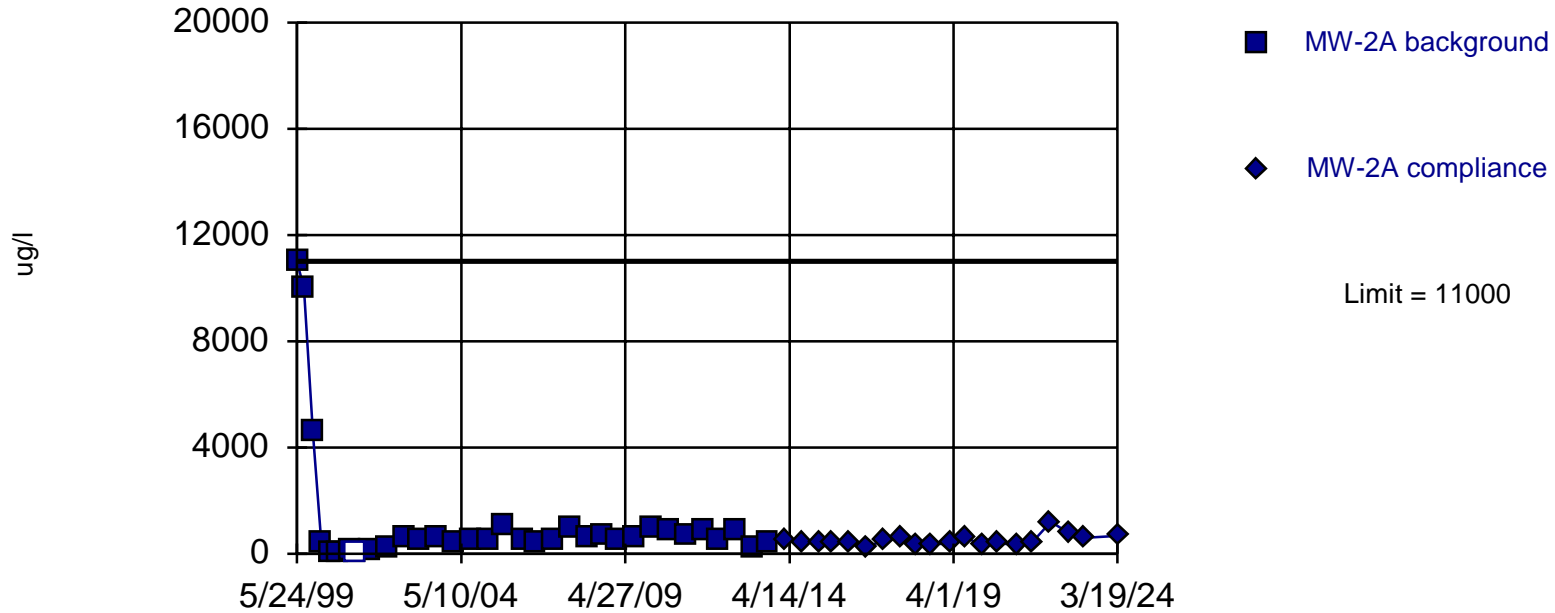


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 33 background values. 54.55% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Seasonality was not detected with 95% confidence.

Constituent: Arsenic Total Analysis Run 4/10/2024 1:21 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

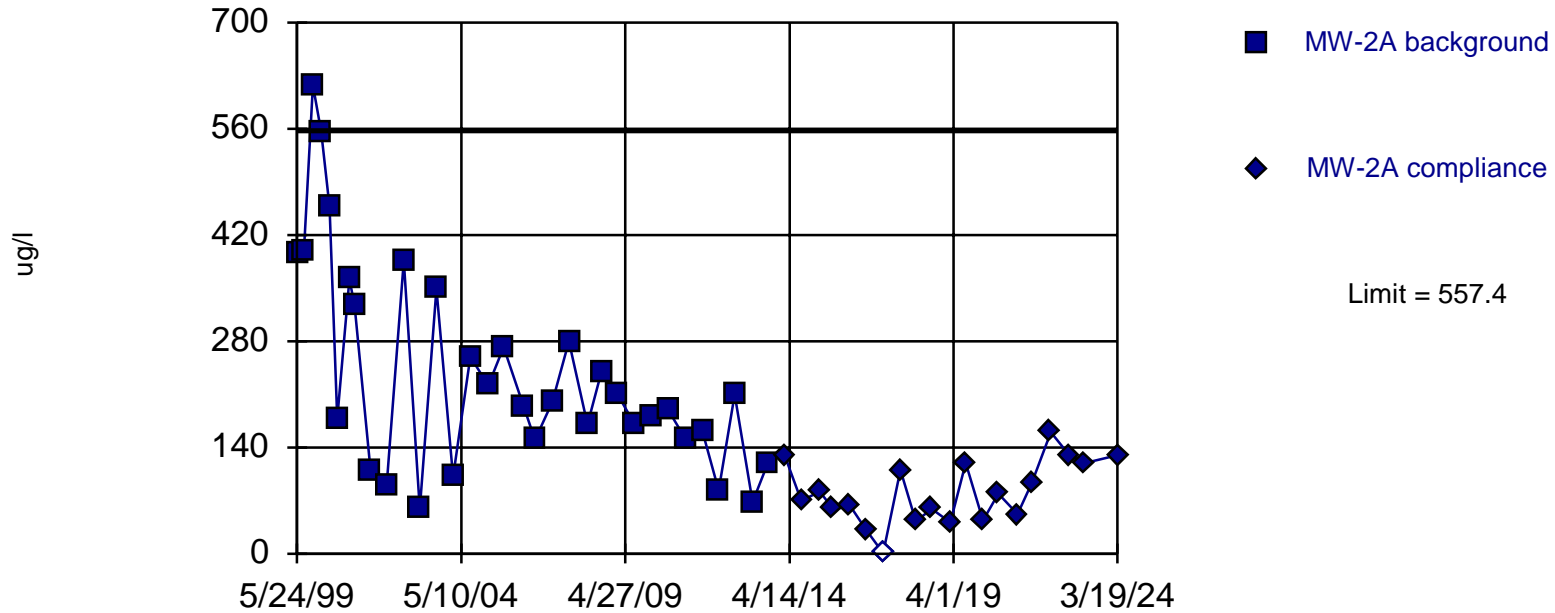
Prediction Limit Intrawell Non-parametric



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 0.01 alpha level. Limit is highest of 33 background values. 3.03% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Within Limit

Prediction Limit Intrawell Parametric

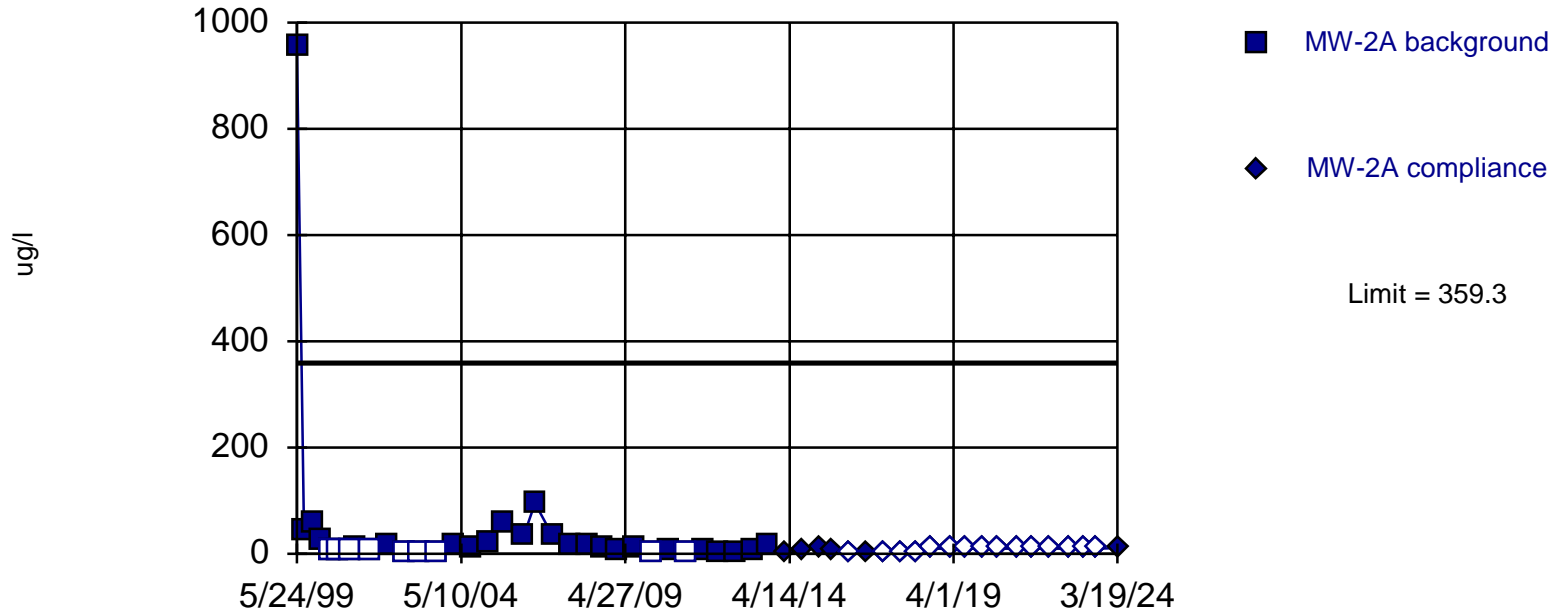


Background Data Summary: Mean=239.9, Std. Dev.=137.7, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9129, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Manganese Total Analysis Run 4/10/2024 1:23 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

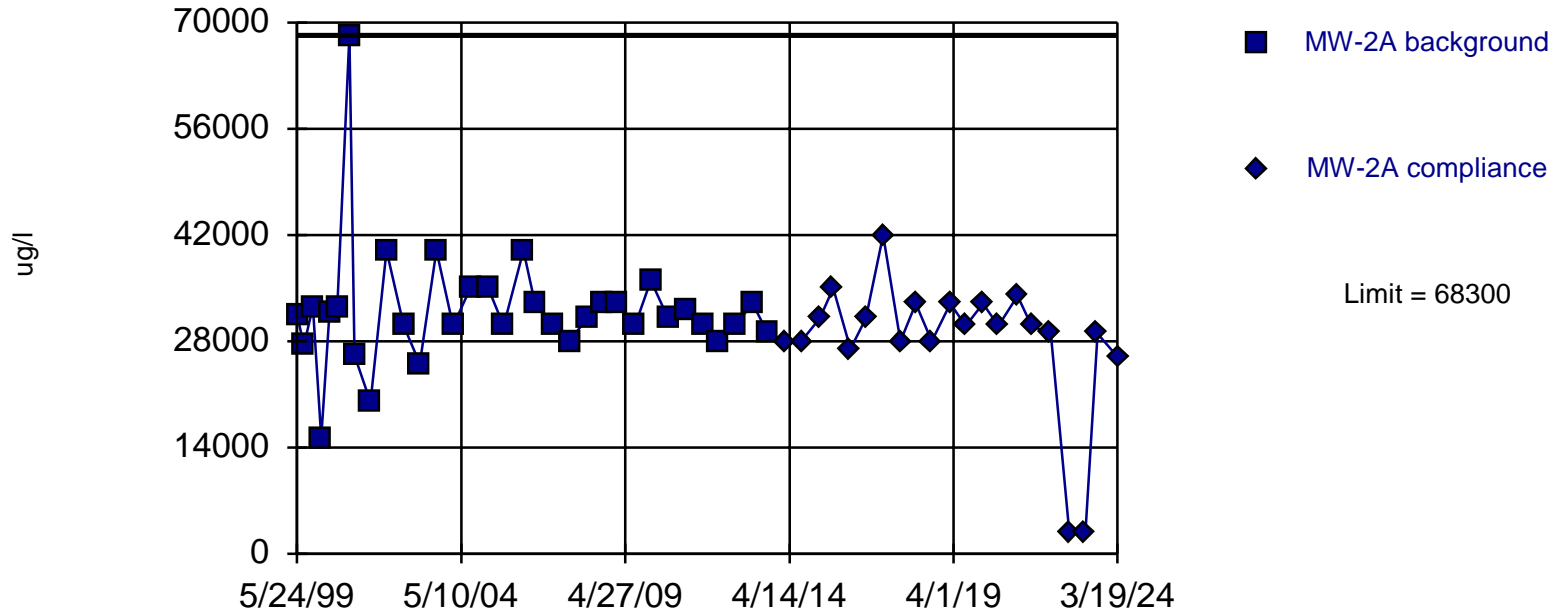
Prediction Limit Intrawell Parametric



Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=1.973, Std. Dev.=1.696, n=33, 27.27% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9518, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Within Limit

Prediction Limit Intrawell Non-parametric

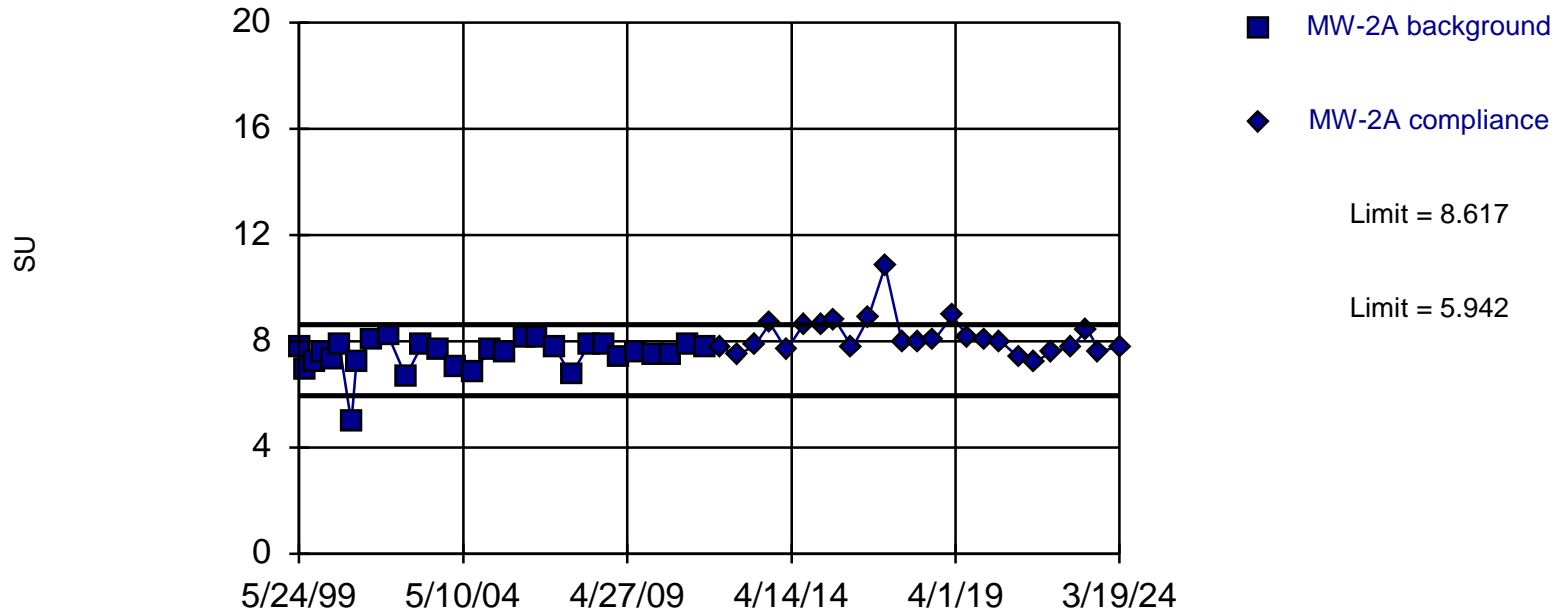


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 33 background values. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Chloride Analysis Run 4/10/2024 1:30 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limits

Prediction Limit Intrawell Parametric



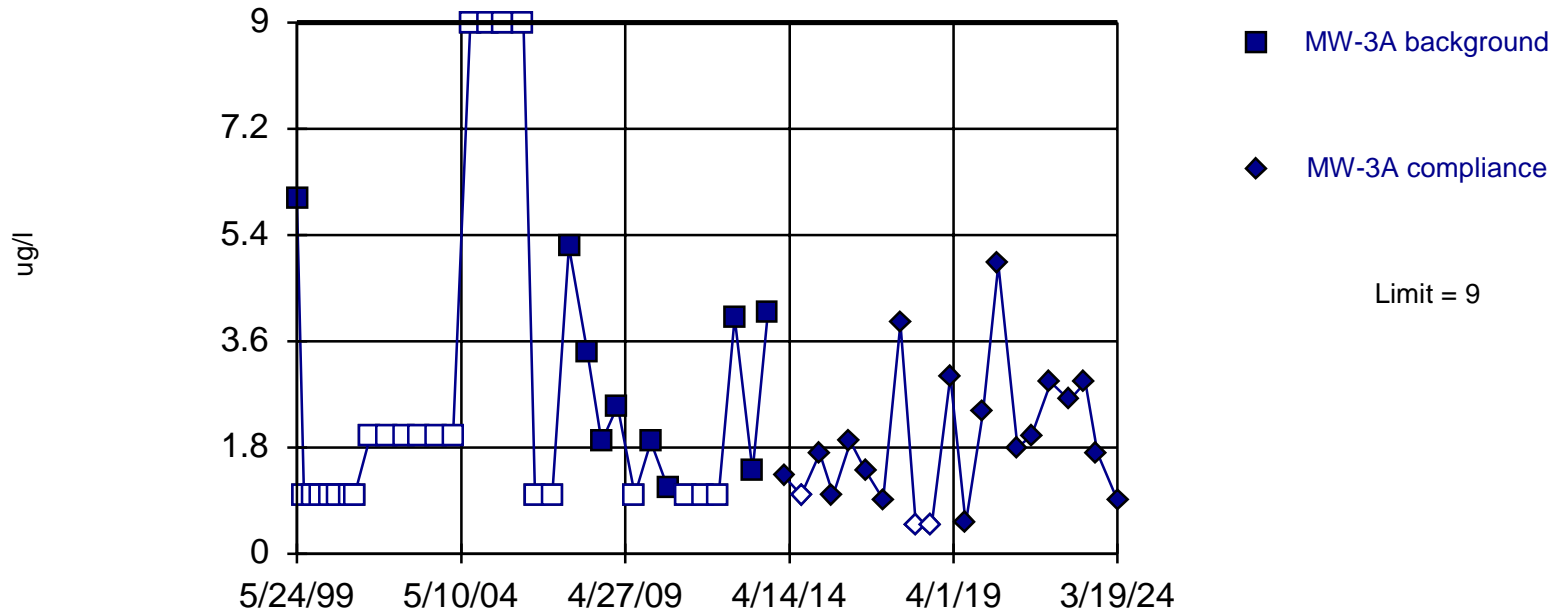
Background Data Summary (based on cube transformation): Mean=424.9, Std. Dev.=91.54, n=29. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9024, critical = 0.898. Kappa = 2.35 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: pH Analysis Run 4/10/2024 1:31 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

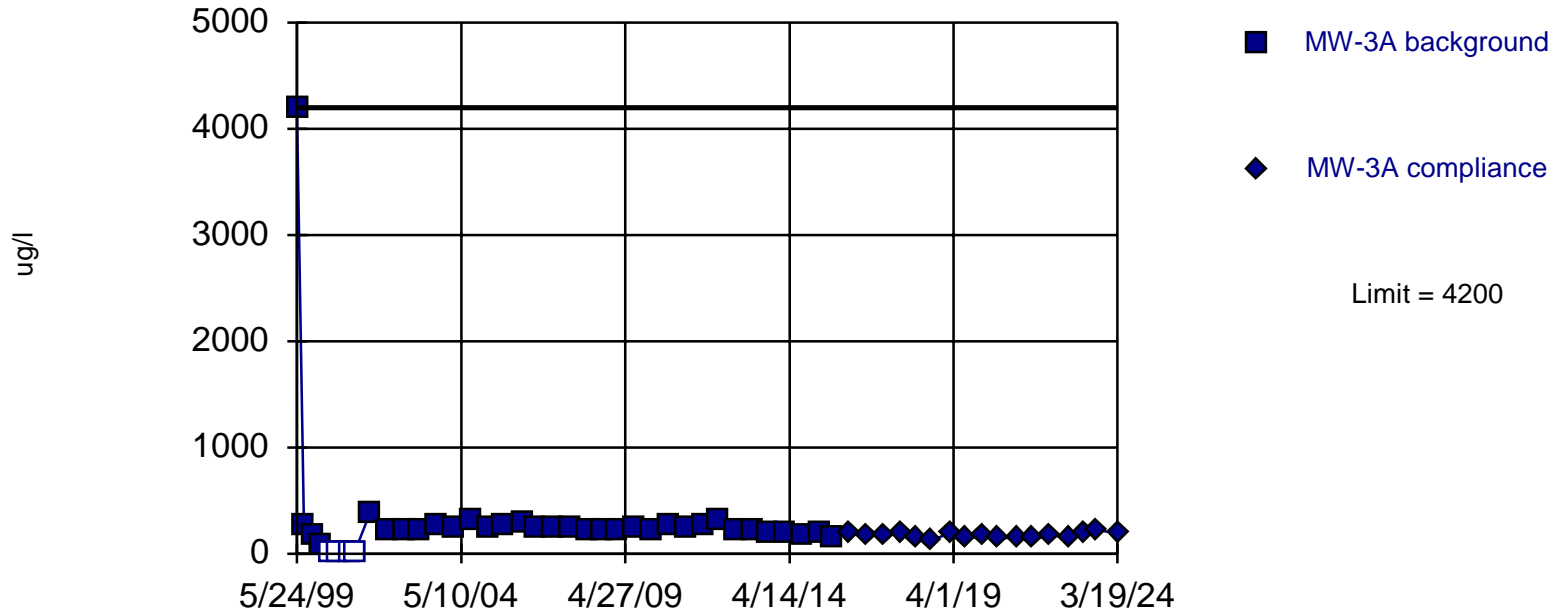


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 33 background values. 69.7% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Arsenic Total Analysis Run 4/10/2024 1:33 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

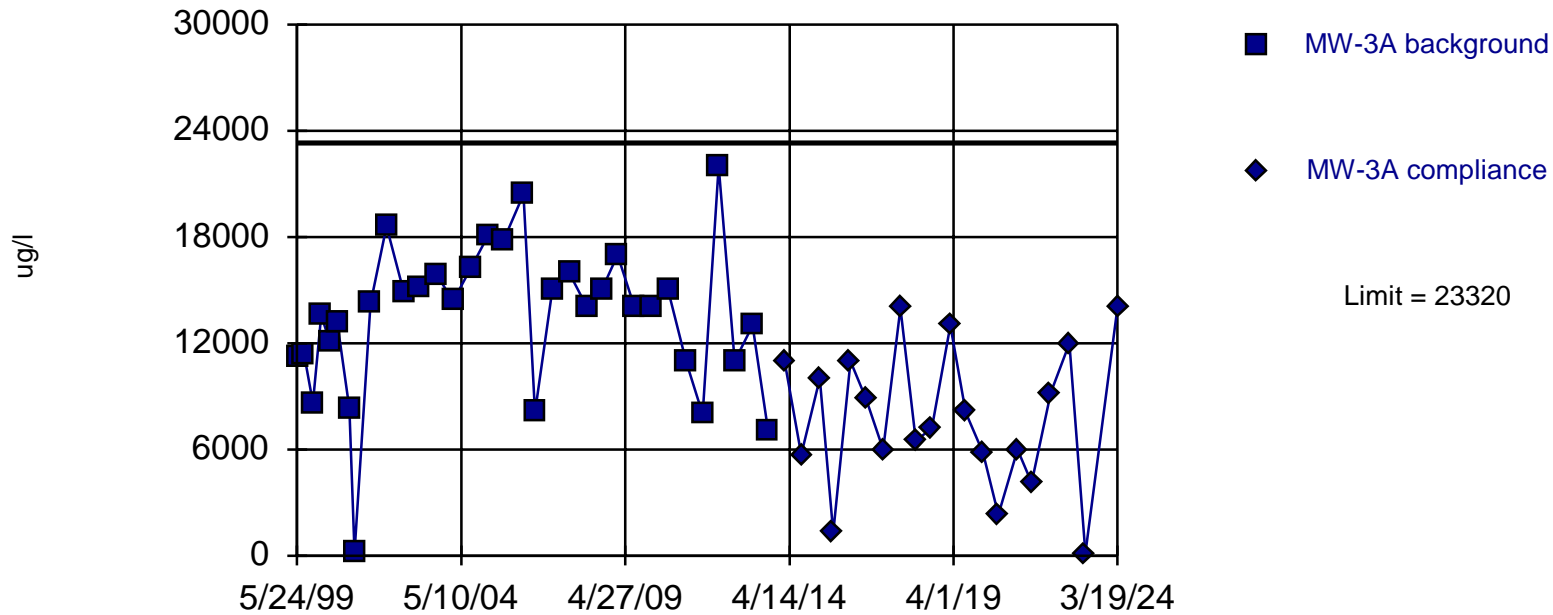


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 37 background values. 10.81% NDs. Well-constituent pair annual alpha = 0.005401. Individual comparison alpha = 0.001353 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Barium Total Analysis Run 4/10/2024 1:34 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric



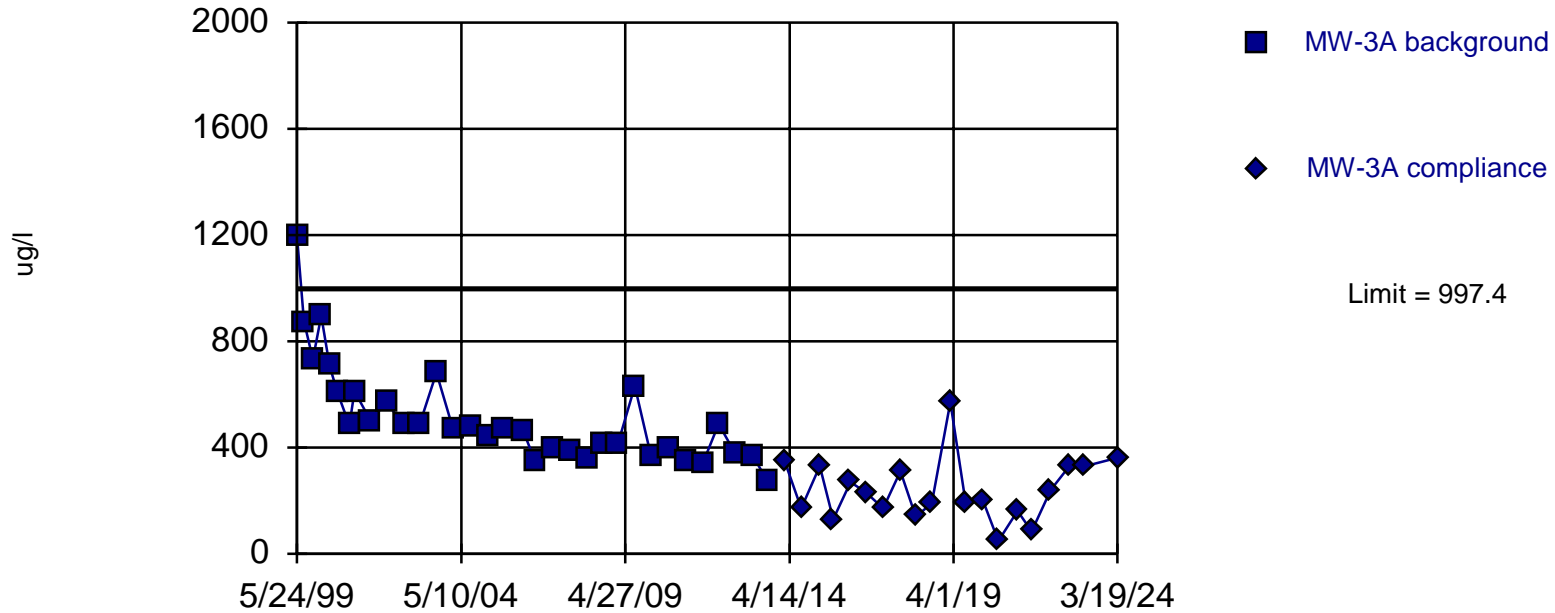
Background Data Summary: Mean=13468, Std. Dev.=4271, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9558, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Iron Total Analysis Run 4/10/2024 1:39 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric



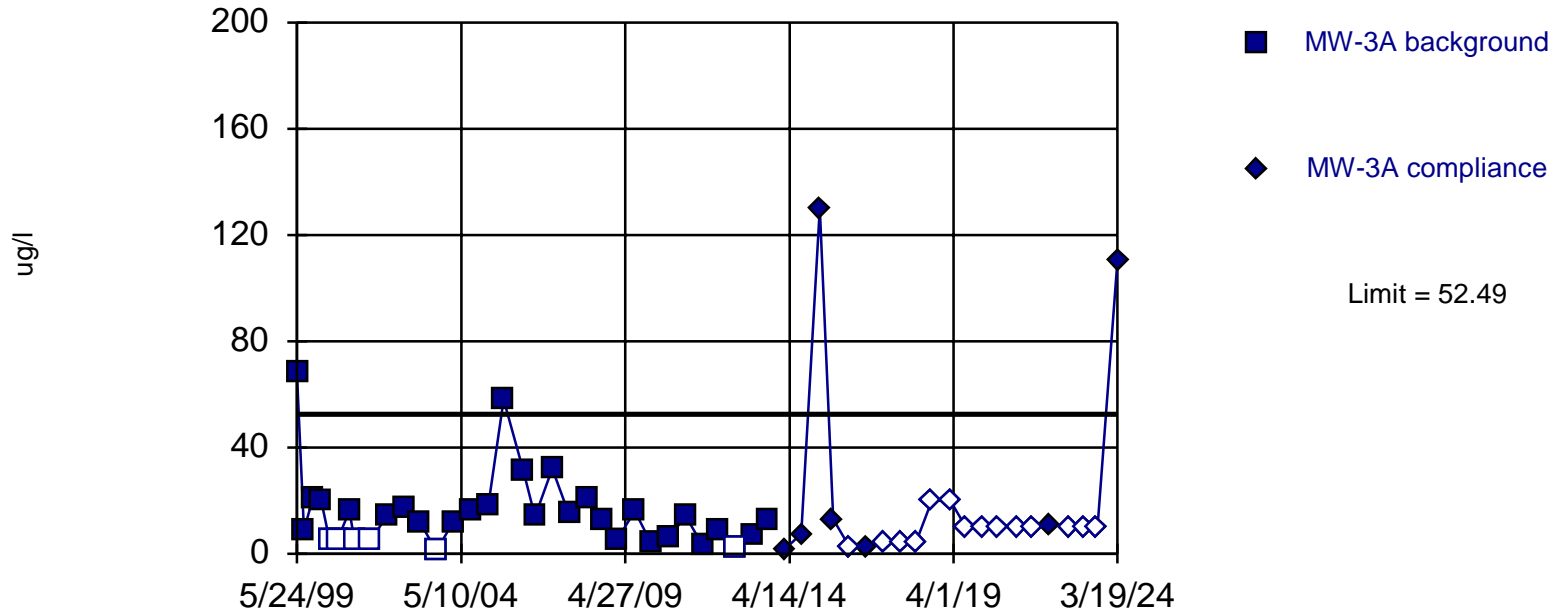
Background Data Summary (based on cube root transformation): Mean=7.93, Std. Dev.=0.8934, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9167, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Manganese Total Analysis Run 4/10/2024 1:39 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Exceeds Limit

Prediction Limit

Intrawell Parametric

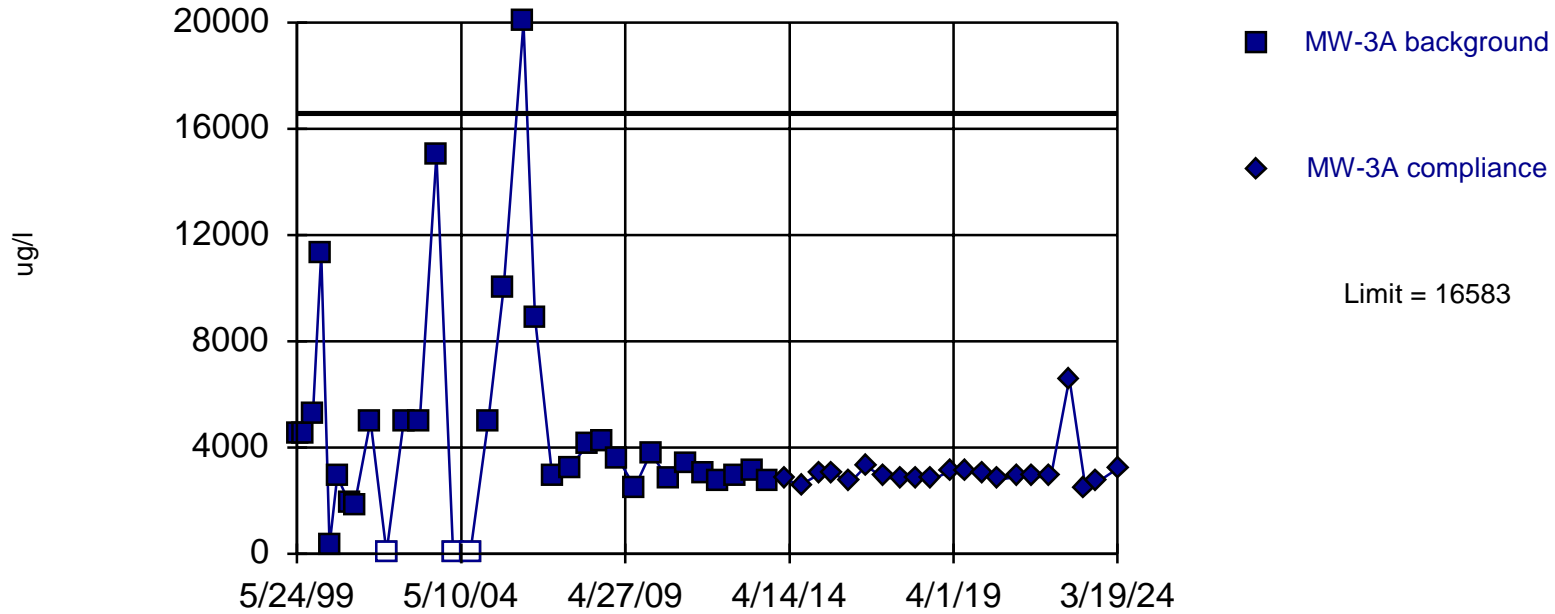


Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=3.141, Std. Dev.=1.779, n=33, 18.18% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9153, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Zinc Total Analysis Run 4/10/2024 1:45 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric

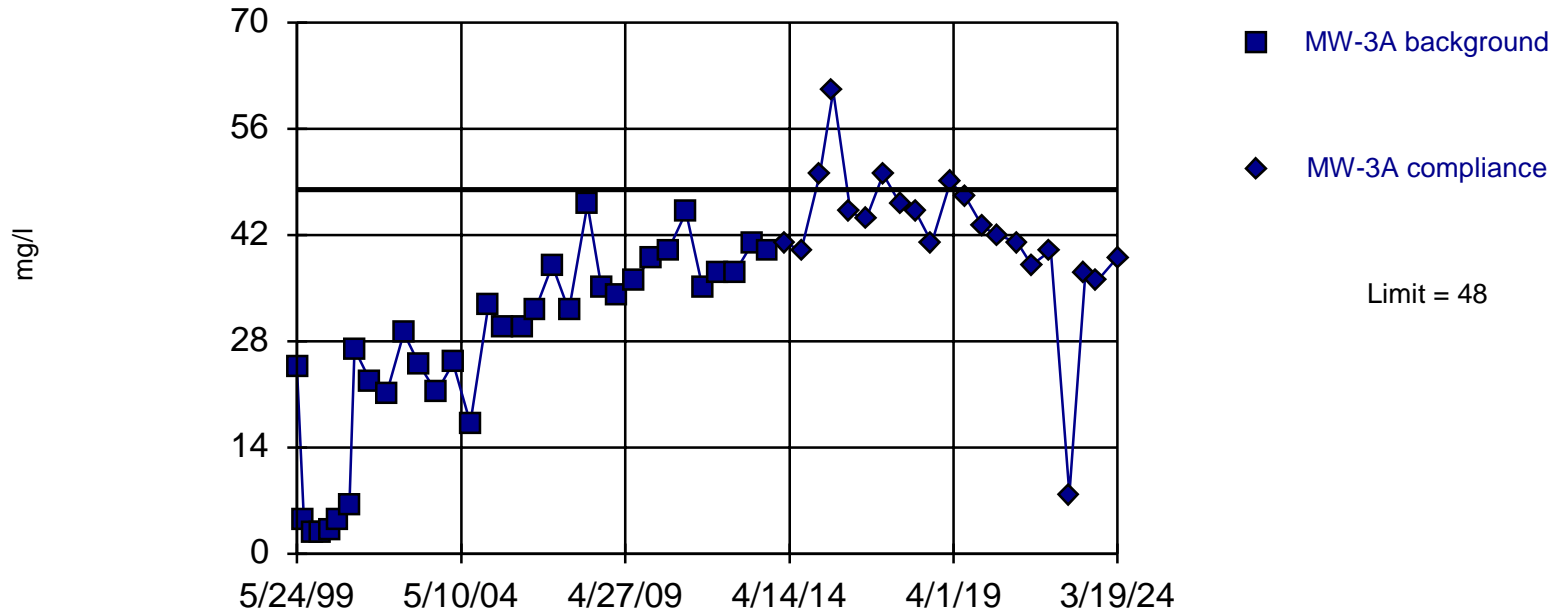


Background Data Summary (based on square root transformation): Mean=61.33, Std. Dev.=29.23, n=33, 9.091% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9092, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Chloride Analysis Run 4/10/2024 1:46 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric

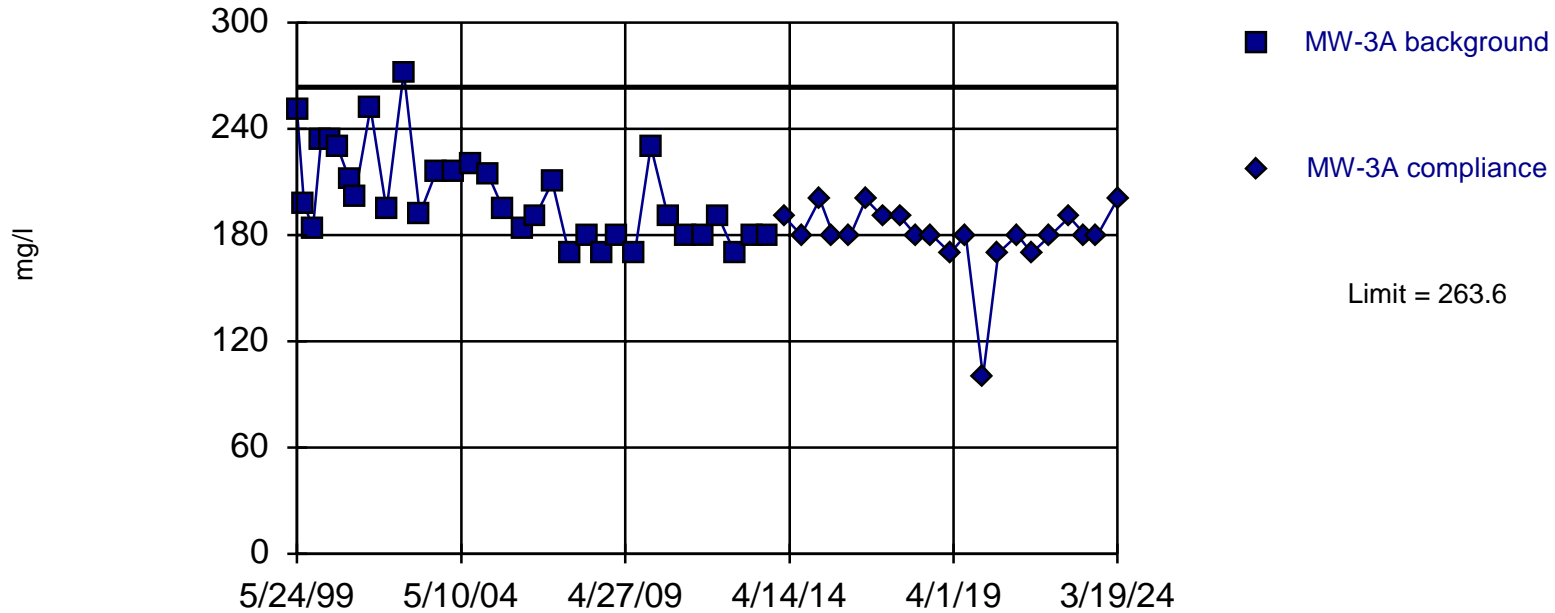


Background Data Summary (based on square transformation): Mean=901.5, Std. Dev.=607.9, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9494, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Sulfate Analysis Run 4/10/2024 1:46 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric

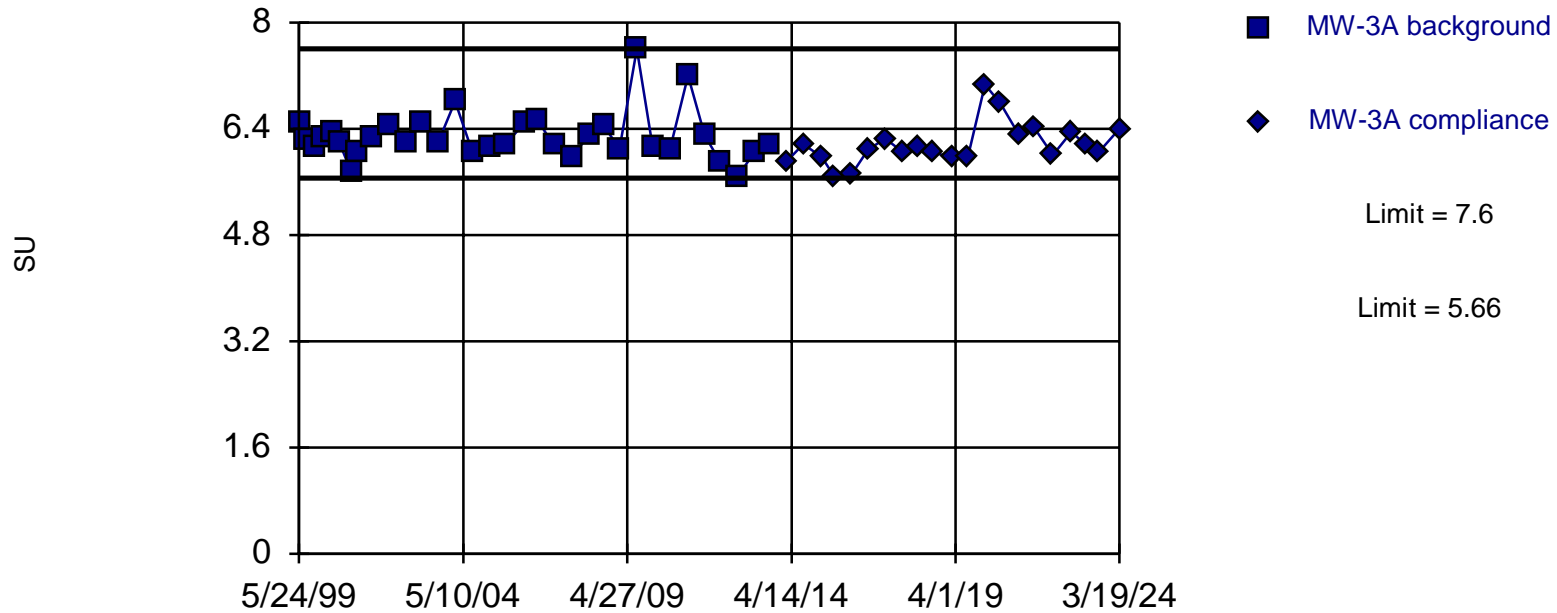


Background Data Summary: Mean=202, Std. Dev.=26.68, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9096, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Total Dissolved Solids [TDS] Analysis Run 4/10/2024 1:47 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limits

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 0.01 alpha level. Limits are highest and lowest of 33 background values. Well-constituent pair annual alpha = 0.01347. Individual comparison alpha = 0.003376 (1 of 2). Insufficient data to test for seasonality; data were not deseasonalized.

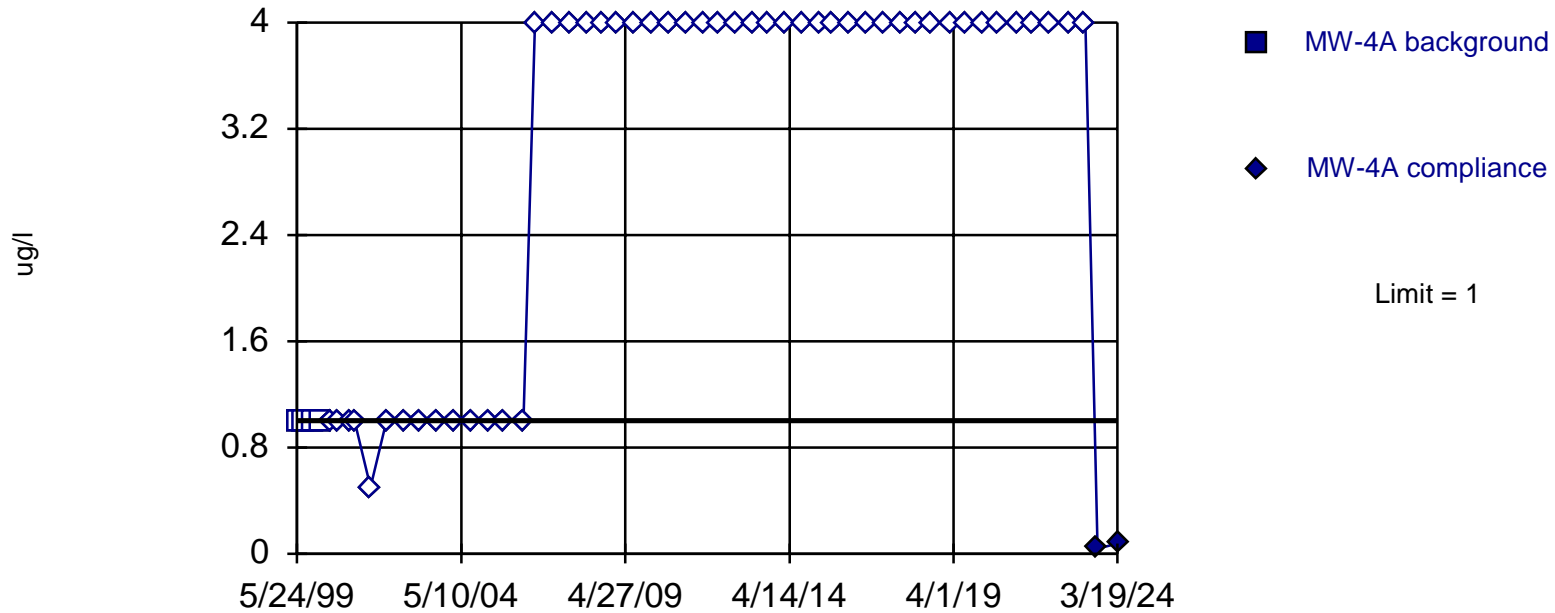
Constituent: pH Analysis Run 4/10/2024 1:48 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Non-parametric

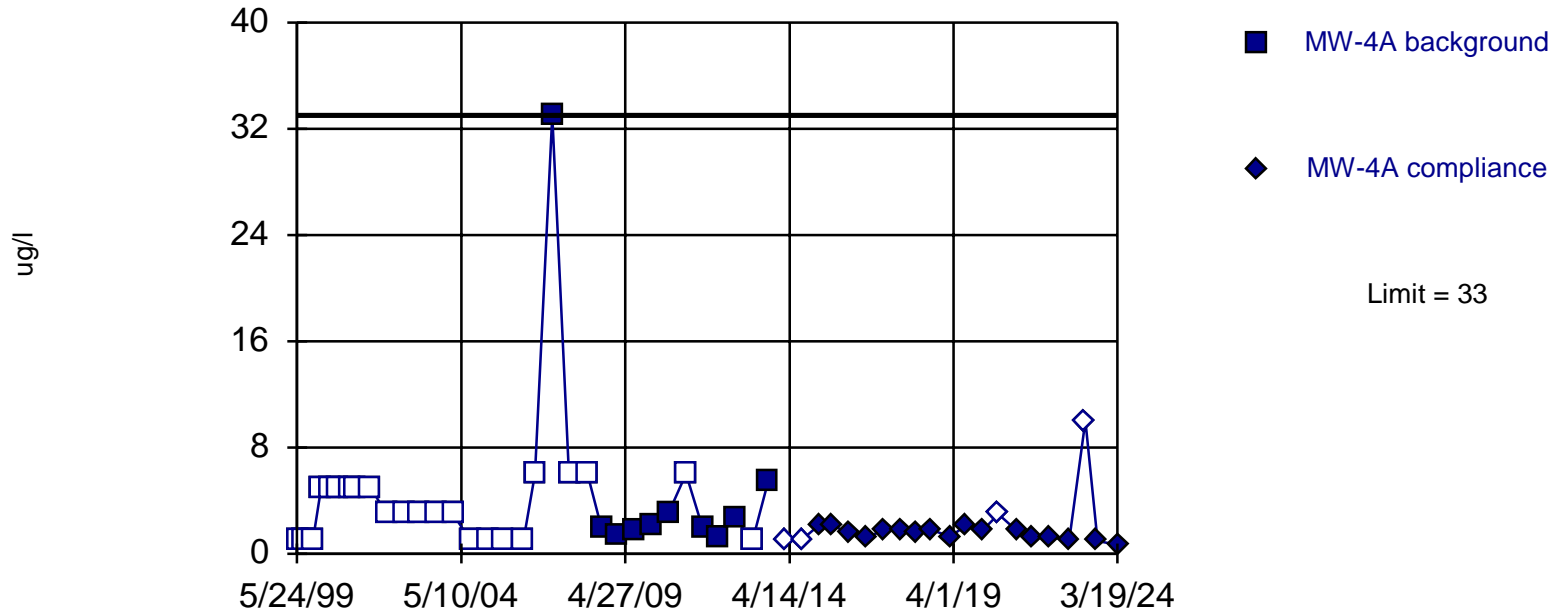


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values ($n = 4$) were censored; limit is most recent reporting limit. Well-constituent pair annual $\alpha = 0.198$. Individual comparison $\alpha = 0.05367$ (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Cadmium Total Analysis Run 4/10/2024 1:50 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

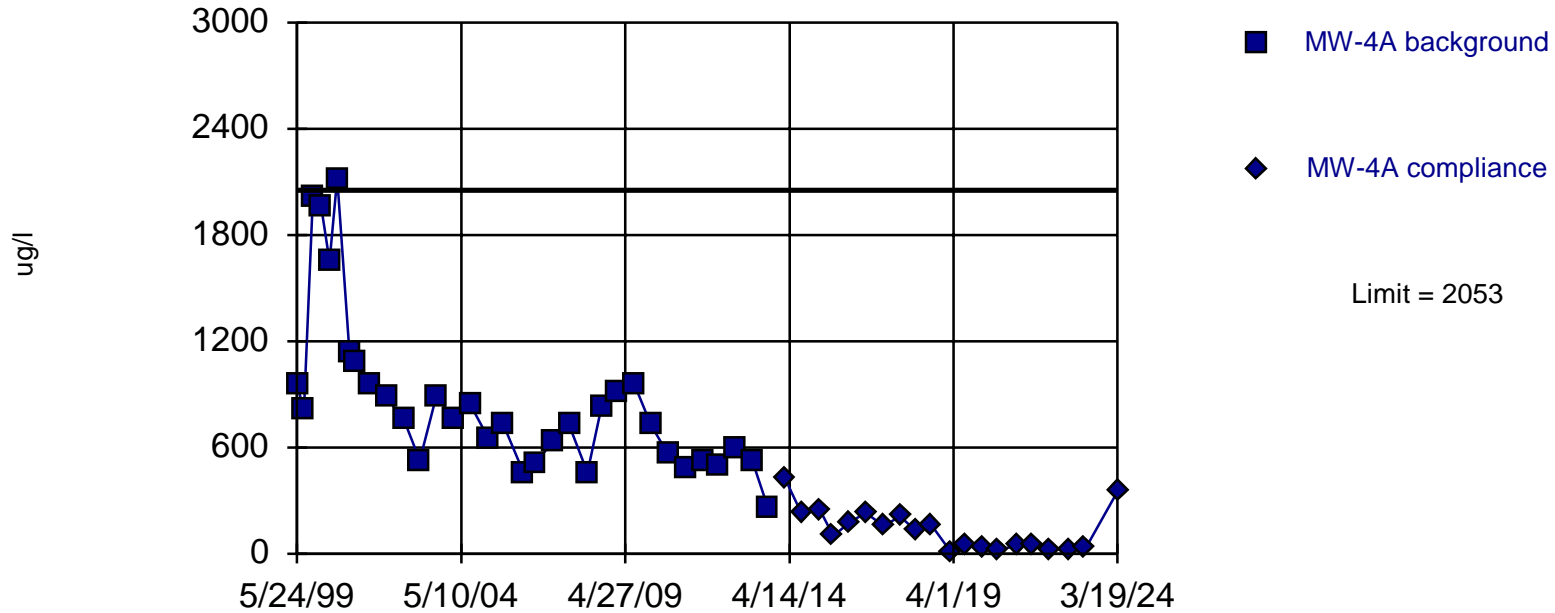


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 33 background values. 69.7% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Copper Total Analysis Run 4/10/2024 1:51 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric

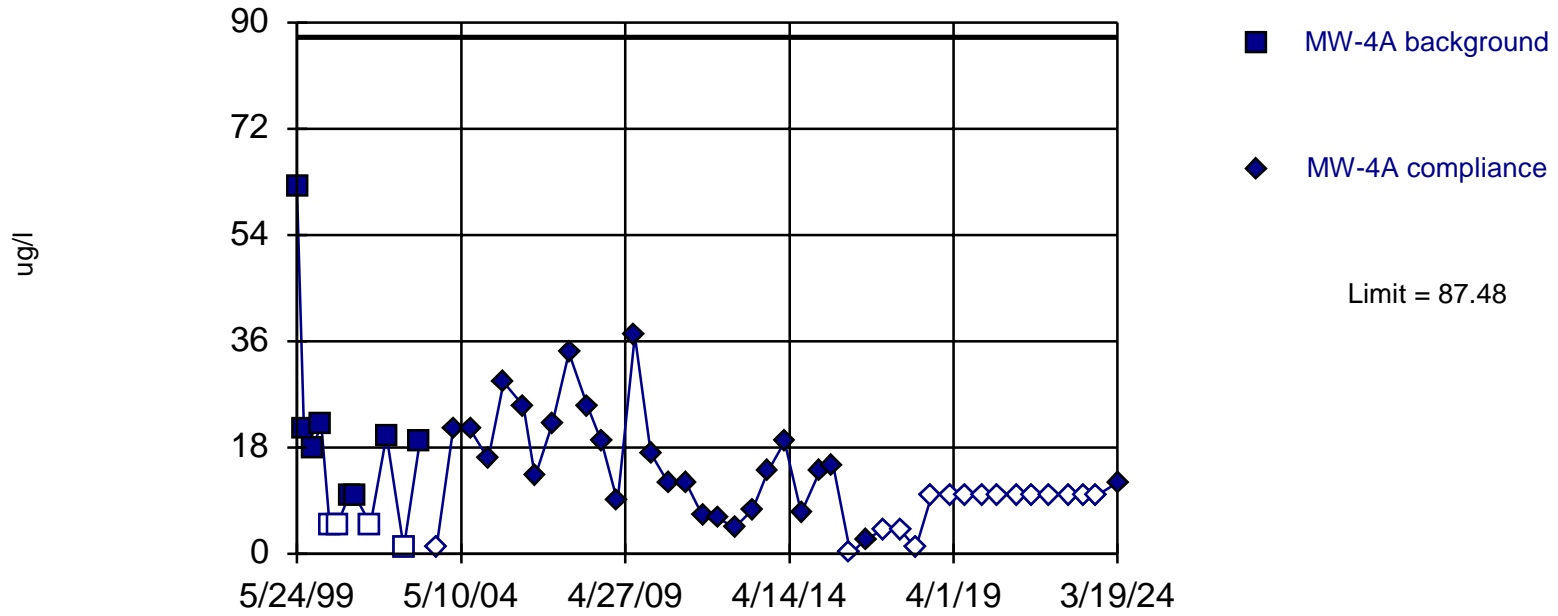


Background Data Summary (based on cube root transformation): Mean=9.274, Std. Dev.=1.49, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9123, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Manganese Total Analysis Run 4/10/2024 1:51 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Prediction Limit

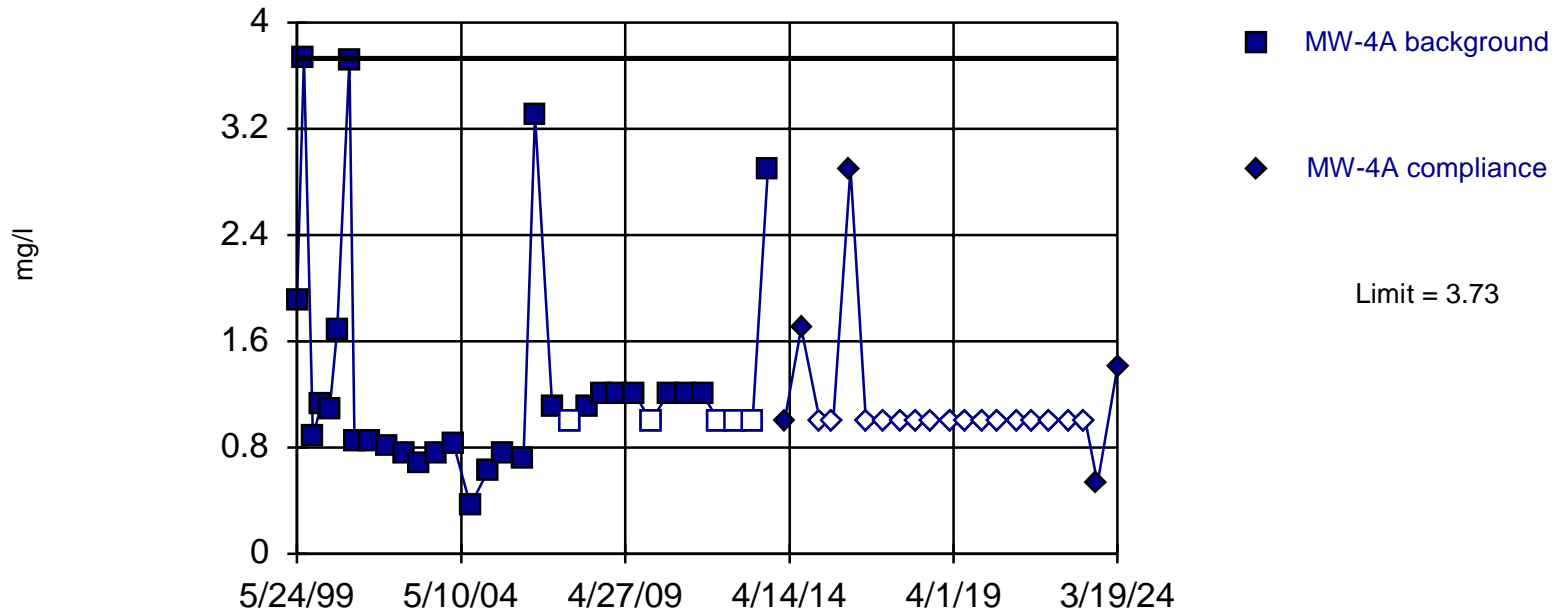
Intrawell Parametric



Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=3.199, Std. Dev.=2.126, n=12, 33.33% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9101, critical = 0.805. Kappa = 2.895 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Within Limit

Prediction Limit
Intrawell Non-parametric

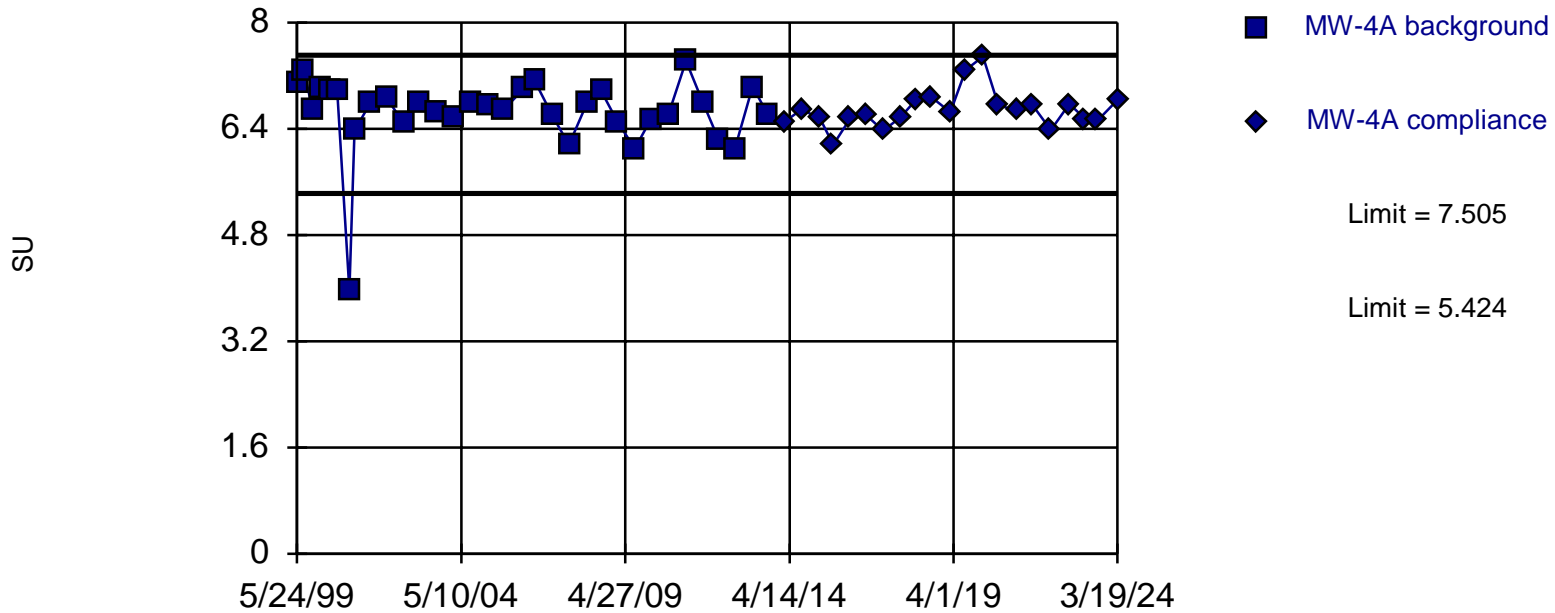


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 33 background values. 15.15% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 2:01 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limits

Prediction Limit Intrawell Parametric



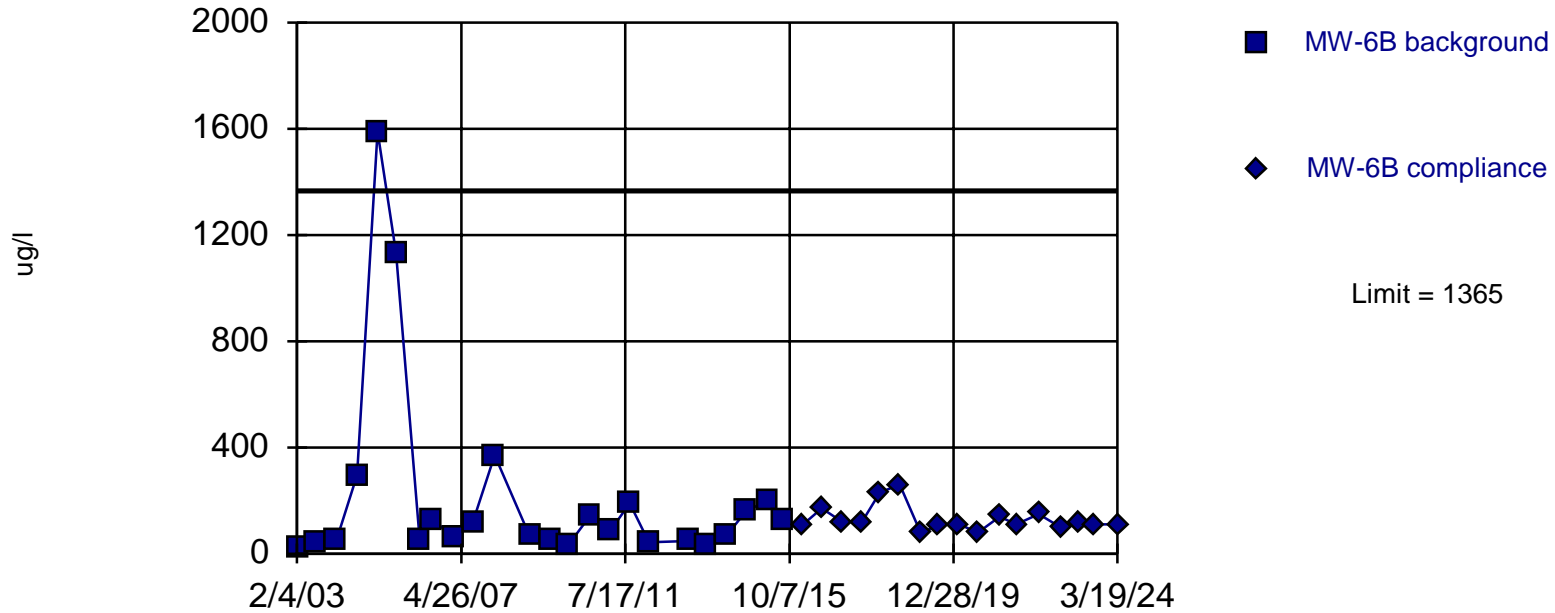
Background Data Summary (based on x^4 transformation): Mean=2019, Std. Dev.=500.1, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9267, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: pH Analysis Run 4/10/2024 2:01 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Parametric

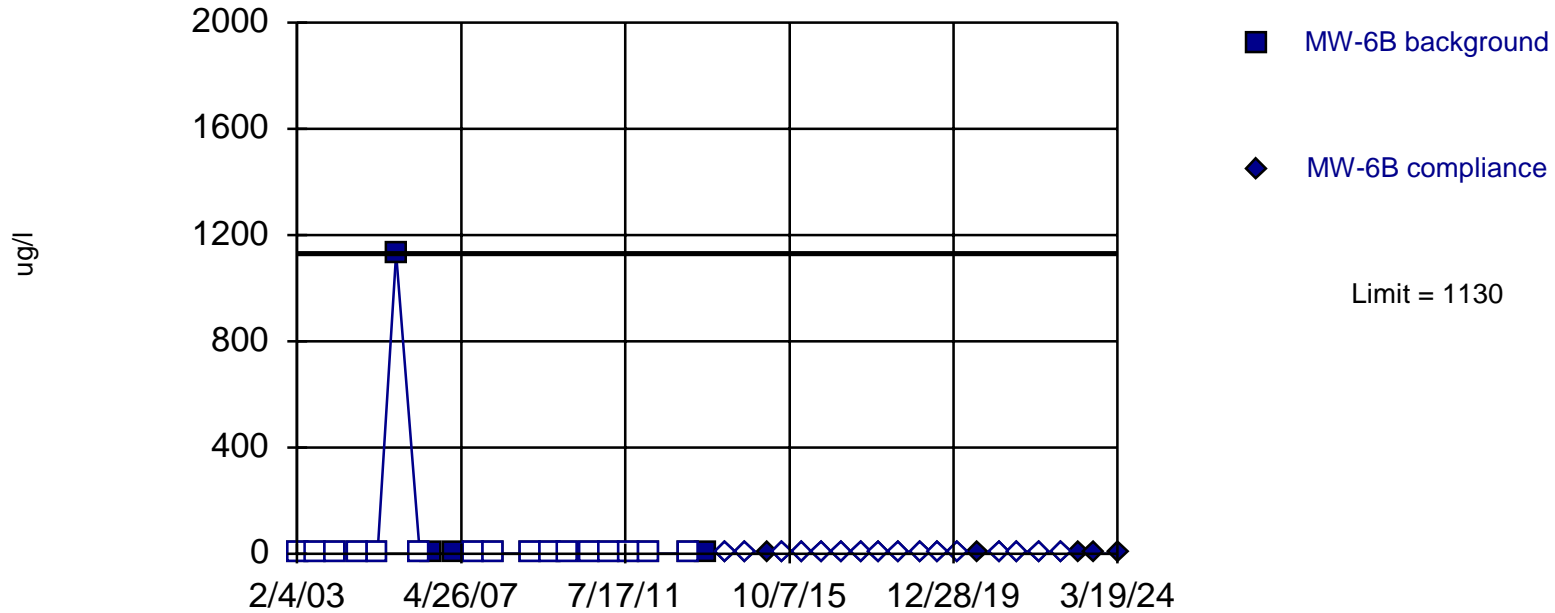


Background Data Summary (based on natural log transformation): Mean=4.64, Std. Dev.=1.066, n=24. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8995, critical = 0.884. Kappa = 2.42 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Barium Total Analysis Run 4/10/2024 2:03 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric



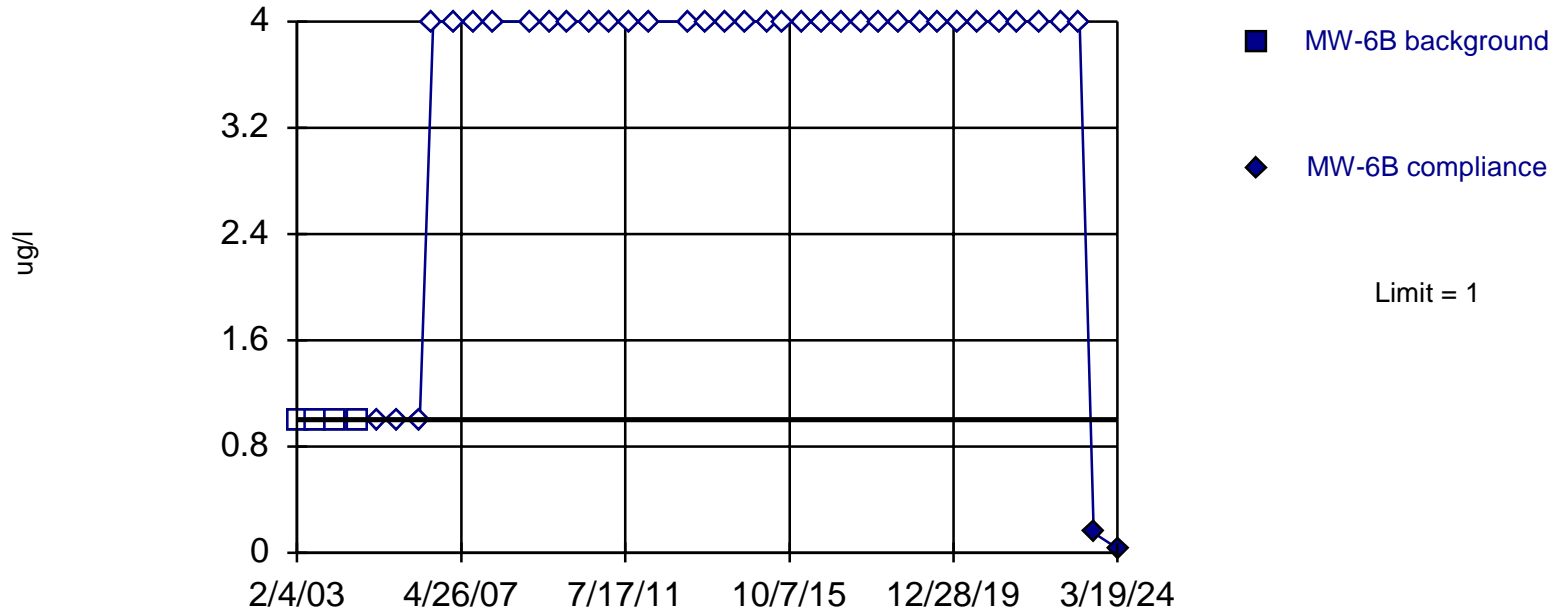
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 20 background values. 80% NDs. Well-constituent pair annual alpha = 0.01677. Individual comparison alpha = 0.004219 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Beryllium Total Analysis Run 4/10/2024 2:03 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 4) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.198. Individual comparison alpha = 0.05367 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

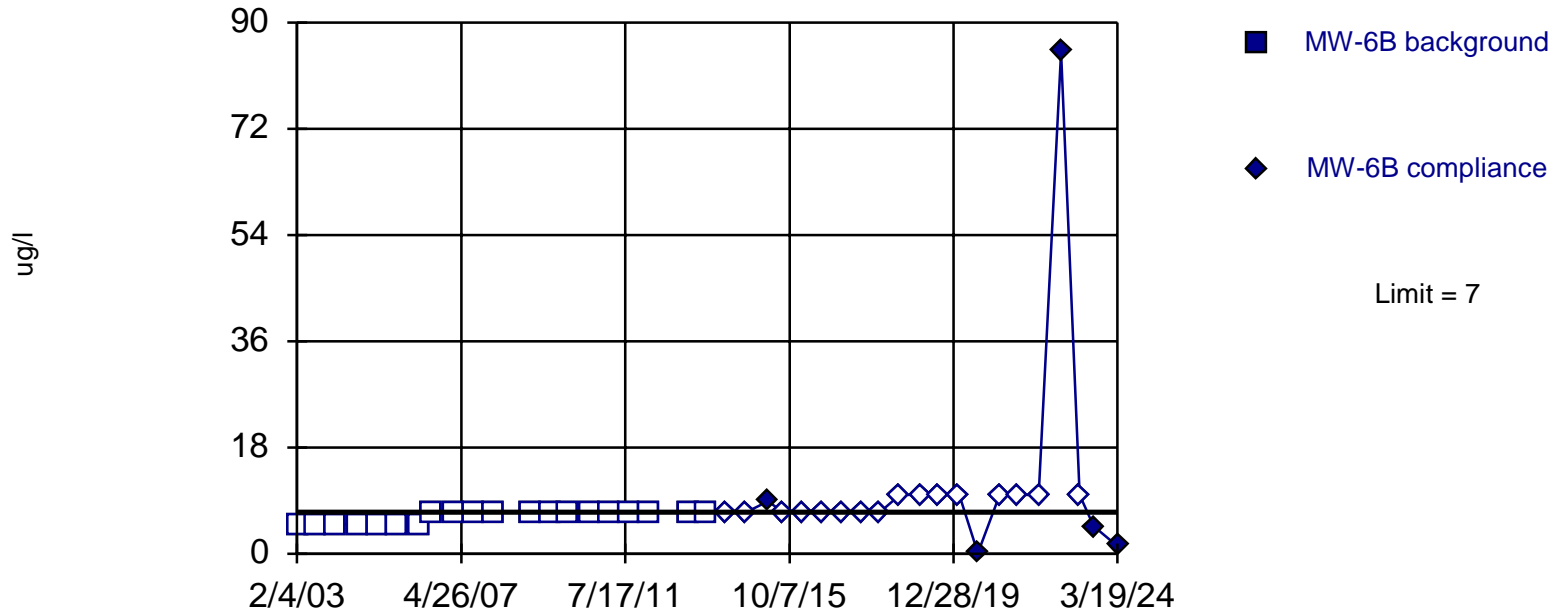
Constituent: Cadmium Total Analysis Run 4/10/2024 2:04 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Non-parametric



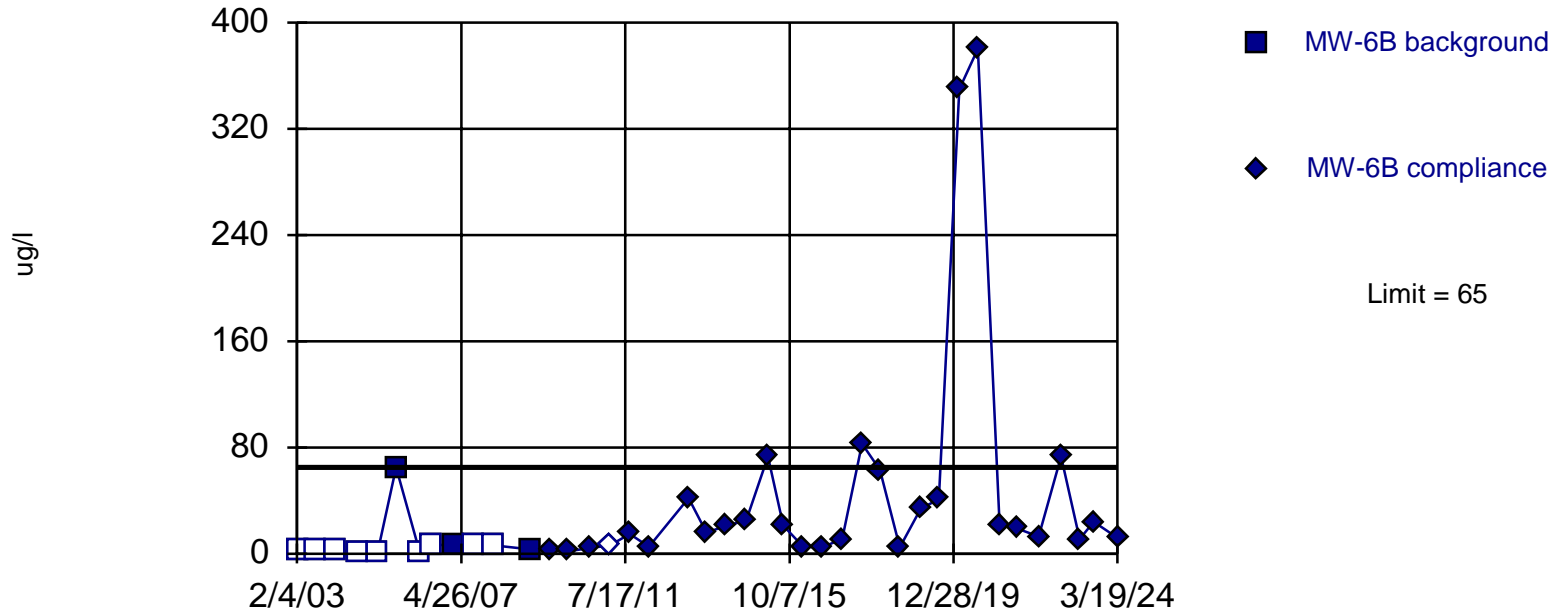
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values ($n = 20$) were censored; limit is most recent reporting limit. Well-constituent pair annual $\alpha = 0.01677$. Individual comparison $\alpha = 0.004219$ (1 of 2). Insufficient data to test for seasonality; data were not deseasonalized.

Constituent: Cobalt Total Analysis Run 4/10/2024 2:09 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Non-parametric

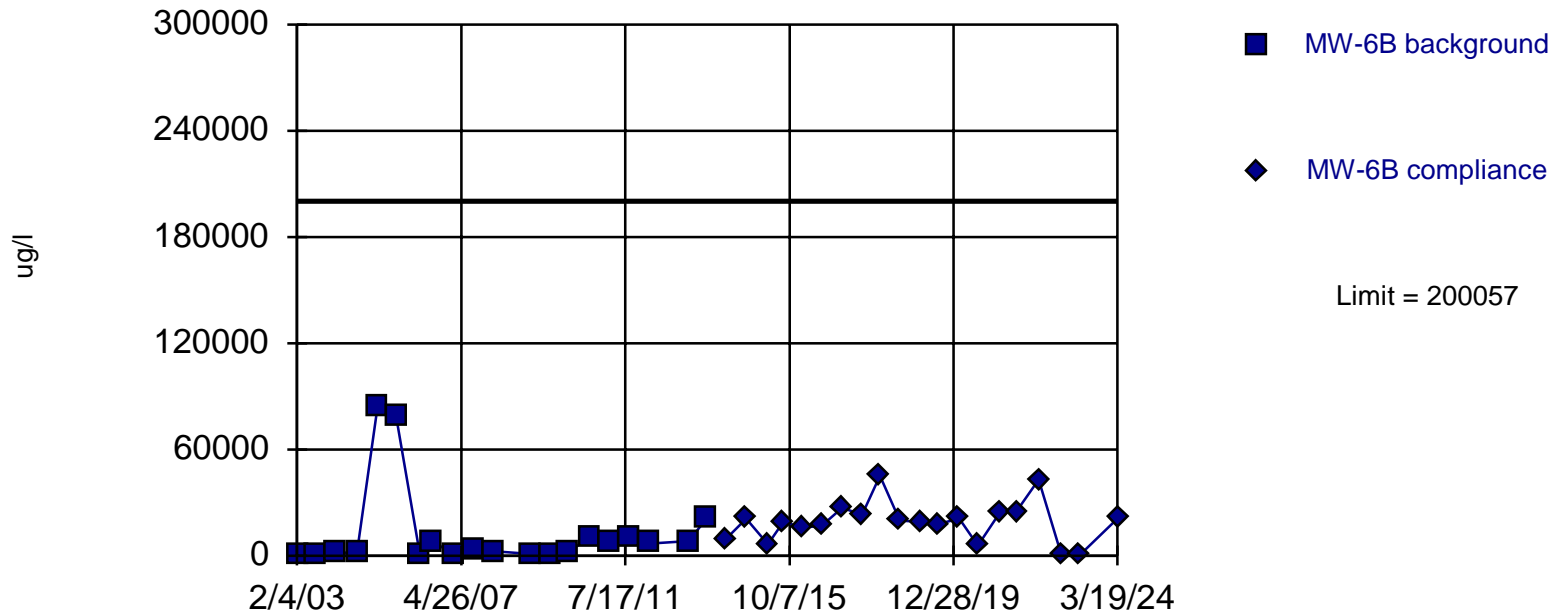


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 12 background values. 75% NDs. Well-constituent pair annual alpha = 0.04087. Individual comparison alpha = 0.01038 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Copper Total Analysis Run 4/10/2024 2:10 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit
Intrawell Parametric

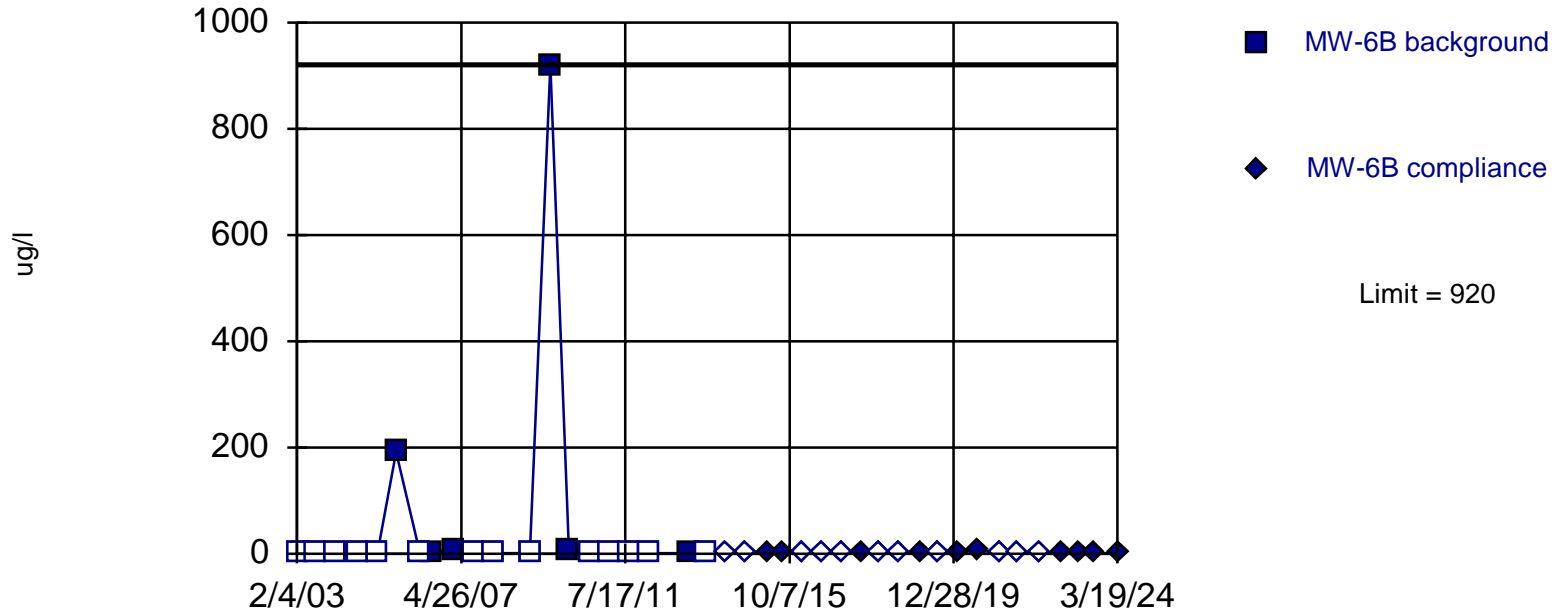


Background Data Summary (based on natural log transformation): Mean=8.258, Std. Dev.=1.578, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9598, critical = 0.868. Kappa = 2.502 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Iron Total Analysis Run 4/10/2024 2:10 PM
 City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit Intrawell Non-parametric

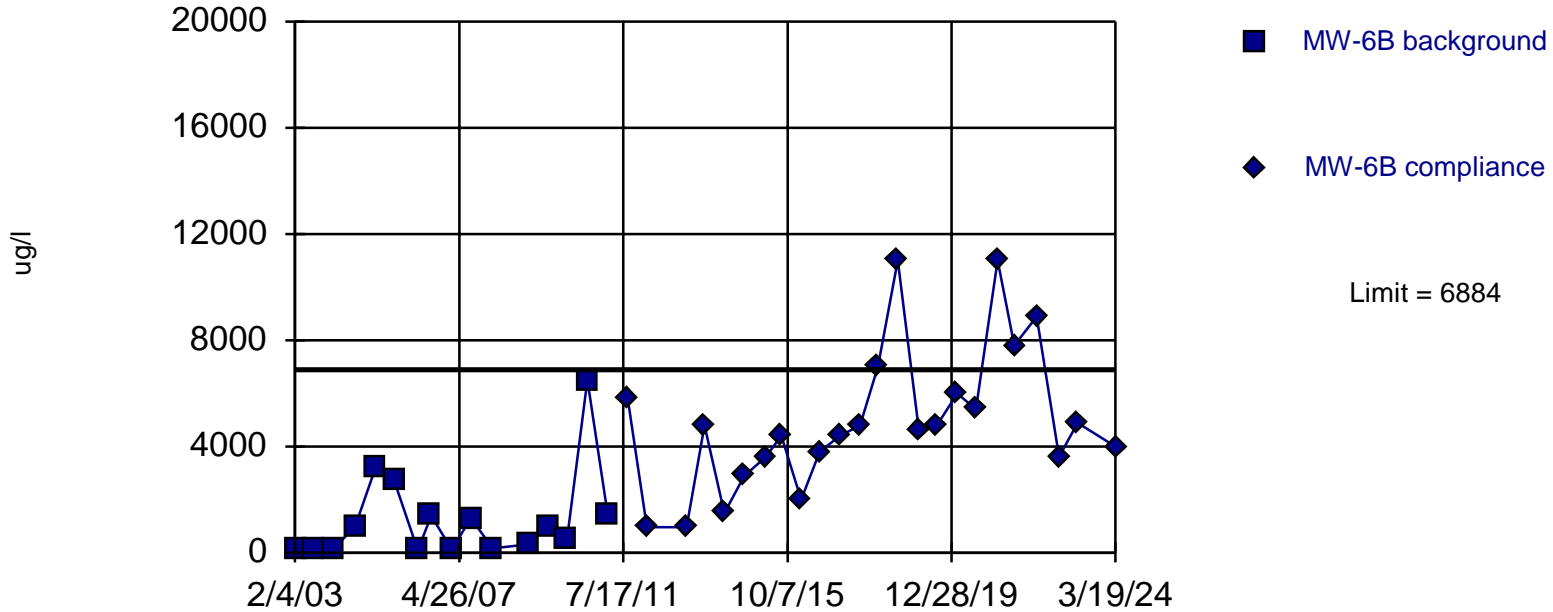


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 20 background values. 70% NDs. Well-constituent pair annual alpha = 0.01677. Individual comparison alpha = 0.004219 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Lead Total Analysis Run 4/10/2024 2:11 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

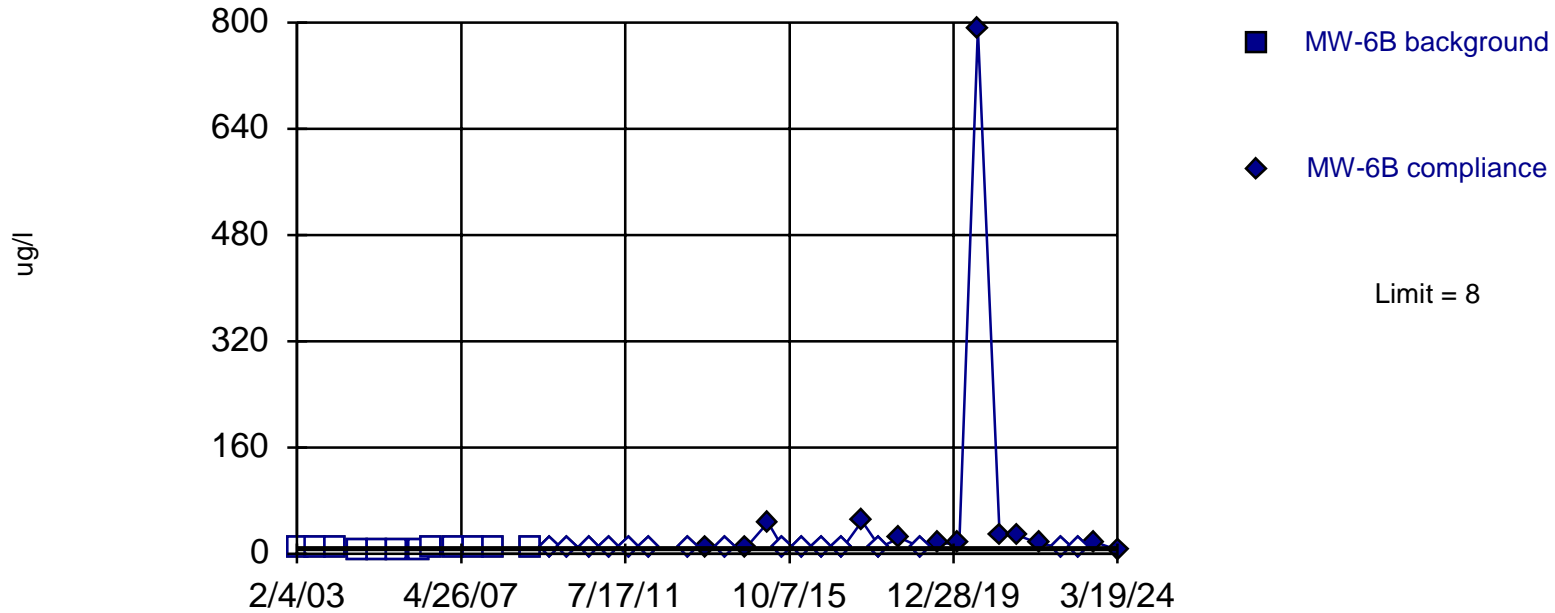
Within Limit

Prediction Limit Intrawell Parametric



Within Limit

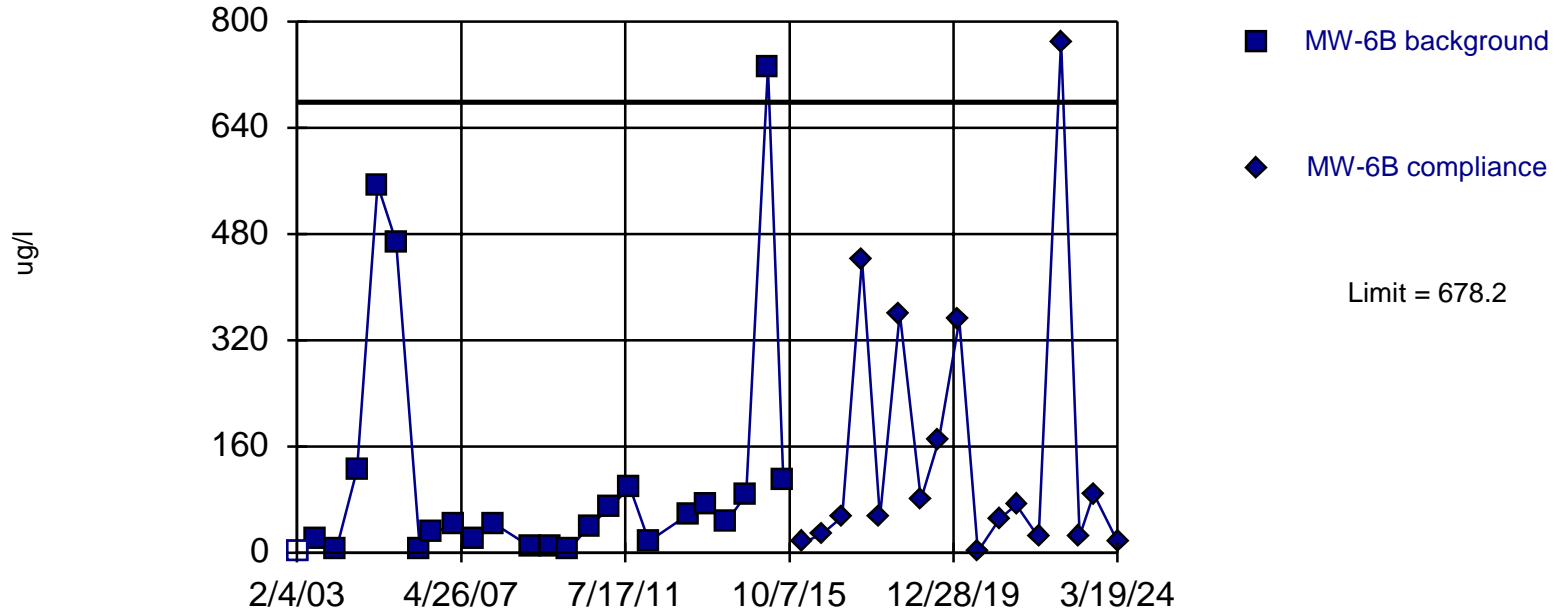
Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values ($n = 12$) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.04087. Individual comparison alpha = 0.01038 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Vanadium Total Analysis Run 4/10/2024 2:14 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Prediction Limit Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=3.819, Std. Dev.=2.052, n=24, 4.167% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8846, critical = 0.884. Kappa = 2.42 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

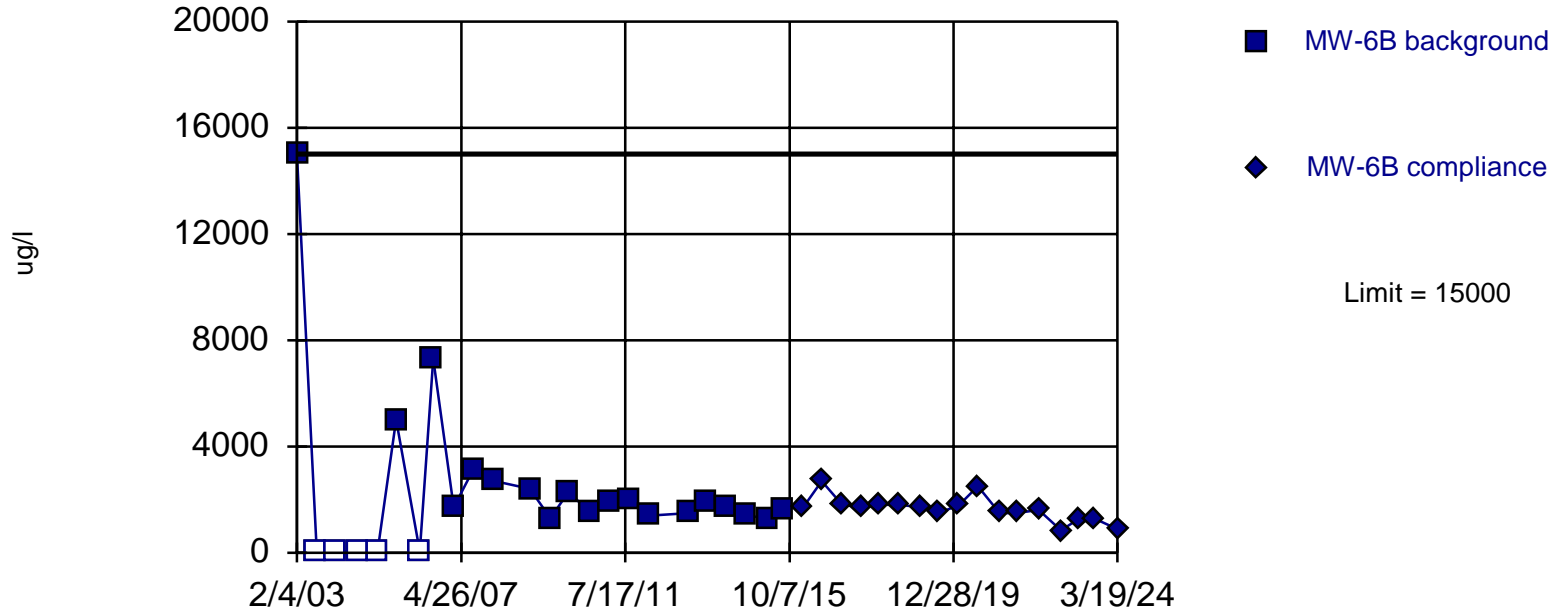
Constituent: Zinc Total Analysis Run 4/10/2024 2:15 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Non-parametric



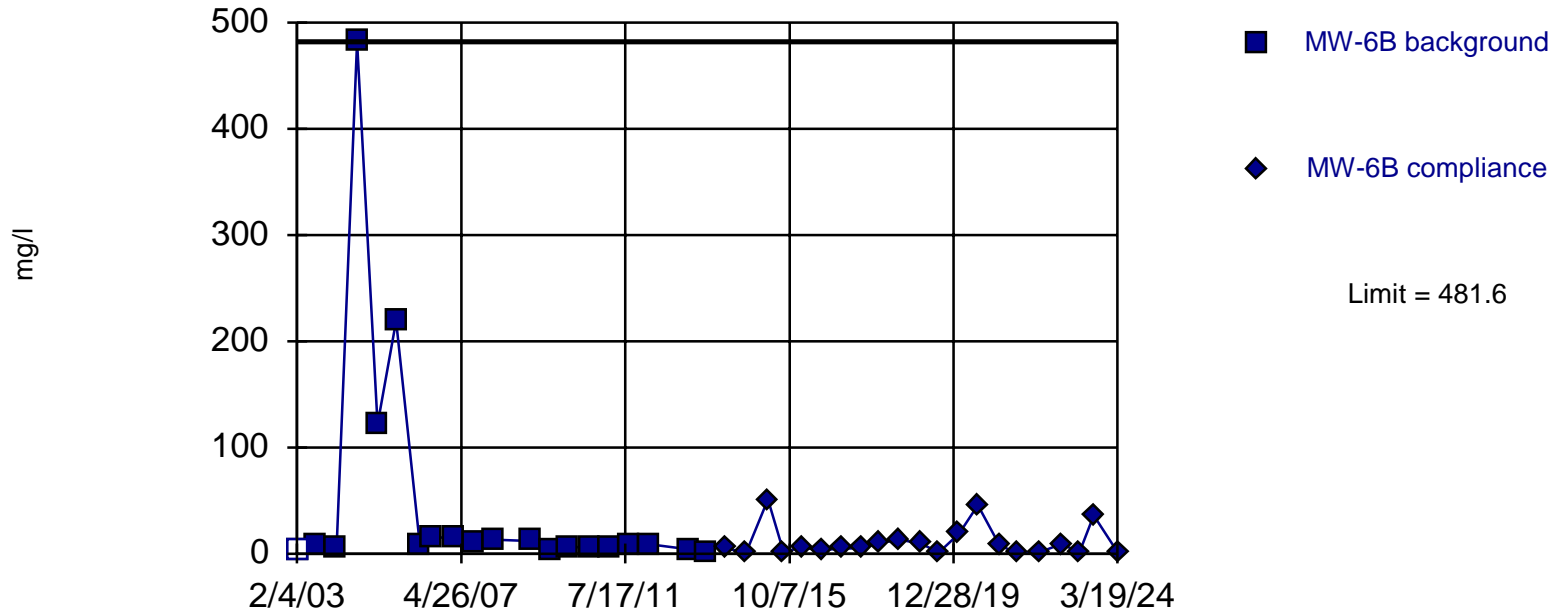
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 20.83% NDs. Well-constituent pair annual alpha = 0.01227. Individual comparison alpha = 0.003083 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Chloride Analysis Run 4/10/2024 2:15 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

Prediction Limit

Intrawell Non-parametric



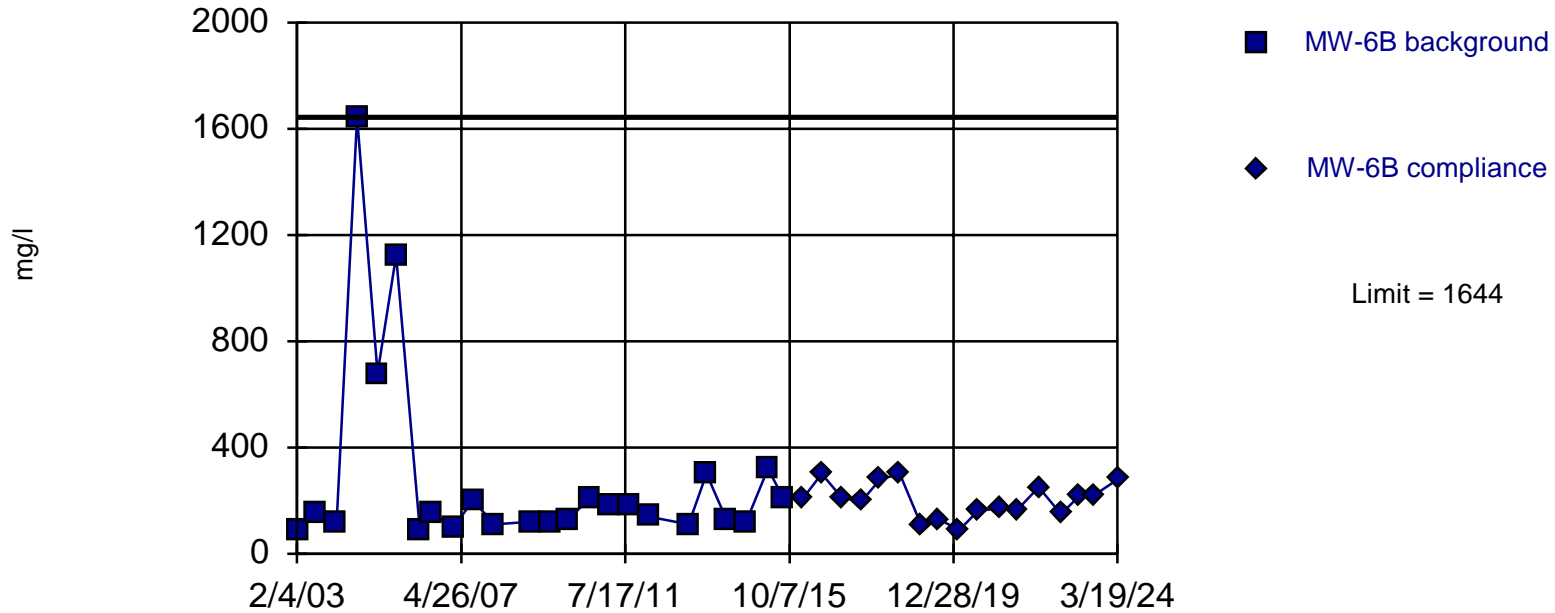
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. 5% NDs. Well-constituent pair annual alpha = 0.01677. Individual comparison alpha = 0.004219 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: Sulfate Analysis Run 4/10/2024 2:16 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

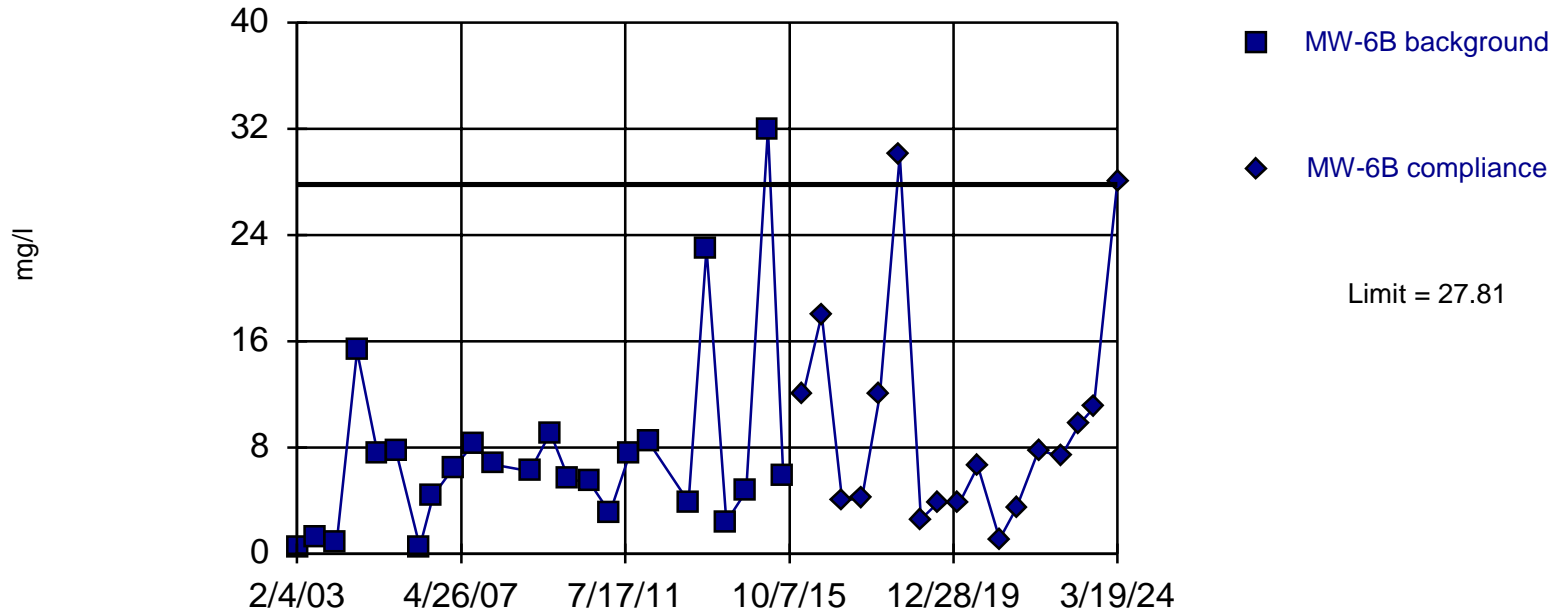
Within Limit

Prediction Limit Intrawell Non-parametric



Exceeds Limit

Prediction Limit Intrawell Parametric

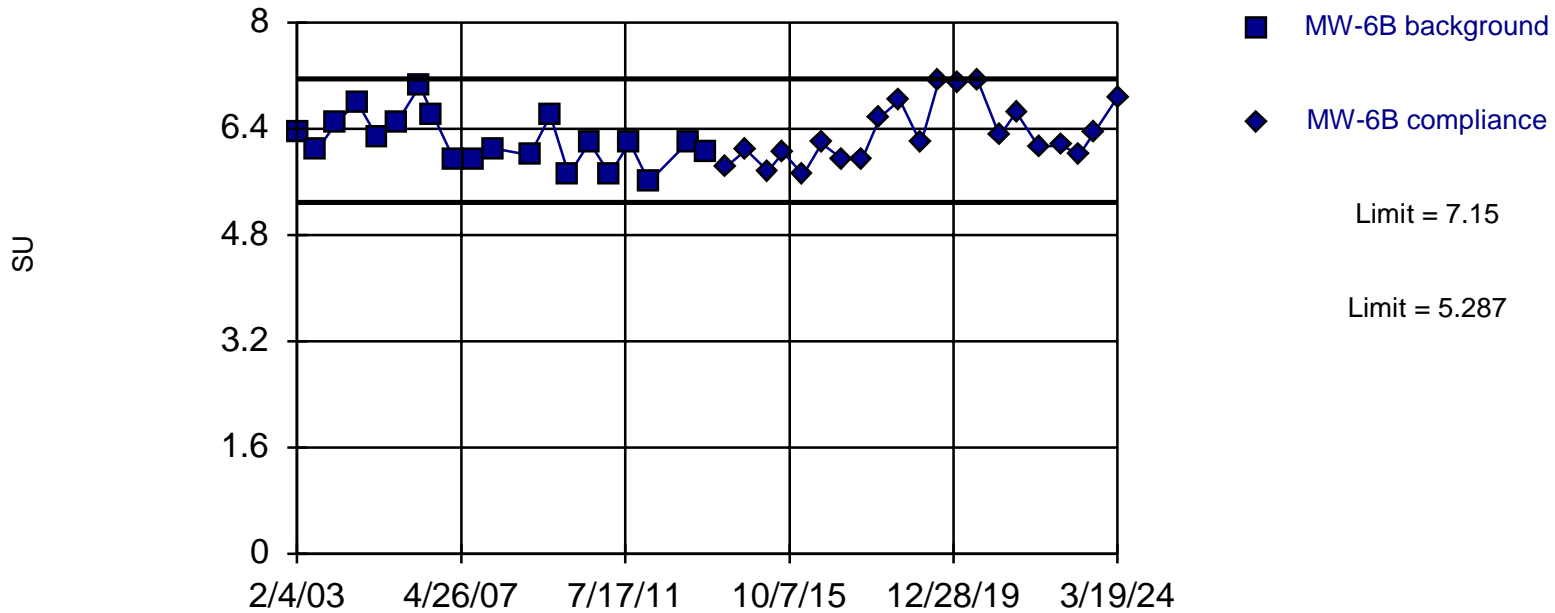


Background Data Summary (based on square root transformation): Mean=2.461, Std. Dev.=1.162, n=24. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9119, critical = 0.884. Kappa = 2.42 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 2:17 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limits

Prediction Limit Intrawell Parametric



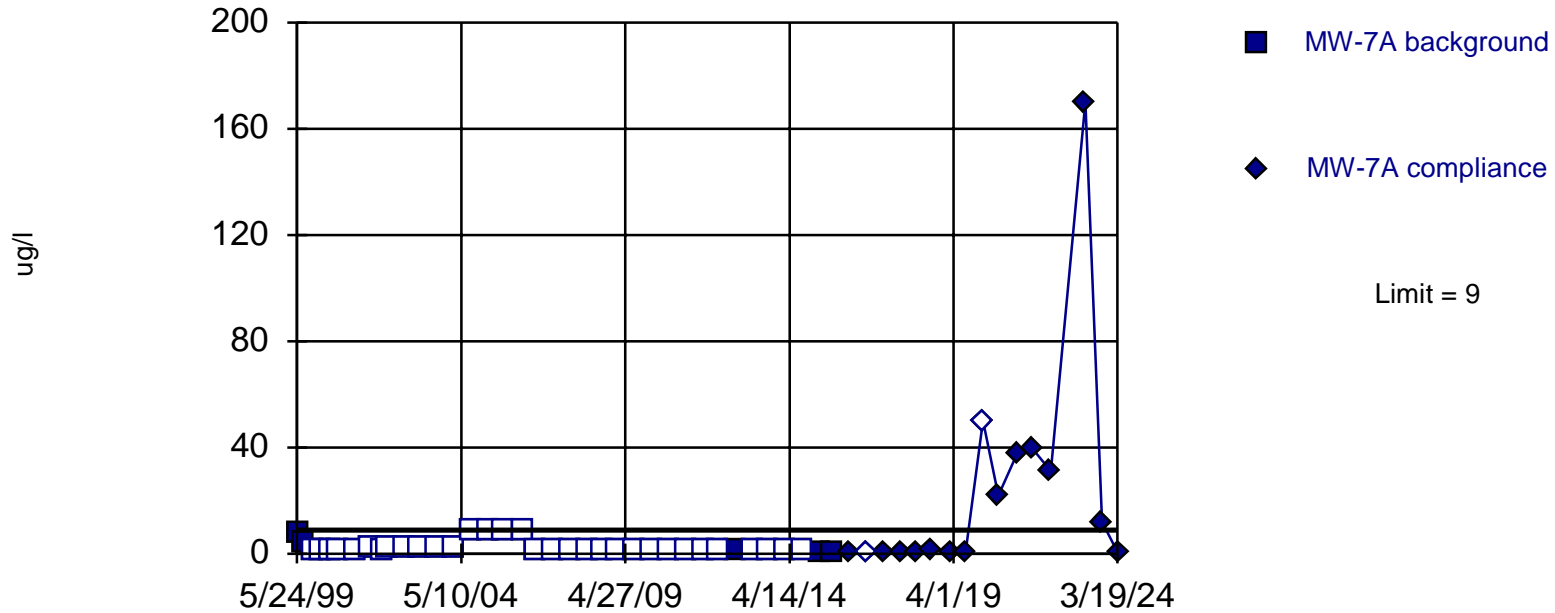
Background Data Summary: Mean=6.219, Std. Dev.=0.3724, n=20. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9756, critical = 0.868. Kappa = 2.502 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: pH Analysis Run 4/10/2024 2:17 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limit

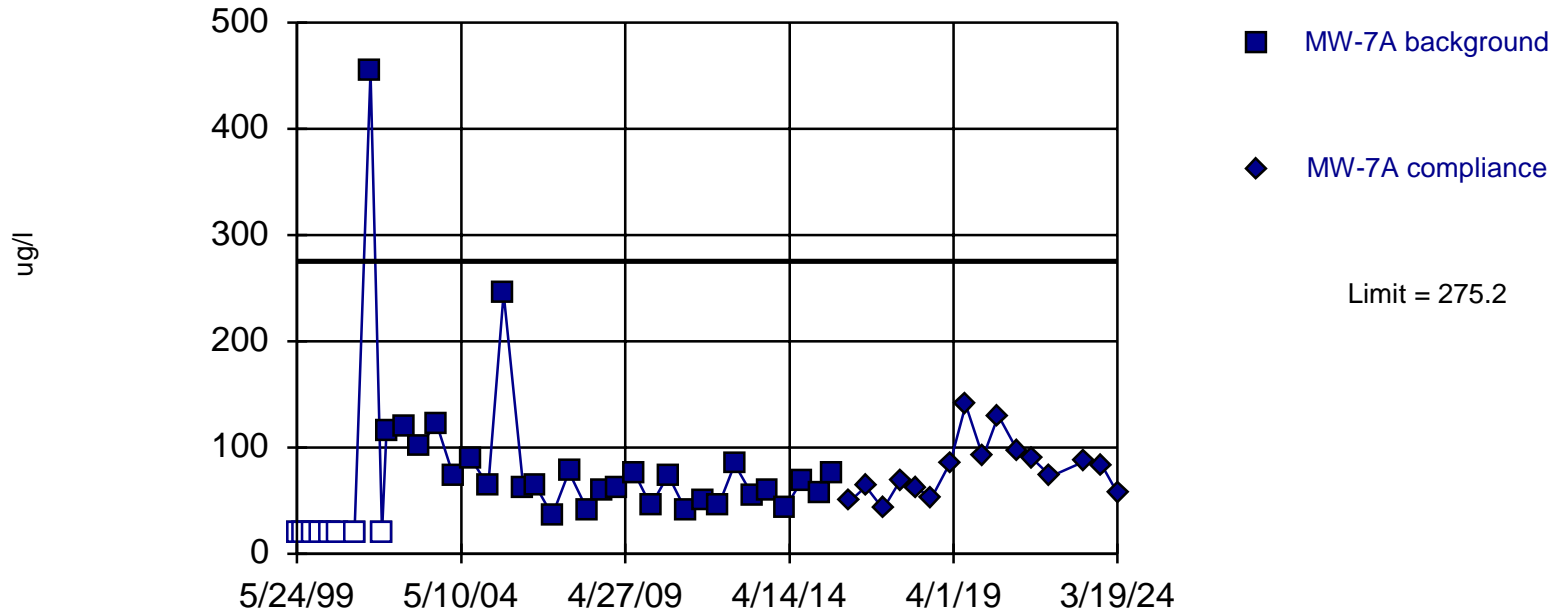
Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 37 background values. 86.49% NDs. Well-constituent pair annual alpha = 0.005401. Individual comparison alpha = 0.001353 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

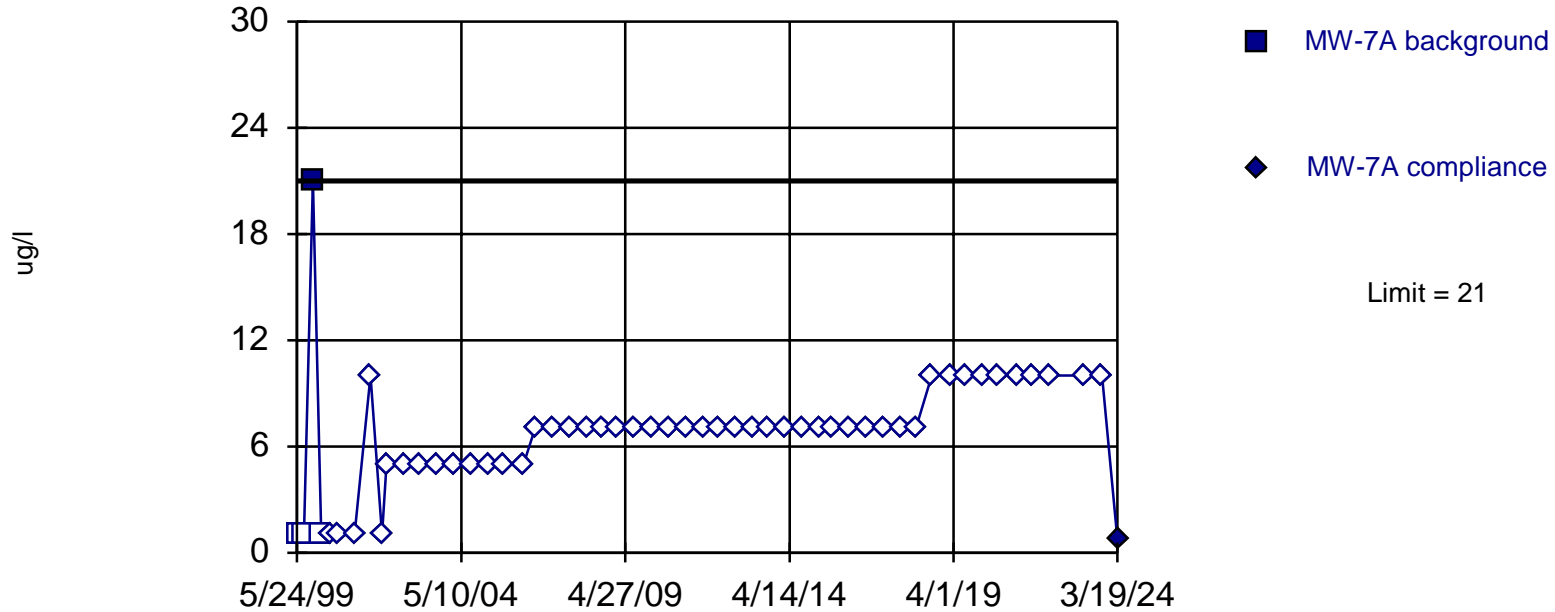
Within Limit

Prediction Limit
Intrawell Parametric



Within Limit

Prediction Limit Intrawell Non-parametric

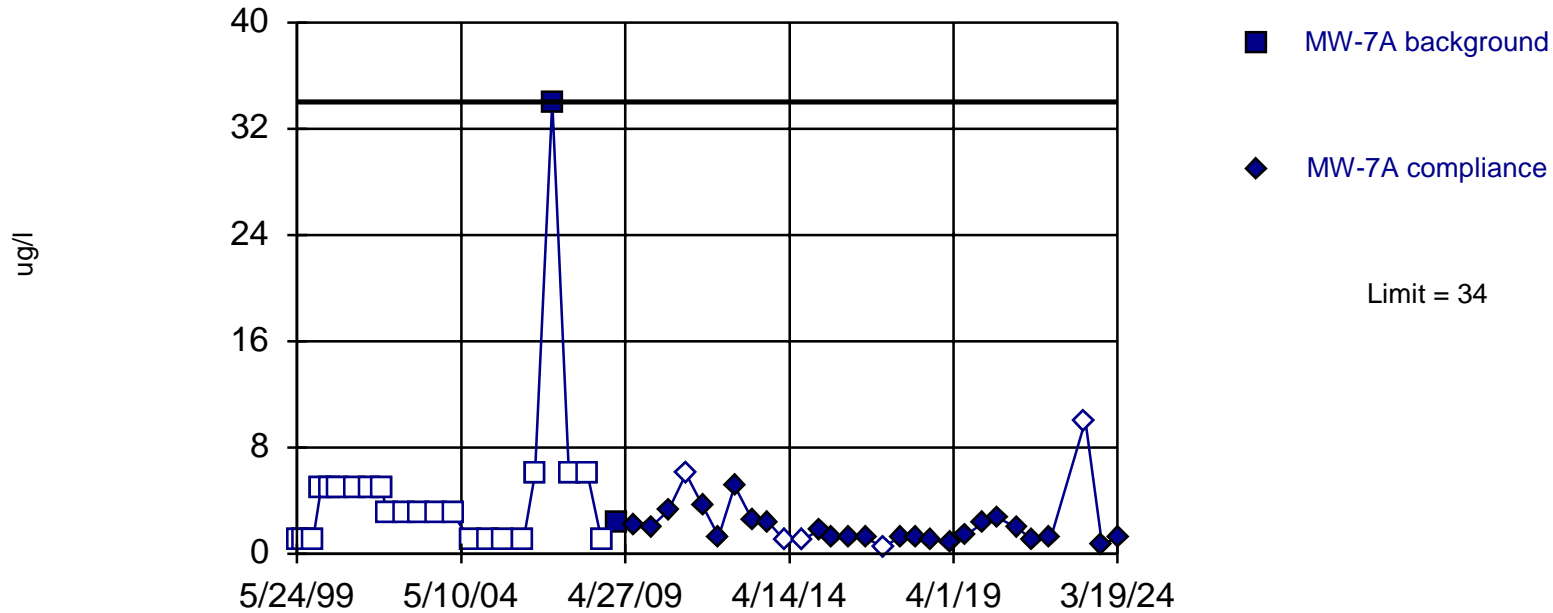


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 4 background values. 75% NDs. Well-constituent pair annual alpha = 0.198. Individual comparison alpha = 0.05367 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Within Limit

Prediction Limit

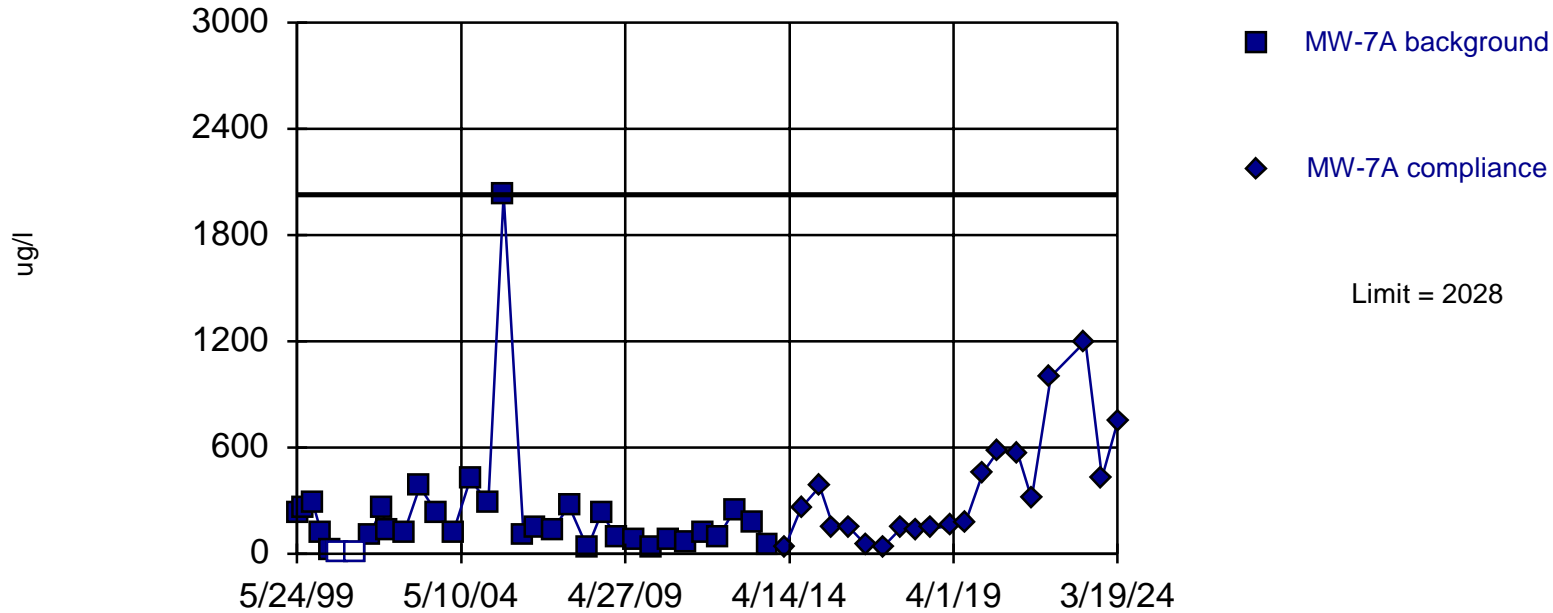
Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 24 background values. 91.67% NDs. Well-constituent pair annual alpha = 0.01227. Individual comparison alpha = 0.003083 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Prediction Limit

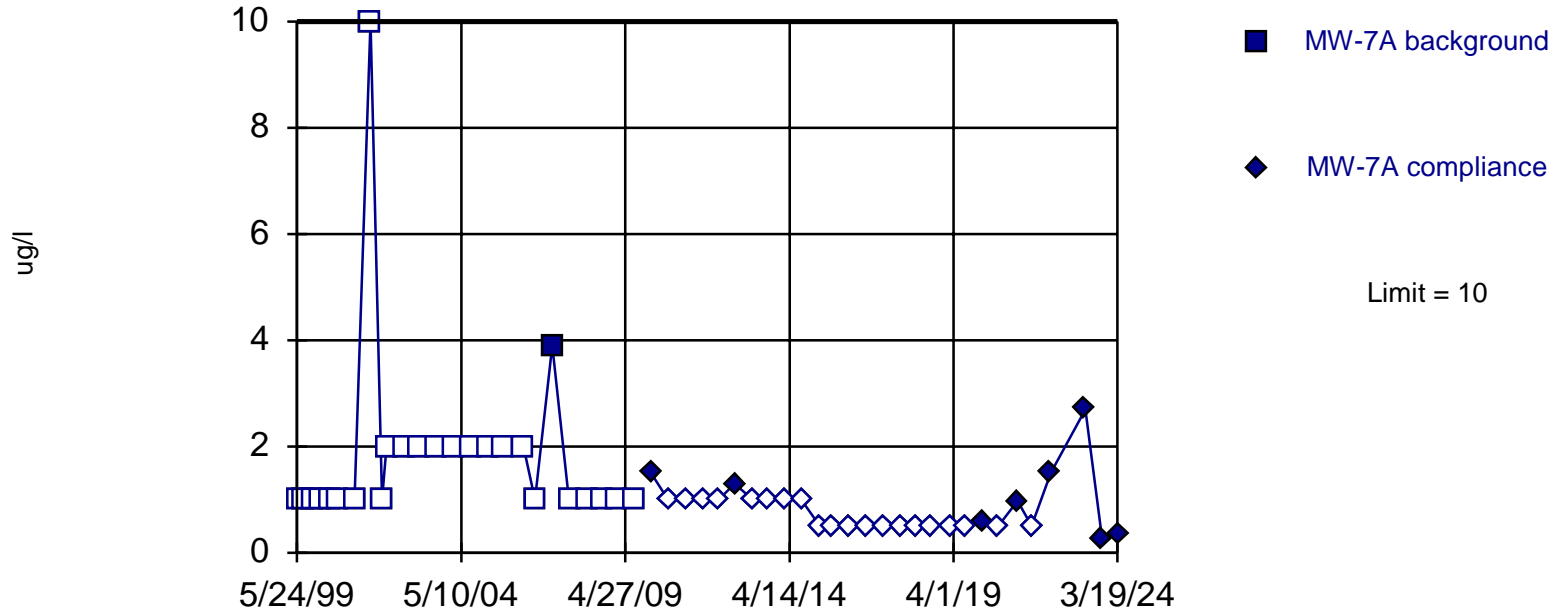
Intrawell Non-parametric



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 0.01 alpha level. Limit is highest of 33 background values. 6.061% NDs. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Within Limit

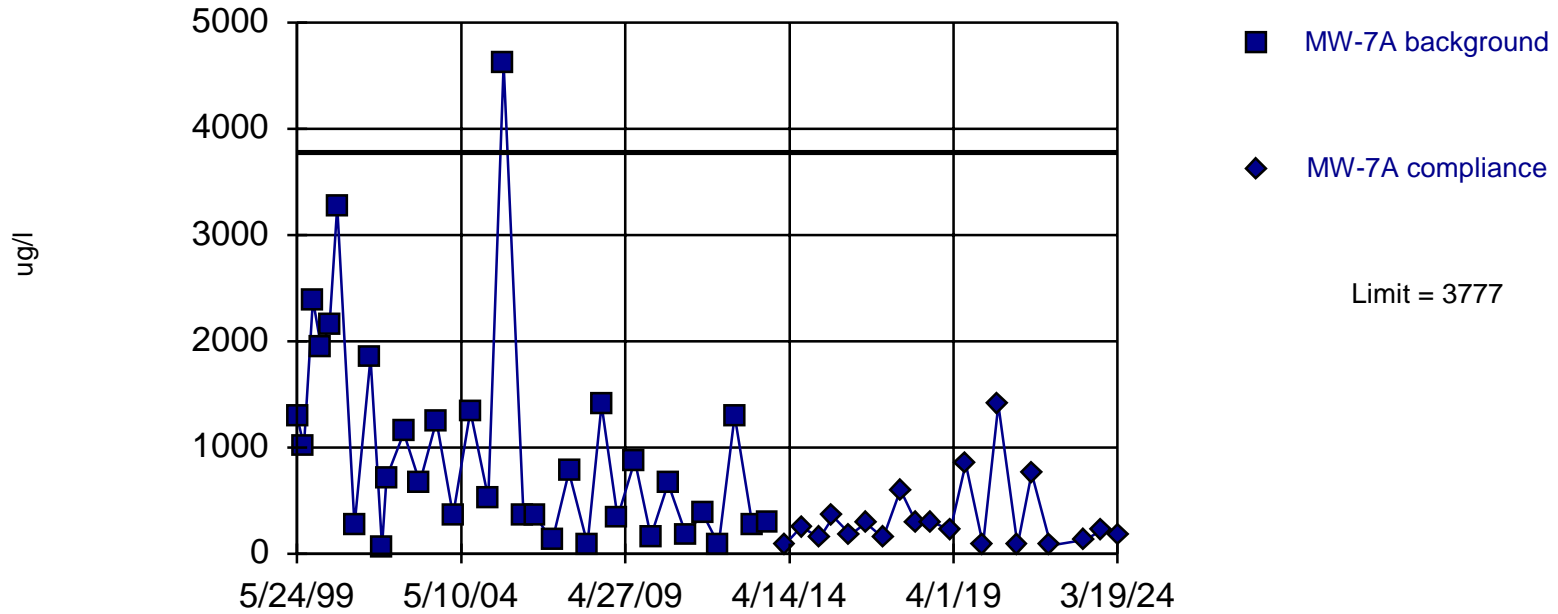
Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 96% NDs. Well-constituent pair annual alpha = 0.01115. Individual comparison alpha = 0.002799 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

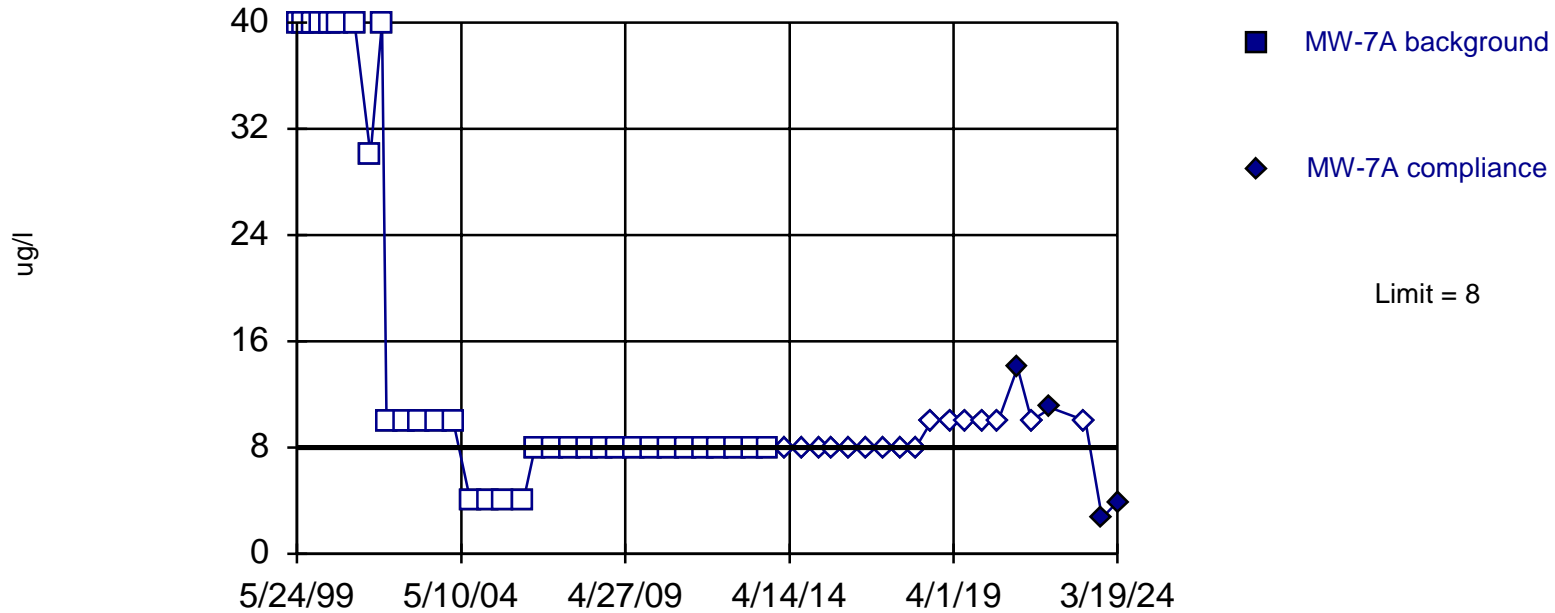
Within Limit

Prediction Limit
Intrawell Parametric



Within Limit

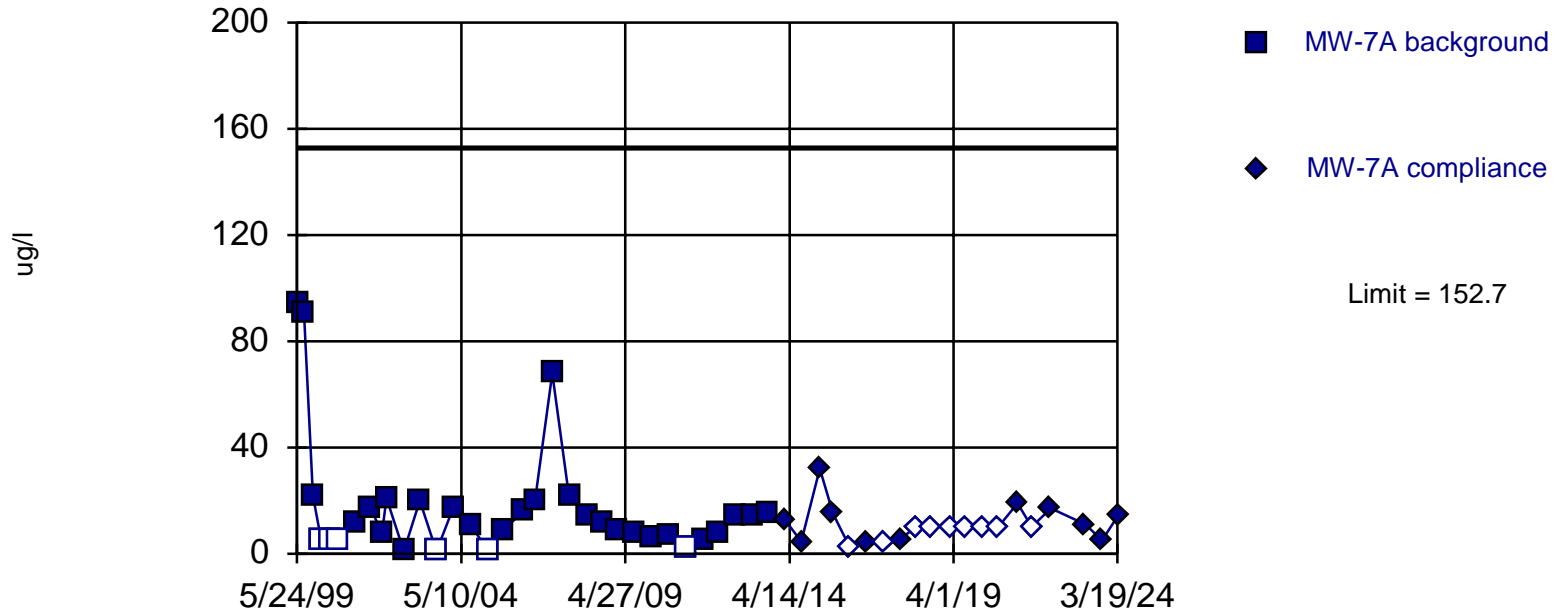
Prediction Limit Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 33) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.006735. Individual comparison alpha = 0.001688 (1 of 2). Insufficient data to test for seasonality; data were not deseasonalized.

Within Limit

Prediction Limit Intrawell Parametric

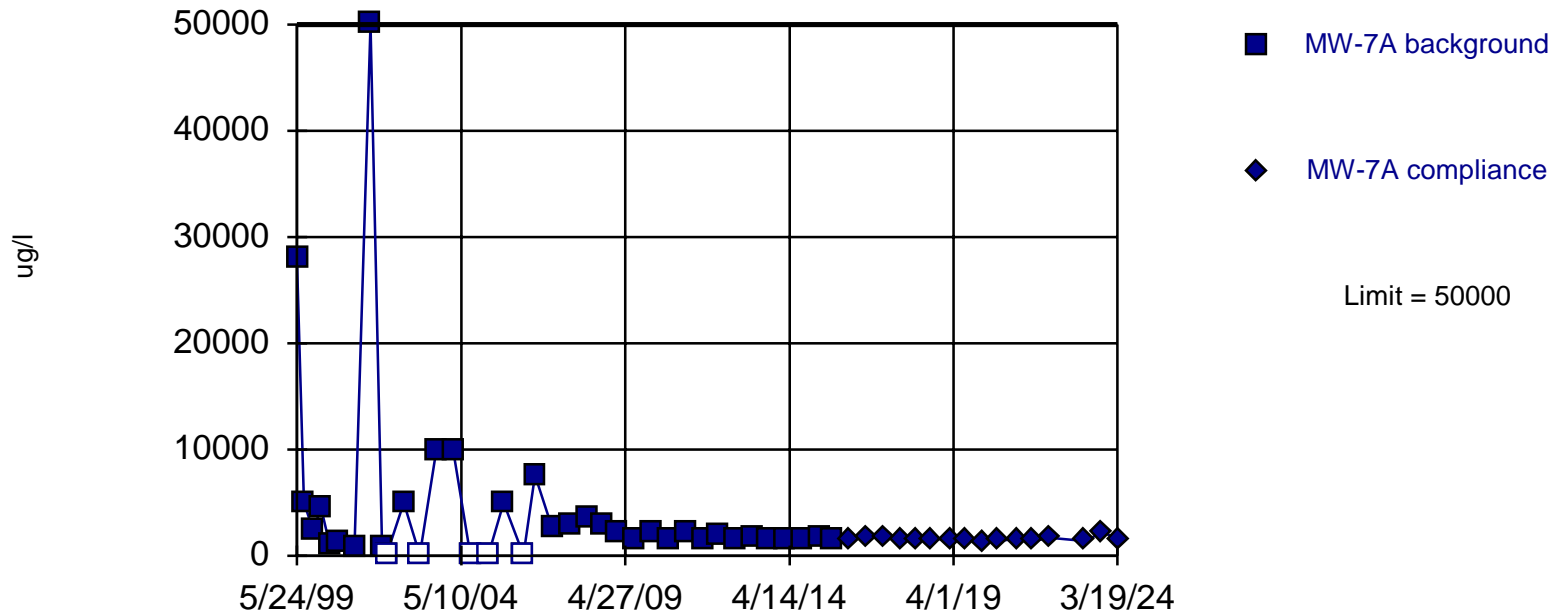


Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=1.89, Std. Dev.=1.36, n=33, 18.18% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.927, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Within Limit

Prediction Limit

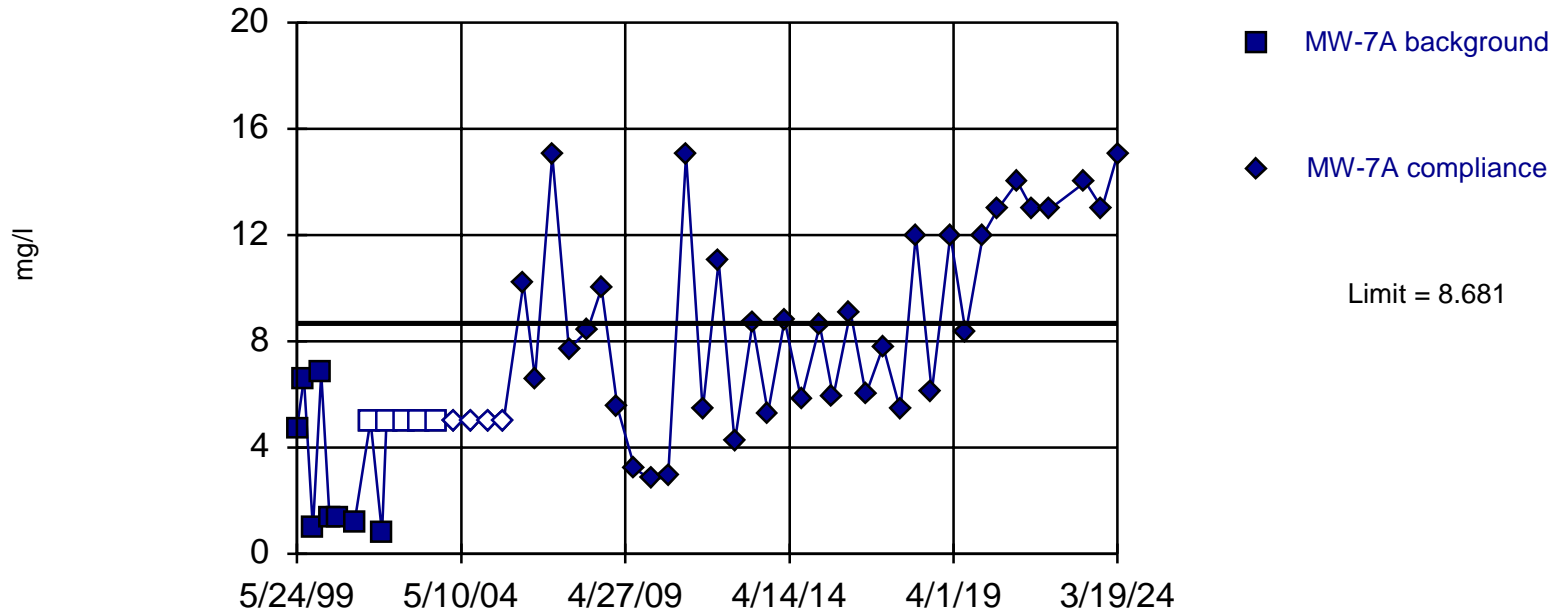
Intrawell Non-parametric



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 0.01 alpha level. Limit is highest of 37 background values. 13.51% NDs. Well-constituent pair annual alpha = 0.005401. Individual comparison alpha = 0.001353 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Exceeds Limit

Prediction Limit Intrawell Parametric

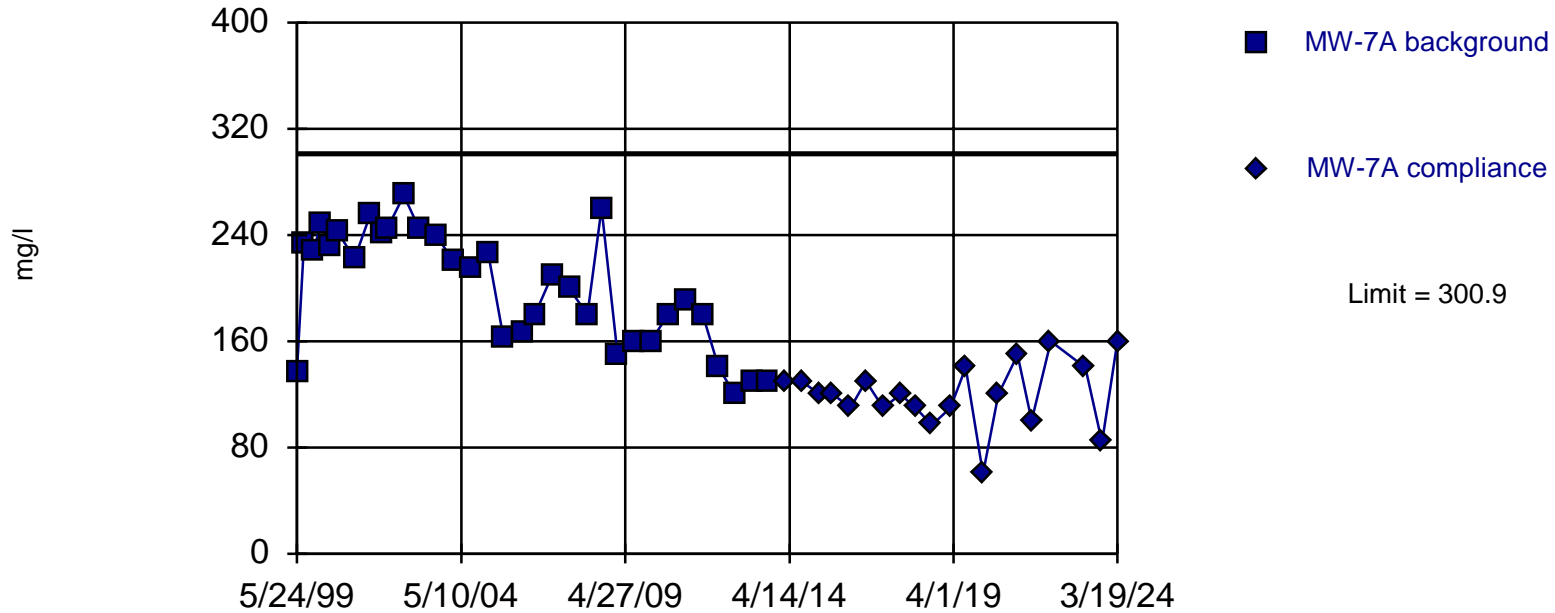


Background Data Summary (after Kaplan-Meier Adjustment): Mean=2.488, Std. Dev.=2.188, n=13, 38.46% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8205, critical = 0.814. Kappa = 2.83 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Within Limit

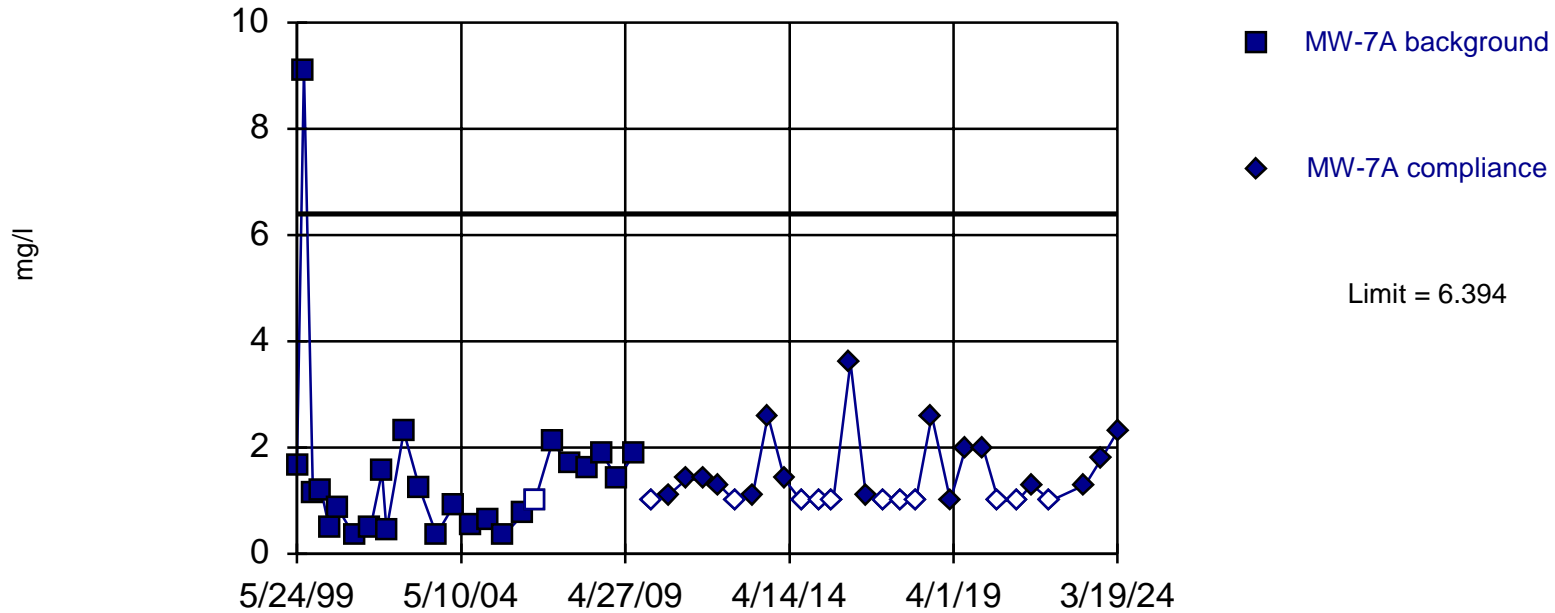
Prediction Limit

Intrawell Parametric



Within Limit

Prediction Limit Intrawell Parametric



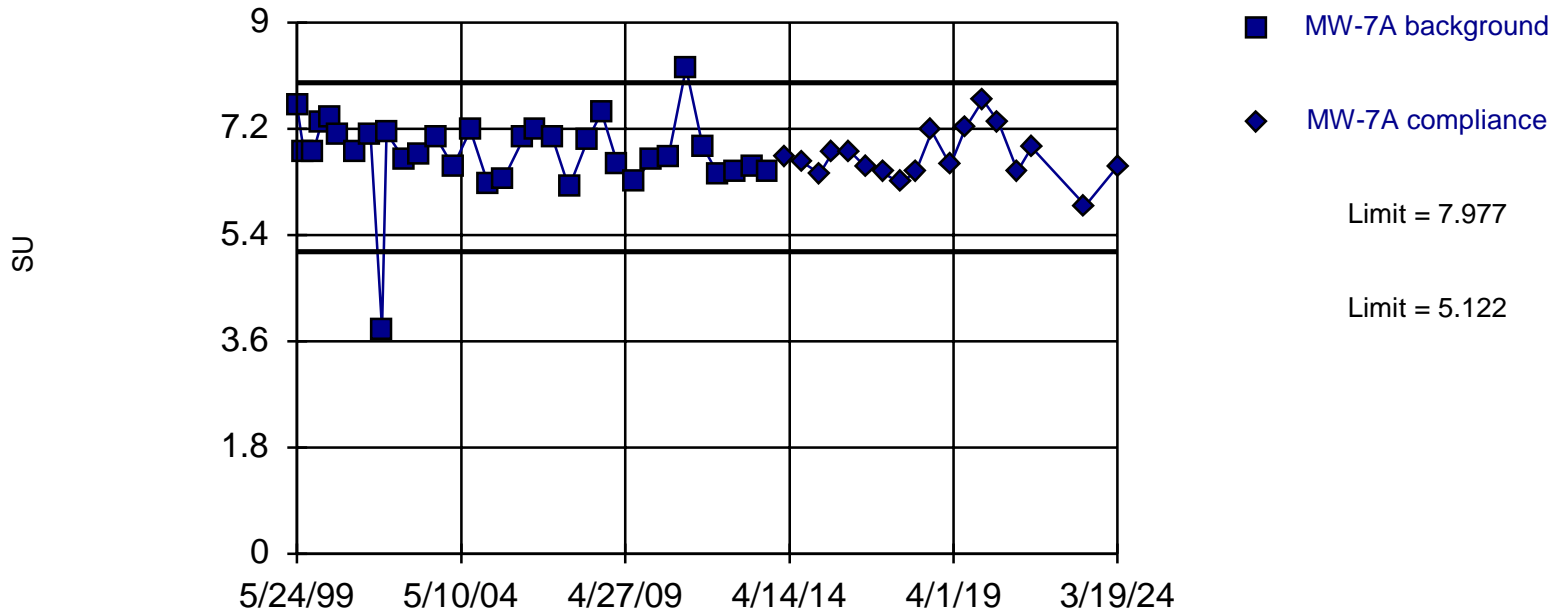
Background Data Summary (based on natural log transformation): Mean=0.02773, Std. Dev.=0.7615, n=25, 4% NDs. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9358, critical = 0.888. Kappa = 2.4 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: Total Organic Carbon [TOC] Analysis Run 4/10/2024 2:28 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=321, Std. Dev.=80.9, n=33. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.922, critical = 0.906. Kappa = 2.307 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.0003817.

Constituent: pH Analysis Run 4/10/2024 2:28 PM

City of Little Rock Client: Terracon Data: CoLR Sanitas Database

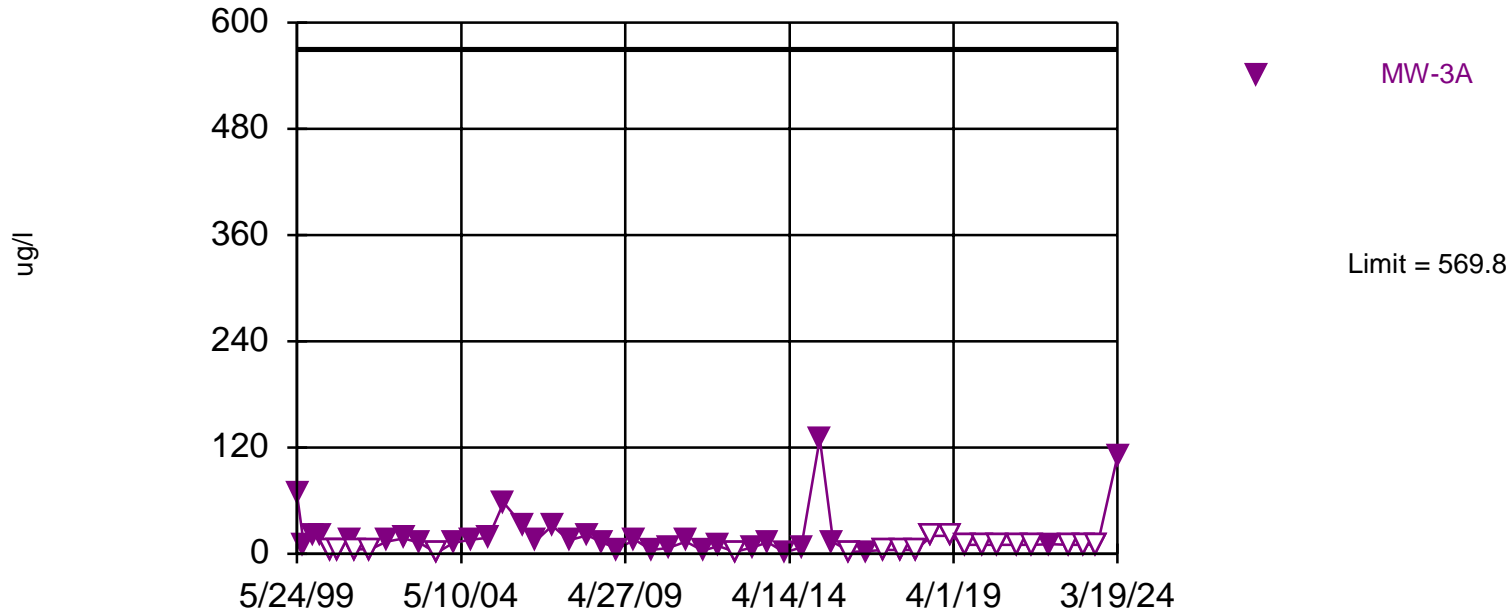
Interwell Prediction Limit

City of Little Rock Client: Terracon Data: CoLR Sanitas Database Printed 4/10/2024, 2:37 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Zinc Total (ug/l)	MW-3A	569.8	n/a	3/19/2024	110	No	94	17.02	ln(x)	0.000...	Param 1 of 2

Within Limit

Prediction Limit Interwell Parametric



Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=2.502, Std. Dev.=1.8, n=94, 17.02% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9666, critical = 0.964. Kappa = 2.135 (c=23, w=3, 1 of 2, event alpha = 0.026). Report alpha = 0.001145. Individual comparison alpha = 0.0003817. Assumes 2 future values.

Constituent: Zinc Total Analysis Run 4/10/2024 2:35 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

Prediction Limit

Constituent: Zinc Total (ug/l) Analysis Run 4/10/2024 2:35 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

	MW-3A	MW-6B (bg)	MW-7A (bg)
5/24/1999	68		94
8/4/1999	9		91
11/11/1999	21		22
2/15/2000	20		<5
5/16/2000	<5		<5
8/9/2000	<5		<5
12/18/2000	16		
2/19/2001	<5		12
8/14/2001	<5		17
12/18/2001			8
2/6/2002	14		21
8/13/2002	17		1
2/4/2003	12	<1	20
8/7/2003	<1	21	<1
2/10/2004	12	7	17
8/20/2004	16	125	11
3/2/2005	18	554	<1
8/22/2005	58	468	9
3/31/2006	31	7	16
8/4/2006	14	30	20
2/13/2007	32	42	68
8/14/2007	15	21	22
3/6/2008	21	43	14
8/8/2008	13		12
1/30/2009	5.5	9.7	8.5
8/11/2009	16	10	7.8
2/2/2010	4	4.4	6.5
8/12/2010	6.2	40	7.2
2/24/2011	14	67	<2
8/30/2011	3.2	99	5.1
2/23/2012	8.9	17	8.2
8/21/2012	<2		14
3/1/2013	7.3	58	14
8/19/2013	13	72	15
2/21/2014	1.7	46	13
8/26/2014	7.4	88	4.5
3/17/2015	130	730	32
8/13/2015	13	110	15
2/16/2016	<2	15	<2
8/9/2016	2.7	28	4.5
2/14/2017	<4	54	<4
8/21/2017	<4	440	5.4
2/6/2018	<4	53	<10
8/8/2018	<20	360	<10
2/26/2019	<20	80	<10
8/15/2019	<10	170	<10
2/20/2020	<10	350	<10
8/13/2020	<10	1.8	<10
3/9/2021	<10	51	19
8/12/2021	<10	72	<10
3/10/2022	11	23	17
10/5/2022	<10	770	

Prediction Limit

Constituent: Zinc Total (ug/l) Analysis Run 4/10/2024 2:35 PM
City of Little Rock Client: Terracon Data: CoLR Sanitas Database

	MW-3A	MW-6B (bg)	MW-7A (bg)
3/27/2023	<10	25	11
8/10/2023	<10	89	
9/28/2023			5 (J)
3/19/2024	110	17	14

Appendix E

Total Flow and Total Leachate Volume

Appendix E
Total Flow and Total Leachate Volumes

	Leachate Pump #1	Leachate Pump #2	GCS Pumps
Pump Station #1	0	172,800	1,865,280
Pump Station #2	0	195,840	-
Pump Station #3	59,040	729,600	-
Pump Station #4	1,505,280	2,534,400	9,187,200
	1,564,320	3,632,640	

Total Leachate

5,196,960

Total GCS

11,052,480

Pump Station #1
Each Pump Rate is 80 Gallon per minute

Leachate Pumps						Gradient Pump			
Date	Time	Pump 1 Run Time Hours	Gallons Pump 1	Pump 2 Run Time Hours	Gallons Pump 2	Run Time Start	Run Time Stop	GCS Pump Hours	Gallons GCS
9/1/2023		1878.5		599.5	960			0.0	0
9/8/2023		1878.5		599.7	1920			0.0	0
9/15/2023		1878.5		600.1	2400			0.0	0
9/22/2023		1878.5		600.6	2880			0.0	0
9/29/2023		1878.5		601.2	960	5503	5552.2	49.2	236160
10/6/2023		1878.5		601.4	3360			0.0	0
10/13/2023		1878.5		602.1	2400			0.0	0
10/20/2023		1878.5		602.6	2880			0.0	0
10/27/2023		1878.5		603.2	2400	5552.2	5580.4	28.2	135360
11/3/2023		1878.5		603.7	2880			0.0	0
11/10/2023		1878.5		604.3	4320			0.0	0
11/17/2023		1878.5		605.2	3360			0.0	0
11/24/2023		1878.5		605.9	3360	5580.4	5605.3	24.9	119520
12/1/2023		1878.5		606.6	3840			0.0	0
12/8/2023		1878.5		607.4	2880			0.0	0
12/15/2023		1878.5		608	2880			0.0	0
12/22/2023		1878.5		608.6	4320			0.0	0
12/29/2023		1878.5		609.5	2880	5605.3	5645.8	40.5	194400
1/5/2024		1878.5		610.1	3840			0.0	0
1/12/2024		1878.5		610.9	118080			0.0	0
1/19/2024		1878.5		635.5	0			0.0	0
1/26/2024		1878.5		635.5	0	5645.8	5734.1	88.3	423840
2/2/2024		2232.5		635.5	0			0.0	0
2/9/2024		2333.9		635.5	0			0.0	0
2/16/2024		2348.2		635.5	0			0.0	0
2/23/2024		2348.2		635.5	0	5734.1	5891.6	157.5	756000
3/1/2024		2348.2		635.5	0			0.0	0

Totals: 0 172800 1865280

Pump Station #2					
Each Pump Rate is 80 Gallon per minute					
Leachate Pumps					
Date	Time	Pump 1 Run Time Hours	Gallons Pump 1	Pump 2 Run Time Hours	Gallons Pump 2
9/1/2023		1033.3		5488.9	1920
9/8/2023		1033.3		5489.3	4320
9/15/2023		1033.3		5490.2	5280
9/22/2023		1033.3		5491.3	7200
9/29/2023		1033.3		5492.8	4320
10/6/2023		1033.3		5493.7	1440
10/13/2023		1033.3		5494	9120
10/20/2023		1033.3		5495.9	5760
10/27/2023		1033.3		5497.1	5760
11/3/2023		1033.3		5498.3	6720
11/10/2023		1033.3		5499.7	6240
11/17/2023		1033.3		5501	5760
11/24/2023		1033.3		5502.2	12960
12/1/2023		1033.3		5504.9	1440
12/8/2023		1033.3		5505.2	7200
12/15/2023		1033.3		5506.7	6720
12/22/2023		1033.3		5508.1	7680
12/29/2023		1033.3		5509.7	6240
1/5/2024		1033.3		5511	7680
1/12/2024		1033.3		5512.6	14400
1/19/2024		1033.3		5515.6	9600
1/26/2024		1033.3		5517.6	5760
2/2/2024		1033.3		5518.8	5760
2/9/2024		1033.3		5520	21120
2/16/2024		1033.3		5524.4	480
2/23/2024		1033.3		5524.5	10560
3/1/2024		1033.3		5526.7	14400

Totals: 0 195840

Pump Station #3					
Each Pump Rate is 80 Gallon per minute					
Leachate Pumps					
Date	Time	Pump 1 Run Time Hours	Gallons Pump 1	Pump 2 Run Time Hours	Gallons Pump 2
9/1/2023		3093.9	0	4744	0
9/8/2023		3093.9	0	4744	0
9/15/2023		3093.9	0	4744	9120
9/22/2023		3093.9	0	4745.9	3840
9/29/2023		3093.9	0	4746.7	8160
10/6/2023		3093.9	0	4748.4	3840
10/13/2023		3093.9	0	4749.2	7680
10/20/2023		3093.9	0	4750.8	3840
10/27/2023		3093.9	0	4751.6	7680
11/3/2023		3093.9	0	4753.2	7200
11/10/2023		3093.9	0	4754.7	7200
11/17/2023		3093.9	0	4756.2	3360
11/24/2023		3093.9	0	4756.9	11040
12/1/2023		3093.9	0	4759.2	3360
12/8/2023		3093.9	0	4759.9	7200
12/15/2023		3093.9	0	4761.4	7200
12/22/2023		3093.9	0	4762.9	1440
12/29/2023		3093.9	0	4763.2	0
1/5/2024		3093.9	0	4763.2	0
1/12/2024		3093.9	59040	4763.2	0
1/19/2024		3106.2	0	4763.2	0
1/26/2024		3106.2	0	4763.2	0
2/2/2024		3106.2	0	4763.2	0
2/9/2024		3106.2	0	4763.2	193440
2/16/2024		3106.2	0	4803.5	6240
2/23/2024		3106.2	0	4804.8	42240
3/1/2024		3106.2	0	4813.6	346560

Totals: 59040

729600

Pump Station #4
Each Pump Rate is 80 Gallon per minute

Leachate Pumps					
Date	Time	Pump 1 Run Time Hours	Gallons Pump 1	Pump 2 Run Time Hours	Gallons Pump 2
9/1/2023		4472.2	37440	3199.8	0
9/8/2023		4480	106080	3199.8	0
9/15/2023		4502.1	97920	3199.8	0
9/22/2023		4522.5	98880	3199.8	0
9/29/2023		4543.1	86880	3199.8	0
10/6/2023		4561.2	69120	3199.8	0
10/13/2023		4575.6	71520	3199.8	0
10/20/2023		4590.5	37920	3199.8	33600
10/27/2023		4598.4	0	3206.8	67680
11/3/2023		4598.4	0	3220.9	84480
11/10/2023		4598.4	0	3238.5	79680
11/17/2023		4598.4	0	3255.1	79200
11/24/2023		4598.4	0	3271.6	173280
12/1/2023		4598.4	0	3307.7	183840
12/8/2023		4598.4	0	3346	251520
12/15/2023		4598.4	0	3398.4	274080
12/22/2023		4598.4	0	3455.5	239520
12/29/2023		4598.4	0	3505.4	236160
1/5/2024		4598.4	0	3554.6	218880
1/12/2024		4598.4	0	3600.2	192960
1/19/2024		4598.4	189120	3640.4	101760
1/26/2024		4637.8	137760	3661.6	27360
2/2/2024		4666.5	226080	3667.3	0
2/9/2024		4713.6	131520	3667.3	99840
2/16/2024		4741	0	3688.1	2880
2/23/2024		4741	94560	3688.7	58080
3/1/2024		4760.7	120480	3700.8	129600

Gradient Pump			
Run Time Start	Run Time Stop	GCS Pump Hours	Gallons GCS
		0.0	0
		0.0	0
		0.0	0
		0.0	0
10263	10575	312.0	1497600
		0.0	0
		0.0	0
10575	10673	98.0	470400
		0.0	0
		0.0	0
10673	11047	374.0	1795200
		0.0	0
		0.0	0
		0.0	0
11047	11442	395.0	1896000
		0.0	0
		0.0	0
		0.0	0
11442	11766	324.0	1555200
		0.0	0
		0.0	0
		0.0	0
11766	12177	411.0	1972800
		0.0	0

Totals: 1505280 2534400 9187200