SCS ENGINEERS

Transmittal

West Des Moines, IA

PROJECT:	GRRWA,FY25 Env Comp,IA 27224317.25	DATE:	1/31/2025
SUBJECT:	GRRWA Sanitary Landfill - 56-SDP-07-80P- 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report	TRANSMITTAL ID:	00001
PURPOSE:	For your approval	VIA:	Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
Nathan Ohrt West Des Moines, IA	SCS Engineers	NOhrt@scsengineers.com	+1-515-415-9220

TO

NAME	COMPANY	EMAIL	PHONE
Mick Leat United States		mick.leat@dnr.iowa.gov	

REMARKS:

Good afternoon Mick-

SCS Engineers, on behalf of the Great River Regional Waste Authority, is submitting the attached 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report for the Phase 2 unit of the Great River Regional Waste Authority Sanitary Landfill. If you have any questions or comments regarding these reports, please contact me at the number below. Thank you.

Nathan Ohrt
Senior Project Professional
SCS Engineers
West Des Moines, Iowa
319-331-9613 (M)
nohrt@scsengineers.com

www.scsengineers.com

Transmittal

DATE: 1/31/2025
TRANSMITTAL ID: 00001

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	1/31/2025	GRRWA Sanitary Landfill - 56-SDP-07-80P- 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report.pdf	

COPIES:

Austin Banks	(Great River Regional Waste Authority, IA)
Nathan Ohrt	(SCS Engineers)
Tim Buelow	(SCS Engineers)
Becky Jolly	

January 31, 2025
File No. 27224317.25

Mr. Mick Leat
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Avenue
Des Moines, Iowa 50321

Subject 2024 Annual Water Quality Report, Leachate Control System Performance Evaluation Report, and Landfill Gas Annual Report
Great River Regional Waste Authority Sanitary Landfill
Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Dear Mick:

SCS Engineers, on behalf of the Great River Regional Waste Authority (GRRWA), has completed the required groundwater monitoring and statistical evaluation for the Phase 2 municipal solid waste landfill (MSWLF) unit at the GRRWA Sanitary Landfill for the year 2024. Services were performed in general accordance with Iowa Administrative Code (IAC) 567-113.10 and the current requirements for implementation of the Hydrologic Monitoring System Plan for the Phase 2 MSWLF unit. Please find enclosed a copy of the 2024 Annual Water Quality Report.

Additionally, an evaluation of the leachate control system and gas monitoring results for the Phase 2 MSWLF unit is included in accordance with IAC 567-113.7(5)"b"(14) and 113.9(2)"d," respectively. The 2024 Leachate Control System Performance Evaluation Report and the 2024 Landfill Gas Annual Report are included as appendices to the Annual Water Quality Report.

If you have any questions regarding these reports, please contact Nathan Ohrt at (319) 331-9613.

Sincerely,

Nathan Ohrt
Senior Project Professional
SCS Engineers

Timothy C. Buelow, P.E.
Senior Project Advisor
SCs Engineers

NPO/TCB

Copies: Mr. Austin Banks, Great River Regional Waste Authority

2024 ANNUAL WATER QUALITY REPORT, LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION REPORT, & LANDFILL GAS ANNUAL REPORT

FOR

GREAT RIVER REGIONAL WASTE AUTHORITY SANITARY LANDFILL PHASE 2 MSWLF UNIT

FORT MADISON, IOWA

SOLID WASTE PERMIT NO. 56-SDP-07-80P

SUBMITTAL DATE: JANUARY 2025

PREPARED FOR:

GREAT RIVER REGIONAL WASTE AUTHORITY

PREPARED BY:

SCS ENGINEERS

Certification

Prepared by: _____ Date: 1/31/2025

Typed: Nathan Ohrt

Reviewed by: _____ Date: 1/31/2025

Typed: Timothy C. Buelow, P.E.

Certification page (PE or groundwater scientist signature) **113.10(1)"d"**

For the purposes of this rule, a "qualified groundwater scientist" means a scientist or an engineer who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

Executive Summary

ES.1 Period of Report Coverage

The period of report coverage is October 2023 through December 2024 and includes the sampling events summarized in Table 2.

ES.2 Report Priority

The following summarizes report priorities associated with groundwater compliance of the Phase 2 municipal solid waste landfill unit (Phase 2 MSWLF unit) at the Great River Regional Waste Authority (GRRWA) Sanitary Landfill (Landfill):

- Department review urgency: None.
- Department review impact on rules schedule: None.
- Actions or activities on hold pending Department review or comment: None.
- Actions and/or permit amendments needed: None.

ES.3 Site Status and Applicable Rules

- Landfill Status: Active.
- Types of waste accepted: Municipal solid waste, construction and demolition waste, special waste.
- Applicable IAC rules: 2009 567-113.10.

ES.4 Comments

Cell R3-2 was constructed during this reporting period. Groundwater underdrain discharge point GU-4A was added to the Hydrologic Monitoring System Plan (HMSP) monitoring network and will be sampled five times within the next year to establish background. Very little flow has been observed from this underdrain.

A statistically significant increase (SSI) above background was indicated for arsenic in monitoring well MW-29 during the 1st 2024 statistical evaluation. A retest conducted on August 28, 2024 did not confirm the SSI and MW-29 remained in the detection monitoring program.

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Section 1.0
Acronyms/Abbreviations

ACM = Assessment of Corrective Measures
CAMP = Corrective Action Groundwater Monitoring Program
CCV = Continuing Calibration Verification
CL = Control Limit - Mean plus Two Standard Deviations
COC = Chain of Custody
DNR = Iowa Department of Natural Resources
DO = Dissolved Oxygen
DQR = Double Quantification Rule
GWPS = Groundwater Protection Standard
LEL = Lower Explosive Limit
LCL = Lower Confidence Limit
LCS = Laboratory Control Sample
LN = Lognormal
MCL = EPA Maximum Contaminant Level
N = Normal
NC = No Change
NM = Not Measured
NP = Non-Parametric
ORP = Oxidation-Reduction Potential
P = Parametric
PL = Prediction Limit
RL = Reporting Limit
SWS = DNR Statewide Standard for a protected groundwater source
SSI = Statistically Significant Increase above background
SSL = Statistically Significant Level above groundwater protection standard
SSS = Site-Specific Standard (Site-Specific GWPS)
TSS = Total Suspended Solids
UCL = Upper Confidence Limit
VOC = Volatile Organic Compound

Section 2.0
Site Background

2.1 Site Location

The Landfill property is depicted in Figure 1, Approved Monitoring Network. The facility is located at 2092 303rd Avenue in Fort Madison, Iowa. The Landfill property consists of approximately 221 acres generally within the NW ¼ and SW ¼ of Section 27 and the NW ¼ of Section 34, T68N, R4W, in Lee County, Iowa.

2.2 Facility

The Landfill has two non-contiguous fill areas: the Phase 1 MSWLF unit, which stopped receiving waste prior to October 9, 1994, and the Phase 2 MSWLF unit, which consists of Regions 1, 2, and 3. The Phase 2 MSWLF unit began accepting waste on April 20, 1993 and has been actively receiving waste since that time.

According to information received from Landfill staff, the property was purchased from the State of Iowa, which used the site for agricultural purposes.

2.3 Geology and Hydrogeology of the Site

A previous hydrologic investigation of the site was conducted by James M. Montgomery Engineers, Inc. in October 1990. The report entitled Phase II Hydrogeological Investigation of the Lee County Sanitary Landfill, dated February 1991 (1991 HIR), provided a detailed geological description for the Phase 1 and Phase 2 areas. An excerpt from the 2008 Revised HMSP, which relied on the 1991 HIR, is included below.

> *The currently closed landfill operation (Phase 1) utilized steep ravines as fill areas. The site is located in an area consisting primarily of loess soils overlying glacial till. Bedrock exists at a depth of approximately 300 feet below ground surface (bgs) with the upper strata consisting of shales, siltstones, dolomites, and limestones from the Devonian Era. The current fill area (Phase 2), located east of the closed fill area, consists of similar geologic strata.*
>
> *Cross sections indicate that the upland glacial deposits consist of a loess mantle of clayey silt over a light brown, sandy, silty clay. Underneath this clay, a dark gray, silty clay is present. The downslope glacial deposits consist of a light brown, sandy, silty clay overlying a dark gray clay.*
>
> *Bedrock boring logs obtained for the area of the landfill indicate that the uppermost bedrock systems beneath the landfill site are the Mississippian and Devonian units consisting of a sequence of siltstones, limestones, and shales. The first bedrock unit encountered is the Prospect Hill Formation, which is usually classified as an aquifer and is considered a very low-yielding aquifer in Southeast Iowa.*
>
> *Boring logs for the site indicate that the depth to bedrock in the general area of the landfill ranges from 250 feet bgs in the lowland areas to 330 feet bgs in the upland areas.*
>
> *Vertical and horizontal permeabilities of specific site deposits were analyzed by laboratory analysis and slug testing. It was found that the average horizontal permeability measurements of the strata on site were almost two orders of magnitude greater than the average vertical permeability measurements.*

The water table system occurs entirely within the glacial deposits. In this sense, an aquifer is defined as a saturated, permeable, geologic unit capable of transmitting water. The uppermost useable aquifer on site as a water supply is probably the Mississippian Prospect Hill Formation, located approximately 250 feet bgs in the lowlands. The uppermost aquifer for the site has been determined to be the glacial till, or more specifically, highly permeable sand or gravel seams within. Based on this information, the water table will be subject to groundwater monitoring and compliance determination.

Surface water draining from the site and adjacent areas flows to a small stream leaving the southern boundary of the GRRWA Sanitary Landfill property. This stream begins within the landfill, widens and becomes Fork Creek, flows south, and eventually empties into the Mississippi River. The on-site portion of the stream is an ephemeral channel and only flows after heavy precipitation events.

The lowest natural elevation at the site is approximately 610 feet asl south of the leachate lagoon in the channel that drains the sedimentation pond. The majority of the site slopes toward the sedimentation pond. Drainage from the site is generally to the sedimentation pond, which outlets to Fork Creek.

The depth to the upper or surficial aquifer across the site as measured in annual water quality reports (AWQRs) varies from an average of 9 feet to 24 feet bgs with the deeper levels measured in wells screened in a sandy silty clay layer.

Section 3.0
Figures Discussion

The following figures are attached.

Figure 1 – Approved Monitoring Network

The Landfill property and the hydrologic monitoring system plan (HMSP) monitoring points are depicted in Figure 1. Figure 1 indicates the respective monitoring programs of the HMSP monitoring points as of the beginning of this reporting period. A summary of the HMSP monitoring network is included in Table 1.

Monitoring point GU-3A completed background collection during this reporting period and will be statistically evaluated by intrawell prediction limits upon the next sample collection. Monitoring point GU-4A was constructed during this reporting period and will be sampled five times within the next year to establish background.

Figure 2 – Groundwater Contours

A groundwater contour map based on groundwater levels measured during the November 2024 sampling event is included in Figure 2. Groundwater flow is generally to the southeast beneath the Phase 1 MSWLF unit. The underdrains beneath the Phase 2 MSWLF unit create an inward gradient as evidenced by the contours. This is consistent with previous groundwater contour maps.

Figure 3 – Reporting Period Detection Summary

Figure 3 shows the range of measured concentrations by monitoring point for the HMSP monitoring points during this reporting period. Further discussion of the detected constituents is included in Section 6.0 – Data Evaluation and Summary of this report.

Section 4.0
Standards History Graphs

As stated in DNR correspondence dated April 11, 2019 (Doc #94881), the DNR has allowed the use of tables as an alternative to the standards history graphs to reduce the overall report size. Therefore, graphs are not provided as the monitoring network monitoring points were analyzed using intrawell statistical methods.

Prediction limits were below the statewide standards during this reporting period except for the following:

- Cobalt in monitoring points MW-26, MW-28, MW-29, PH2UD, and GU-3A.
- Thallium in monitoring well MW-29.
- Arsenic in monitoring points PH2UD and GU-3A.
- Nickel and vanadium in GU-3A.

The prediction limits for the intrawell background datasets were used for the site-specific GWPSs.

The prediction limits reported as the background levels for monitoring points MW-26, MW-28, MW-29, PH2UD, and GU-3A are included in Table 5.

Section 5.0
QA/QC Summary

The quality assurance/quality control (QA/QC) program for the Phase 2 MSWLF unit follows similar protocols as included in the HMSP. Data validation procedures were performed on analytical results for laboratory quality control samples and a quality assurance assessment of the data was conducted as the data were generated. The QA review procedure provided documentation of the accuracy and precision of the analytical data and confirmed that the analyses were sufficiently sensitive to detect constituents at levels below regulatory standards when technically feasible with the laboratory method utilized. SCS then conducted QA/QC data validation of the produced data, which included a review of sample handling, analytical sensitivity, blanks, accuracy, and precision. A summary of the laboratory QA/QC and data validation can be found in Appendix B-1, Laboratory Analytical Data Sheets, and Appendix B-2, Data Validation Documentation, respectively.

Section 6.0
Data Evaluation

Detection monitoring statistical evaluation in accordance with the requirements of Iowa Administrative Code (IAC) 567-113.10(5) was performed for the groundwater analytical data collected during the 2024 reporting period. The statistical evaluation output for samples collected during this reporting period is located in Appendix D (Statistical Method and Output) of this report.

6.1 Data Evaluation

Groundwater monitoring for the Phase 2 MSWLF unit consists of samples from two monitoring wells to the south, one monitoring well downgradient of the leachate lagoon to the southwest, and five groundwater underdrain discharge points, three of which discharge to the south of the Phase 2 MSWLF unit and two that discharge to the east of the Phase 2 MSWLF unit. The range of measured concentrations for the detected constituents during this reporting period is shown in Figure 3, Reporting Period Detection Summary.

During the 2nd 2023 statistical evaluation, SSIs above background were indicated for chloroethane in monitoring points GU-3A and MW-29 and for barium, thallium, and acetone in monitoring well MW-26. A retest sampling event was conducted on February 27, 2024. Chloroethene in monitoring well MW-29 and acetone and thallium in monitoring well MW-26 were not detected in the retest samples, so those indicated SSIs were not confirmed. Monitoring point GU-3A was dry during the February 2024 retest event, but chloroethane was not detected in GU-3A during the July 2024 sampling event.

The retested barium concentration in monitoring well MW-26 (0.106 mg/L) exceeded the prediction limit of 0.103 mg/L during the 1st 2024 statistical evaluation. However, an alternative source demonstration submitted April 3, 2024 (Doc #109741), approved by the Iowa Department of Natural Resources (Doc #109745), demonstrated that the barium concentrations recently measured at MW-26 are reflections of the natural variability of barium in groundwater at the site and do not represent impact of a release from the Phase 2 MSWLF unit.

An SSI above background was indicated for arsenic in monitoring well MW-29 during the 1st 2024 statistical evaluation. A retest conducted on August 28, 2024 did not confirm the SSI and MW-29 remained in the detection monitoring program.

The majority of site-wide maximum concentrations occurred in monitoring points GU-1 and GU-2, which are treated with the leachate. Monitoring well MW-28 had the site-wide maximum concentration of cobalt and nickel and monitoring point GU-3A had the maximum concentration of copper. There were no GWPS exceedances or VOCs in the monitoring points during this reporting period, not including monitoring points GU-1 and GU-2.

Monitoring points Phase 2 Underdrain (PH2UD) and GU-3A were not sampled during the November 2024 sampling event due to sampler error. Samples for PH2UD and GU-3A will be collected before the 1st 2025 semi-annual sampling event for inclusion in the 1st 2025 statistical evaluation. The first of five samples to establish background for new monitoring point GU-4A will be collected during the same sampling event if sufficient flow is present for sampling.

Monitoring points GU-1 and GU-2, which are treated with the leachate and not statistically evaluated, had two and one VOC detections, respectively, during this reporting period. Due to the impact indicated by persistent VOC detections and elevated arsenic and barium concentrations, the discharge from monitoring points GU-1 and GU-2 will continue to be treated with the leachate.

Section 7.0
Summary and Recommendations

7.1 Site Impact on Groundwater

Constituents detected during this reporting period were below their respective background concentrations with the exception of monitoring points GU-1 and GU-2, which are treated with the leachate.

The Phase 2 MSWLF unit does not appear to be having a significant impact on groundwater quality.

7.2 Proposed Monitoring

The proposed monitoring for the upcoming reporting period is summarized in the attached Table 2.

7.3 Proposed Monitoring Well Changes

Monitoring point GU-4A was added to the HMSP monitoring network and will be sampled five times in the next year to establish background, provided sufficient flow is present. To date, very little flow has been observed from this monitoring point.

Tables

Table 1
Monitoring Program Summary
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Monitoring Well	Formation[1]	Current Monitoring Program	Change for next sampling event	Constituents with SSIs during the 2024 Reporting Period	Constituents with SSLs	Total # of Samples in each monitoring program[2]		
						Detection inorganic #/organic #	Assessment inorganic #/organic #	Corrective Action inorganic #/organic #
MW-26	Weathered Till, Sand	Detection	No change	Barium*	Not applicable	18/37	-	-
MW-28	Weathered/Unweathered Till	Detection	No change	None	Not applicable	19/38	-	-
MW-29	Weathered/Unweathered Till	Detection	No change	Arsenic**	Not applicable	19/33	-	-
Phase 2 Underdrain (PH2UD)	Not applicable	Detection	No change	None	Not applicable	22/23	-	-
GU-1	Not applicable	Treated with the leachate	No change	1,4-Dichlorobenzene, Chlorobenzene	Not applicable	8/22	-	-
GU-2	Not applicable	Treated with the leachate	No change	Benzene	Not applicable	9/16	-	-
GU-3A	Not applicable	Background Collection	Detection	None	Not applicable	6/6	-	-
GU-4A	Not applicable	Background Collection	Background Collection	Not applicable	Not applicable	0/0	-	-
MW-9	Not available	Water Level						
MW-31	Weathered/Unweathered Till	Water Level						
MW-32	Weathered till	Water Level						
MW-33	Weathered/Unweathered Till	Water Level						
MW-34A	Weathered till	Water Level						
MW-35A	Weathered till	Water Level						
MW-38A	Weathered/Unweathered Till	Water Level						

Notes:

1) Obtained from screened interval on boring logs or historical cross sections.

2) As directed in DNR correspondence dated November 16, 2017 (Doc #90839), this report was prepared with non-low-flow inorganic data removed from statistical consideration.

3) Groundwater underdrain GU-4A was installed during this reporting period during Cell R3-2 construction as approved in the Construction Observation Report (Doc #110575).

SSI = Statistically Significant Increase above background.

SSL = Statistically Significant Level above groundwater protection standard.

* - Not confirmed due to natural variability (Doc #109745).

** - Not confirmed by retesting.

Table 2
Monitoring Program Implementation Schedule
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

					Upcoming Sampling Dates and Constituents					Full Appendix II Sample Dates	
Monitoring Well	**February 2024 (Retest)**	**May 2024 (1st Semi-Annual)**	**August 2024 (Retest)**	**November 2024 (2nd Semi-Annual)**	**January 2025 Resample & Background**	**1st 2025 Semi-Annual**	**Summer 2025 Background**	**2nd 2025 Semi-Annual**	**Winter 2025/2026 Background**	**Previously Collected**	**Next Event**
MW-26	Barium, Thallium, TSS, Acetone	Appendix I, TSS		Appendix I, TSS		Appendix I, TSS		Appendix I, TSS		Not applicable	Not applicable
MW-28		Appendix I, TSS		Appendix I, TSS		Appendix I, TSS		Appendix I, TSS		1/19/2012, 3/20/2013, 5/1/2018	Not applicable
MW-29	Chloroethane	Appendix I, TSS	Arsenic, TSS	Appendix I, TSS		Appendix I, TSS		Appendix I, TSS		1/19/2012, 3/20/2013, 5/1/2018	Not applicable
PH2UD		Appendix I, TSS		No sample (Pump malfunction)	Appendix I, TSS	Appendix I, TSS		Appendix I, TSS		Not applicable	Not applicable
GU-1		Appendix I, TSS		Annual Sample		Appendix I, TSS				Not applicable	Not applicable
GU-2		Appendix I, TSS		Annual Sample		Appendix I, TSS				Not applicable	Not applicable
GU-3A	No sample (Dry)	Appendix I, TSS*		No sample (not located)	Appendix I, TSS	Appendix I, TSS		Appendix I, TSS		Not applicable	Not applicable
GU-4A		Not installed			Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Appendix I, TSS	Not applicable	Not applicable

Notes:

1) Groundwater underdrains GU-3A, GU-4A, and PH2UD were not sampled during the November 2024 sampling event. An attempt will be made to sample them prior to the 1st 2025 semi-annual sampling event.

TSS - Total Suspended Solids.

* - Sampled in July 2024 after it was determined that the incorrect point was sampled during the May 2024 sampling event.

Table 3
Monitoring Well Maintenance and Performance Revaluation Schedule
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Compliance with:	2022	2023	2024	2025	2026
567 IAC 113.10(2)"f"(1) high and low water levels (biennial)	Completed	Completed	Included	Scheduled	Scheduled
567 IAC 113.10(2)"f"(2) changes in the hydrologic setting and flow paths	Completed	Completed	Included	Scheduled	Scheduled
567 IAC 113.10(2)"f"(3) well depths	Completed	Completed	Included	Scheduled	Scheduled
567 IAC 113.10(2)"f"(4) well recharge rates and chemistry (biennial)	Completed		Included		Scheduled
Waste separation from ground water 113.6(2)"l"	Completed	Completed	Included	Scheduled	Scheduled

Table 4
Monitoring Well Maintenance and Performance Summary
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Well	Top of Casing	Top of Screen	Total Depth		Date of Measurements		Maximum Depth	Baseline Flow Rate (L/min)	Current Flow Rate (L/min)	
					5/2024	11/2024	Discrepancy (ft)	date	11/22/2024	% Change
MW-26	643.51	614.01	39.5	Groundwater Level (ft)	17.52	18.59	0.3	0.080 3/24/2016	0.133	66%
				Groundwater Elevation (ft msl)	625.99	624.92				
				Measured Well Depth (ft)	39.2	39.5				
				Submerged screen	Y	Y				
MW-28	662.42	642.70	29.7	Groundwater Level (ft)	15.54	17.86	-0.4	0.080 3/24/2016	0.141	1%
				Groundwater Elevation (ft msl)	646.88	644.56				
				Measured Well Depth (ft)	29.6	30.1				
				Submerged screen	Y	Y				
MW-29	661.059	638.27	32.7	Groundwater Level (ft)	19.33	17.74	-0.8	0.060 3/24/2016	0.133	122%
				Groundwater Elevation (ft msl)	641.73	643.32				
				Measured Well Depth (ft)	33.2	33.5				
				Submerged screen	Y	Y				

Notes:

Measured well depths were within 0.8 feet of the installed depths, indicating siltation is not impacting the ability of the monitoring wells to produce samples.

It should be noted that baseline recharge rates were calculated from the first semi-annual sampling event utilizing low-flow sampling apparatuses and should not be considered necessarily representative of a monitoring well's recharge rate under all water level conditions.

Groundwater Control System Measurement Points

The groundwater/waste separation for Phase 2, Region 1 is controlled by a pump in the PH2 UD lift station. The water elevation in the lift station is monitored by a SCADA system, which records the depth measured by a transducer on the bottom of the pump. The engineered groundwater/waste separation distance was maintained throughout this reporting period.

Well		Date of Measurements	
		5/9/2024	11/13/2024
PH2 UD GW	Bottom of waste (feet MSL)	640.0	
	Groundwater Elevation (feet MSL)	621.74	621.08
	Separation distance (feet)	18.3	18.9

The groundwater/waste separation for the R2-1 and R2-2 cells is controlled by pumps in the groundwater underdrain sumps. The water elevation in the sumps is monitored by a SCADA system, which records the depth measured by a transducer on the bottom of the pumps. The bottom of the sumps is approximately nine (9 feet) below the waste. The compliance elevation for the R-1 and R-2 sumps is 4 feet (Doc #95742). The engineered groundwater/waste separation distances for the GU-1 and GU-2 underdrains were maintained during this reporting period with the exception of GU-1 in January 2024.

Date	GU-1 GW	GU-2 GW
January 2024	4.16	2.39
February 2024	3.42	1.85
March 2024	1.77	1.80
April 2024	1.80	1.77
May 2024	1.76	1.78
June 2024	1.76	1.81
July 2024	1.76	1.81
August 2024	1.77	1.83
September 2024	1.76	1.83
October 2024	2.04	1.82
November 2024	3.21	1.82
December 2024	3.68	1.82

Table 5
Background and GWPS Summary
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

MW-26 Intrawell Background/GWPS (8/30/2021 - 2/27/2024)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony (Sb)	mg/L	16	0	0.0005 (1/2 RL)	0.0015 (1/2 RL)	0.000719	< 0.003	DQR	0.006	MCL
Arsenic (As)	mg/L	16	1	0.000776*	0.001 (1/2 RL)	0.000986	0.00100	PL (NP)	0.01	MCL
Barium (Ba)	mg/L	17	17	0.0268	0.103	0.046485	0.10300	PL (NP)	2.0	MCL
Beryllium (Be)	mg/L	16	0	0.0005 (1/2 RL)	0.0005 (1/2 RL)	5.00E-04	< 0.001	DQR	0.004	MCL
Cadmium (Cd)	mg/L	16	4	0.00005 (1/2 RL)	0.000457	0.000201	0.00046	PL (NP)	0.005	MCL
Chromium (Cr)	mg/L	16	1	0.0025 (1/2 RL)	0.00431*	0.002613	0.00431	PL (NP)	0.1	MCL
Cobalt (Co)	mg/L	16	16	0.0014	0.0107	0.006735	0.01080	PL (P)	0.0108	SSS
Copper (Cu)	mg/L	16	7	0.00179	0.00565	0.002711	0.00565	PL (NP)	1.3	MCL
Lead (Pb)	mg/L	16	5	0.00015*	0.000952	0.000307	0.00095	PL (NP)	0.015	MCL
Nickel (Ni)	mg/L	16	16	0.005175	0.0233	0.017908	0.02411	PL (P)	0.1	SWS
Selenium (Se)	mg/L	16	0	0.00125 (1/2 RL)	0.0025 (1/2 RL)	0.002422	< 0.005	DQR	0.05	MCL
Silver (Ag)	mg/L	16	1	0.00025 (1/2 RL)	0.000533*	0.000486	0.00053	PL (NP)	0.1	SWS
Thallium (Tl)	mg/L	17	2	0.000037*	0.00177	0.000577	0.00177	PL (NP)	0.002	MCL
Vanadium (V)	mg/L	16	5	0.000255*	0.002865*	0.002179	0.00287	PL (NP)	0.035	SWS
Zinc (Zn)	mg/L	16	3	0.005 (1/2 RL)	0.0146	0.009618	0.01460	PL (NP)	2.0	SWS

MW-28 Intrawell Background/GWPS (6/15/2021 - 2/6/2023)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony (Sb)	mg/L	16	1	0.000262*	0.0015 (1/2 RL)	0.000704	0.00150	PL (NP)	0.006	MCL
Arsenic (As)	mg/L	16	5	0.000596*	0.00136*	0.001002	0.00136	PL (NP)	0.01	MCL
Barium (Ba)	mg/L	17	17	0.0146	0.0271	0.019541	0.02481	PL (P)	2.0	MCL
Beryllium (Be)	mg/L	16	1	0.000075*	0.0005 (1/2 RL)	0.000473	0.00050	PL (NP)	0.004	MCL
Cadmium (Cd)	mg/L	16	10	0.00005 (1/2 RL)	0.00213	0.000459	0.00138	PL (P)	0.005	MCL
Chromium (Cr)	mg/L	17	3	0.000937*	0.00643	0.002715	0.00643	PL (NP)	0.1	MCL
Cobalt (Co)	mg/L	16	16	0.000734	0.0209	0.011633	0.02393	PL (P)	0.02393	SSS
Copper (Cu)	mg/L	16	8	0.00189*	0.00503	0.002851	0.00503	PL (NP)	1.3	MCL
Lead (Pb)	mg/L	16	1	0.00025 (1/2 RL)	0.000327*	0.000255	0.00033	PL (NP)	0.015	MCL
Nickel (Ni)	mg/L	16	16	0.00833	0.0671	0.038946	0.06443	PL (P)	0.1	SWS
Selenium (Se)	mg/L	16	1	0.00125 (1/2 RL)	0.0025 (1/2 RL)	0.002413	0.00250	PL (NP)	0.05	MCL
Silver (Ag)	mg/L	16	2	0.00025 (1/2 RL)	0.000844*	0.000509	0.00084	PL (NP)	0.1	SWS
Thallium (Tl)	mg/L	16	6	0.00008*	0.001 (1/2 RL)	0.000416	0.00100	PL (NP)	0.002	MCL
Vanadium (V)	mg/L	16	7	0.00101*	0.0036*	0.002108	0.00360	PL (NP)	0.035	SWS
Zinc (Zn)	mg/L	16	4	0.005 (1/2 RL)	0.0234	0.010458	0.02340	PL (NP)	2.0	SWS

MW-29 Intrawell Background/GWPS (8/30/2021 - 2/6/2023))

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony (Sb)	mg/L	16	0	0.0005 (1/2 RL)	0.0015 (1/2 RL)	0.000719	< 0.003	DQR	0.006	MCL
Arsenic (As)	mg/L	16	12	0.000833*	0.006	0.002026	0.00600	PL (NP)	0.01	MCL
Barium (Ba)	mg/L	16	16	0.0137	0.0192	0.016016	0.01822	PL (P)	2.0	MCL
Beryllium (Be)	mg/L	16	0	0.0005 (1/2 RL)	0.0015 (1/2 RL)	0.000563	< 0.005	DQR	0.004	MCL
Cadmium (Cd)	mg/L	16	3	0.000041*	0.00025 (1/2 RL)	0.000134	0.00025	PL (NP)	0.005	MCL
Chromium (Cr)	mg/L	16	1	0.0025 (1/2 RL)	0.00341*	0.002557	0.00341	PL (NP)	0.1	MCL
Cobalt (Co)	mg/L	16	16	0.0006995	0.004645	0.002521	0.00465	PL (P)	0.004648	SSS
Copper (Cu)	mg/L	16	5	0.0013*	0.0049*	0.002552	0.00490	PL (NP)	1.3	MCL
Lead (Pb)	mg/L	16	7	0.000144*	0.000898	0.00036	0.00090	PL (NP)	0.015	MCL
Nickel (Ni)	mg/L	16	16	0.00439*	0.0127	0.010029	0.01306	PL (P)	0.1	SWS
Selenium (Se)	mg/L	16	1	0.00112*	0.0025 (1/2 RL)	0.002336	0.00250	PL (NP)	0.05	MCL
Silver (Ag)	mg/L	16	0	0.00025 (1/2 RL)	0.0005 (1/2 RL)	0.000484	< 0.001	DQR	0.1	SWS
Thallium (Tl)	mg/L	16	0	0.0005 (1/2 RL)	0.0015 (1/2 RL)	0.000594	< 0.005	DQR	0.0025	SSS
Vanadium (V)	mg/L	16	3	0.000776*	0.00632	0.002582	0.00632	PL (NP)	0.035	SWS
Zinc (Zn)	mg/L	16	8	0.00772*	0.0297	0.012593	0.02970	PL (NP)	2.0	SWS

Table 5
Background and GWPS Summary
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Phase 2 Underdrain Intrawell Background/GWPS (02/26/2008 - 2/24/2021)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony	mg/L	19	1	0.0005 (1/2 RL)	0.003 (1/2 RL)	0.001086	0.00300	PL (NP)	0.006	MCL
Arsenic	mg/L	18	17	0.0005 (1/2 RL)	0.03	0.008216	0.02367	PL (P)	0.02367	SSS
Barium	mg/L	21	21	0.17	2.8	0.626024	1.35800	PL (P)	2.0	MCL
Beryllium	mg/L	19	2	0.000361*	0.0025 (1/2 RL)	0.000645	0.00250	PL (NP)	0.004	MCL
Cadmium	mg/L	21	2	0.00005 (1/2 RL)	0.00117	0.00035	0.00117	PL (NP)	0.005	MCL
Chromium	mg/L	18	6	0.00101*	0.013	0.00541	0.01300	PL (NP)	0.1	MCL
Cobalt	mg/L	18	15	0.000387*	0.012	0.002825	0.00844	PL (P)	0.008439	SSS
Copper	mg/L	20	10	0.00089*	0.0198	0.005123	0.01093	PL (P)	1.3	MCL
Lead	mg/L	20	9	0.00025 (1/2 RL)	0.0144	0.001746	0.01440	PL (NP)	0.015	MCL
Nickel	mg/L	18	17	0.0029*	0.053	0.011833	0.03053	PL (P)	0.1	SWS
Selenium	mg/L	20	7	0.0005 (1/2 RL)	0.0125 (1/2 RL)	0.002876	0.01250	PL (NP)	0.05	MCL
Silver	mg/L	20	0	0.00025 (1/2 RL)	0.01 (1/2 RL)	0.002038	< 0.02	DQR	0.1	SWS
Thallium	mg/L	19	0	0.0005 (1/2 RL)	0.001 (1/2 RL)	0.000579	< 0.002	DQR	0.002	MCL
Vanadium	mg/L	18	5	0.000591*	0.025 (1/2 RL)	0.007331	0.02500	PL (NP)	0.035	SWS
Zinc	mg/L	18	5	0.003 (1/2 RL)	0.066	0.017637	0.06600	PL (NP)	2.0	SWS

GU-3A Intrawell Background/GWPS (5/24/2022 - 7/16/2024)

Constituent	Units	Samples	Detections	Min	Max	Mean	Background Level	Statistical Test	GWPS	Source
Antimony	mg/L	5	1	0.001 (1/2 RL)	0.00195*	0.00119	0.00195	PL (NP)	0.006	MCL
Arsenic	mg/L	5	4	0.001 (1/2 RL)	0.0177	0.005222	0.02735	PL (P)	0.02735	SSS
Barium	mg/L	5	5	0.178	0.506	0.308	0.77160	PL (P)	2.0	MCL
Beryllium	mg/L	5	0	0.0005 (1/2 RL)	0.0005 (1/2 RL)	0.0005	< 0.001	DQR	0.004	MCL
Cadmium	mg/L	5	1	0.00005 (1/2 RL)	0.00303	0.000666	0.00303	PL (NP)	0.005	MCL
Chromium	mg/L	5	1	0.0025 (1/2 RL)	0.0329	0.00858	0.03290	PL (NP)	0.1	MCL
Cobalt	mg/L	5	5	0.000372*	0.071	0.015253	0.29070	PL (P)	0.2907	SSS
Copper	mg/L	5	2	0.00235*	0.0585	0.01367	0.05850	PL (NP)	1.3	MCL
Lead	mg/L	5	2	0.00025 (1/2 RL)	0.0144	0.003348	0.01440	PL (NP)	0.015	MCL
Nickel	mg/L	5	5	0.00227*	0.432	0.089248	0.43200	PL (NP)	0.432	SSS
Selenium	mg/L	5	3	0.0025 (1/2 RL)	0.00692	0.003776	0.00952	PL (P)	0.05	MCL
Silver	mg/L	5	0	0.0005 (1/2 RL)	0.0005 (1/2 RL)	0.0005	< 0.001	DQR	0.1	SWS
Thallium	mg/L	5	0	0.0005 (1/2 RL)	0.0005 (1/2 RL)	0.0005	< 0.001	DQR	0.002	MCL
Vanadium	mg/L	5	3	0.00122*	0.0267	0.007124	0.06928	PL (P)	0.06928	SSS
Zinc	mg/L	5	2	0.01 (1/2 RL)	0.077	0.02346	0.07700	PL (NP)	2.0	SWS

Notes:
Background levels are calculated prediction limits or one-half of the highest reporting limit (RL), as applicable.
J flag concentrations are considered detections for the purposes of these tables.
* - Indicates J flag. The concentration is above the method detection limit but below the reporting limit; the concentration is estimated.

Acronyms/Abbreviations:
RL = Reporting Limit
PL = Prediction Limit
DQR = Double Quantification Rule
GWPS = Groundwater Protection Standard (mg/L)
SSS = Site-Specific GWPS
NP = Non-Parametric
SWS = Statewide Standard
P = Parametric
MCL = EPA Maximum Contaminant Level

1) Water quality results and effectiveness of the statistical data evaluation criteria: Statistical evaluations consist of prediction limits, double quantification rule, and confidence intervals/confidence bands, as appropriate.

2) Changes to the previous statistical method during reporting period: None.

Table 6
Summary of Well/Detected Constituent Pairs With No Previous SSIs
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Well	Constituent	Units	Most recent result	Background Standard
MW-26	Barium*	mg/L	0.0913	0.103
MW-29	Arsenic**	mg/L	0.00272	0.006

Notes:
This table includes SSIs indicated during this reporting period that were not indicated in the 2023 reporting period.
* - Barium concentrations are reflective of the natural variability of barium in the groundwater at the site an do not represent impact of a release from the Phase 2 MSWLF unit (Doc # 109745).
** - The indicated SSI was not confirmed by retesting.

1) Problems with the current detection network: None.

2) Schedule to implement remedies: Not applicable.

3) Alternative constituent or sample frequency changes: None.

4) Significant changes to calculated prediction limits: None.

5) Resampling strategy: Retesting is performed on a 1-of-3 retesting scheme.

6) Data Exclusion Justification: Inorganic data collected prior to implementation of low-flow sampling in August 2015 were removed from statistical consideration.

Table 7
Summary of Ongoing and Newly Identified SSIs
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill
Permit No. 56-SDP-07-80P

Well	Constituent	Units	Most Recent Result	Background Standard	Lower Confidence Limit	GWPS	Sample Dates		
							Initial Exceedance	Resample(s)	5th background sample
MW-26	Barium*	mg/L	0.0913	0.103	NA	2	5/29/2024	8/28/2024	8/2/2017
MW-28	None								
MW-29	Arsenic**	mg/L	0.00272	0.006	NA	0.01	5/29/2024	NA*	8/2/2017
PH2UD	None								
GU-3A	None								

Shaded rows denote constituent/well pairs with SSIs indicated in 2024 but not in 2023. Unshaded rows denote constituent/well pairs with SSIs indicated during both the 2023 and 2024 reporting periods.

* - Barium concentrations are reflective of the natural variability of barium in the groundwater at the site an do not represent impact of a release from the Phase 2 MSWLF unit (Doc # 109745).

** - The indicated SSI was not confirmed by retesting.

NA - Monitoring points are in the detection monitoring program, so confidence limits were not calculated.

Table 8
Summary of Ongoing and Newly Identified SSLs
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Well	Constituent	Units	Most recent result	Upper Confidence Limit	GWPS	Initial Exceedance	Consecutive Compliance Dates		
							1st Occurrence	Most Recent	Duration
None									

Table 9
Summary of Groundwater Chemistry
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

The Summary of Groundwater Chemistry is located in Appendix C.

Table 10

Historical SSI and SSL since January 1, 2019

2024 Annual Water Quality Report

Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit

Permit No. 56-SDP-07-80P

Key

	SSI - Statistically Significant Increase above background
	SSL - Statistically Significant Level above a groundwater protection standard

		Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Well	**Constituent**	2019	2019	2020	2020	2021	2021	2022	2022	2023	2023	2024	2024
MW-26	Barium											**	
MW-28	Barium					*	*						
MW-29	Arsenic											***	
Phase 2 Underdrain	None												

Comments:

* - Not confirmed due to natural variability. (Doc #101034)

** - Not confirmed due to natural variability. (Doc #109741)

*** - Not confirmed by retesting.

Table 11
Corrective Action Trend Analysis
2024 Annual Water Quality Report
Great River Regional Waste Authority Sanitary Landfill - Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

Well	Current SSL	Trend	N	Projected Year to Completion
None				

Figures

Monitoring Well	Current Monitoring Program
MW-26	Detection
MW-28	Detection
MW-29	Detection
Phase 2 Underdrain (PH2UD)	Detection
GU-1	Treated with leachate
GU-2	Treated with leachate
GU-3A	Background Collection
GU-4A	Background Collection

Approved Monitoring Network

Figure 1

SCS ENGINEERS
environmental consultants and contractors

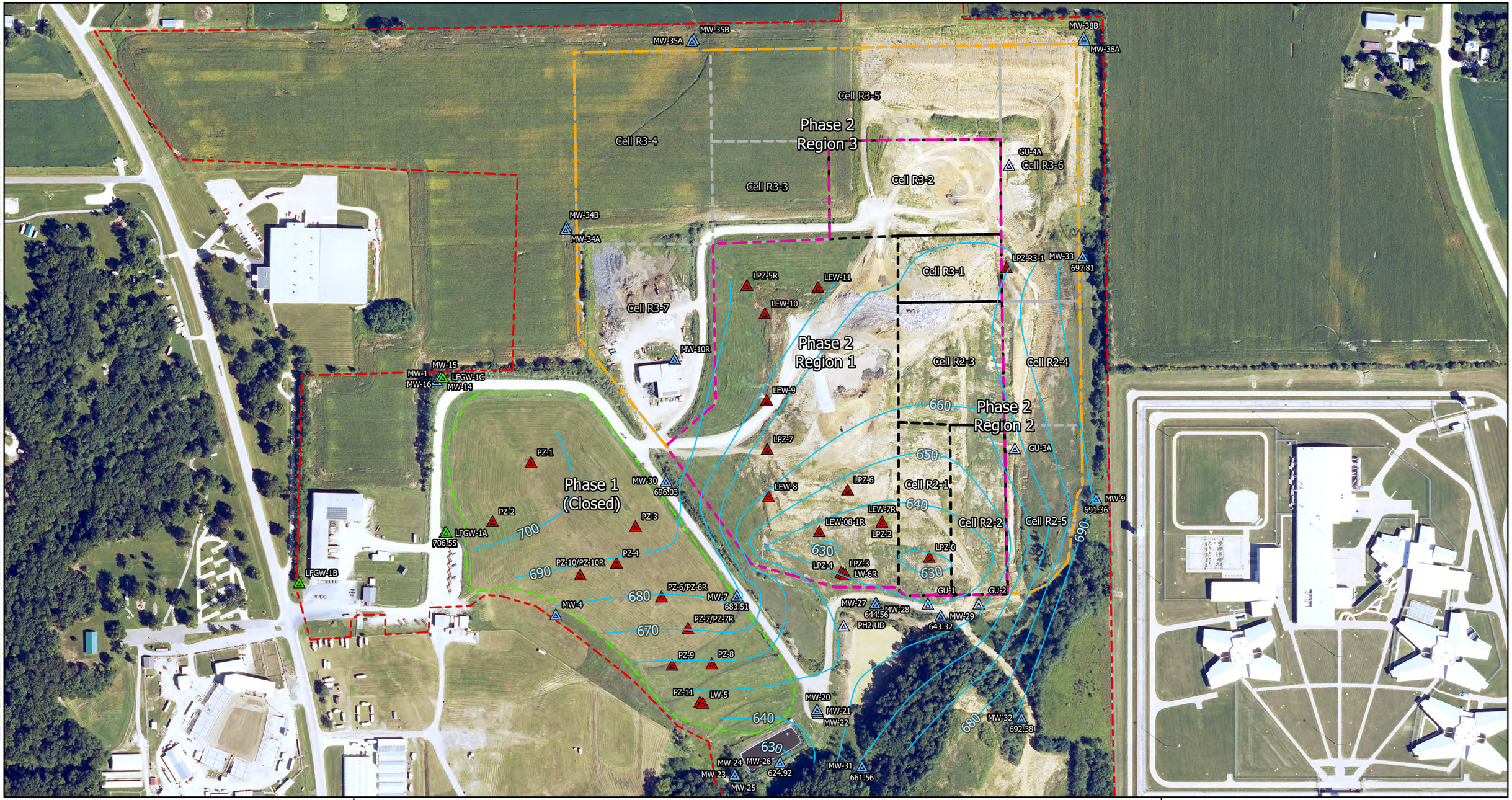
Legend

- HMSP Monitoring Point
- Monitoring Well
- Underdrain Monitoring Point
- Landfill Gas Well
- Leachate Monitoring Point
- Approximate Future Waste Boundary - Phase 2
- Approximate Waste Boundary - Phase 2
- Located Waste Boundary
- Approximate GRRWA Property Boundary
- Approximate Location Of Existing Cell Boundaries
- Approximate Location of Future Cell Boundary

GRRWA Sanitary Landfill
Phase 2
Fort Madison, Iowa
Project No: 27224317.25
Drawing Date: January 2025

N W E S

0 280 560 1,120 Feet



Groundwater Contours

Legend

- Approximate Groundwater Contours Based on Field Measurments November 13, 2024
- Monitoring Well
- Underdrain Monitoring Point
- Landfill Gas Well
- Leachate Monitoring Point
- Approximate Future Waste Boundary - Phase 2
- Approximate Waste Boundary - Phase 2
- Located Waste Boundary
- Approximate GRRWA Property Boundary
- Approximate Location Of Existing Cell Boundaries
- Approximate Location of Future Cell Boundary

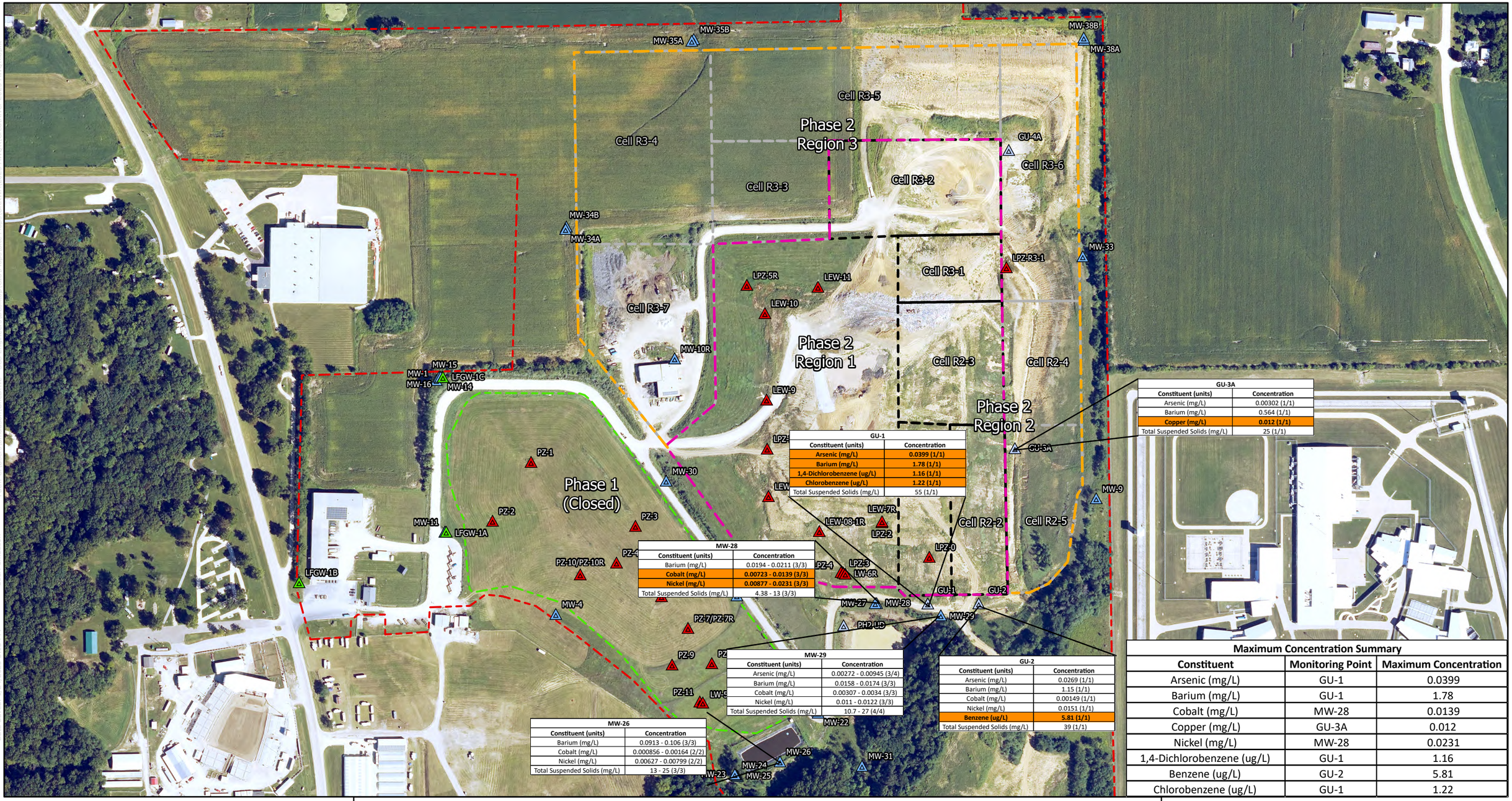
GRRWA Sanitary Landfill
Phase 2
Fort Madison, Iowa
Project No: 27224317.25
Drawing Date: January 2025

Figure 2

N
W
E
S

0 280 560 1,120 Feet

SCS ENGINEERS
environmental consultants and contractors



GU-1	
Constituent (units)	Concentration
Arsenic (mg/L)	0.0399 (1/1)
Barium (mg/L)	1.78 (1/1)
1,4-Dichlorobenzene (ug/L)	1.16 (1/1)
Chlorobenzene (ug/L)	1.22 (1/1)
Total Suspended Solids (mg/L)	55 (1/1)

GU-3A	
Constituent (units)	Concentration
Arsenic (mg/L)	0.00302 (1/1)
Barium (mg/L)	0.564 (1/1)
Copper (mg/L)	0.012 (1/1)
Total Suspended Solids (mg/L)	25 (1/1)

MW-28	
Constituent (units)	Concentration
Barium (mg/L)	0.0194 - 0.0211 (3/3)
Cobalt (mg/L)	0.00723 - 0.0139 (3/3)
Nickel (mg/L)	0.00877 - 0.0231 (3/3)
Total Suspended Solids (mg/L)	4.38 - 13 (3/3)

MW-29	
Constituent (units)	Concentration
Arsenic (mg/L)	0.00272 - 0.00945 (3/4)
Barium (mg/L)	0.0158 - 0.0174 (3/3)
Cobalt (mg/L)	0.00307 - 0.0034 (3/3)
Nickel (mg/L)	0.011 - 0.0122 (3/3)
Total Suspended Solids (mg/L)	10.7 - 27 (4/4)

MW-26	
Constituent (units)	Concentration
Barium (mg/L)	0.0913 - 0.106 (3/3)
Cobalt (mg/L)	0.000856 - 0.00164 (2/2)
Nickel (mg/L)	0.00627 - 0.00799 (2/2)
Total Suspended Solids (mg/L)	13 - 25 (3/3)

GU-2	
Constituent (units)	Concentration
Arsenic (mg/L)	0.0269 (1/1)
Barium (mg/L)	1.15 (1/1)
Cobalt (mg/L)	0.00149 (1/1)
Nickel (mg/L)	0.0151 (1/1)
Benzene (ug/L)	5.81 (1/1)
Total Suspended Solids (mg/L)	39 (1/1)

Maximum Concentration Summary

Constituent	Monitoring Point	Maximum Concentration
Arsenic (mg/L)	GU-1	0.0399
Barium (mg/L)	GU-1	1.78
Cobalt (mg/L)	MW-28	0.0139
Copper (mg/L)	GU-3A	0.012
Nickel (mg/L)	MW-28	0.0231
1,4-Dichlorobenzene (ug/L)	GU-1	1.16
Benzene (ug/L)	GU-2	5.81
Chlorobenzene (ug/L)	GU-1	1.22

Reporting Period Detection Summary

SCS ENGINEERS
environmental consultants and contractors

Legend

- Monitoring Well
- Underdrain Monitoring Point
- Landfill Gas Well
- Leachate Monitoring Point
- Approximate Future Waste Boundary - Phase 2
- Approximate Waste Boundary - Phase 2
- Located Waste Boundary
- Approximate GRRWA Property Boundary
- Approximate Location Of Existing Cell Boundaries
- Approximate Location of Future Cell Boundary

GRRWA Sanitary Landfill
Phase 2
Fort Madison, Iowa
Project No: 27224317.25
Drawing Date: January 2025

Figure 3

N W E S

0 280 560 1,120 Feet

Appendix A

Field Sampling Forms

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Waste Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-26**	Date:	**2/27/2024**
Gradient:	Compliance	Sampler:	Konner Roth

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	39.6
Initial Static Water Level (feet):	17.08
Initial Groundwater Elevation (ft-amsl):	626.43
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
1:09 PM	Purging start time.						
1:12 PM	15.3	<0.01	1690.3	6.75	-143.0	NA	
1:15 PM	15.6	<0.01	1650.4	6.76	-145.0	NA	
	NA - Not available. Turbidity measurements are not available due to meter malfunction.						
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.8
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	150.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color-Clear Odor-None

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Waste Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-29**	Date:	**2/27/2024**
Gradient:	Compliance	Sampler:	Konner Roth

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	33.6
Initial Static Water Level (feet):	18.61
Initial Groundwater Elevation (ft-amsl):	642.45
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
1:51 PM	Purging start time.						
1:54 PM	15.9	<0.01	4808.3	6.30	-30.5	NA	
1:57 PM	16.3	<0.01	4809.0	6.31	-30.7	NA	
	NA - Not available. Turbidity measurements are not available due to meter malfunction.						
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	2.0
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	166.67

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color-Clear Odor-Yes

FORM FOR SURFACE WATER SAMPLING

Site Name: Great River regional waste — Permit No.:
Surface Monitoring Point No.: GV-3A — Date: 2-26-24

Name of Person Sampling: Vhonner

A. TYPE OF MOINITORING POINT

Stream		Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch	X	Other	

B. PURPOSE OF MONITORING POINT

Upstream		Downstream	X
Within Landfill		Other	

C. MONITORING POINT CONDITIONS

Was monitoring point dry?	Yes	Too little water to sample?	✓
Was water flowing?	No	If yes, estimate quantity (cfs)	
		If yes, estimate depth (inches)	

Was water discolored?
Does water have odor?
Was ground discolored?
Litter present?

Comments

D. FIELD MEASUREMENTS

Weather Conditions: 59°F, 5-10mph wind, Sunny

Field Measurements (after stabilization):

Temperature		Units	Celsius
Equipment Used			
pH		Units	Standard units
Equipment Used			
Spec.Conductance		Units	uS/cm
Equipment Used			

COMMENTS: Dry

IDNR Form 542-1324

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Waste Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-26**	Date:	**5/29/2024**
Gradient:	Compliance	Sampler:	Tyler Stirling

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	39.2
Initial Static Water Level (feet):	17.52
Initial Groundwater Elevation (ft-amsl):	625.99
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
8:40 AM	Purging start time.						
8:43 AM	13.7	1.3	1807.5	6.91	-123.8	9.8	
8:46 AM	13.8	0.7	1800.7	6.94	-162.9	<1	
8:49 AM	14.4	0.5	1788.4	6.95	-174.4	<1	
8:52 AM	14.4	0.4	1794.0	6.97	-179.5	<1	
8:55 AM	14.6	0.3	1786.1	6.96	-177.6	<1	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	133.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No
If yes, explain:	

Additional Comments:	Color: Clear Odor: Yes

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Waste Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-28**	Date:	**5/29/2024**
Gradient:	Compliance	Sampler:	Tyler Stirling

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	29.6
Initial Static Water Level (feet):	15.54
Initial Groundwater Elevation (ft-amsl):	646.88
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
12:11 PM	Purging start time.						
12:14 PM	17.7	0.7	4102.7	6.30	-48.3	28.5	
12:17 PM	17.4	0.4	4108.2	6.31	-67.3	32.0	
12:20 PM	18.4	0.3	4095.8	6.32	-79.0	22.0	
12:23 PM	18.9	0.3	4103.3	6.32	-86.9	20.0	
12:26 PM	19.2	0.3	4108.8	6.33	-92.7	24.1	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.9
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	158.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: Yes

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Waste Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-29**	Date:	**5/29/2024**
Gradient:	Compliance	Sampler:	Tyler Stirling

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped?	Yes	
Litter/Standing Water?	No	

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):	33.2
Initial Static Water Level (feet):	19.33
Initial Groundwater Elevation (ft-amsl):	641.73
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
11:11 AM	Purging start time.						
11:14 AM	15.9	1.2	5016.5	6.34	12.8	43.7	
11:17 AM	15.9	0.6	5021.6	6.35	-4.8	29.8	
11:20 AM	16.3	0.5	5006.2	6.35	-15.7	30.4	
11:23 AM	16.2	0.4	5028.8	6.36	-23.2	30.1	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.5
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	125.00

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color: Clear Odor: Yes

FORM FOR GROUNDWATER SAMPLING

Project: GRRWA
Monitoring Well/Piezometer ID: PH2UD
Date: 5/29/24
Gradient (circle one): Up / Down / Supp / Compliance
Sampler: TS

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped? (circle one): Yes No If No, explain:

Litter/Standing Water? (circle one): Yes No If Yes, explain:

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL) N/A

Measured Well Total Depth (feet):
Peri Tubing Used (feet):

Initial Static Water Level (feet):
Sub Tubing Used (feet):

Equipment Used (check one): ☐ Dedicated Peristaltic Tubing ☐ Dedicated Submersible Pump*
☐ Dedicated Bailer ☐ Other:
*Controller Type: G / Y / BR

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) +/- 10%**	Dissolved Oxygen (mg/L)	**Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	Static Water Level (feet)
	Purging start time						
1000	19.3	4.50	1544	6.65	23.4	48.80	

Parameters stabilized for 3 consective readings, YSI stopped recording, sample collected
←Final SWL Record Time Finished collecting sample **Final SWL after sampling →**

Quantity of Water Removed from Well (circle units: liters / gallons):
Was well pumped/bailed dry?
Total Amount of Time Purged (minutes)
Color Describe: light brown
Odor Describe: None

D. WELL MAINTENANCE N/A

Does the monitoring well/piezometer require any future maintenance? Yes / No
If yes, explain:

Is the monitoring well/piezometer correctly labled with a physical tag visible on the outside of the protective well casing? Yes / No

Additional Comments/Sampling Issues:

FORM FOR GROUNDWATER SAMPLING

Project: Great River
Monitoring Well/Piezometer ID: GW-1
Date: 5/29/24
Gradient (circle one): Up / Down / Supp / Compliance
Sampler: TS

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped? (circle one): Yes No If No, explain:

Litter/Standing Water? (circle one): Yes No If Yes, explain:

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet):
Peri Tubing Used (feet):
Initial Static Water Level (feet):
Sub Tubing Used (feet):

Equipment Used (check one): ☐ Dedicated Peristaltic Tubing ☐ Dedicated Submersible Pump*
☐ Dedicated Bailer ☐ Other:
*Controller Type: G / Y / BR

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) +/- 10%**	Dissolved Oxygen (mg/L)	**Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	Static Water Level (feet)
9:36	Purging start time						
9:42	19.9	1.79	1316	6.37	2.7	41.87	

Parameters stabilized for 3 consective readings, YSI stopped recording, sample collected
←**Final SWL Record Time** Finished collecting sample **Final SWL after sampling →**

Quantity of Water Removed from Well (circle units: liters / gallons):
Was well pumped/bailed dry?
Total Amount of Time Purged (minutes)
Color Describe: Clear, very light brown
Odor Describe: None

D. WELL MAINTENANCE

Does the monitoring well/piezometer require any future maintenance? Yes / No
If yes, explain:

Is the monitoring well/piezometer correctly labled with a physical tag visible on the outside of the protective well casing? Yes / No

Additional Comments/Sampling Issues:

FORM FOR GROUNDWATER SAMPLING

Project:
Monitoring Well/Piezometer ID: GW-2 Date:
Gradient (circle one): Up / Down / Supp / Compliance Sampler:

A. MW/PIEZOMETER CONDITIONS

Well/Piezometer Capped? (circle one): Yes No If No, explain:

Litter/Standing Water? (circle one): Yes No If Yes, explain:

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Measured Well Total Depth (feet): Peri Tubing Used (feet):

Initial Static Water Level (feet): Sub Tubing Used (feet):

Equipment Used (check one): □ Dedicated Peristaltic Tubing □ Dedicated Submersible Pump*
□ Dedicated Bailer □ Other: *Controller Type: G / Y / BR

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) +/- 10%**	Dissolved Oxygen (mg/L)	**Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	Static Water Level (feet)
	Purging start time						
10:45	25.6	3.21	925	6.31	11.3	26.01	

Parameters stabilized for 3 consective readings, YSI stopped recording, sample collected
←**Final SWL Record Time** Finished collecting sample **Final SWL after sampling →**

Quantity of Water Removed from Well (circle units: liters / gallons):
Was well pumped/bailed dry?
Total Amount of Time Purged (minutes)
Color Describe:
Odor Describe:

D. WELL MAINTENANCE

Does the monitoring well/piezometer require any future maintenance? Yes / No
If yes, explain:

Is the monitoring well/piezometer correctly labled with a physical tag visible on the outside of the protective well casing? Yes / No

Additional Comments/Sampling Issues:

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-29**	Date:	**8/28/2024**
Gradient:	Down	Sampler:	Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	33.4
Initial Static Water Level (feet):	18.20
Initial Groundwater Elevation (ft-amsl):	642.86
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
10:28 AM	Purging start time.						
10:31 AM	17.8	1.5	5025.2	6.51	-61.9	8.1	
10:34 AM	18.3	1.0	5041.4	6.46	-66.4	10.4	
10:37 AM	18.6	0.8	5062.8	6.44	-69.0	7.8	
10:40 AM	18.6	0.6	5074.0	6.43	-70.3	9.5	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	133.33

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-26**	Date:	**11/13/2024**
Gradient:	Compliance	Sampler:	Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	39.5
Initial Static Water Level (feet):	18.59
Initial Groundwater Elevation (ft-amsl):	624.92
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
11:15 AM	Purging start time.						
11:18 AM	13.7	2.5	2038.3	6.99	-37.1	18.2	
11:21 AM	13.8	1.4	1949.6	6.95	-59.9	44.8	
11:24 AM	13.9	1.0	1901.2	6.93	-69.7	55.1	
11:27 AM	14.0	0.7	1849.6	6.92	-76.4	22.0	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	133.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-28**	Date:	**11/12/2024**
Gradient:	Compliance	Sampler:	Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	30.1
Initial Static Water Level (feet):	17.86
Initial Groundwater Elevation (ft-amsl):	644.56
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
4:12 PM	Purging start time.						
4:15 PM	15.8	2.1	4775.2	6.07	83.4	4.8	
4:18 PM	15.8	1.1	4783.3	6.17	45.8	7.5	
4:21 PM	15.9	0.8	4784.9	6.22	27.3	10.3	
4:24 PM	16.0	0.6	4788.7	6.24	16.4	13.8	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.7
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	141.67

D. WELL MAINTENANCE		
Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

FORM FOR GROUNDWATER SAMPLING

Project:	**Great River Regional Authority Sanitary Landfill, Phase 2 MSWLF Unit**		
Monitoring Well/Piezometer ID:	**MW-29**	Date:	**11/13/2024**
Gradient:	Compliance	Sampler:	Michael Morgan

A. MW/PIEZOMETER CONDITIONS	
Well/Piezometer Capped?	Yes
Litter/Standing Water?	No

B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)	
Measured Well Total Depth (feet):	33.5
Initial Static Water Level (feet):	17.74
Initial Groundwater Elevation (ft-amsl):	643.32
Equipment Used:	Dedicated Tubing – Peristaltic Pump

C. WELL PURGING

FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES

Time	**Temperature (°C) 10%**	Dissolved Oxygen (mg/L)	**Specific Conductivity (µS/cm) +/- 10%**	**pH (S.U.) +/- 0.1**	ORP (mV)	Turbidity (FNU)	
8:19 AM	Purging start time.						
8:22 AM	13.1	2.6	5868.9	6.43	17.1	2.1	
8:25 AM	13.1	1.4	5910.1	6.40	-6.1	2.1	
8:28 AM	13.2	1.0	5926.5	6.40	-14.1	2.3	
8:31 AM	13.2	0.7	5929.2	6.40	-18.6	2.6	
	Parameters stabilized, sample collected.						

Quantity of Water Removed from Well (liters):	1.6
Was well pumped/bailed dry?	No
Total Amount of Time Purged (minutes:seconds):	12:00
Average Purge Rate (mL/min):	133.33

D. WELL MAINTENANCE

Does the well require any future maintenance?	No	
If yes, explain:		

Additional Comments:	Color:Clear Odor:None

Appendix B-1

Laboratory Analytical Data Sheets

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 3/11/2024 3:53:07 PM

JOB DESCRIPTION

Great River Regional Waste Authority
Winter 2024 Retest

JOB NUMBER

310-275946-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Generated
3/11/2024 3:53:07 PM

Authorized for release by
Mary Yang, Project Management Assistant I
Mary.Yang@ET.EurofinsUS.com
(319)277-2401

Table of Contents

Job ID: 310-275946-1 Eurofins Cedar Falls

Job Narrative
310-275946-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/1/2024 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

GC/MS VOA
Method 8260D: The following sample was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: MW-29 (310-275946-2).

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

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

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

Sample Summary

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-275946-1	MW-26	Water	02/27/24 13:25	03/01/24 15:50
310-275946-2	MW-29	Water	02/27/24 13:57	03/01/24 15:50

Detection Summary

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Client Sample ID: MW-26
Lab Sample ID: 310-275946-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.103		0.00200	0.000640	mg/L	1		6020B	Total/NA
Total Suspended Solids	13.0		2.50	0.850	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-29
Lab Sample ID: 310-275946-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Client Sample ID: MW-26
Lab Sample ID: 310-275946-1
Date Collected: 02/27/24 13:25
Matrix: Water
Date Received: 03/01/24 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0	3.10	ug/L			03/04/24 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*109*		*73 - 130*		*03/04/24 18:30*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/04/24 18:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*03/04/24 18:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**0.103**		0.00200	0.000640	mg/L		03/06/24 09:00	03/07/24 11:09	1
Thallium	<0.00100		0.00100	0.000260	mg/L		03/06/24 09:00	03/07/24 11:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**13.0**		2.50	0.850	mg/L			03/04/24 10:54	1

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Client Sample ID: MW-29
Lab Sample ID: 310-275946-2
Date Collected: 02/27/24 13:57
Matrix: Water
Date Received: 03/01/24 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	<4.00		4.00	0.790	ug/L			03/04/24 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*113*		*73 - 130*		*03/04/24 18:53*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/04/24 18:53*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*03/04/24 18:53*	*1*

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Surrogate Summary

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		DBFM	TOL	BFB					
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)					
310-275946-1	MW-26	109	98	105					
310-275946-2	MW-29	113	100	108					
LCS 310-415109/6	Lab Control Sample	96	101	102					
LCS 310-415109/7	Lab Control Sample	107	99	107					
MB 310-415109/5	Method Blank	112	100	108					

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 310-415109/5
Matrix: Water
Analysis Batch: 415109

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0	3.10	ug/L			03/04/24 12:25	1
Chloroethane	<4.00		4.00	0.790	ug/L			03/04/24 12:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*73 - 130*		*03/04/24 12:25*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/04/24 12:25*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*03/04/24 12:25*	*1*

Lab Sample ID: LCS 310-415109/6
Matrix: Water
Analysis Batch: 415109

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Acetone			40.0	38.45		ug/L		96	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*96*		*73 - 130*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Lab Sample ID: LCS 310-415109/7
Matrix: Water
Analysis Batch: 415109

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloroethane			20.0	20.44		ug/L		102	54 - 136		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*107*		*73 - 130*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-415235/1-A
Matrix: Water
Analysis Batch: 415451

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415235

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.00200		0.00200	0.000640	mg/L		03/06/24 09:00	03/07/24 10:42	1
Thallium	<0.00100		0.00100	0.000260	mg/L		03/06/24 09:00	03/07/24 10:42	1

Lab Sample ID: LCS 310-415235/2-A
Matrix: Water
Analysis Batch: 415451

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415235

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Barium			0.100	0.1113		mg/L		111	80 - 120		

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

Lab Sample ID: LCS 310-415235/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 415451
Prep Batch: 415235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.09467		mg/L		95	80 - 120

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-415104/1
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 415104

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	1.70	mg/L			03/04/24 10:54	1

Lab Sample ID: LCS 310-415104/2
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 415104

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	93.00		mg/L		93	75 - 116

QC Association Summary

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

GC/MS VOA

Analysis Batch: 415109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-275946-1	MW-26	Total/NA	Water	8260D	
310-275946-2	MW-29	Total/NA	Water	8260D	
MB 310-415109/5	Method Blank	Total/NA	Water	8260D	
LCS 310-415109/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-415109/7	Lab Control Sample	Total/NA	Water	8260D	

Metals

Prep Batch: 415235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-275946-1	MW-26	Total/NA	Water	3005A	
MB 310-415235/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-415235/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 415451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-275946-1	MW-26	Total/NA	Water	6020B	415235
MB 310-415235/1-A	Method Blank	Total/NA	Water	6020B	415235
LCS 310-415235/2-A	Lab Control Sample	Total/NA	Water	6020B	415235

General Chemistry

Analysis Batch: 415104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-275946-1	MW-26	Total/NA	Water	I-3765-85	
MB 310-415104/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-415104/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Client Sample ID: MW-26
Lab Sample ID: 310-275946-1
Date Collected: 02/27/24 13:25
Matrix: Water
Date Received: 03/01/24 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	415109	WSE8	EET CF	03/04/24 18:30
Total/NA	Prep	3005A			415235	QTZ5	EET CF	03/06/24 09:00
Total/NA	Analysis	6020B		1	415451	A6US	EET CF	03/07/24 11:09
Total/NA	Analysis	I-3765-85		1	415104	DGU1	EET CF	03/04/24 10:54

Client Sample ID: MW-29
Lab Sample ID: 310-275946-2
Date Collected: 02/27/24 13:57
Matrix: Water
Date Received: 03/01/24 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	415109	WSE8	EET CF	03/04/24 18:53

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Method Summary

Client: SCS Engineers
Job ID: 310-275946-1
Project/Site: Great River Regional Waste Authority

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF

Protocol References:

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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310-275946 Chain of Custody

Cooler/Sample Receipt and Temperature Log

Client Information

Client: ~~Great~~ SCS 3/1/2024 SCS Engineers

City/State: CITY West Des Moines STATE IA Project:

Receipt Information

Date/Time Received: DATE 3/1/2024 TIME 1550 Received By: BS

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☑ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☑ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☐ Yes ☑ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☑ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.1 Corrected Temp (°C): 0.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

TestAmerica Des Moines
214

TestAmerica

704 Enterprise Drive 319.277.2401 (phone)
Cedar Falls, Iowa 50613 515.792 7989 (fax)

SAMPLER: KONNER ROTH
SITE NAME: Great River Regional Waste Authority Sanitary Landfill
ADDRESS:
CITY/STATE/ZIP:
TELEPHONE NUMBER: Fax:
SAMPLED BY: (PRINT NAME)
SIGNATURE:

REPORT TO:
NAME: Nathan Ohrt (nohrt@scsengineers.com)
COMPANY NAME: SCS Engineers
PROJECT NAME: GRRWA Sanitary Landfill (Winter 2024 Retest)
PROJECT NUMBER: 27223129.24
ADDRESS: 1690 All State Court, Suite 100
CITY/STATE/ZIP: West Des Moines, IA 50265

							Preservative								Matrix						Analyze For										
Sample ID	Date Sampled	Time Sampled	# of Containers Shipped	Grab	Composite	Field Filtered	Ice	HNO_3 (Red & White Label)	HCl (Blue & White Label)	NaOH (Orange & White Label)	H_2SO_4 Plastic (Yellow & White Label)	H_2SO_4 Glass (Yellow & White Label)	None (Black & White Label)	Trip Blank	Groundwater	Wastewater	Drinking Water	Sludge	Soil	Trip Blank	Barium	Thallium	Total Suspended Solids	Acetone	Chloroethane		Trip Blank					Fax Results
MW-26	2-27-24	13 25		X			X								X						X	X	X	X							
MW-29	2-27-24	13.57		X			X								X										X						
~~GU-3A~~							~~X~~								~~X~~										~~X~~						
Trip Blank							X							X						X							X				
Relinquished by: Sam Myers		Date: 3-1-24		Time: 12 00			Received by:									Date:		Time:			Relinquished by:										
Shipped Via:							Comments:														Shipped Via:										
Received for lab by: MC		Date: 3-1-24		Time: 1550			Temperature Upon Receipt:								Laboratory Comments: (1) For Appendix I and II analysis, report to the reporting limits, not the detection limits. Make sure that the reporting limits are below the EPA (2) For analysis other than Appendix I and II, report to the detection limits. Please make sure that the detection limits are below the EPA's MCLs. (3) In the "Result" column for all EDD files, when non-detect, please report "<" the reporting limits or the detection limits instead of indicating with "ND"																

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-275946-1

Login Number: 275946

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Costello, Mackenzie K

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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.	False	Trip Blanks were received empty.
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 8/5/2024 12:55:51 PM Revision 1

JOB DESCRIPTION

1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

JOB NUMBER

310-282415-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
Mary Yang, Client Service Manager
Mary.Yang@ET.EurofinsUS.com
(319)595-2025

Table of Contents

Job ID: 310-282415-1 Eurofins Cedar Falls

Job Narrative
310-282415-1

REVISION

The report being provided is a revision of the original report sent on 6/14/2024. The report (revision 1) is being revised due to Sample GU-3A missampled and client requested results excluded from report.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/30/2024 5:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 310-423254 recovered above the upper control limit for Carbon tetrachloride (33.8%D) and 1,1,1-Trichloroethane (20.1%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-423254/3).

Method 8260D: The laboratory control sample (LCS) for analytical batch 310-423254 recovered outside control limits for the following analytes: Carbon tetrachloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

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

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

Sample Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-282415-1	MW-26	Water	05/29/24 08:55	05/30/24 17:25
310-282415-2	MW-28	Water	05/29/24 12:26	05/30/24 17:25
310-282415-3	MW-29	Water	05/29/24 11:22	05/30/24 17:25
310-282415-4	PH2UD	Water	05/29/24 10:00	05/30/24 17:25
310-282415-5	GU-1	Water	05/29/24 09:42	05/30/24 17:25
310-282415-6	GU-2	Water	05/29/24 10:45	05/30/24 17:25
310-282415-8	MW-D	Water	05/29/24 12:26	05/30/24 17:25
310-282415-9	Trip Blank	Water	05/29/24 00:00	05/30/24 17:25

Detection Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26 — Lab Sample ID: 310-282415-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000602	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.106		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000856		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00799		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	25.0		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-28 — Lab Sample ID: 310-282415-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	8.04	J	10.0	3.10	ug/L	1		8260D	Total/NA
Carbon disulfide	0.904	J	1.00	0.450	ug/L	1		8260D	Total/NA
Barium	0.0194		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00728		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00881		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	11.0		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-29 — Lab Sample ID: 310-282415-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4-Methyl-2-pentanone (MIBK)	3.84	J	10.0	2.10	ug/L	1		8260D	Total/NA
Acetone	4.86	J	10.0	3.10	ug/L	1		8260D	Total/NA
Arsenic	0.00945		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0174		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00307		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0110		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	27.0		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: PH2UD — Lab Sample ID: 310-282415-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	8.28	J	10.0	3.10	ug/L	1		8260D	Total/NA
Arsenic	0.00337		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.645		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000467	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00325	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	21.5		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: GU-1 — Lab Sample ID: 310-282415-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.255	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	1.16		1.00	0.230	ug/L	1		8260D	Total/NA
Acetone	3.72	J	10.0	3.10	ug/L	1		8260D	Total/NA
Chlorobenzene	1.22		1.00	0.400	ug/L	1		8260D	Total/NA
Arsenic	0.0399		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	1.78		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000486	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00486	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	55.0		15.0	11.1	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: GU-2 — Lab Sample ID: 310-282415-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.303	J	1.00	0.220	ug/L	1		8260D	Total/NA
1,2-Dichloroethane	0.551	J	1.00	0.390	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	0.950	J	1.00	0.230	ug/L	1		8260D	Total/NA
Acetone	3.78	J	10.0	3.10	ug/L	1		8260D	Total/NA
Benzene	5.81		0.500	0.220	ug/L	1		8260D	Total/NA
Chlorobenzene	0.824	J	1.00	0.400	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.349	J	1.00	0.210	ug/L	1		8260D	Total/NA
Arsenic	0.0269		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	1.15		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00149		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0151		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	39.0		7.50	5.55	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-D — Lab Sample ID: 310-282415-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	9.44	J	10.0	3.10	ug/L	1		8260D	Total/NA
Barium	0.0200		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00723		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00877		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	13.0		5.00	3.70	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-282415-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26
Date Collected: 05/29/24 08:55
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 14:10	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 14:10	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 14:10	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 14:10	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 14:10	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 14:10	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 14:10	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 14:10	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 14:10	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 14:10	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 14:10	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 14:10	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 14:10	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 14:10	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 14:10	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 14:10	1
Acetone	<10.0		10.0	3.10	ug/L			06/01/24 14:10	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 14:10	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 14:10	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 14:10	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 14:10	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 14:10	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 14:10	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 14:10	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 14:10	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 14:10	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 14:10	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 14:10	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 14:10	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 14:10	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 14:10	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 14:10	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 14:10	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 14:10	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 14:10	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 14:10	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 14:10	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 14:10	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 14:10	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 14:10	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 14:10	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 14:10	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 14:10	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 14:10	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 14:10	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 14:10	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 14:10	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26
Date Collected: 05/29/24 08:55
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-1
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*73 - 130*		*06/01/24 14:10*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/24 14:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/01/24 14:10*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:14	1
Arsenic	**0.000602**	**J**	0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:14	1
Barium	**0.106**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 20:36	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 20:36	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:14	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 20:36	1
Cobalt	**0.000856**		0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 20:36	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 20:36	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:14	1
Nickel	**0.00799**		0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:14	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:14	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:48	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:14	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 20:36	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**25.0**		7.50	5.55	mg/L			05/31/24 10:56	1

Client Sample ID: MW-28
Date Collected: 05/29/24 12:26
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 14:33	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 14:33	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 14:33	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 14:33	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 14:33	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 14:33	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 14:33	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 14:33	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 14:33	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 14:33	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 14:33	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 14:33	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 14:33	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 14:33	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 14:33	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 14:33	1
Acetone	**8.04**	**J**	10.0	3.10	ug/L			06/01/24 14:33	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 14:33	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 14:33	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 14:33	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 14:33	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 14:33	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 14:33	1
Carbon disulfide	**0.904**	**J**	1.00	0.450	ug/L			06/01/24 14:33	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 14:33	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 14:33	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 14:33	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 14:33	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 14:33	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 14:33	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 14:33	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 14:33	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 14:33	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 14:33	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 14:33	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 14:33	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 14:33	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 14:33	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 14:33	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 14:33	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 14:33	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 14:33	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 14:33	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 14:33	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 14:33	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 14:33	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 14:33	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-28
Date Collected: 05/29/24 12:26
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*117*		*73 - 130*		*06/01/24 14:33*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/24 14:33*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/01/24 14:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:17	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:17	1
Barium	**0.0194**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 20:40	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 20:40	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:17	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 20:40	1
Cobalt	**0.00728**		0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 20:40	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 20:40	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:17	1
Nickel	**0.00881**		0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:17	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:17	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:50	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:17	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 20:40	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**11.0**		7.50	5.55	mg/L			05/31/24 10:56	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-29
Date Collected: 05/29/24 11:22
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 14:56	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 14:56	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 14:56	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 14:56	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 14:56	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 14:56	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 14:56	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 14:56	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 14:56	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 14:56	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 14:56	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 14:56	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 14:56	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 14:56	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 14:56	1
4-Methyl-2-pentanone (MIBK)	**3.84**	**J**	10.0	2.10	ug/L			06/01/24 14:56	1
Acetone	**4.86**	**J**	10.0	3.10	ug/L			06/01/24 14:56	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 14:56	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 14:56	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 14:56	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 14:56	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 14:56	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 14:56	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 14:56	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 14:56	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 14:56	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 14:56	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 14:56	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 14:56	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 14:56	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 14:56	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 14:56	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 14:56	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 14:56	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 14:56	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 14:56	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 14:56	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 14:56	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 14:56	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 14:56	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 14:56	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 14:56	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 14:56	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 14:56	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 14:56	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 14:56	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 14:56	1

Client Sample ID: MW-29
Date Collected: 05/29/24 11:22
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-3
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*117*		*73 - 130*		*06/01/24 14:56*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/01/24 14:56*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/01/24 14:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:21	1
Arsenic	**0.00945**		0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:21	1
Barium	**0.0174**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 20:43	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 20:43	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:21	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 20:43	1
Cobalt	**0.00307**		0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 20:43	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 20:43	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:21	1
Nickel	**0.0110**		0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:21	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:21	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:52	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:21	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 20:43	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**27.0**		7.50	5.55	mg/L			05/31/24 10:56	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: PH2UD
Date Collected: 05/29/24 10:00
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 15:18	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 15:18	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 15:18	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 15:18	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 15:18	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 15:18	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 15:18	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 15:18	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 15:18	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 15:18	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 15:18	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 15:18	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 15:18	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 15:18	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 15:18	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 15:18	1
Acetone	**8.28**	**J**	10.0	3.10	ug/L			06/01/24 15:18	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 15:18	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 15:18	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 15:18	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 15:18	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 15:18	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 15:18	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 15:18	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 15:18	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 15:18	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 15:18	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 15:18	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 15:18	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 15:18	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 15:18	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 15:18	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 15:18	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 15:18	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 15:18	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 15:18	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 15:18	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 15:18	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 15:18	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 15:18	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 15:18	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 15:18	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 15:18	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 15:18	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 15:18	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 15:18	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 15:18	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: PH2UD
Date Collected: 05/29/24 10:00
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-4
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*06/01/24 15:18*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/01/24 15:18*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/01/24 15:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:24	1
Arsenic	**0.00337**		0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:24	1
Barium	**0.645**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 20:47	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 20:47	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:24	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 20:47	1
Cobalt	**0.000467**	**J**	0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 20:47	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 20:47	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:24	1
Nickel	**0.00325**	**J**	0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:24	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:24	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:54	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:24	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 20:47	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**21.5**		7.50	5.55	mg/L			05/31/24 10:56	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: GU-1
Date Collected: 05/29/24 09:42
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 15:41	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 15:41	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 15:41	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 15:41	1
1,1-Dichloroethane	**0.255**	**J**	1.00	0.220	ug/L			06/01/24 15:41	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 15:41	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 15:41	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 15:41	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 15:41	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 15:41	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 15:41	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 15:41	1
1,4-Dichlorobenzene	**1.16**		1.00	0.230	ug/L			06/01/24 15:41	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 15:41	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 15:41	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 15:41	1
Acetone	**3.72**	**J**	10.0	3.10	ug/L			06/01/24 15:41	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 15:41	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 15:41	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 15:41	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 15:41	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 15:41	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 15:41	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 15:41	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 15:41	1
Chlorobenzene	**1.22**		1.00	0.400	ug/L			06/01/24 15:41	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 15:41	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 15:41	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 15:41	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 15:41	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 15:41	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 15:41	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 15:41	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 15:41	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 15:41	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 15:41	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 15:41	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 15:41	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 15:41	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 15:41	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 15:41	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 15:41	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 15:41	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 15:41	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 15:41	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 15:41	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 15:41	1

Client Sample ID: GU-1
Date Collected: 05/29/24 09:42
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-5
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*06/01/24 15:41*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/01/24 15:41*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*06/01/24 15:41*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:28	1
Arsenic	**0.0399**		0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:28	1
Barium	**1.78**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 21:05	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 21:05	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:28	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 21:05	1
Cobalt	**0.000486**	**J**	0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 21:05	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 21:05	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:28	1
Nickel	**0.00486**	**J**	0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:28	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:28	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:56	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:28	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 21:05	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**55.0**		15.0	11.1	mg/L			05/31/24 10:56	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: GU-2
Date Collected: 05/29/24 10:45
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 16:04	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 16:04	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 16:04	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 16:04	1
1,1-Dichloroethane	**0.303**	**J**	1.00	0.220	ug/L			06/01/24 16:04	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 16:04	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 16:04	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 16:04	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 16:04	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 16:04	1
1,2-Dichloroethane	**0.551**	**J**	1.00	0.390	ug/L			06/01/24 16:04	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 16:04	1
1,4-Dichlorobenzene	**0.950**	**J**	1.00	0.230	ug/L			06/01/24 16:04	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 16:04	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 16:04	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 16:04	1
Acetone	**3.78**	**J**	10.0	3.10	ug/L			06/01/24 16:04	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 16:04	1
Benzene	**5.81**		0.500	0.220	ug/L			06/01/24 16:04	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 16:04	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 16:04	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 16:04	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 16:04	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 16:04	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 16:04	1
Chlorobenzene	**0.824**	**J**	1.00	0.400	ug/L			06/01/24 16:04	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 16:04	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 16:04	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 16:04	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 16:04	1
cis-1,2-Dichloroethene	**0.349**	**J**	1.00	0.210	ug/L			06/01/24 16:04	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 16:04	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 16:04	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 16:04	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 16:04	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 16:04	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 16:04	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 16:04	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 16:04	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 16:04	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 16:04	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 16:04	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 16:04	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 16:04	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 16:04	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 16:04	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 16:04	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: GU-2
Date Collected: 05/29/24 10:45
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-6
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*111*		*73 - 130*		*06/01/24 16:04*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/01/24 16:04*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/01/24 16:04*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:31	1
Arsenic	**0.0269**		0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:31	1
Barium	**1.15**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 21:08	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 21:08	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:31	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 21:08	1
Cobalt	**0.00149**		0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 21:08	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 21:08	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:31	1
Nickel	**0.0151**		0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:31	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:31	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:58	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:31	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 21:08	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**39.0**		7.50	5.55	mg/L			05/31/24 10:56	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-D
Lab Sample ID: 310-282415-8
Date Collected: 05/29/24 12:26
Matrix: Water
Date Received: 05/30/24 17:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 16:50	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 16:50	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 16:50	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 16:50	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 16:50	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 16:50	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 16:50	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 16:50	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 16:50	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 16:50	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 16:50	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 16:50	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 16:50	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 16:50	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 16:50	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 16:50	1
Acetone	**9.44**	**J**	10.0	3.10	ug/L			06/01/24 16:50	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 16:50	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 16:50	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 16:50	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 16:50	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 16:50	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 16:50	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 16:50	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 16:50	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 16:50	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 16:50	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 16:50	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 16:50	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 16:50	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 16:50	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 16:50	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 16:50	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 16:50	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 16:50	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 16:50	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 16:50	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 16:50	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 16:50	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 16:50	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 16:50	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 16:50	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 16:50	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 16:50	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 16:50	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 16:50	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 16:50	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-D
Date Collected: 05/29/24 12:26
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-8
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*114*		*73 - 130*		*06/01/24 16:50*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/01/24 16:50*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/01/24 16:50*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/12/24 02:42	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		06/03/24 09:00	06/12/24 02:42	1
Barium	**0.0200**		0.00200	0.000660	mg/L		06/03/24 09:00	06/12/24 21:19	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/12/24 21:19	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/12/24 02:42	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/12/24 21:19	1
Cobalt	**0.00723**		0.000500	0.000170	mg/L		06/03/24 09:00	06/12/24 21:19	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/12/24 21:19	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/12/24 02:42	1
Nickel	**0.00877**		0.00500	0.00210	mg/L		06/03/24 09:00	06/12/24 02:42	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/12/24 02:42	1
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 19:05	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/12/24 02:42	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/12/24 21:19	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/12/24 02:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**13.0**		5.00	3.70	mg/L			05/31/24 10:28	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: Trip Blank
Date Collected: 05/29/24 00:00
Date Received: 05/30/24 17:25

Lab Sample ID: 310-282415-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 12:39	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 12:39	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 12:39	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 12:39	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 12:39	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 12:39	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 12:39	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 12:39	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 12:39	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 12:39	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 12:39	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 12:39	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 12:39	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 12:39	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 12:39	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 12:39	1
Acetone	<10.0		10.0	3.10	ug/L			06/01/24 12:39	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 12:39	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 12:39	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 12:39	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 12:39	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 12:39	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 12:39	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 12:39	1
Carbon tetrachloride	<2.00	*+	2.00	0.650	ug/L			06/01/24 12:39	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 12:39	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 12:39	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 12:39	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 12:39	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 12:39	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 12:39	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 12:39	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 12:39	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 12:39	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 12:39	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 12:39	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 12:39	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 12:39	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 12:39	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 12:39	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 12:39	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 12:39	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 12:39	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 12:39	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 12:39	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 12:39	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 12:39	1

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: Trip Blank
Lab Sample ID: 310-282415-9

Date Collected: 05/29/24 00:00
Matrix: Water

Date Received: 05/30/24 17:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	118		73 - 130		06/01/24 12:39	1
Toluene-d8 (Surr)	97		80 - 120		06/01/24 12:39	1
4-Bromofluorobenzene (Surr)	103		80 - 120		06/01/24 12:39	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Surrogate Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-282415-1	MW-26	115	97	101
310-282415-1 MS	MW-26	103	101	99
310-282415-1 MSD	MW-26	104	99	99
310-282415-2	MW-28	117	97	103
310-282415-3	MW-29	117	98	104
310-282415-4	PH2UD	114	96	103
310-282415-5	GU-1	114	96	103
310-282415-6	GU-2	111	97	102
310-282415-8	MW-D	114	96	104
310-282415-9	Trip Blank	118	97	103
LCS 310-423254/6	Lab Control Sample	98	101	101
LCS 310-423254/7	Lab Control Sample	114	98	102
MB 310-423254/5	Method Blank	113	99	102

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 310-423254/5
Matrix: Water
Analysis Batch: 423254

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			06/01/24 11:08	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			06/01/24 11:08	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			06/01/24 11:08	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			06/01/24 11:08	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			06/01/24 11:08	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			06/01/24 11:08	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			06/01/24 11:08	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			06/01/24 11:08	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			06/01/24 11:08	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			06/01/24 11:08	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			06/01/24 11:08	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			06/01/24 11:08	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			06/01/24 11:08	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			06/01/24 11:08	1
2-Hexanone	<10.0		10.0	2.00	ug/L			06/01/24 11:08	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			06/01/24 11:08	1
Acetone	<10.0		10.0	3.10	ug/L			06/01/24 11:08	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			06/01/24 11:08	1
Benzene	<0.500		0.500	0.220	ug/L			06/01/24 11:08	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			06/01/24 11:08	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			06/01/24 11:08	1
Bromoform	<5.00		5.00	0.780	ug/L			06/01/24 11:08	1
Bromomethane	<4.00		4.00	1.10	ug/L			06/01/24 11:08	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			06/01/24 11:08	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			06/01/24 11:08	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			06/01/24 11:08	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			06/01/24 11:08	1
Chloroethane	<4.00		4.00	0.790	ug/L			06/01/24 11:08	1
Chloroform	<3.00		3.00	1.30	ug/L			06/01/24 11:08	1
Chloromethane	<3.00		3.00	0.610	ug/L			06/01/24 11:08	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			06/01/24 11:08	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			06/01/24 11:08	1
Dibromomethane	<1.00		1.00	0.330	ug/L			06/01/24 11:08	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			06/01/24 11:08	1
Iodomethane	<10.0		10.0	7.00	ug/L			06/01/24 11:08	1
Methylene chloride	<5.00		5.00	1.70	ug/L			06/01/24 11:08	1
Styrene	<1.00		1.00	0.370	ug/L			06/01/24 11:08	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			06/01/24 11:08	1
Toluene	<1.00		1.00	0.430	ug/L			06/01/24 11:08	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			06/01/24 11:08	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			06/01/24 11:08	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			06/01/24 11:08	1
Trichloroethene	<1.00		1.00	0.430	ug/L			06/01/24 11:08	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			06/01/24 11:08	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			06/01/24 11:08	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			06/01/24 11:08	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			06/01/24 11:08	1

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

Lab Sample ID: MB 310-423254/5
Matrix: Water
Analysis Batch: 423254

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*113*		*73 - 130*		*06/01/24 11:08*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/01/24 11:08*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/01/24 11:08*	*1*

Lab Sample ID: LCS 310-423254/6
Matrix: Water
Analysis Batch: 423254

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	21.45		ug/L		107	71 - 120
1,1,1-Trichloroethane	20.0	25.01		ug/L		125	73 - 129
1,1,2,2-Tetrachloroethane	20.0	18.76		ug/L		94	68 - 124
1,1,2-Trichloroethane	20.0	19.84		ug/L		99	73 - 123
1,1-Dichloroethane	20.0	21.81		ug/L		109	70 - 127
1,1-Dichloroethene	20.0	22.68		ug/L		113	63 - 132
1,2,3-Trichloropropane	20.0	19.62		ug/L		98	65 - 127
1,2-Dibromo-3-chloropropane	20.0	18.27		ug/L		91	50 - 150
1,2-Dibromoethane (EDB)	20.0	21.90		ug/L		110	75 - 125
1,2-Dichlorobenzene	20.0	20.16		ug/L		101	74 - 120
1,2-Dichloroethane	20.0	21.65		ug/L		108	71 - 125
1,2-Dichloropropane	20.0	22.43		ug/L		112	73 - 124
1,4-Dichlorobenzene	20.0	20.22		ug/L		101	72 - 120
2-Butanone (MEK)	40.0	38.49		ug/L		96	50 - 150
2-Hexanone	40.0	38.08		ug/L		95	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	38.96		ug/L		97	60 - 139
Acetone	40.0	36.88		ug/L		92	50 - 150
Acrylonitrile	200	201.2		ug/L		101	50 - 150
Benzene	20.0	22.36		ug/L		112	72 - 124
Bromochloromethane	20.0	23.28		ug/L		116	73 - 130
Bromodichloromethane	20.0	22.01		ug/L		110	74 - 122
Bromoform	20.0	20.67		ug/L		103	61 - 122
Carbon disulfide	20.0	21.89		ug/L		109	59 - 135
Carbon tetrachloride	20.0	26.76	*+	ug/L		134	67 - 132
Chlorobenzene	20.0	21.26		ug/L		106	76 - 120
Chlorodibromomethane	20.0	21.28		ug/L		106	71 - 121
Chloroform	20.0	22.58		ug/L		113	72 - 125
cis-1,2-Dichloroethene	20.0	22.05		ug/L		110	74 - 123
cis-1,3-Dichloropropene	20.0	22.17		ug/L		111	71 - 125
Dibromomethane	20.0	21.49		ug/L		107	74 - 125
Ethylbenzene	20.0	21.93		ug/L		110	74 - 122
Iodomethane	20.0	24.03		ug/L		120	10 - 150
Methylene chloride	20.0	21.05		ug/L		105	50 - 150
Styrene	20.0	21.79		ug/L		109	74 - 121
Tetrachloroethene	20.0	22.88		ug/L		114	71 - 130
Toluene	20.0	22.26		ug/L		111	74 - 123
trans-1,2-Dichloroethene	20.0	23.20		ug/L		116	70 - 126
trans-1,3-Dichloropropene	20.0	21.12		ug/L		106	69 - 123

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

Lab Sample ID: LCS 310-423254/6
Matrix: Water
Analysis Batch: 423254

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,4-Dichloro-2-butene	20.0	17.61		ug/L		88	50 - 150
Trichloroethene	20.0	23.83		ug/L		119	72 - 126
Vinyl acetate	40.0	44.08		ug/L		110	50 - 150
Xylenes, Total	40.0	43.37		ug/L		108	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*98*		*73 - 130*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

Lab Sample ID: LCS 310-423254/7
Matrix: Water
Analysis Batch: 423254

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	18.41		ug/L		92	23 - 150
Chloroethane	20.0	18.76		ug/L		94	54 - 136
Chloromethane	20.0	17.06		ug/L		85	38 - 150
Trichlorofluoromethane	20.0	22.18		ug/L		111	54 - 149
Vinyl chloride	20.0	19.34		ug/L		97	56 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*114*		*73 - 130*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Lab Sample ID: 310-282415-1 MS
Matrix: Water
Analysis Batch: 423254

Client Sample ID: MW-26
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	<1.00		20.0	19.15		ug/L		96	55 - 130
1,1,1-Trichloroethane	<1.00		20.0	20.28		ug/L		101	52 - 130
1,1,2,2-Tetrachloroethane	<1.00		20.0	18.06		ug/L		90	54 - 130
1,1,2-Trichloroethane	<1.00		20.0	17.96		ug/L		90	58 - 130
1,1-Dichloroethane	<1.00		20.0	17.58		ug/L		88	49 - 130
1,1-Dichloroethene	<2.00		20.0	17.80		ug/L		89	37 - 132
1,2,3-Trichloropropane	<1.00		20.0	19.51		ug/L		98	49 - 130
1,2-Dibromo-3-chloropropane	<5.00		20.0	18.51		ug/L		93	38 - 150
1,2-Dibromoethane (EDB)	<1.00		20.0	19.80		ug/L		99	60 - 130
1,2-Dichlorobenzene	<1.00		20.0	18.54		ug/L		93	59 - 130
1,2-Dichloroethane	<1.00		20.0	19.75		ug/L		99	51 - 130
1,2-Dichloropropane	<1.00		20.0	19.39		ug/L		97	57 - 130
1,4-Dichlorobenzene	<1.00		20.0	18.04		ug/L		90	57 - 130
2-Butanone (MEK)	<10.0		40.0	34.78		ug/L		87	38 - 150
2-Hexanone	<10.0		40.0	37.35		ug/L		93	46 - 140
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	36.48		ug/L		91	47 - 139

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

Lab Sample ID: 310-282415-1 MS
Matrix: Water
Analysis Batch: 423254

Client Sample ID: MW-26
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	<10.0		40.0	30.93		ug/L		77	31 - 150
Acrylonitrile	<5.00		200	178.5		ug/L		89	40 - 150
Benzene	<0.500		20.0	18.57		ug/L		93	46 - 130
Bromochloromethane	<5.00		20.0	19.73		ug/L		99	57 - 130
Bromodichloromethane	<1.00		20.0	19.41		ug/L		97	57 - 130
Bromoform	<5.00		20.0	18.88		ug/L		94	44 - 130
Carbon disulfide	<1.00		20.0	21.22		ug/L		106	38 - 135
Carbon tetrachloride	<2.00	*+	20.0	23.06		ug/L		115	45 - 132
Chlorobenzene	<1.00		20.0	19.08		ug/L		95	59 - 130
Chlorodibromomethane	<5.00		20.0	19.68		ug/L		98	54 - 130
Chloroform	<3.00		20.0	19.25		ug/L		96	51 - 130
cis-1,2-Dichloroethene	<1.00		20.0	17.99		ug/L		90	45 - 130
cis-1,3-Dichloropropene	<5.00		20.0	18.50		ug/L		93	53 - 130
Dibromomethane	<1.00		20.0	19.64		ug/L		98	59 - 130
Ethylbenzene	<1.00		20.0	18.91		ug/L		95	45 - 130
Iodomethane	<10.0		20.0	20.64		ug/L		103	10 - 150
Methylene chloride	<5.00		20.0	17.43		ug/L		87	37 - 150
Styrene	<1.00		20.0	18.68		ug/L		93	47 - 130
Tetrachloroethene	<1.00		20.0	18.94		ug/L		95	47 - 130
Toluene	<1.00		20.0	18.83		ug/L		94	51 - 130
trans-1,2-Dichloroethene	<1.00		20.0	18.97		ug/L		95	48 - 130
trans-1,3-Dichloropropene	<5.00		20.0	17.46		ug/L		87	50 - 130
trans-1,4-Dichloro-2-butene	<10.0		20.0	11.54		ug/L		58	26 - 150
Trichloroethene	<1.00		20.0	19.01		ug/L		95	51 - 130
Vinyl acetate	<10.0		40.0	36.94		ug/L		92	29 - 150
Xylenes, Total	<3.00		40.0	37.58		ug/L		94	43 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*103*		*73 - 130*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: 310-282415-1 MSD
Matrix: Water
Analysis Batch: 423254

Client Sample ID: MW-26
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	<1.00		20.0	19.01		ug/L		95	55 - 130	1	20
1,1,1-Trichloroethane	<1.00		20.0	20.08		ug/L		100	52 - 130	1	20
1,1,2,2-Tetrachloroethane	<1.00		20.0	17.43		ug/L		87	54 - 130	4	20
1,1,2-Trichloroethane	<1.00		20.0	18.08		ug/L		90	58 - 130	1	20
1,1-Dichloroethane	<1.00		20.0	17.60		ug/L		88	49 - 130	0	20
1,1-Dichloroethene	<2.00		20.0	18.16		ug/L		91	37 - 132	2	26
1,2,3-Trichloropropane	<1.00		20.0	18.06		ug/L		90	49 - 130	8	26
1,2-Dibromo-3-chloropropane	<5.00		20.0	17.89		ug/L		89	38 - 150	3	20
1,2-Dibromoethane (EDB)	<1.00		20.0	19.56		ug/L		98	60 - 130	1	20
1,2-Dichlorobenzene	<1.00		20.0	18.63		ug/L		93	59 - 130	0	20

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

Lab Sample ID: 310-282415-1 MSD
Matrix: Water
Analysis Batch: 423254

Client Sample ID: MW-26
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloroethane	<1.00		20.0	19.87		ug/L		99	51 - 130	1	20
1,2-Dichloropropane	<1.00		20.0	19.50		ug/L		98	57 - 130	1	20
1,4-Dichlorobenzene	<1.00		20.0	18.53		ug/L		93	57 - 130	3	20
2-Butanone (MEK)	<10.0		40.0	34.78		ug/L		87	38 - 150	0	20
2-Hexanone	<10.0		40.0	36.04		ug/L		90	46 - 140	4	20
4-Methyl-2-pentanone (MIBK)	<10.0		40.0	35.84		ug/L		90	47 - 139	2	20
Acetone	<10.0		40.0	30.65		ug/L		77	31 - 150	1	29
Acrylonitrile	<5.00		200	180.8		ug/L		90	40 - 150	1	20
Benzene	<0.500		20.0	18.81		ug/L		94	46 - 130	1	20
Bromochloromethane	<5.00		20.0	20.19		ug/L		101	57 - 130	2	20
Bromodichloromethane	<1.00		20.0	19.94		ug/L		100	57 - 130	3	20
Bromoform	<5.00		20.0	19.12		ug/L		96	44 - 130	1	20
Carbon disulfide	<1.00		20.0	19.88		ug/L		99	38 - 135	7	30
Carbon tetrachloride	<2.00	*+	20.0	23.60		ug/L		118	45 - 132	2	20
Chlorobenzene	<1.00		20.0	18.50		ug/L		93	59 - 130	3	20
Chlorodibromomethane	<5.00		20.0	19.35		ug/L		97	54 - 130	2	20
Chloroform	<3.00		20.0	19.27		ug/L		96	51 - 130	0	20
cis-1,2-Dichloroethene	<1.00		20.0	18.43		ug/L		92	45 - 130	2	20
cis-1,3-Dichloropropene	<5.00		20.0	18.11		ug/L		91	53 - 130	2	20
Dibromomethane	<1.00		20.0	19.34		ug/L		97	59 - 130	2	20
Ethylbenzene	<1.00		20.0	18.57		ug/L		93	45 - 130	2	20
Iodomethane	<10.0		20.0	21.94		ug/L		110	10 - 150	6	35
Methylene chloride	<5.00		20.0	17.90		ug/L		89	37 - 150	3	24
Styrene	<1.00		20.0	18.86		ug/L		94	47 - 130	1	20
Tetrachloroethene	<1.00		20.0	18.59		ug/L		93	47 - 130	2	20
Toluene	<1.00		20.0	18.79		ug/L		94	51 - 130	0	20
trans-1,2-Dichloroethene	<1.00		20.0	19.01		ug/L		95	48 - 130	0	22
trans-1,3-Dichloropropene	<5.00		20.0	17.53		ug/L		88	50 - 130	0	20
trans-1,4-Dichloro-2-butene	<10.0		20.0	11.47		ug/L		57	26 - 150	1	23
Trichloroethene	<1.00		20.0	19.25		ug/L		96	51 - 130	1	20
Vinyl acetate	<10.0		40.0	34.97		ug/L		87	29 - 150	5	23
Xylenes, Total	<3.00		40.0	37.08		ug/L		93	43 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*104*		*73 - 130*
Toluene-d8 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-423241/1-A
Matrix: Water
Analysis Batch: 423882

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		06/03/24 09:00	06/06/24 18:38	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		06/03/24 09:00	06/06/24 18:38	1
Barium	<0.00200		0.00200	0.000660	mg/L		06/03/24 09:00	06/06/24 18:38	1

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

Lab Sample ID: MB 310-423241/1-A
Matrix: Water
Analysis Batch: 423882

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.000200		0.000200	0.000100	mg/L		06/03/24 09:00	06/06/24 18:38	1
Chromium	<0.00500		0.00500	0.00120	mg/L		06/03/24 09:00	06/06/24 18:38	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		06/03/24 09:00	06/06/24 18:38	1
Copper	<0.00500		0.00500	0.00180	mg/L		06/03/24 09:00	06/06/24 18:38	1
Lead	<0.000500		0.000500	0.000260	mg/L		06/03/24 09:00	06/06/24 18:38	1
Nickel	<0.00500		0.00500	0.00210	mg/L		06/03/24 09:00	06/06/24 18:38	1
Selenium	<0.00500		0.00500	0.00140	mg/L		06/03/24 09:00	06/06/24 18:38	1
Thallium	<0.00100		0.00100	0.000570	mg/L		06/03/24 09:00	06/06/24 18:38	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		06/03/24 09:00	06/06/24 18:38	1
Zinc	<0.0200		0.0200	0.00970	mg/L		06/03/24 09:00	06/06/24 18:38	1

Lab Sample ID: MB 310-423241/1-A
Matrix: Water
Analysis Batch: 424262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.00100		0.00100	0.000330	mg/L		06/03/24 09:00	06/11/24 17:45	1

Lab Sample ID: MB 310-423241/1-A
Matrix: Water
Analysis Batch: 424569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 423241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.00100		0.00100	0.000500	mg/L		06/03/24 09:00	06/13/24 18:20	1

Lab Sample ID: LCS 310-423241/2-A
Matrix: Water
Analysis Batch: 423882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.2034		mg/L		102	80 - 120
Arsenic	0.200	0.2016		mg/L		101	80 - 120
Barium	0.100	0.1055		mg/L		105	80 - 120
Cadmium	0.100	0.09432		mg/L		94	80 - 120
Chromium	0.100	0.09888		mg/L		99	80 - 120
Cobalt	0.100	0.09869		mg/L		99	80 - 120
Copper	0.200	0.1931		mg/L		97	80 - 120
Lead	0.200	0.1916		mg/L		96	80 - 120
Nickel	0.200	0.1977		mg/L		99	80 - 120
Selenium	0.400	0.3777		mg/L		94	80 - 120
Thallium	0.100	0.08979		mg/L		90	80 - 120
Vanadium	0.100	0.09846		mg/L		98	80 - 120
Zinc	0.200	0.2140		mg/L		107	80 - 120

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

Lab Sample ID: LCS 310-423241/2-A
Matrix: Water
Analysis Batch: 424262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			0.100	0.09536		mg/L		95	80 - 120		

Lab Sample ID: LCS 310-423241/2-A
Matrix: Water
Analysis Batch: 424569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 423241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Silver			0.100	0.1124		mg/L		112	80 - 120		

Lab Sample ID: 310-282415-6 DU
Matrix: Water
Analysis Batch: 424262

Client Sample ID: GU-2
Prep Type: Total/NA
Prep Batch: 423241

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.00200			<0.00200		mg/L				NC	20
Arsenic	0.0269			0.02671		mg/L				0.8	20
Cadmium	<0.000200			<0.000200		mg/L				NC	20
Lead	<0.000500			<0.000500		mg/L				NC	20
Nickel	0.0151			0.01498		mg/L				1	20
Selenium	<0.00500			<0.00500		mg/L				NC	20
Thallium	<0.00100			<0.00100		mg/L				NC	20
Zinc	<0.0200			<0.0200		mg/L				NC	20

Lab Sample ID: 310-282415-6 DU
Matrix: Water
Analysis Batch: 424409

Client Sample ID: GU-2
Prep Type: Total/NA
Prep Batch: 423241

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Barium	1.15			1.126		mg/L				2	20
Beryllium	<0.00100			<0.00100		mg/L				NC	20
Chromium	<0.00500			<0.00500		mg/L				NC	20
Cobalt	0.00149			0.001435		mg/L				4	20
Copper	<0.00500			<0.00500		mg/L				NC	20
Vanadium	<0.00500			<0.00500		mg/L				NC	20

Lab Sample ID: 310-282415-6 DU
Matrix: Water
Analysis Batch: 424569

Client Sample ID: GU-2
Prep Type: Total/NA
Prep Batch: 423241

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Silver	<0.00100			<0.00100		mg/L				NC	20

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-423217/1
Matrix: Water
Analysis Batch: 423217

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			05/31/24 10:28	1

Lab Sample ID: LCS 310-423217/2
Matrix: Water
Analysis Batch: 423217

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			100	94.00		mg/L		94	81 - 116		

Lab Sample ID: MB 310-423228/1
Matrix: Water
Analysis Batch: 423228

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			05/31/24 10:56	1

Lab Sample ID: LCS 310-423228/2
Matrix: Water
Analysis Batch: 423228

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			100	94.00		mg/L		94	81 - 116		

QC Association Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

GC/MS VOA

Analysis Batch: 423254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-1	MW-26	Total/NA	Water	8260D	
310-282415-2	MW-28	Total/NA	Water	8260D	
310-282415-3	MW-29	Total/NA	Water	8260D	
310-282415-4	PH2UD	Total/NA	Water	8260D	
310-282415-5	GU-1	Total/NA	Water	8260D	
310-282415-6	GU-2	Total/NA	Water	8260D	
310-282415-8	MW-D	Total/NA	Water	8260D	
310-282415-9	Trip Blank	Total/NA	Water	8260D	
MB 310-423254/5	Method Blank	Total/NA	Water	8260D	
LCS 310-423254/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-423254/7	Lab Control Sample	Total/NA	Water	8260D	
310-282415-1 MS	MW-26	Total/NA	Water	8260D	
310-282415-1 MSD	MW-26	Total/NA	Water	8260D	

Metals

Prep Batch: 423241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-1	MW-26	Total/NA	Water	3005A	
310-282415-2	MW-28	Total/NA	Water	3005A	
310-282415-3	MW-29	Total/NA	Water	3005A	
310-282415-4	PH2UD	Total/NA	Water	3005A	
310-282415-5	GU-1	Total/NA	Water	3005A	
310-282415-6	GU-2	Total/NA	Water	3005A	
310-282415-8	MW-D	Total/NA	Water	3005A	
MB 310-423241/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-282415-6 DU	GU-2	Total/NA	Water	3005A	

Analysis Batch: 423882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-423241/1-A	Method Blank	Total/NA	Water	6020B	423241
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	6020B	423241

Analysis Batch: 424262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-1	MW-26	Total/NA	Water	6020B	423241
310-282415-2	MW-28	Total/NA	Water	6020B	423241
310-282415-3	MW-29	Total/NA	Water	6020B	423241
310-282415-4	PH2UD	Total/NA	Water	6020B	423241
310-282415-5	GU-1	Total/NA	Water	6020B	423241
310-282415-6	GU-2	Total/NA	Water	6020B	423241
310-282415-8	MW-D	Total/NA	Water	6020B	423241
MB 310-423241/1-A	Method Blank	Total/NA	Water	6020B	423241
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	6020B	423241
310-282415-6 DU	GU-2	Total/NA	Water	6020B	423241

Analysis Batch: 424409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-1	MW-26	Total/NA	Water	6020B	423241

Metals (Continued)

Analysis Batch: 424409 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-2	MW-28	Total/NA	Water	6020B	423241
310-282415-3	MW-29	Total/NA	Water	6020B	423241
310-282415-4	PH2UD	Total/NA	Water	6020B	423241
310-282415-5	GU-1	Total/NA	Water	6020B	423241
310-282415-6	GU-2	Total/NA	Water	6020B	423241
310-282415-8	MW-D	Total/NA	Water	6020B	423241
310-282415-6 DU	GU-2	Total/NA	Water	6020B	423241

Analysis Batch: 424569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-1	MW-26	Total/NA	Water	6020B	423241
310-282415-2	MW-28	Total/NA	Water	6020B	423241
310-282415-3	MW-29	Total/NA	Water	6020B	423241
310-282415-4	PH2UD	Total/NA	Water	6020B	423241
310-282415-5	GU-1	Total/NA	Water	6020B	423241
310-282415-6	GU-2	Total/NA	Water	6020B	423241
310-282415-8	MW-D	Total/NA	Water	6020B	423241
MB 310-423241/1-A	Method Blank	Total/NA	Water	6020B	423241
LCS 310-423241/2-A	Lab Control Sample	Total/NA	Water	6020B	423241
310-282415-6 DU	GU-2	Total/NA	Water	6020B	423241

General Chemistry

Analysis Batch: 423217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-8	MW-D	Total/NA	Water	I-3765-85	
MB 310-423217/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-423217/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 423228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-282415-1	MW-26	Total/NA	Water	I-3765-85	
310-282415-2	MW-28	Total/NA	Water	I-3765-85	
310-282415-3	MW-29	Total/NA	Water	I-3765-85	
310-282415-4	PH2UD	Total/NA	Water	I-3765-85	
310-282415-5	GU-1	Total/NA	Water	I-3765-85	
310-282415-6	GU-2	Total/NA	Water	I-3765-85	
MB 310-423228/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-423228/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26
Lab Sample ID: 310-282415-1
Date Collected: 05/29/24 08:55
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 14:10
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:14
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 20:36
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 18:48
Total/NA	Analysis	I-3765-85		1	423228	HE7K	EET CF	05/31/24 10:56

Client Sample ID: MW-28
Lab Sample ID: 310-282415-2
Date Collected: 05/29/24 12:26
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 14:33
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:17
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 20:40
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 18:50
Total/NA	Analysis	I-3765-85		1	423228	HE7K	EET CF	05/31/24 10:56

Client Sample ID: MW-29
Lab Sample ID: 310-282415-3
Date Collected: 05/29/24 11:22
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 14:56
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:21
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 20:43
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 18:52
Total/NA	Analysis	I-3765-85		1	423228	HE7K	EET CF	05/31/24 10:56

Client Sample ID: PH2UD
Lab Sample ID: 310-282415-4
Date Collected: 05/29/24 10:00
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 15:18

Lab Chronicle

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: PH2UD
Lab Sample ID: 310-282415-4
Date Collected: 05/29/24 10:00
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:24
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 20:47
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 18:54
Total/NA	Analysis	I-3765-85		1	423228	HE7K	EET CF	05/31/24 10:56

Client Sample ID: GU-1
Lab Sample ID: 310-282415-5
Date Collected: 05/29/24 09:42
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 15:41
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:28
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 21:05
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 18:56
Total/NA	Analysis	I-3765-85		1	423228	HE7K	EET CF	05/31/24 10:56

Client Sample ID: GU-2
Lab Sample ID: 310-282415-6
Date Collected: 05/29/24 10:45
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 16:04
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:31
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 21:08
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 18:58
Total/NA	Analysis	I-3765-85		1	423228	HE7K	EET CF	05/31/24 10:56

Client Sample ID: MW-D
Lab Sample ID: 310-282415-8
Date Collected: 05/29/24 12:26
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 16:50
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424262	NFT2	EET CF	06/12/24 02:42

Lab Chronicle

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-D
Lab Sample ID: 310-282415-8
Date Collected: 05/29/24 12:26
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424409	NFT2	EET CF	06/12/24 21:19
Total/NA	Prep	3005A			423241	KM3E	EET CF	06/03/24 09:00
Total/NA	Analysis	6020B		1	424569	NFT2	EET CF	06/13/24 19:05
Total/NA	Analysis	I-3765-85		1	423217	HE7K	EET CF	05/31/24 10:28

Client Sample ID: Trip Blank
Lab Sample ID: 310-282415-9
Date Collected: 05/29/24 00:00
Matrix: Water
Date Received: 05/30/24 17:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	423254	FE5V	EET CF	06/01/24 12:39

Laboratory References:
EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	07-29-24

Method Summary

Client: SCS Engineers
Job ID: 310-282415-1
Project/Site: 1st 2024 HMSP GRRWA Sanitary Landfill Phase 2

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF

Protocol References:

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

eurofins | Environment Testing America

310-282415 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY | STATE: ID | Project:

Receipt Information

Date/Time Received: DATE: 5-30-24 | TIME: 1725 | Received By: MC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # ____ of ____

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☒ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

All

Temperature Record

Coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ Other:_____ ☐ NONE

Thermometer ID: X | Correction Factor (°C): 0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0-8 | Corrected Temp (°C): 0-8

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica Cedar Falls
3019 Ven ure Way

Cedar Falls IA 50613-6907
phone 319 277 2401 fax 319 277 2425

Chain of Custody Record

eurofins

Regulatory Program ☐ DW ☐ NPDES ☑ RCRA ☐ Other

TestAmerica Laboratories Inc d/b/a Eurofins TestAmerica

Client Contact	Project Manager Nathan Ohrt	Site Contact. Austin Banks	Date	COC No
Nathan Ohrt	Email nohrt@scsengineers com	Lab Contact Mary Yang	Carrier	1 of 1 COCs
SCS Engineers	Cell 319-331-9613			Sampler
1690 All State Court Suite 100	Analysis Turnaround Time			For Lab Use Only
West Des Moines Iowa 50265	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client
	Other.			Lab Sampling
Project Name 1st 2024 HMSP	☐ 2 weeks			
Site GRRWA Sanitary Landfill Phase 2	☐ 1 week			Job / SDG No
P O # 27223129 24	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Appendix I	Total Suspended Solids	Trip Blank	Sample Specific Notes
MW-26	5/29/24	855	G	W	5	N	N	X	X		
MW-28	5/29/24	1226	G	W		N	N	X	X		
MW-29	5/29/24	1122	G	W		N	N	X	X		
PH2UD	5/29/24	1000	G	W		N	N	X	X		
GU-1	5/29/24	942	G	W		N	N	X	X		
GU-2	5/29/24	1045	G	W		N	N	X	X		
GU 3A	5/29/24	1150	G	W		N	N	X	X		
MW-D	5/29/24	1226	G	W		N	N	X	X		
Trip Blank	5/29/24									X	

Preservation Used 1= Ice 2= HCl, 3= H2SO4 4=HNO3 5=NaOH 6= Other _____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd _____ Corr'd _____ Therm ID No _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Tyler Starling	SCS	5/30/24 1400			5-30-24 1725
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

Form No CA-C-WI-002 Rev 4.23 dated 4/16/2019

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-282415-1
SDG Number:

Login Number: 282415
List Number: 1
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 7/29/2024 11:18:52 PM

JOB DESCRIPTION

GRRWA Sanitary Landfill

JOB NUMBER

310-286000-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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7/29/2024 11:18:52 PM

Authorized for release by
Mary Yang, Client Service Manager
Mary.Yang@ET.EurofinsUS.com
(319)595-2025

Table of Contents

Job ID: 310-286000-1 — Eurofins Cedar Falls

Job Narrative
310-286000-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 7/17/2024 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C.

Receipt Exceptions
The following samples were received at the laboratory without a sample collection time documented on the chain of custody: GU-3A (310-286000-1) and Trip Blank (310-286000-2). The client was contacted, and the laboratory was instructed to use a sample collection time of 7/16/2024 08:30.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 310-427714 recovered above the upper control limit for Trichlorofluoromethane (29.0%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-427714/4).

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

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

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

Sample Summary

Client: SCS Engineers
Job ID: 310-286000-1
Project/Site: GRRWA Sanitary Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-286000-1	GU-3A	Water	07/16/24 08:30	07/17/24 08:45
310-286000-2	Trip Blank	Water	07/17/24 00:00	07/17/24 08:45

Detection Summary

Client: SCS Engineers
Job ID: 310-286000-1
Project/Site: GRRWA Sanitary Landfill

Client Sample ID: GU-3A — Lab Sample ID: 310-286000-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00302		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.564		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.000233	J	0.000500	0.000170	mg/L	1		6020B	Total/NA
Copper	0.0120		0.00500	0.00180	mg/L	1		6020B	Total/NA
Lead	0.000497	J	0.000500	0.000260	mg/L	1		6020B	Total/NA
Nickel	0.00266	J	0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	25.0		5.00	3.70	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-286000-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.03	J	10.0	3.10	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: GRRWA Sanitary Landfill

Job ID: 310-286000-1

Client Sample ID: GU-3A
Date Collected: 07/16/24 08:30
Date Received: 07/17/24 08:45

Lab Sample ID: 310-286000-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/18/24 15:31	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/18/24 15:31	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/18/24 15:31	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/18/24 15:31	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/18/24 15:31	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/18/24 15:31	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/18/24 15:31	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/18/24 15:31	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/18/24 15:31	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/18/24 15:31	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/18/24 15:31	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/18/24 15:31	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/18/24 15:31	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/18/24 15:31	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/18/24 15:31	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/18/24 15:31	1
Acetone	<10.0		10.0	3.10	ug/L			07/18/24 15:31	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/18/24 15:31	1
Benzene	<0.500		0.500	0.220	ug/L			07/18/24 15:31	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/18/24 15:31	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/18/24 15:31	1
Bromoform	<5.00		5.00	0.780	ug/L			07/18/24 15:31	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/18/24 15:31	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/18/24 15:31	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/18/24 15:31	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/18/24 15:31	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/18/24 15:31	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/18/24 15:31	1
Chloroform	<3.00		3.00	1.30	ug/L			07/18/24 15:31	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/18/24 15:31	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/18/24 15:31	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/18/24 15:31	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/18/24 15:31	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/18/24 15:31	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/25/24 19:13	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/18/24 15:31	1
Styrene	<1.00		1.00	0.370	ug/L			07/18/24 15:31	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/18/24 15:31	1
Toluene	<1.00		1.00	0.430	ug/L			07/18/24 15:31	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/18/24 15:31	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/18/24 15:31	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/18/24 15:31	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/18/24 15:31	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/18/24 15:31	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/18/24 15:31	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/18/24 15:31	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/18/24 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*73 - 130*		*07/18/24 15:31*	*1*

Client Sample ID: GU-3A
Date Collected: 07/16/24 08:30
Date Received: 07/17/24 08:45

Lab Sample ID: 310-286000-1
Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*110*		*73 - 130*		*07/25/24 19:13*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*07/18/24 15:31*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/25/24 19:13*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*07/18/24 15:31*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*07/25/24 19:13*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		07/18/24 09:00	07/19/24 20:49	1
Arsenic	**0.00302**		0.00200	0.000530	mg/L		07/18/24 09:00	07/19/24 20:49	1
Barium	**0.564**		0.00200	0.000660	mg/L		07/18/24 09:00	07/19/24 20:49	1
Beryllium	<0.00100	^+	0.00100	0.000330	mg/L		07/18/24 09:00	07/19/24 20:49	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		07/18/24 09:00	07/19/24 20:49	1
Chromium	<0.00500		0.00500	0.00120	mg/L		07/18/24 09:00	07/19/24 20:49	1
Cobalt	**0.000233**	**J**	0.000500	0.000170	mg/L		07/18/24 09:00	07/19/24 20:49	1
Copper	**0.0120**		0.00500	0.00180	mg/L		07/18/24 09:00	07/19/24 20:49	1
Lead	**0.000497**	**J**	0.000500	0.000260	mg/L		07/18/24 09:00	07/19/24 20:49	1
Nickel	**0.00266**	**J**	0.00500	0.00210	mg/L		07/18/24 09:00	07/24/24 20:17	1
Selenium	<0.00500		0.00500	0.00140	mg/L		07/18/24 09:00	07/19/24 20:49	1
Silver	<0.00100		0.00100	0.000500	mg/L		07/18/24 09:00	07/19/24 20:49	1
Thallium	<0.00100		0.00100	0.000570	mg/L		07/18/24 09:00	07/19/24 20:49	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		07/18/24 09:00	07/19/24 20:49	1
Zinc	<0.0200		0.0200	0.00970	mg/L		07/18/24 09:00	07/24/24 20:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**25.0**		5.00	3.70	mg/L			07/22/24 16:45	1

Client: SCS Engineers
Project/Site: GRRWA Sanitary Landfill

Job ID: 310-286000-1

Client Sample ID: Trip Blank

Date Collected: 07/17/24 00:00
Date Received: 07/17/24 08:45

Lab Sample ID: 310-286000-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/18/24 15:09	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/18/24 15:09	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/18/24 15:09	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/18/24 15:09	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/18/24 15:09	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/18/24 15:09	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/18/24 15:09	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/18/24 15:09	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/18/24 15:09	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/18/24 15:09	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/18/24 15:09	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/18/24 15:09	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/18/24 15:09	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/18/24 15:09	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/18/24 15:09	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/18/24 15:09	1
Acetone	**4.03**	**J**	10.0	3.10	ug/L			07/25/24 19:36	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/18/24 15:09	1
Benzene	<0.500		0.500	0.220	ug/L			07/18/24 15:09	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/18/24 15:09	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/18/24 15:09	1
Bromoform	<5.00		5.00	0.780	ug/L			07/18/24 15:09	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/18/24 15:09	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/18/24 15:09	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/18/24 15:09	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/18/24 15:09	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/18/24 15:09	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/18/24 15:09	1
Chloroform	<3.00		3.00	1.30	ug/L			07/18/24 15:09	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/18/24 15:09	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/18/24 15:09	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/18/24 15:09	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/18/24 15:09	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/18/24 15:09	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/25/24 19:36	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/18/24 15:09	1
Styrene	<1.00		1.00	0.370	ug/L			07/18/24 15:09	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/18/24 15:09	1
Toluene	<1.00		1.00	0.430	ug/L			07/18/24 15:09	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/18/24 15:09	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/18/24 15:09	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/18/24 15:09	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/18/24 15:09	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/18/24 15:09	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/18/24 15:09	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/18/24 15:09	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/18/24 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*117*		*73 - 130*		*07/18/24 15:09*	*1*

Client: SCS Engineers
Project/Site: GRRWA Sanitary Landfill

Job ID: 310-286000-1

Client Sample ID: Trip Blank
Date Collected: 07/17/24 00:00
Date Received: 07/17/24 08:45

Lab Sample ID: 310-286000-2
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	109		73 - 130		07/25/24 19:36	1
Toluene-d8 (Surr)	96		80 - 120		07/18/24 15:09	1
Toluene-d8 (Surr)	96		80 - 120		07/25/24 19:36	1
4-Bromofluorobenzene (Surr)	104		80 - 120		07/18/24 15:09	1
4-Bromofluorobenzene (Surr)	107		80 - 120		07/25/24 19:36	1

Client: SCS Engineers
Job ID: 310-286000-1
Project/Site: GRRWA Sanitary Landfill

Qualifiers

GC/MS VOA

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.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Surrogate Summary

Client: SCS Engineers
Project/Site: GRRWA Sanitary Landfill

Job ID: 310-286000-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		DBFM	TOL	BFB						
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)						
310-286000-1	GU-3A	115	95	102						
310-286000-1	GU-3A	110	98	104						
310-286000-2	Trip Blank	117	96	104						
310-286000-2	Trip Blank	109	96	107						
LCS 310-427714/6	Lab Control Sample	102	98	97						
LCS 310-427714/7	Lab Control Sample	115	97	101						
LCS 310-428423/6	Lab Control Sample	97	100	99						
LCS 310-428423/7	Lab Control Sample	108	98	104						
MB 310-427714/5	Method Blank	113	96	102						
MB 310-428423/5	Method Blank	108	98	105						

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 310-427714/5
Matrix: Water
Analysis Batch: 427714

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/18/24 12:52	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/18/24 12:52	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/18/24 12:52	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/18/24 12:52	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/18/24 12:52	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/18/24 12:52	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/18/24 12:52	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/18/24 12:52	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/18/24 12:52	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/18/24 12:52	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/18/24 12:52	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/18/24 12:52	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/18/24 12:52	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/18/24 12:52	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/18/24 12:52	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/18/24 12:52	1
Acetone	<10.0		10.0	3.10	ug/L			07/18/24 12:52	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/18/24 12:52	1
Benzene	<0.500		0.500	0.220	ug/L			07/18/24 12:52	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/18/24 12:52	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/18/24 12:52	1
Bromoform	<5.00		5.00	0.780	ug/L			07/18/24 12:52	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/18/24 12:52	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/18/24 12:52	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/18/24 12:52	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/18/24 12:52	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/18/24 12:52	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/18/24 12:52	1
Chloroform	<3.00		3.00	1.30	ug/L			07/18/24 12:52	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/18/24 12:52	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/18/24 12:52	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/18/24 12:52	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/18/24 12:52	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/18/24 12:52	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/18/24 12:52	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/18/24 12:52	1
Styrene	<1.00		1.00	0.370	ug/L			07/18/24 12:52	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/18/24 12:52	1
Toluene	<1.00		1.00	0.430	ug/L			07/18/24 12:52	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/18/24 12:52	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/18/24 12:52	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/18/24 12:52	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/18/24 12:52	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/18/24 12:52	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/18/24 12:52	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/18/24 12:52	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/18/24 12:52	1

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

Lab Sample ID: MB 310-427714/5
Matrix: Water
Analysis Batch: 427714

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*113*		*73 - 130*		*07/18/24 12:52*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/18/24 12:52*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*07/18/24 12:52*	*1*

Lab Sample ID: LCS 310-427714/6
Matrix: Water
Analysis Batch: 427714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	17.89		ug/L		89	71 - 120
1,1,1-Trichloroethane	20.0	20.39		ug/L		102	73 - 129
1,1,2,2-Tetrachloroethane	20.0	18.49		ug/L		92	68 - 124
1,1,2-Trichloroethane	20.0	18.34		ug/L		92	73 - 123
1,1-Dichloroethane	20.0	22.20		ug/L		111	70 - 127
1,1-Dichloroethene	20.0	21.20		ug/L		106	63 - 132
1,2,3-Trichloropropane	20.0	18.92		ug/L		95	65 - 127
1,2-Dibromo-3-chloropropane	20.0	16.68		ug/L		83	50 - 150
1,2-Dibromoethane (EDB)	20.0	18.32		ug/L		92	75 - 125
1,2-Dichlorobenzene	20.0	18.34		ug/L		92	74 - 120
1,2-Dichloroethane	20.0	22.27		ug/L		111	71 - 125
1,2-Dichloropropane	20.0	21.67		ug/L		108	73 - 124
1,4-Dichlorobenzene	20.0	18.17		ug/L		91	72 - 120
2-Butanone (MEK)	40.0	48.81		ug/L		122	50 - 150
2-Hexanone	40.0	40.09		ug/L		100	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	43.24		ug/L		108	60 - 139
Acetone	40.0	46.12		ug/L		115	50 - 150
Acrylonitrile	200	249.0		ug/L		124	50 - 150
Benzene	20.0	20.29		ug/L		101	72 - 124
Bromochloromethane	20.0	19.59		ug/L		98	73 - 130
Bromodichloromethane	20.0	18.85		ug/L		94	74 - 122
Bromoform	20.0	16.09		ug/L		80	61 - 122
Carbon disulfide	20.0	21.60		ug/L		108	59 - 135
Carbon tetrachloride	20.0	20.50		ug/L		103	67 - 132
Chlorobenzene	20.0	18.18		ug/L		91	76 - 120
Chlorodibromomethane	20.0	17.45		ug/L		87	71 - 121
Chloroform	20.0	20.41		ug/L		102	72 - 125
cis-1,2-Dichloroethene	20.0	19.26		ug/L		96	74 - 123
cis-1,3-Dichloropropene	20.0	18.46		ug/L		92	71 - 125
Dibromomethane	20.0	19.19		ug/L		96	74 - 125
Ethylbenzene	20.0	19.26		ug/L		96	74 - 122
Iodomethane	20.0	7.345	J	ug/L		37	10 - 150
Methylene chloride	20.0	20.43		ug/L		102	50 - 150
Styrene	20.0	18.33		ug/L		92	74 - 121
Tetrachloroethene	20.0	19.38		ug/L		97	71 - 130
Toluene	20.0	19.04		ug/L		95	74 - 123
trans-1,2-Dichloroethene	20.0	19.62		ug/L		98	70 - 126
trans-1,3-Dichloropropene	20.0	18.14		ug/L		91	69 - 123
trans-1,4-Dichloro-2-butene	20.0	18.88		ug/L		94	50 - 150

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

Lab Sample ID: LCS 310-427714/6
Matrix: Water
Analysis Batch: 427714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	20.0	19.93		ug/L		100	72 - 126
Vinyl acetate	40.0	39.98		ug/L		100	50 - 150
Xylenes, Total	40.0	37.47		ug/L		94	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*102*		*73 - 130*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*

Lab Sample ID: LCS 310-427714/7
Matrix: Water
Analysis Batch: 427714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	13.80		ug/L		69	23 - 150
Chloroethane	20.0	21.81		ug/L		109	54 - 136
Chloromethane	20.0	24.13		ug/L		121	38 - 150
Trichlorofluoromethane	20.0	26.55		ug/L		133	54 - 149
Vinyl chloride	20.0	22.79		ug/L		114	56 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*115*		*73 - 130*
Toluene-d8 (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 310-428423/5
Matrix: Water
Analysis Batch: 428423

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			07/25/24 15:25	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			07/25/24 15:25	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			07/25/24 15:25	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			07/25/24 15:25	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			07/25/24 15:25	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			07/25/24 15:25	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			07/25/24 15:25	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			07/25/24 15:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			07/25/24 15:25	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			07/25/24 15:25	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			07/25/24 15:25	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			07/25/24 15:25	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			07/25/24 15:25	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			07/25/24 15:25	1
2-Hexanone	<10.0		10.0	2.00	ug/L			07/25/24 15:25	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			07/25/24 15:25	1
Acetone	<10.0		10.0	3.10	ug/L			07/25/24 15:25	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			07/25/24 15:25	1

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

Lab Sample ID: MB 310-428423/5
Matrix: Water
Analysis Batch: 428423

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500	0.220	ug/L			07/25/24 15:25	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			07/25/24 15:25	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			07/25/24 15:25	1
Bromoform	<5.00		5.00	0.780	ug/L			07/25/24 15:25	1
Bromomethane	<4.00		4.00	1.10	ug/L			07/25/24 15:25	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			07/25/24 15:25	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			07/25/24 15:25	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			07/25/24 15:25	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			07/25/24 15:25	1
Chloroethane	<4.00		4.00	0.790	ug/L			07/25/24 15:25	1
Chloroform	<3.00		3.00	1.30	ug/L			07/25/24 15:25	1
Chloromethane	<3.00		3.00	0.610	ug/L			07/25/24 15:25	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			07/25/24 15:25	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			07/25/24 15:25	1
Dibromomethane	<1.00		1.00	0.330	ug/L			07/25/24 15:25	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			07/25/24 15:25	1
Iodomethane	<10.0		10.0	7.00	ug/L			07/25/24 15:25	1
Methylene chloride	<5.00		5.00	1.70	ug/L			07/25/24 15:25	1
Styrene	<1.00		1.00	0.370	ug/L			07/25/24 15:25	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			07/25/24 15:25	1
Toluene	<1.00		1.00	0.430	ug/L			07/25/24 15:25	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			07/25/24 15:25	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			07/25/24 15:25	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			07/25/24 15:25	1
Trichloroethene	<1.00		1.00	0.430	ug/L			07/25/24 15:25	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			07/25/24 15:25	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			07/25/24 15:25	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			07/25/24 15:25	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			07/25/24 15:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*108*		*73 - 130*		*07/25/24 15:25*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/25/24 15:25*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*07/25/24 15:25*	*1*

Lab Sample ID: LCS 310-428423/6
Matrix: Water
Analysis Batch: 428423

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	19.37		ug/L		97	71 - 120
1,1,1-Trichloroethane	20.0	17.65		ug/L		88	73 - 129
1,1,2,2-Tetrachloroethane	20.0	22.63		ug/L		113	68 - 124
1,1,2-Trichloroethane	20.0	19.50		ug/L		97	73 - 123
1,1-Dichloroethane	20.0	17.43		ug/L		87	70 - 127
1,1-Dichloroethene	20.0	16.78		ug/L		84	63 - 132
1,2,3-Trichloropropane	20.0	22.23		ug/L		111	65 - 127
1,2-Dibromo-3-chloropropane	20.0	23.50		ug/L		118	50 - 150

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

Lab Sample ID: LCS 310-428423/6
Matrix: Water
Analysis Batch: 428423

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane (EDB)	20.0	19.37		ug/L		97	75 - 125
1,2-Dichlorobenzene	20.0	20.17		ug/L		101	74 - 120
1,2-Dichloroethane	20.0	18.17		ug/L		91	71 - 125
1,2-Dichloropropane	20.0	18.54		ug/L		93	73 - 124
1,4-Dichlorobenzene	20.0	19.36		ug/L		97	72 - 120
2-Butanone (MEK)	40.0	39.31		ug/L		98	50 - 150
2-Hexanone	40.0	45.66		ug/L		114	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	43.12		ug/L		108	60 - 139
Acetone	40.0	34.83		ug/L		87	50 - 150
Acrylonitrile	200	180.8		ug/L		90	50 - 150
Benzene	20.0	18.22		ug/L		91	72 - 124
Bromochloromethane	20.0	18.34		ug/L		92	73 - 130
Bromodichloromethane	20.0	18.34		ug/L		92	74 - 122
Bromoform	20.0	19.89		ug/L		99	61 - 122
Carbon disulfide	20.0	16.88		ug/L		84	59 - 135
Carbon tetrachloride	20.0	17.63		ug/L		88	67 - 132
Chlorobenzene	20.0	18.46		ug/L		92	76 - 120
Chlorodibromomethane	20.0	19.54		ug/L		98	71 - 121
Chloroform	20.0	17.29		ug/L		86	72 - 125
cis-1,2-Dichloroethene	20.0	17.43		ug/L		87	74 - 123
cis-1,3-Dichloropropene	20.0	19.75		ug/L		99	71 - 125
Dibromomethane	20.0	18.10		ug/L		90	74 - 125
Ethylbenzene	20.0	18.43		ug/L		92	74 - 122
Iodomethane	20.0	14.50		ug/L		72	10 - 150
Methylene chloride	20.0	18.38		ug/L		92	50 - 150
Styrene	20.0	19.23		ug/L		96	74 - 121
Tetrachloroethene	20.0	18.50		ug/L		92	71 - 130
Toluene	20.0	18.50		ug/L		92	74 - 123
trans-1,2-Dichloroethene	20.0	17.39		ug/L		87	70 - 126
trans-1,3-Dichloropropene	20.0	19.13		ug/L		96	69 - 123
trans-1,4-Dichloro-2-butene	20.0	23.13		ug/L		116	50 - 150
Trichloroethene	20.0	18.53		ug/L		93	72 - 126
Vinyl acetate	40.0	39.17		ug/L		98	50 - 150
Xylenes, Total	40.0	37.54		ug/L		94	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*97*		*73 - 130*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: LCS 310-428423/7
Matrix: Water
Analysis Batch: 428423

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	20.0	12.51		ug/L		63	23 - 150
Chloroethane	20.0	18.19		ug/L		91	54 - 136
Chloromethane	20.0	17.94		ug/L		90	38 - 150

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

Lab Sample ID: LCS 310-428423/7
Matrix: Water
Analysis Batch: 428423

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichlorofluoromethane	20.0	17.50		ug/L		87	54 - 149
Vinyl chloride	20.0	18.62		ug/L		93	56 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*108*		*73 - 130*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-427603/1-A
Matrix: Water
Analysis Batch: 428355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 427603

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	<0.00500		0.00500	0.00210	mg/L		07/18/24 09:00	07/24/24 19:38	1

Lab Sample ID: LCS 310-427603/2-A
Matrix: Water
Analysis Batch: 428355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 427603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nickel	0.200	0.2048		mg/L		102	80 - 120

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-428035/1
Matrix: Water
Analysis Batch: 428035

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			07/22/24 16:45	1

Lab Sample ID: LCS 310-428035/2
Matrix: Water
Analysis Batch: 428035

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	97.00		mg/L		97	81 - 116

QC Association Summary

Client: SCS Engineers
Project/Site: GRRWA Sanitary Landfill

Job ID: 310-286000-1

GC/MS VOA

Analysis Batch: 427714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-286000-1	GU-3A	Total/NA	Water	8260D	
310-286000-2	Trip Blank	Total/NA	Water	8260D	
MB 310-427714/5	Method Blank	Total/NA	Water	8260D	
LCS 310-427714/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-427714/7	Lab Control Sample	Total/NA	Water	8260D	

Analysis Batch: 428423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-286000-1	GU-3A	Total/NA	Water	8260D	
310-286000-2	Trip Blank	Total/NA	Water	8260D	
MB 310-428423/5	Method Blank	Total/NA	Water	8260D	
LCS 310-428423/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-428423/7	Lab Control Sample	Total/NA	Water	8260D	

Metals

Prep Batch: 427603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-286000-1	GU-3A	Total/NA	Water	3005A	
MB 310-427603/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-427603/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 427928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-286000-1	GU-3A	Total/NA	Water	6020B	427603

Analysis Batch: 428355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-286000-1	GU-3A	Total/NA	Water	6020B	427603
MB 310-427603/1-A	Method Blank	Total/NA	Water	6020B	427603
LCS 310-427603/2-A	Lab Control Sample	Total/NA	Water	6020B	427603

General Chemistry

Analysis Batch: 428035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-286000-1	GU-3A	Total/NA	Water	I-3765-85	
MB 310-428035/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-428035/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Project/Site: GRRWA Sanitary Landfill

Job ID: 310-286000-1

Client Sample ID: GU-3A

Lab Sample ID: 310-286000-1

Date Collected: 07/16/24 08:30

Matrix: Water

Date Received: 07/17/24 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	427714	FE5V	EET CF	07/18/24 15:31
Total/NA	Analysis	8260D		1	428423	FE5V	EET CF	07/25/24 19:13
Total/NA	Prep	3005A			427603	QTZ5	EET CF	07/18/24 09:00
Total/NA	Analysis	6020B		1	428355	NFT2	EET CF	07/24/24 20:17
Total/NA	Prep	3005A			427603	QTZ5	EET CF	07/18/24 09:00
Total/NA	Analysis	6020B		1	427928	ZRI4	EET CF	07/19/24 20:49
Total/NA	Analysis	I-3765-85		1	428035	ENB7	EET CF	07/22/24 16:45

Client Sample ID: Trip Blank

Lab Sample ID: 310-286000-2

Date Collected: 07/17/24 00:00

Matrix: Water

Date Received: 07/17/24 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	427714	FE5V	EET CF	07/18/24 15:09
Total/NA	Analysis	8260D		1	428423	FE5V	EET CF	07/25/24 19:36

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-286000-1
Project/Site: GRRWA Sanitary Landfill

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	07-29-24

Method Summary

Client: SCS Engineers
Job ID: 310-286000-1
Project/Site: GRRWA Sanitary Landfill

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF

Protocol References:

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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310-286000 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS	
City/State: CITY West Des Moines STATE IA	Project: GARWA 5th Tech LF / 94847

Receipt Information

Date/Time Received: DATE 7/17/24 TIME 0845	Received By:

Delivery Type: ☑ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:________

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☑ Yes	☐ No	*If yes:* Cooler custody seals intact? ☑ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☑ Yes	☐ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:________ ☐ NONE

Thermometer ID: P	Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.6	Corrected Temp (°C): 4.6

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE. If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

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Client Information	Sampler: Trenton Burgess	Lab PM: Yang Mary E	Carrier Tracking No(s):	COC No: 310-94847-26061 1
Client Contact: Nathan Ohrt	Phone: 319 372 6140	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 1690 All State Court Suite 100	Due Date Requested:			
City: West Des Moines	TAT Requested (days):			
State, Zip: IA, 50265	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order not required			
Email: nohrt@scsengineers.com	WO #:			
Project Name: GRRWA Sanitary Landfill	Project #: 31004693			
Site: Iowa	SSOW#:			

Analysis Requested

Preservation Codes: D - HNO3; A - HCL; N - None

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B - Appendix I	8260D - Volatile Appendix I Sublist	I_3765_85 - Residue, Non-filterable (TSS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	A	N		
GU-3A			G	Water			X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Trenton Burgess	07/16/24 0900	GRRWA		7.17.24 0845	Eurofins
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No 2407866

Cooler Temperature(s) °C and Other Remarks:

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-286000-1

Login Number: 286000

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Collins, Charlotte

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 9/6/2024 5:23:10 PM

JOB DESCRIPTION

Summer 2024 Retest
GRRWA Sanitary Landfill, Phase 2
Winter 2024 Retest

JOB NUMBER

310-289337-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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9/6/2024 5:23:10 PM

Authorized for release by
Samuel Miller, Project Management Assistant I
Samuel.Miller@et.eurofinsus.com
(319)277-2401

Table of Contents

Job Narrative
310-289337-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 8/29/2024 5:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C.

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

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

Sample Summary

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-289337-1	MW-29	Water	08/28/24 10:40	08/29/24 17:30

Detection Summary

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Client Sample ID: MW-29

Lab Sample ID: 310-289337-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00345		0.00200	0.000530	mg/L	1		6020B	Total/NA
Total Suspended Solids	10.7		5.00	3.70	mg/L	1		I-3765-85	Total/NA

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Client Sample ID: MW-29
Date Collected: 08/28/24 10:40
Date Received: 08/29/24 17:30

Lab Sample ID: 310-289337-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00345		0.00200	0.000530	mg/L		09/04/24 09:00	09/05/24 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	10.7		5.00	3.70	mg/L			08/30/24 10:00	1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-432115/1-A
Matrix: Water
Analysis Batch: 432421

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 432115

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00200		0.00200	0.000530	mg/L		09/04/24 09:00	09/05/24 14:59	1

Lab Sample ID: LCS 310-432115/2-A
Matrix: Water
Analysis Batch: 432421

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 432115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.200	0.2114		mg/L		106	80 - 120

Lab Sample ID: 310-289337-1 DU
Matrix: Water
Analysis Batch: 432421

Client Sample ID: MW-29
Prep Type: Total/NA
Prep Batch: 432115

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.00345		0.003435		mg/L		0.6	20

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-431883/1
Matrix: Water
Analysis Batch: 431883

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			08/30/24 10:00	1

Lab Sample ID: LCS 310-431883/2
Matrix: Water
Analysis Batch: 431883

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	108.0		mg/L		108	81 - 116

QC Association Summary

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Metals

Prep Batch: 432115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-289337-1	MW-29	Total/NA	Water	3005A	
MB 310-432115/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-432115/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-289337-1 DU	MW-29	Total/NA	Water	3005A	

Analysis Batch: 432421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-289337-1	MW-29	Total/NA	Water	6020B	432115
MB 310-432115/1-A	Method Blank	Total/NA	Water	6020B	432115
LCS 310-432115/2-A	Lab Control Sample	Total/NA	Water	6020B	432115
310-289337-1 DU	MW-29	Total/NA	Water	6020B	432115

General Chemistry

Analysis Batch: 431883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-289337-1	MW-29	Total/NA	Water	I-3765-85	
MB 310-431883/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-431883/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Client Sample ID: MW-29
Date Collected: 08/28/24 10:40
Date Received: 08/29/24 17:30

Lab Sample ID: 310-289337-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			432115	QTZ5	EET CF	09/04/24 09:00
Total/NA	Analysis	6020B		1	432421	NFT2	EET CF	09/05/24 16:48
Total/NA	Analysis	I-3765-85		1	431883	HE7K	EET CF	08/30/24 10:00

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Method Summary

Client: SCS Engineers
Project/Site: Summer 2024 Retest

Job ID: 310-289337-1
SDG: GRRWA Sanitary Landfill, Phase 2

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

Protocol References:

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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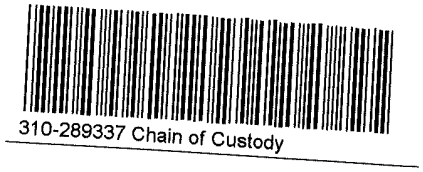

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS engineers

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 8/29/24 | TIME 1730 | Received By: KB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present? No	☐ Yes	☒ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐
Sample Custody Seals Present? No	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.6 | Corrected Temp (°C): 2.6

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins

Client Information	Sampler:	Lab PM: Yang, Mary E	Carrier Tracking No(s):	COC No: 310-95647-26357 1
Client Contact: Nathan Ohrt	Phone:	E-Mail: Mary Yang@ET EurofinsUS com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 1690 All State Court Suite 100	Due Date Requested:			
City: West Des Moines	TAT Requested (days):			
State, Zip: IA, 50265	Compliance Project: Δ Yes Δ No			
Phone: 319-331-9613(Tel)	PO #: 27224317 25			
Email: nohrt@scsengineers.com	WO #:			
Project Name: Summer 2024 Retest	Project #: 31004693			
Site: GRRWA Sanitary Landfill, Phase 2	SSOW#:			

Analysis Requested

Preservation Codes:
D - HNO3
N - None

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8_CWA - Arsenic	I_3765_85 - Residue, Non-filterable (TSS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N		
MW-29	8/28/24	0940	G	Water			x	x		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	8/29/24 09	SCS			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 8/29/24 1730	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 05/06/2024

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-289337-1

SDG Number: GRRWA Sanitary Landfill, Phase 2

Login Number: 289337

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Nathan Ohrt
SCS Engineers
1690 All State Court
Suite 100
West Des Moines, Iowa 50265

Generated 11/20/2024 8:23:32 PM

JOB DESCRIPTION

GRRWA 2nd 2024 HMSP
GRRWA Sanitary Landfill Phase 2

JOB NUMBER

310-295277-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Authorized for release by
Samuel Miller, Project Management Assistant I
Samuel.Miller@et.eurofinsus.com
(319)277-2401

Table of Contents

Job Narrative
310-295277-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/14/2024 4:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C.

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

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

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

Sample Summary

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-295277-1	MW-26	Water	11/13/24 11:27	11/14/24 16:20
310-295277-2	MW-28	Water	11/12/24 16:24	11/14/24 16:20
310-295277-3	MW-29	Water	11/13/24 08:31	11/14/24 16:20
310-295277-4	MW-D	Water	11/13/24 08:31	11/14/24 16:20
310-295277-5	Trip Blank	Water	11/13/24 00:00	11/14/24 16:20

Detection Summary

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26 — Lab Sample ID: 310-295277-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000868	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0913		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00164		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.00627		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	13.6		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-28 — Lab Sample ID: 310-295277-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.000539	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0211		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.0139		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0231		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	4.38		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-29 — Lab Sample ID: 310-295277-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00272		0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0174		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00331		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0122		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	13.5		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: MW-D — Lab Sample ID: 310-295277-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00149	J	0.00200	0.000530	mg/L	1		6020B	Total/NA
Barium	0.0158		0.00200	0.000660	mg/L	1		6020B	Total/NA
Cobalt	0.00340		0.000500	0.000170	mg/L	1		6020B	Total/NA
Nickel	0.0121		0.00500	0.00210	mg/L	1		6020B	Total/NA
Total Suspended Solids	13.1		1.88	1.39	mg/L	1		I-3765-85	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-295277-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26
Date Collected: 11/13/24 11:27
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			11/16/24 17:31	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			11/16/24 17:31	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			11/16/24 17:31	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			11/16/24 17:31	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			11/16/24 17:31	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			11/16/24 17:31	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			11/16/24 17:31	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			11/16/24 17:31	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			11/16/24 17:31	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			11/16/24 17:31	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			11/16/24 17:31	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			11/16/24 17:31	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			11/16/24 17:31	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			11/16/24 17:31	1
2-Hexanone	<10.0		10.0	2.00	ug/L			11/16/24 17:31	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			11/16/24 17:31	1
Acetone	<10.0		10.0	3.10	ug/L			11/16/24 17:31	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			11/16/24 17:31	1
Benzene	<0.500		0.500	0.220	ug/L			11/16/24 17:31	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			11/16/24 17:31	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			11/16/24 17:31	1
Bromoform	<5.00		5.00	0.780	ug/L			11/16/24 17:31	1
Bromomethane	<4.00		4.00	1.10	ug/L			11/16/24 17:31	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			11/16/24 17:31	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			11/16/24 17:31	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			11/16/24 17:31	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			11/16/24 17:31	1
Chloroethane	<4.00		4.00	0.790	ug/L			11/16/24 17:31	1
Chloroform	<3.00		3.00	1.30	ug/L			11/16/24 17:31	1
Chloromethane	<3.00		3.00	0.610	ug/L			11/16/24 17:31	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			11/16/24 17:31	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			11/16/24 17:31	1
Dibromomethane	<1.00		1.00	0.330	ug/L			11/16/24 17:31	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			11/16/24 17:31	1
Iodomethane	<10.0		10.0	7.00	ug/L			11/16/24 17:31	1
Methylene chloride	<5.00		5.00	1.70	ug/L			11/16/24 17:31	1
Styrene	<1.00		1.00	0.370	ug/L			11/16/24 17:31	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			11/16/24 17:31	1
Toluene	<1.00		1.00	0.430	ug/L			11/16/24 17:31	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			11/16/24 17:31	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			11/16/24 17:31	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			11/16/24 17:31	1
Trichloroethene	<1.00		1.00	0.430	ug/L			11/16/24 17:31	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			11/16/24 17:31	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			11/16/24 17:31	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			11/16/24 17:31	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			11/16/24 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*110*		*73 - 130*		*11/16/24 17:31*	*1*

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26
Date Collected: 11/13/24 11:27
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-1
Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*87*		*80 - 120*		*11/16/24 17:31*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*11/16/24 17:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		11/19/24 09:30	11/19/24 18:59	1
Arsenic	**0.000868**	**J**	0.00200	0.000530	mg/L		11/19/24 09:30	11/19/24 18:59	1
Barium	**0.0913**		0.00200	0.000660	mg/L		11/19/24 09:30	11/19/24 18:59	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		11/19/24 09:30	11/19/24 18:59	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		11/19/24 09:30	11/19/24 18:59	1
Chromium	<0.00500		0.00500	0.00120	mg/L		11/19/24 09:30	11/19/24 18:59	1
Cobalt	**0.00164**		0.000500	0.000170	mg/L		11/19/24 09:30	11/19/24 18:59	1
Copper	<0.00500		0.00500	0.00180	mg/L		11/19/24 09:30	11/19/24 18:59	1
Lead	<0.000500		0.000500	0.000260	mg/L		11/19/24 09:30	11/19/24 18:59	1
Nickel	**0.00627**		0.00500	0.00210	mg/L		11/19/24 09:30	11/19/24 18:59	1
Selenium	<0.00500		0.00500	0.00140	mg/L		11/19/24 09:30	11/19/24 18:59	1
Silver	<0.00100		0.00100	0.000500	mg/L		11/19/24 09:30	11/19/24 18:59	1
Thallium	<0.00100		0.00100	0.000570	mg/L		11/19/24 09:30	11/19/24 18:59	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		11/19/24 09:30	11/19/24 18:59	1
Zinc	<0.0200		0.0200	0.00970	mg/L		11/19/24 09:30	11/19/24 18:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**13.6**		1.88	1.39	mg/L			11/18/24 19:46	1

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-28
Date Collected: 11/12/24 16:24
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			11/16/24 17:54	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			11/16/24 17:54	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			11/16/24 17:54	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			11/16/24 17:54	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			11/16/24 17:54	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			11/16/24 17:54	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			11/16/24 17:54	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			11/16/24 17:54	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			11/16/24 17:54	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			11/16/24 17:54	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			11/16/24 17:54	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			11/16/24 17:54	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			11/16/24 17:54	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			11/16/24 17:54	1
2-Hexanone	<10.0		10.0	2.00	ug/L			11/16/24 17:54	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			11/16/24 17:54	1
Acetone	<10.0		10.0	3.10	ug/L			11/16/24 17:54	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			11/16/24 17:54	1
Benzene	<0.500		0.500	0.220	ug/L			11/16/24 17:54	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			11/16/24 17:54	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			11/16/24 17:54	1
Bromoform	<5.00		5.00	0.780	ug/L			11/16/24 17:54	1
Bromomethane	<4.00		4.00	1.10	ug/L			11/16/24 17:54	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			11/16/24 17:54	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			11/16/24 17:54	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			11/16/24 17:54	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			11/16/24 17:54	1
Chloroethane	<4.00		4.00	0.790	ug/L			11/16/24 17:54	1
Chloroform	<3.00		3.00	1.30	ug/L			11/16/24 17:54	1
Chloromethane	<3.00		3.00	0.610	ug/L			11/16/24 17:54	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			11/16/24 17:54	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			11/16/24 17:54	1
Dibromomethane	<1.00		1.00	0.330	ug/L			11/16/24 17:54	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			11/16/24 17:54	1
Iodomethane	<10.0		10.0	7.00	ug/L			11/16/24 17:54	1
Methylene chloride	<5.00		5.00	1.70	ug/L			11/16/24 17:54	1
Styrene	<1.00		1.00	0.370	ug/L			11/16/24 17:54	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			11/16/24 17:54	1
Toluene	<1.00		1.00	0.430	ug/L			11/16/24 17:54	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			11/16/24 17:54	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			11/16/24 17:54	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			11/16/24 17:54	1
Trichloroethene	<1.00		1.00	0.430	ug/L			11/16/24 17:54	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			11/16/24 17:54	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			11/16/24 17:54	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			11/16/24 17:54	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			11/16/24 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*103*		*73 - 130*		*11/16/24 17:54*	*1*

Client Sample ID: MW-28
Date Collected: 11/12/24 16:24
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-2
Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*11/16/24 17:54*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/16/24 17:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		11/19/24 09:30	11/19/24 19:02	1
Arsenic	**0.000539**	**J**	0.00200	0.000530	mg/L		11/19/24 09:30	11/19/24 19:02	1
Barium	**0.0211**		0.00200	0.000660	mg/L		11/19/24 09:30	11/19/24 19:02	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		11/19/24 09:30	11/19/24 19:02	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		11/19/24 09:30	11/19/24 19:02	1
Chromium	<0.00500		0.00500	0.00120	mg/L		11/19/24 09:30	11/19/24 19:02	1
Cobalt	**0.0139**		0.000500	0.000170	mg/L		11/19/24 09:30	11/19/24 19:02	1
Copper	<0.00500		0.00500	0.00180	mg/L		11/19/24 09:30	11/19/24 19:02	1
Lead	<0.000500		0.000500	0.000260	mg/L		11/19/24 09:30	11/19/24 19:02	1
Nickel	**0.0231**		0.00500	0.00210	mg/L		11/19/24 09:30	11/19/24 19:02	1
Selenium	<0.00500		0.00500	0.00140	mg/L		11/19/24 09:30	11/19/24 19:02	1
Silver	<0.00100		0.00100	0.000500	mg/L		11/19/24 09:30	11/19/24 19:02	1
Thallium	<0.00100		0.00100	0.000570	mg/L		11/19/24 09:30	11/19/24 19:02	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		11/19/24 09:30	11/19/24 19:02	1
Zinc	<0.0200		0.0200	0.00970	mg/L		11/19/24 09:30	11/19/24 19:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**4.38**		1.88	1.39	mg/L			11/15/24 17:27	1

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-29
Date Collected: 11/13/24 08:31
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			11/16/24 18:17	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			11/16/24 18:17	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			11/16/24 18:17	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			11/16/24 18:17	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			11/16/24 18:17	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			11/16/24 18:17	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			11/16/24 18:17	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			11/16/24 18:17	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			11/16/24 18:17	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			11/16/24 18:17	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			11/16/24 18:17	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			11/16/24 18:17	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			11/16/24 18:17	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			11/16/24 18:17	1
2-Hexanone	<10.0		10.0	2.00	ug/L			11/16/24 18:17	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			11/16/24 18:17	1
Acetone	<10.0		10.0	3.10	ug/L			11/16/24 18:17	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			11/16/24 18:17	1
Benzene	<0.500		0.500	0.220	ug/L			11/16/24 18:17	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			11/16/24 18:17	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			11/16/24 18:17	1
Bromoform	<5.00		5.00	0.780	ug/L			11/16/24 18:17	1
Bromomethane	<4.00		4.00	1.10	ug/L			11/16/24 18:17	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			11/16/24 18:17	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			11/16/24 18:17	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			11/16/24 18:17	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			11/16/24 18:17	1
Chloroethane	<4.00		4.00	0.790	ug/L			11/16/24 18:17	1
Chloroform	<3.00		3.00	1.30	ug/L			11/16/24 18:17	1
Chloromethane	<3.00		3.00	0.610	ug/L			11/16/24 18:17	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			11/16/24 18:17	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			11/16/24 18:17	1
Dibromomethane	<1.00		1.00	0.330	ug/L			11/16/24 18:17	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			11/16/24 18:17	1
Iodomethane	<10.0		10.0	7.00	ug/L			11/16/24 18:17	1
Methylene chloride	<5.00		5.00	1.70	ug/L			11/16/24 18:17	1
Styrene	<1.00		1.00	0.370	ug/L			11/16/24 18:17	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			11/16/24 18:17	1
Toluene	<1.00		1.00	0.430	ug/L			11/16/24 18:17	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			11/16/24 18:17	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			11/16/24 18:17	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			11/16/24 18:17	1
Trichloroethene	<1.00		1.00	0.430	ug/L			11/16/24 18:17	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			11/16/24 18:17	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			11/16/24 18:17	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			11/16/24 18:17	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			11/16/24 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*105*		*73 - 130*		*11/16/24 18:17*	*1*

Client Sample ID: MW-29
Date Collected: 11/13/24 08:31
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-3
Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*89*		*80 - 120*		*11/16/24 18:17*	*1*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*11/16/24 18:17*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		11/19/24 09:30	11/19/24 19:05	1
Arsenic	**0.00272**		0.00200	0.000530	mg/L		11/19/24 09:30	11/19/24 19:05	1
Barium	**0.0174**		0.00200	0.000660	mg/L		11/19/24 09:30	11/19/24 19:05	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		11/19/24 09:30	11/19/24 19:05	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		11/19/24 09:30	11/19/24 19:05	1
Chromium	<0.00500		0.00500	0.00120	mg/L		11/19/24 09:30	11/19/24 19:05	1
Cobalt	**0.00331**		0.000500	0.000170	mg/L		11/19/24 09:30	11/19/24 19:05	1
Copper	<0.00500		0.00500	0.00180	mg/L		11/19/24 09:30	11/19/24 19:05	1
Lead	<0.000500		0.000500	0.000260	mg/L		11/19/24 09:30	11/19/24 19:05	1
Nickel	**0.0122**		0.00500	0.00210	mg/L		11/19/24 09:30	11/19/24 19:05	1
Selenium	<0.00500		0.00500	0.00140	mg/L		11/19/24 09:30	11/19/24 19:05	1
Silver	<0.00100		0.00100	0.000500	mg/L		11/19/24 09:30	11/19/24 19:05	1
Thallium	<0.00100		0.00100	0.000570	mg/L		11/19/24 09:30	11/19/24 19:05	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		11/19/24 09:30	11/19/24 19:05	1
Zinc	<0.0200		0.0200	0.00970	mg/L		11/19/24 09:30	11/19/24 19:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**13.5**		1.88	1.39	mg/L			11/15/24 20:01	1

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-D
Date Collected: 11/13/24 08:31
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			11/16/24 18:39	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			11/16/24 18:39	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			11/16/24 18:39	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			11/16/24 18:39	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			11/16/24 18:39	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			11/16/24 18:39	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			11/16/24 18:39	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			11/16/24 18:39	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			11/16/24 18:39	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			11/16/24 18:39	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			11/16/24 18:39	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			11/16/24 18:39	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			11/16/24 18:39	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			11/16/24 18:39	1
2-Hexanone	<10.0		10.0	2.00	ug/L			11/16/24 18:39	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			11/16/24 18:39	1
Acetone	<10.0		10.0	3.10	ug/L			11/16/24 18:39	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			11/16/24 18:39	1
Benzene	<0.500		0.500	0.220	ug/L			11/16/24 18:39	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			11/16/24 18:39	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			11/16/24 18:39	1
Bromoform	<5.00		5.00	0.780	ug/L			11/16/24 18:39	1
Bromomethane	<4.00		4.00	1.10	ug/L			11/16/24 18:39	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			11/16/24 18:39	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			11/16/24 18:39	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			11/16/24 18:39	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			11/16/24 18:39	1
Chloroethane	<4.00		4.00	0.790	ug/L			11/16/24 18:39	1
Chloroform	<3.00		3.00	1.30	ug/L			11/16/24 18:39	1
Chloromethane	<3.00		3.00	0.610	ug/L			11/16/24 18:39	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			11/16/24 18:39	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			11/16/24 18:39	1
Dibromomethane	<1.00		1.00	0.330	ug/L			11/16/24 18:39	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			11/16/24 18:39	1
Iodomethane	<10.0		10.0	7.00	ug/L			11/16/24 18:39	1
Methylene chloride	<5.00		5.00	1.70	ug/L			11/16/24 18:39	1
Styrene	<1.00		1.00	0.370	ug/L			11/16/24 18:39	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			11/16/24 18:39	1
Toluene	<1.00		1.00	0.430	ug/L			11/16/24 18:39	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			11/16/24 18:39	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			11/16/24 18:39	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			11/16/24 18:39	1
Trichloroethene	<1.00		1.00	0.430	ug/L			11/16/24 18:39	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			11/16/24 18:39	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			11/16/24 18:39	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			11/16/24 18:39	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			11/16/24 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*104*		*73 - 130*		*11/16/24 18:39*	*1*

Client Sample ID: MW-D
Date Collected: 11/13/24 08:31
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-4
Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 120*		*11/16/24 18:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/16/24 18:39*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		11/19/24 09:30	11/19/24 19:08	1
Arsenic	**0.00149**	**J**	0.00200	0.000530	mg/L		11/19/24 09:30	11/19/24 19:08	1
Barium	**0.0158**		0.00200	0.000660	mg/L		11/19/24 09:30	11/19/24 19:08	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		11/19/24 09:30	11/19/24 19:08	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		11/19/24 09:30	11/19/24 19:08	1
Chromium	<0.00500		0.00500	0.00120	mg/L		11/19/24 09:30	11/19/24 19:08	1
Cobalt	**0.00340**		0.000500	0.000170	mg/L		11/19/24 09:30	11/19/24 19:08	1
Copper	<0.00500		0.00500	0.00180	mg/L		11/19/24 09:30	11/19/24 19:08	1
Lead	<0.000500		0.000500	0.000260	mg/L		11/19/24 09:30	11/19/24 19:08	1
Nickel	**0.0121**		0.00500	0.00210	mg/L		11/19/24 09:30	11/19/24 19:08	1
Selenium	<0.00500		0.00500	0.00140	mg/L		11/19/24 09:30	11/19/24 19:08	1
Silver	<0.00100		0.00100	0.000500	mg/L		11/19/24 09:30	11/19/24 19:08	1
Thallium	<0.00100		0.00100	0.000570	mg/L		11/19/24 09:30	11/19/24 19:08	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		11/19/24 09:30	11/19/24 19:08	1
Zinc	<0.0200		0.0200	0.00970	mg/L		11/19/24 09:30	11/19/24 19:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (USGS I-3765-85)	**13.1**		1.88	1.39	mg/L			11/18/24 19:46	1

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: Trip Blank
Date Collected: 11/13/24 00:00
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			11/16/24 13:42	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			11/16/24 13:42	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			11/16/24 13:42	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			11/16/24 13:42	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			11/16/24 13:42	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			11/16/24 13:42	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			11/16/24 13:42	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			11/16/24 13:42	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			11/16/24 13:42	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			11/16/24 13:42	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			11/16/24 13:42	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			11/16/24 13:42	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			11/16/24 13:42	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			11/16/24 13:42	1
2-Hexanone	<10.0		10.0	2.00	ug/L			11/16/24 13:42	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			11/16/24 13:42	1
Acetone	<10.0		10.0	3.10	ug/L			11/16/24 13:42	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			11/16/24 13:42	1
Benzene	<0.500		0.500	0.220	ug/L			11/16/24 13:42	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			11/16/24 13:42	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			11/16/24 13:42	1
Bromoform	<5.00		5.00	0.780	ug/L			11/16/24 13:42	1
Bromomethane	<4.00		4.00	1.10	ug/L			11/16/24 13:42	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			11/16/24 13:42	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			11/16/24 13:42	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			11/16/24 13:42	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			11/16/24 13:42	1
Chloroethane	<4.00		4.00	0.790	ug/L			11/16/24 13:42	1
Chloroform	<3.00		3.00	1.30	ug/L			11/16/24 13:42	1
Chloromethane	<3.00		3.00	0.610	ug/L			11/16/24 13:42	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			11/16/24 13:42	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			11/16/24 13:42	1
Dibromomethane	<1.00		1.00	0.330	ug/L			11/16/24 13:42	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			11/16/24 13:42	1
Iodomethane	<10.0		10.0	7.00	ug/L			11/16/24 13:42	1
Methylene chloride	<5.00		5.00	1.70	ug/L			11/16/24 13:42	1
Styrene	<1.00		1.00	0.370	ug/L			11/16/24 13:42	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			11/16/24 13:42	1
Toluene	<1.00		1.00	0.430	ug/L			11/16/24 13:42	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			11/16/24 13:42	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			11/16/24 13:42	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			11/16/24 13:42	1
Trichloroethene	<1.00		1.00	0.430	ug/L			11/16/24 13:42	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			11/16/24 13:42	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			11/16/24 13:42	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			11/16/24 13:42	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			11/16/24 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*105*		*73 - 130*		*11/16/24 13:42*	*1*

Client Sample ID: Trip Blank
Date Collected: 11/13/24 00:00
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-5
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*92*		*80 - 120*		*11/16/24 13:42*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/16/24 13:42*	*1*

Qualifiers

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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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

Surrogate Summary

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(73-130)	(80-120)	(80-120)
310-295277-1	MW-26	110	87	94
310-295277-2	MW-28	103	91	100
310-295277-3	MW-29	105	89	111
310-295277-4	MW-D	104	91	99
310-295277-5	Trip Blank	105	92	100
LCS 310-439887/6	Lab Control Sample	102	93	100
LCS 310-439887/7	Lab Control Sample	104	92	101
MB 310-439887/5	Method Blank	104	92	101

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 310-439887/5
Matrix: Water
Analysis Batch: 439887

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00	0.380	ug/L			11/16/24 12:11	1
1,1,1-Trichloroethane	<1.00		1.00	0.190	ug/L			11/16/24 12:11	1
1,1,2,2-Tetrachloroethane	<1.00		1.00	0.470	ug/L			11/16/24 12:11	1
1,1,2-Trichloroethane	<1.00		1.00	0.450	ug/L			11/16/24 12:11	1
1,1-Dichloroethane	<1.00		1.00	0.220	ug/L			11/16/24 12:11	1
1,1-Dichloroethene	<2.00		2.00	0.560	ug/L			11/16/24 12:11	1
1,2,3-Trichloropropane	<1.00		1.00	0.590	ug/L			11/16/24 12:11	1
1,2-Dibromo-3-chloropropane	<5.00		5.00	1.20	ug/L			11/16/24 12:11	1
1,2-Dibromoethane (EDB)	<1.00		1.00	0.340	ug/L			11/16/24 12:11	1
1,2-Dichlorobenzene	<1.00		1.00	0.370	ug/L			11/16/24 12:11	1
1,2-Dichloroethane	<1.00		1.00	0.390	ug/L			11/16/24 12:11	1
1,2-Dichloropropane	<1.00		1.00	0.270	ug/L			11/16/24 12:11	1
1,4-Dichlorobenzene	<1.00		1.00	0.230	ug/L			11/16/24 12:11	1
2-Butanone (MEK)	<10.0		10.0	2.10	ug/L			11/16/24 12:11	1
2-Hexanone	<10.0		10.0	2.00	ug/L			11/16/24 12:11	1
4-Methyl-2-pentanone (MIBK)	<10.0		10.0	2.10	ug/L			11/16/24 12:11	1
Acetone	<10.0		10.0	3.10	ug/L			11/16/24 12:11	1
Acrylonitrile	<5.00		5.00	2.20	ug/L			11/16/24 12:11	1
Benzene	<0.500		0.500	0.220	ug/L			11/16/24 12:11	1
Bromochloromethane	<5.00		5.00	0.540	ug/L			11/16/24 12:11	1
Bromodichloromethane	<1.00		1.00	0.390	ug/L			11/16/24 12:11	1
Bromoform	<5.00		5.00	0.780	ug/L			11/16/24 12:11	1
Bromomethane	<4.00		4.00	1.10	ug/L			11/16/24 12:11	1
Carbon disulfide	<1.00		1.00	0.450	ug/L			11/16/24 12:11	1
Carbon tetrachloride	<2.00		2.00	0.650	ug/L			11/16/24 12:11	1
Chlorobenzene	<1.00		1.00	0.400	ug/L			11/16/24 12:11	1
Chlorodibromomethane	<5.00		5.00	0.750	ug/L			11/16/24 12:11	1
Chloroethane	<4.00		4.00	0.790	ug/L			11/16/24 12:11	1
Chloroform	<3.00		3.00	1.30	ug/L			11/16/24 12:11	1
Chloromethane	<3.00		3.00	0.610	ug/L			11/16/24 12:11	1
cis-1,2-Dichloroethene	<1.00		1.00	0.210	ug/L			11/16/24 12:11	1
cis-1,3-Dichloropropene	<5.00		5.00	0.250	ug/L			11/16/24 12:11	1
Dibromomethane	<1.00		1.00	0.330	ug/L			11/16/24 12:11	1
Ethylbenzene	<1.00		1.00	0.310	ug/L			11/16/24 12:11	1
Iodomethane	<10.0		10.0	7.00	ug/L			11/16/24 12:11	1
Methylene chloride	<5.00		5.00	1.70	ug/L			11/16/24 12:11	1
Styrene	<1.00		1.00	0.370	ug/L			11/16/24 12:11	1
Tetrachloroethene	<1.00		1.00	0.480	ug/L			11/16/24 12:11	1
Toluene	<1.00		1.00	0.430	ug/L			11/16/24 12:11	1
trans-1,2-Dichloroethene	<1.00		1.00	0.270	ug/L			11/16/24 12:11	1
trans-1,3-Dichloropropene	<5.00		5.00	0.560	ug/L			11/16/24 12:11	1
trans-1,4-Dichloro-2-butene	<10.0		10.0	1.10	ug/L			11/16/24 12:11	1
Trichloroethene	<1.00		1.00	0.430	ug/L			11/16/24 12:11	1
Trichlorofluoromethane	<4.00		4.00	0.380	ug/L			11/16/24 12:11	1
Vinyl acetate	<10.0		10.0	2.50	ug/L			11/16/24 12:11	1
Vinyl chloride	<1.00		1.00	0.180	ug/L			11/16/24 12:11	1
Xylenes, Total	<3.00		3.00	0.400	ug/L			11/16/24 12:11	1

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

Lab Sample ID: MB 310-439887/5
Matrix: Water
Analysis Batch: 439887

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*104*		*73 - 130*		*11/16/24 12:11*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*11/16/24 12:11*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/16/24 12:11*	*1*

Lab Sample ID: LCS 310-439887/6
Matrix: Water
Analysis Batch: 439887

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	19.29		ug/L		96	71 - 120
1,1,1-Trichloroethane	20.0	21.20		ug/L		106	73 - 129
1,1,2,2-Tetrachloroethane	20.0	18.09		ug/L		90	68 - 124
1,1,2-Trichloroethane	20.0	18.28		ug/L		91	73 - 123
1,1-Dichloroethane	20.0	21.11		ug/L		106	70 - 127
1,1-Dichloroethene	20.0	21.50		ug/L		107	63 - 132
1,2,3-Trichloropropane	20.0	17.81		ug/L		89	65 - 127
1,2-Dibromo-3-chloropropane	20.0	16.47		ug/L		82	50 - 150
1,2-Dibromoethane (EDB)	20.0	18.88		ug/L		94	75 - 125
1,2-Dichlorobenzene	20.0	18.61		ug/L		93	74 - 120
1,2-Dichloroethane	20.0	19.04		ug/L		95	71 - 125
1,2-Dichloropropane	20.0	21.40		ug/L		107	73 - 124
1,4-Dichlorobenzene	20.0	18.43		ug/L		92	72 - 120
2-Butanone (MEK)	40.0	34.15		ug/L		85	50 - 150
2-Hexanone	40.0	31.72		ug/L		79	60 - 140
4-Methyl-2-pentanone (MIBK)	40.0	32.77		ug/L		82	60 - 139
Acetone	40.0	32.86		ug/L		82	50 - 150
Acrylonitrile	200	194.1		ug/L		97	50 - 150
Benzene	20.0	21.72		ug/L		109	72 - 124
Bromochloromethane	20.0	21.95		ug/L		110	73 - 130
Bromodichloromethane	20.0	20.50		ug/L		103	74 - 122
Bromoform	20.0	18.63		ug/L		93	61 - 122
Carbon disulfide	20.0	20.42		ug/L		102	59 - 135
Carbon tetrachloride	20.0	22.02		ug/L		110	67 - 132
Chlorobenzene	20.0	19.46		ug/L		97	76 - 120
Chlorodibromomethane	20.0	18.47		ug/L		92	71 - 121
Chloroform	20.0	20.11		ug/L		101	72 - 125
cis-1,2-Dichloroethene	20.0	21.48		ug/L		107	74 - 123
cis-1,3-Dichloropropene	20.0	17.90		ug/L		90	71 - 125
Dibromomethane	20.0	20.74		ug/L		104	74 - 125
Ethylbenzene	20.0	19.66		ug/L		98	74 - 122
Iodomethane	20.0	11.10		ug/L		56	10 - 150
Methylene chloride	20.0	20.61		ug/L		103	50 - 150
Styrene	20.0	20.11		ug/L		101	74 - 121
Tetrachloroethene	20.0	20.46		ug/L		102	71 - 130
Toluene	20.0	18.99		ug/L		95	74 - 123
trans-1,2-Dichloroethene	20.0	21.47		ug/L		107	70 - 126
trans-1,3-Dichloropropene	20.0	19.73		ug/L		99	69 - 123
trans-1,4-Dichloro-2-butene	20.0	14.29		ug/L		71	50 - 150

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

Lab Sample ID: LCS 310-439887/6
Matrix: Water
Analysis Batch: 439887

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Trichloroethene			20.0	22.47		ug/L		112	72 - 126		
Vinyl acetate			40.0	37.95		ug/L		95	50 - 150		
Xylenes, Total			40.0	39.60		ug/L		99	73 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*102*		*73 - 130*
Toluene-d8 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

Lab Sample ID: LCS 310-439887/7
Matrix: Water
Analysis Batch: 439887

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Bromomethane			20.0	18.69		ug/L		93	23 - 150		
Chloroethane			20.0	17.89		ug/L		89	54 - 136		
Chloromethane			20.0	20.48		ug/L		102	38 - 150		
Trichlorofluoromethane			20.0	21.13		ug/L		106	54 - 149		
Vinyl chloride			20.0	19.56		ug/L		98	56 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*104*		*73 - 130*
Toluene-d8 (Surr)	*92*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-440099/1-A
Matrix: Water
Analysis Batch: 440318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 440099

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00200		0.00200	0.00100	mg/L		11/19/24 09:30	11/19/24 17:44	1
Arsenic	<0.00200		0.00200	0.000530	mg/L		11/19/24 09:30	11/19/24 17:44	1
Barium	<0.00200		0.00200	0.000660	mg/L		11/19/24 09:30	11/19/24 17:44	1
Beryllium	<0.00100		0.00100	0.000330	mg/L		11/19/24 09:30	11/19/24 17:44	1
Cadmium	<0.000200		0.000200	0.000100	mg/L		11/19/24 09:30	11/19/24 17:44	1
Chromium	<0.00500		0.00500	0.00120	mg/L		11/19/24 09:30	11/19/24 17:44	1
Cobalt	<0.000500		0.000500	0.000170	mg/L		11/19/24 09:30	11/19/24 17:44	1
Copper	<0.00500		0.00500	0.00180	mg/L		11/19/24 09:30	11/19/24 17:44	1
Lead	<0.000500		0.000500	0.000260	mg/L		11/19/24 09:30	11/19/24 17:44	1
Nickel	<0.00500		0.00500	0.00210	mg/L		11/19/24 09:30	11/19/24 17:44	1
Selenium	<0.00500		0.00500	0.00140	mg/L		11/19/24 09:30	11/19/24 17:44	1
Silver	<0.00100		0.00100	0.000500	mg/L		11/19/24 09:30	11/19/24 17:44	1
Thallium	<0.00100		0.00100	0.000570	mg/L		11/19/24 09:30	11/19/24 17:44	1
Vanadium	<0.00500		0.00500	0.00110	mg/L		11/19/24 09:30	11/19/24 17:44	1
Zinc	<0.0200		0.0200	0.00970	mg/L		11/19/24 09:30	11/19/24 17:44	1

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

Lab Sample ID: LCS 310-440099/2-A
Matrix: Water
Analysis Batch: 440318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 440099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.1951		mg/L		98	80 - 120
Arsenic	0.200	0.1906		mg/L		95	80 - 120
Barium	0.100	0.09801		mg/L		98	80 - 120
Beryllium	0.100	0.09668		mg/L		97	80 - 120
Cadmium	0.100	0.09459		mg/L		95	80 - 120
Chromium	0.100	0.1012		mg/L		101	80 - 120
Cobalt	0.100	0.1030		mg/L		103	80 - 120
Copper	0.200	0.2034		mg/L		102	80 - 120
Lead	0.200	0.1890		mg/L		95	80 - 120
Nickel	0.200	0.2043		mg/L		102	80 - 120
Selenium	0.400	0.3845		mg/L		96	80 - 120
Silver	0.100	0.1153		mg/L		115	80 - 120
Thallium	0.100	0.1011		mg/L		101	80 - 120
Vanadium	0.100	0.09905		mg/L		99	80 - 120
Zinc	0.200	0.1812		mg/L		91	80 - 120

Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-439961/1
Matrix: Water
Analysis Batch: 439961

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			11/15/24 17:27	1

Lab Sample ID: LCS 310-439961/2
Matrix: Water
Analysis Batch: 439961

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	93.00		mg/L		93	81 - 116

Lab Sample ID: MB 310-439968/1
Matrix: Water
Analysis Batch: 439968

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			11/15/24 20:01	1

Lab Sample ID: LCS 310-439968/2
Matrix: Water
Analysis Batch: 439968

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	93.00		mg/L		93	81 - 116

Method: I-3765-85 - Residue, Non-filterable (TSS) (Continued)

Lab Sample ID: MB 310-440130/1
Matrix: Water
Analysis Batch: 440130

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.00		5.00	3.70	mg/L			11/18/24 19:46	1

Lab Sample ID: LCS 310-440130/2
Matrix: Water
Analysis Batch: 440130

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	102.0		mg/L		102	81 - 116

GC/MS VOA

Analysis Batch: 439887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-295277-1	MW-26	Total/NA	Water	8260D	
310-295277-2	MW-28	Total/NA	Water	8260D	
310-295277-3	MW-29	Total/NA	Water	8260D	
310-295277-4	MW-D	Total/NA	Water	8260D	
310-295277-5	Trip Blank	Total/NA	Water	8260D	
MB 310-439887/5	Method Blank	Total/NA	Water	8260D	
LCS 310-439887/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-439887/7	Lab Control Sample	Total/NA	Water	8260D	

Metals

Prep Batch: 440099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-295277-1	MW-26	Total/NA	Water	3005A	
310-295277-2	MW-28	Total/NA	Water	3005A	
310-295277-3	MW-29	Total/NA	Water	3005A	
310-295277-4	MW-D	Total/NA	Water	3005A	
MB 310-440099/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-440099/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 440318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-295277-1	MW-26	Total/NA	Water	6020B	440099
310-295277-2	MW-28	Total/NA	Water	6020B	440099
310-295277-3	MW-29	Total/NA	Water	6020B	440099
310-295277-4	MW-D	Total/NA	Water	6020B	440099
MB 310-440099/1-A	Method Blank	Total/NA	Water	6020B	440099
LCS 310-440099/2-A	Lab Control Sample	Total/NA	Water	6020B	440099

General Chemistry

Analysis Batch: 439961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-295277-2	MW-28	Total/NA	Water	I-3765-85	
MB 310-439961/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-439961/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 439968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-295277-3	MW-29	Total/NA	Water	I-3765-85	
MB 310-439968/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-439968/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Analysis Batch: 440130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-295277-1	MW-26	Total/NA	Water	I-3765-85	
310-295277-4	MW-D	Total/NA	Water	I-3765-85	
MB 310-440130/1	Method Blank	Total/NA	Water	I-3765-85	
LCS 310-440130/2	Lab Control Sample	Total/NA	Water	I-3765-85	

Lab Chronicle

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Client Sample ID: MW-26
Date Collected: 11/13/24 11:27
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	439887	FE5V	EET CF	11/16/24 17:31
Total/NA	Prep	3005A			440099	F5MW	EET CF	11/19/24 09:30
Total/NA	Analysis	6020B		1	440318	A6US	EET CF	11/19/24 18:59
Total/NA	Analysis	I-3765-85		1	440130	MDU9	EET CF	11/18/24 19:46

Client Sample ID: MW-28
Date Collected: 11/12/24 16:24
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	439887	FE5V	EET CF	11/16/24 17:54
Total/NA	Prep	3005A			440099	F5MW	EET CF	11/19/24 09:30
Total/NA	Analysis	6020B		1	440318	A6US	EET CF	11/19/24 19:02
Total/NA	Analysis	I-3765-85		1	439961	MDU9	EET CF	11/15/24 17:27

Client Sample ID: MW-29
Date Collected: 11/13/24 08:31
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	439887	FE5V	EET CF	11/16/24 18:17
Total/NA	Prep	3005A			440099	F5MW	EET CF	11/19/24 09:30
Total/NA	Analysis	6020B		1	440318	A6US	EET CF	11/19/24 19:05
Total/NA	Analysis	I-3765-85		1	439968	MDU9	EET CF	11/15/24 20:01

Client Sample ID: MW-D
Date Collected: 11/13/24 08:31
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	439887	FE5V	EET CF	11/16/24 18:39
Total/NA	Prep	3005A			440099	F5MW	EET CF	11/19/24 09:30
Total/NA	Analysis	6020B		1	440318	A6US	EET CF	11/19/24 19:08
Total/NA	Analysis	I-3765-85		1	440130	MDU9	EET CF	11/18/24 19:46

Client Sample ID: Trip Blank
Date Collected: 11/13/24 00:00
Date Received: 11/14/24 16:20

Lab Sample ID: 310-295277-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	439887	FE5V	EET CF	11/16/24 13:42

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-295277-1
Project/Site: GRRWA 2nd 2024 HMSP
SDG: GRRWA Sanitary Landfill Phase 2

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Method Summary

Client: SCS Engineers
Project/Site: GRRWA 2nd 2024 HMSP

Job ID: 310-295277-1
SDG: GRRWA Sanitary Landfill Phase 2

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
I-3765-85	Residue, Non-filterable (TSS)	USGS	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
5030B	Purge and Trap	SW846	EET CF

Protocol References:

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

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

eurofins | Environment Testing America

310-295277 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY West DES Moines | STATE IA | Project:

Receipt Information

Date/Time Received: DATE 11-19-24 | TIME 1620 | Received By: PH

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☒ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

All

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 9 | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.0 | Corrected Temp (°C): 2.0

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE *If yes, contact PM before proceeding If no, proceed with login*

Additional Comments

Chain of Custody Record

Eurofins TestAmerica, Cedar Falls
3019 Venture Way

Cedar Falls IA 50613-6907
phone 319 277 2401 fax 319 277 2425

eurofins

Regulatory Program: ☐ DW ☐ NPDES ☑ RCRA ☐ Other

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Nathan Ohrt	Site Contact: Austin Banks	Date	COC No
Nathan Ohrt	Email nohrt@scsengineers.com	Lab Contact: Sam Miller	Carrier:	1 of 1 COCs
SCS Engineers	Cell 319-331-9613			Sampler:
1690 All State Court, Suite 100	Analysis Turnaround Time			For Lab Use Only:
West Des Moines Iowa 50265	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
	Other:			Lab Sampling
Project Name 2nd 2024 HMSP	☐ 2 weeks			
Site GRRWA Sanitary Landfill Phase 2	☐ 1 week			Job / SDG No
P O # 27224317 25	☐ 2 days ☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Appendix I	Total Suspended Solids	Trip Blank	Sample Specific Notes.
MW-26	11/13/24	11 27	G	W		N	N	X	X		
MW-28	11/12/24	16 24	G	W		N	N	X	X		
MW-29	11/13/24	8 31	G	W		N	N	X	X		
PH2UD			G	W		N	N	X	X		NO SAMPLE
GU-3A			G	W		N	N	X	X		NO SAMPLE
MW-D	11/13/24	8 31	G	W		N	N	X	X		
Trip Blank	~~11/13/24~~	~~Si~~								X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification.
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temp (°C) Obs'd _____ Corr'd _____	Therm ID No _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	SCS	11/14/24 1600			
Relinquished by:	Company	Date/Time:	Received by:	Company:	Date/Time
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company:	Date/Time: 11-14-24 1620

Form No. CA-C-WI-002, Rev. 4.23, dated 4/16/2019

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-295277-1
SDG Number: GRRWA Sanitary Landfill Phase 2

Login Number: 295277
List Number: 1
Creator: Hirsch, Preston

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix B-2

Data Validation Documentation

QA/QC Completed by:	Michael Morgan
Sample Date:	2/27/2024
Site Name:	Great River Regional Waste Authority
Project Type:	Phase 2 - March 2024 Retest
Lab Job ID:	310-275946-1
Lab Report Date:	3/11/2024

	OK	NO	N/A	NOTES
Sample Collection and Sample Holding				
Chain of Custody	X			
Temperature	X			
Preservation	X			MW-29 was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory; the sample was analyzed within the 7-day holding time specified for unpreserved samples.
Condition	X			
Correct Constituents Analyzed	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections
Trip Blank Detections			X	
Accuracy				
ICV/CCV	X			
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates			X	

QA/QC Completed by:	Michael Morgan
Sample Date:	5/29/2024
Site Name:	Great River Regional Waste Authority
Project Type:	Phase 2 - 1st 2024 HMSP
Lab Job ID:	310-282415-1
Lab Report Date:	8/5/2024 (Revision)

	OK	NO	N/A	NOTES
Sample Collection and Sample Holding				
Chain of Custody	X			
Temperature	X			
Preservation	X			
Condition	X			
Correct Constituents Analyzed	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections	X			No detections.
Accuracy				
ICV/CCV		X		The continuing calibration verification (CCV) associated with batch 310-423254 recovered above the upper control limit for Carbon tetrachloride (33.8%D) and 1,1,1-Trichloroethane (20.1%D); the samples associated with this CCV were non-detect for the affected analytes so the data have been reported.
LCS/LCSD		X		The laboratory control sample (LCS) for analytical batch 310-423254 recovered outside control limits for Carbon tetrachloride; the analyte was biased high in the LCS and was not detected in the associated samples so the data have been reported.
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates	X			Sample MW-28 and field duplicate MW-D had <50% RPD for analyzed parameters.

QA/QC Completed by:	Michael Morgan
Sample Date:	7/16/2024
Site Name:	Great River Regional Waste Authority
Project Type:	Phase 2 - July 2024 Resample
Lab Job ID:	310-286000-1
Lab Report Date:	7/29/2024

	OK	NO	N/A	NOTES
Sample Collection and Sample Holding				
Chain of Custody		X		GU-3A and Trip Blank were received at the laboratory without a sample collection time documented on the chain of custody. The client was contacted, and the laboratory was instructed to use a sample collection time of 7/16/2024 08:30.
Temperature	X			
Preservation	X			
Condition	X			
Correct Constituents Analyzed	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections	X			Acetone was detected at a J flag concentration.
Accuracy				
ICV/CCV		X		The continuing calibration verification (CCV) associated with batch 310-427714 recovered above the upper control limit for Trichlorofluoromethane (29.0%D); the samples associated with this CCV were non-detects for the affected analytes so the data was reported.
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates			X	

QA/QC Completed by:	Michael Morgan
Sample Date:	8/28/2024
Site Name:	Great River Regional Waste Authority
Project Type:	Phase 2 - August 2024 Retest
Lab Job ID:	310-289337-1
Lab Report Date:	9/6/2024

	OK	NO	N/A	NOTES
Sample Collection and Sample Holding				
Chain of Custody	X			
Temperature	X			
Preservation	X			
Condition	X			
Correct Constituents Analyzed	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections			X	
Accuracy				
ICV/CCV	X			
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates			X	

QA/QC Completed by:	Michael Morgan
Sample Date:	11/12/2024
Site Name:	Great River Regional Waste Authority
Project Type:	Phase 2 - 2nd 2024 HMSP
Lab Job ID:	310-295277-1
Lab Report Date:	11/20/2024

	OK	NO	N/A	NOTES
Sample Collection and Sample Holding				
Chain of Custody	X			
Temperature	X			
Preservation	X			
Condition	X			
Correct Constituents Analyzed	X			
Case Narrative	X			
Holding Times	X			
Analytical Sensitivity and Blanks				
Method Blank Detections	X			No detections.
Trip Blank Detections	X			No detections.
Accuracy				
ICV/CCV	X			
LCS/LCSD	X			
MS/MSD	X			
Surrogates (organics only)	X			
Precision				
QA/QC Sample RPDs	X			
Field Duplicates		X		Sample MW-29 and field duplicate MW-D had <50% RPD for analyzed parameters except for arsenic (58.4%).

Appendix C

Summary of Groundwater Chemistry

SCS ENGINEERS

Summary of Groundwater Chemistry
Great River Regional Waste Authority 56 SDP 07 80P

Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Antimony, mg/L (CAS NO - 7440-36-0)	2/26/2008	N/A	< 0.003	N/A	N/A	< 0.003	< 0.003	N/A	< 0.003
	3/20/2008	N/A	< 0.003	N/A	N/A	< 0.003	< 0.003	N/A	< 0.003
	6/9/2008	< 0.003	< 0.003	N/A	N/A	< 0.003	< 0.003	N/A	< 0.003
	8/13/2008	< 0.003	< 0.003	N/A	N/A	< 0.003	< 0.003	N/A	< 0.003
	9/16/2008	< 0.003	N/A	N/A	N/A	< 0.003	< 0.003	N/A	N/A
	10/31/2008	N/A	< 0.003	N/A	N/A	N/A	N/A	N/A	0.0039
	3/17/2009	< 0.003	N/A	N/A	N/A	< 0.003	< 0.003	N/A	N/A
	9/15/2009	< 0.003	< 0.003	N/A	N/A	< 0.003	< 0.003	N/A	N/A
	3/16/2010	N/A	< 0.003	N/A	N/A	< 0.003	< 0.003	N/A	N/A
	8/31/2010	< 0.003	N/A	N/A	N/A	N/A	N/A	< 0.003	N/A
	9/21/2010	< 0.003	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 0.003	N/A
	2/4/2011	N/A	< 0.003	< 0.003	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 0.003	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	N/A
	3/15/2011	N/A	< 0.003	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.003	N/A
	9/13/2011	N/A	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 0.003	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.003	< 0.003	N/A
	3/27/2012	< 0.003	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.003	N/A	N/A	N/A
	9/11/2012	< 0.003	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.003	N/A
	3/20/2013	< 0.003	N/A	N/A	N/A	< 0.003	< 0.003	< 0.003	< 0.003
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.003	N/A
	9/3/2013	< 0.003	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	N/A
	9/3/2013	N/A	< 0.003	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 0.006	N/A	N/A	N/A	< 0.006	< 0.006	< 0.006	< 0.006
	3/27/2014	N/A	N/A	N/A	N/A	< 0.006	N/A	N/A	N/A
	9/15/2014	< 0.006	N/A	N/A	N/A	< 0.006	< 0.006	< 0.006	< 0.006
	9/15/2014	< 0.006	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.001	N/A	N/A	N/A	0.00028	0.000439	< 0.001	< 0.001
	3/10/2015	N/A	N/A	N/A	N/A	0.000224	N/A	N/A	N/A
	8/31/2015	< 0.001	N/A	N/A	N/A	< 0.001	0.000262*	< 0.001	< 0.001
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2016	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	7/18/2016	< 0.001	**0.00277**	**0.00325**	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/2/2017	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/2/2017	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/2/2017	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/1/2018	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/24/2018	< 0.003	< 0.003	< 0.003	N/A	< 0.003	< 0.003	< 0.003	< 0.003
	9/24/2018	N/A	N/A	N/A	N/A	< 0.003	N/A	N/A	N/A
	1/21/2019	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/13/2019	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001
	9/10/2020	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	0.000633*
	9/10/2020	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002
	3/31/2021	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	8/30/2021	N/A	< 0.002	< 0.002	N/A	< 0.002	< 0.002	< 0.002	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	8/17/2022	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A
	2/6/2023	N/A	< 0.002	< 0.002	0.00195*	< 0.002	< 0.002	< 0.002	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	5/29/2024	N/A	< 0.002	< 0.002	N/A	< 0.002	< 0.002	< 0.002	< 0.002
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A
Arsenic, mg/L (CAS NO - 7440-38-2)	2/26/2008	N/A	0.0039	N/A	N/A	< 0.001	0.001	N/A	**0.03**
	3/20/2008	N/A	0.005	N/A	N/A	0.0012	< 0.001	N/A	**0.02**
	6/9/2008	0.014	0.021	N/A	N/A	0.0011	< 0.001	N/A	**0.025**
	8/13/2008	0.024	0.0024	N/A	N/A	0.0017	< 0.001	N/A	0.49
	9/16/2008	0.029	N/A	N/A	N/A	0.0013	< 0.001	N/A	N/A
	10/31/2008	N/A	0.0028	N/A	N/A	N/A	N/A	N/A	0.36
	3/17/2009	0.0082	N/A	N/A	N/A	< 0.001	0.0012	N/A	N/A
	9/15/2009	0.019	0.0028	N/A	N/A	0.0013	0.0035	N/A	N/A
	3/16/2010	N/A	0.0086	N/A	N/A	< 0.001	0.0017	N/A	N/A
	8/31/2010	0.011	N/A	N/A	N/A	N/A	N/A	0.0041	N/A
	9/21/2010	0.0084	0.0033	0.01	N/A	0.0016	0.0036	0.0049	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.0063	N/A
	2/4/2011	N/A	0.062	0.0055	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.054	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.026	0.0061	N/A	< 0.001	0.0032	0.012	N/A
	3/15/2011	N/A	0.026	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0071	N/A
	9/13/2011	N/A	0.029	0.0022	N/A	0.0029	0.0039	0.008	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.0012	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.0028	0.0076	N/A
	3/27/2012	0.007	0.021	0.0011	N/A	0.0015	0.0031	0.0082	N/A
	3/27/2012	N/A	N/A	N/A	N/A	0.0014	N/A	N/A	N/A
	9/11/2012	0.0065	0.049	0.018	N/A	0.0018	0.003	0.0066	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.007	N/A
	3/20/2013	0.0072	N/A	N/A	N/A	< 0.001	< 0.001	0.0037	**0.0084**
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.0067	N/A
	9/3/2013	0.0033	0.019	0.005	N/A	< 0.001	0.0008	0.0021	N/A
	9/3/2013	N/A	0.02	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.00036	N/A	N/A	N/A	< 0.002	< 0.001	0.000425	< 0.001
	3/27/2014	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	9/15/2014	0.00192	N/A	N/A	N/A	0.00243	0.00044	< 0.002	**0.00163**
	9/15/2014	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Arsenic, mg/L (CAS NO - 7440-38-2)	3/10/2015	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	**0.0121**
	3/10/2015	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	8/31/2015	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	**0.01**
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A
	3/24/2016	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	**0.00473**
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	7/18/2016	< 0.002	**0.0156**	**0.018**	N/A	< 0.002	< 0.002	< 0.002	**0.00656**
	3/2/2017	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	**0.006**	0.000834*
	3/2/2017	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	8/2/2017	< 0.002	**0.022**	**0.0125**	N/A	< 0.002	0.00059*	**0.00539**	0.000726*
	8/2/2017	N/A	N/A	N/A	N/A	N/A	0.000602*	N/A	N/A
	5/1/2018	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.000837*	0.000788*
	9/24/2018	0.000695*	**0.0384**	**0.00812**	N/A	0.00073*	**0.00129**	**0.00424**	**0.0023**
	9/24/2018	N/A	N/A	N/A	N/A	0.000822*	N/A	N/A	N/A
	1/21/2019	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	0.00164*	**0.00326**
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	8/13/2019	< 0.002	**0.0838**	**0.0488**	N/A	< 0.002	0.000774*	0.000916*	**0.00896**
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	0.000939*	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.002	< 0.002	0.00165*	**0.00228**
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.00226**
	9/10/2020	N/A	**0.0265**	**0.0299**	N/A	< 0.002	< 0.002	0.00126*	**0.00983**
	9/10/2020	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002
	3/31/2021	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	8/30/2021	N/A	**0.0143**	**0.0361**	N/A	< 0.002	< 0.002	**0.00215**	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	0.00102*	N/A	N/A
	5/24/2022	N/A	N/A	N/A	0.00182*	< 0.002	0.00144*	0.000833*	< 0.002
	5/24/2022	N/A	N/A	N/A	N/A	N/A	0.00128*	N/A	N/A
	8/17/2022	N/A	N/A	**0.0229**	< 0.002	< 0.002	< 0.002	**0.00245**	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	**0.00214**	N/A
	2/6/2023	N/A	**0.0196**	**0.0297**	**0.0177**	< 0.002	< 0.002	0.00119*	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	0.00142*	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	**0.00417**	< 0.002	< 0.002	0.00172*	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	5/29/2024	N/A	**0.0399**	**0.0269**	N/A	0.000602*	< 0.002	**0.00945**	**0.00337**
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A
	7/16/2024	N/A	N/A	N/A	**0.00302**	N/A	N/A	N/A	N/A
	8/28/2024	N/A	N/A	N/A	N/A	N/A	N/A	**0.00345**	N/A
	11/12/2024	N/A	N/A	N/A	N/A	0.000868*	0.000539*	0.00149*	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	**0.00272**	N/A
Barium, mg/L (CAS NO - 7440-39-3)	2/26/2008	N/A	0.15	N/A	N/A	0.37	0.11	N/A	**0.21**
	3/20/2008	N/A	0.24	N/A	N/A	0.21	0.035	N/A	**0.17**
	6/9/2008	0.48	0.47	N/A	N/A	0.11	0.059	N/A	**0.31**
	8/13/2008	0.58	0.075	N/A	N/A	0.11	0.067	N/A	**1.5**
	9/16/2008	0.65	N/A	N/A	N/A	0.087	0.045	N/A	N/A
	10/31/2008	N/A	0.12	N/A	N/A	N/A	N/A	N/A	**2.8**
	3/17/2009	0.36	N/A	N/A	N/A	0.26	0.12	N/A	N/A
	9/15/2009	0.97	0.078	N/A	N/A	0.21	0.2	N/A	N/A
	3/16/2010	N/A	0.28	N/A	N/A	0.1	0.072	N/A	N/A
	8/31/2010	0.42	N/A	N/A	N/A	N/A	N/A	0.067	N/A
	9/21/2010	0.36	0.15	0.26	N/A	0.064	0.053	0.049	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.048	N/A
	2/4/2011	N/A	0.76	0.19	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.47	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.26	0.2	N/A	0.091	0.19	0.035	N/A
	3/15/2011	N/A	0.25	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.042	N/A
	9/13/2011	N/A	0.21	0.26	N/A	0.083	0.092	0.032	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.089	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.21	0.035	N/A
	3/27/2012	0.22	0.21	0.26	N/A	0.067	0.069	0.027	N/A
	3/27/2012	N/A	N/A	N/A	N/A	0.063	N/A	N/A	N/A
	9/11/2012	0.15	1.6	0.33	N/A	0.079	0.079	0.024	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.023	N/A
	3/20/2013	0.24	N/A	N/A	N/A	0.072	0.1	0.026	**0.41**
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.022	N/A
	9/3/2013	0.33	0.36	0.28	N/A	0.059	0.058	0.026	N/A
	9/3/2013	N/A	0.36	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.211	N/A	N/A	N/A	0.0605	0.0266	0.0102	**0.415**
	3/27/2014	N/A	N/A	N/A	N/A	0.0761	N/A	N/A	N/A
	9/15/2014	0.289	N/A	N/A	N/A	0.0483	0.123	0.0139	**0.433**
	9/15/2014	0.222	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	0.13	N/A	N/A	N/A	0.0486	0.0211	0.0171	**1.14**
	3/10/2015	N/A	N/A	N/A	N/A	0.0504	N/A	N/A	N/A
	5/15/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.371**
	8/31/2015	**0.179**	N/A	N/A	N/A	**0.0496**	**0.0185**	**0.0171**	**0.653**
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	**0.0169**	N/A
	3/24/2016	**0.141**	N/A	N/A	N/A	**0.0422**	**0.0179**	**0.0162**	**0.527**
	3/24/2016	N/A	N/A	N/A	N/A	N/A	**0.0174**	N/A	N/A
	7/18/2016	**0.0534**	**0.214**	**0.188**	N/A	**0.0388**	**0.0172**	**0.0151**	**0.469**
	3/2/2017	**0.0837**	N/A	N/A	N/A	**0.0227**	**0.0179**	**0.0192**	**0.315**
	3/2/2017	N/A	N/A	N/A	N/A	**0.0309**	N/A	N/A	N/A
	8/2/2017	**0.0675**	**1.68**	**1.03**	N/A	**0.0463**	**0.016**	**0.0157**	**0.321**
	8/2/2017	N/A	N/A	N/A	N/A	N/A	**0.0148**	N/A	N/A
	5/1/2018	**0.0621**	N/A	N/A	N/A	**0.0493**	**0.0198**	**0.0162**	**0.392**
	9/24/2018	**0.0726**	**2.05**	**1.04**	N/A	**0.04**	**0.0191**	**0.0178**	**0.376**
	9/24/2018	N/A	N/A	N/A	N/A	**0.0412**	N/A	N/A	N/A
	1/21/2019	**0.0491**	N/A	N/A	N/A	**0.0343**	**0.0139**	**0.0157**	**0.494**
	1/21/2019	N/A	N/A	N/A	N/A	N/A	**0.0153**	N/A	N/A
	8/13/2019	**0.127**	**1.88**	**1.31**	N/A	**0.0401**	**0.0179**	**0.0166**	**1**
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	**0.0173**	N/A
	3/24/2020	N/A	N/A	N/A	N/A	**0.046**	**0.0189**	**0.0165**	**0.52**
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.519**
	9/10/2020	N/A	**1.51**	**1.17**	N/A	**0.0399**	**0.0207**	**0.0155**	**0.321**
	9/10/2020	N/A	N/A	N/A	N/A	**0.041**	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	**0.0423**	**0.0224**	**0.0145**	**0.429**
	3/31/2021	N/A	N/A	N/A	N/A	**0.0499**	N/A	N/A	N/A
	6/15/2021	N/A	N/A	N/A	N/A	N/A	**0.0248**	N/A	N/A
	8/30/2021	N/A	**1.58**	**1.4**	N/A	**0.0416**	**0.0188**	**0.0161**	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	**0.0354**	N/A	N/A
	5/24/2022	N/A	N/A	N/A	**0.178**	**0.0416**	**0.0206**	**0.0137**	**0.427**
	5/24/2022	N/A	N/A	N/A	N/A	N/A	**0.0207**	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Barium, mg/L (CAS NO - 7440-39-3)	8/17/2022	N/A	N/A	**1.15**	**0.248**	**0.0445**	**0.0185**	**0.0145**	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	**0.0141**	N/A
	2/6/2023	N/A	**1.87**	**1.43**	**0.374**	0.0337	**0.0211**	**0.0158**	N/A
	2/6/2023	N/A	N/A	N/A	N/A	0.0363	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	**0.506**	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	**0.234**	**0.059**	**0.0167**	**0.0144**	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	**0.0172**	N/A	N/A
	2/27/2024	N/A	N/A	N/A	N/A	**0.103**	N/A	N/A	N/A
	5/29/2024	N/A	**1.78**	**1.15**	N/A	**0.106**	**0.02**	**0.0174**	**0.645**
	5/29/2024	N/A	N/A	N/A	N/A	N/A	**0.0194**	N/A	N/A
	7/16/2024	N/A	N/A	N/A	**0.564**	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	**0.0913**	**0.0211**	**0.0158**	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	**0.0174**	N/A
Beryllium, mg/L (CAS NO - 7440-41-7)	2/26/2008	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	3/20/2008	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	6/9/2008	0.0018	0.0024	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	8/13/2008	0.0038	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	**0.0014**
	9/16/2008	0.0042	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	10/31/2008	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	0.0022
	3/17/2009	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	9/15/2009	0.0053	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	3/16/2010	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	8/31/2010	0.0012	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/21/2010	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	2/4/2011	N/A	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	3/15/2011	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/13/2011	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001	N/A
	3/27/2012	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	9/11/2012	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/20/2013	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/3/2013	0.00063	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/3/2013	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.00104	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/27/2014	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	9/15/2014	0.00243	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/15/2014	0.00162	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/10/2015	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/31/2015	< 0.001	N/A	N/A	N/A	< 0.001	0.000075*	< 0.005	< 0.005
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2016	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	7/18/2016	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/2/2017	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/2/2017	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/2/2017	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/1/2018	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/24/2018	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/24/2018	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	1/21/2019	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/13/2019	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001
	9/10/2020	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	0.000361*
	9/10/2020	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/31/2021	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/30/2021	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/17/2022	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	2/6/2023	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/29/2024	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
Cadmium, mg/L (CAS NO - 7440-43-9)	2/26/2008	N/A	< 0.001	N/A	N/A	< 0.001	0.0016	N/A	< 0.001
	3/20/2008	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	6/9/2008	< 0.001	0.0022	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	8/13/2008	0.0012	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	9/16/2008	0.0016	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	10/31/2008	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	0.0034
	3/17/2009	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	9/15/2009	0.0027	< 0.001	N/A	N/A	< 0.001	0.0028	N/A	N/A
	3/16/2010	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	8/31/2010	< 0.001	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/21/2010	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	2/4/2011	N/A	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 0.001	< 0.001	N/A	< 0.001	0.0015	< 0.001	N/A
	3/15/2011	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/13/2011	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Cadmium, mg/L (CAS NO - 7440-43-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001	N/A
	3/27/2012	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	9/11/2012	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/20/2013	< 0.0005	N/A	N/A	N/A	< 0.0005	0.00058	< 0.001	< 0.001
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A
	9/3/2013	0.00031	< 0.001	< 0.001	N/A	0.00025	0.00016	< 0.001	N/A
	9/3/2013	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.000926	N/A	N/A	N/A	0.000445	0.00246	0.000163	< 0.0005
	3/27/2014	N/A	N/A	N/A	N/A	0.000313	N/A	N/A	N/A
	9/15/2014	0.00134	N/A	N/A	N/A	0.00138	0.00583	0.000187	< 0.0005
	9/15/2014	0.00258	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.0005	N/A	N/A	N/A	0.000205	0.00413	< 0.0005	< 0.0005
	3/10/2015	N/A	N/A	N/A	N/A	0.000217	N/A	N/A	N/A
	8/31/2015	< 0.0005	N/A	N/A	N/A	< 0.0005	**0.000553**	< 0.0005	< 0.0005
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A
	3/24/2016	0.00004*	N/A	N/A	N/A	< 0.0005	**0.000963**	0.000083*	< 0.0005
	3/24/2016	N/A	N/A	N/A	N/A	N/A	**0.001**	N/A	N/A
	7/18/2016	0.000084*	0.000383*	**0.000503**	N/A	< 0.0005	0.000496*	0.000041*	< 0.0005
	3/2/2017	0.000069*	N/A	N/A	N/A	< 0.0005	**0.00213**	< 0.0005	< 0.0005
	3/2/2017	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A
	8/2/2017	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	**0.000541**	< 0.0005	< 0.0005
	8/2/2017	N/A	N/A	N/A	N/A	N/A	**0.0006**	N/A	N/A
	5/1/2018	< 0.0005	N/A	N/A	N/A	< 0.0005	**0.000519**	< 0.0005	< 0.0005
	9/24/2018	0.00018*	< 0.0005	< 0.0005	N/A	< 0.0005	0.000284*	0.000168*	< 0.0005
	9/24/2018	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A
	1/21/2019	< 0.0005	N/A	N/A	N/A	< 0.0005	0.00043*	< 0.0005	< 0.0005
	1/21/2019	N/A	N/A	N/A	N/A	N/A	0.000398*	N/A	N/A
	8/13/2019	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.0001	**0.000837**	< 0.0001	< 0.0001
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001
	9/10/2020	N/A	< 0.0001	< 0.0001	N/A	0.000086*	< 0.0001	< 0.0001	**0.000586**
	9/10/2020	N/A	N/A	N/A	N/A	0.000074*	N/A	N/A	N/A
	11/25/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.00117**
	2/24/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001
	3/31/2021	N/A	N/A	N/A	N/A	< 0.0001	0.000053*	< 0.0001	< 0.0001
	3/31/2021	N/A	N/A	N/A	N/A	0.000056*	N/A	N/A	N/A
	6/15/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001
	8/30/2021	N/A	< 0.0001	< 0.0001	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.0001	N/A	N/A
	3/29/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001
	5/24/2022	N/A	N/A	N/A	< 0.0001	**0.000457**	< 0.0001	< 0.0001	< 0.0001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.0001	N/A	N/A
	8/17/2022	N/A	N/A	< 0.0001	< 0.0001	**0.00018**	< 0.0001	< 0.0001	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0001	N/A
	2/6/2023	N/A	< 0.0001	< 0.0001	**0.00303**	0.000097	< 0.0001	< 0.0001	N/A
	2/6/2023	N/A	N/A	N/A	N/A	0.000098	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.0002	< 0.0002	< 0.0002	< 0.0002	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A
	5/29/2024	N/A	< 0.0002	< 0.0002	N/A	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.0002	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	< 0.0002	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A
Chromium, mg/L (CAS NO - 7440-47-3)	2/26/2008	N/A	0.015	N/A	N/A	< 0.004	< 0.004	N/A	**0.0045**
	3/20/2008	N/A	0.016	N/A	N/A	0.0045	< 0.004	N/A	< 0.004
	6/9/2008	0.038	0.059	N/A	N/A	0.0048	< 0.004	N/A	**0.013**
	8/13/2008	0.07	< 0.004	N/A	N/A	0.0067	< 0.004	N/A	0.029
	9/16/2008	0.08	N/A	N/A	N/A	0.0044	< 0.004	N/A	N/A
	10/31/2008	N/A	< 0.004	N/A	N/A	N/A	N/A	N/A	0.085
	3/17/2009	0.016	N/A	N/A	N/A	0.0042	< 0.004	N/A	N/A
	9/15/2009	0.046	< 0.004	N/A	N/A	0.005	0.0043	N/A	N/A
	3/16/2010	N/A	0.033	N/A	N/A	< 0.004	< 0.004	N/A	N/A
	8/31/2010	0.035	N/A	N/A	N/A	N/A	N/A	0.0068	N/A
	9/21/2010	0.03	0.0044	0.009	N/A	0.0045	< 0.004	0.0057	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.0042	N/A
	2/4/2011	N/A	0.0041	< 0.004	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.0044	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.0056	< 0.004	N/A	0.0053	0.0042	0.0055	N/A
	3/15/2011	N/A	0.0062	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0053	N/A
	9/13/2011	N/A	0.0097	0.0046	N/A	0.025	0.017	0.0081	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.0047	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.006	0.0046	N/A
	3/27/2012	0.024	0.0079	< 0.004	N/A	< 0.004	< 0.004	< 0.004	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A
	9/11/2012	0.016	0.046	0.0083	N/A	0.0059	0.0052	0.0053	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A
	3/20/2013	0.018	N/A	N/A	N/A	< 0.004	< 0.004	< 0.004	**0.0072**
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.004	N/A
	9/3/2013	0.0077	0.00061	0.00067	N/A	0.00099	0.0011	0.0013	N/A
	9/3/2013	N/A	0.00067	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.0048	N/A	N/A	N/A	< 0.02	0.00772	0.00979	< 0.02
	3/27/2014	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A
	9/15/2014	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02
	9/15/2014	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/10/2015	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/31/2015	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.025
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2016	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	7/18/2016	< 0.005	**0.048**	**0.0613**	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/2/2017	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/2/2017	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/2/2017	< 0.005	0.00101*	0.000934*	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/1/2018	< 0.005	N/A	N/A	N/A	< 0.005	0.000937*	< 0.005	< 0.005
	9/24/2018	0.00459*	0.00416*	0.00438*	N/A	0.00467*	0.00379*	0.00341*	0.00487*
	9/24/2018	N/A	N/A	N/A	N/A	0.00395*	N/A	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Chromium, mg/L (CAS NO - 7440-47-3)	1/21/2019	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/13/2019	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	0.00101*
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
	9/10/2020	N/A	< 0.005	< 0.005	N/A	< 0.005	**0.00643**	< 0.005	**0.0123**
	9/10/2020	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	11/25/2020	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/31/2021	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/30/2021	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/17/2022	N/A	N/A	0.00142*	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	2/6/2023	N/A	< 0.005	< 0.005	**0.0329**	< 0.005	< 0.005	< 0.005	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/29/2024	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
Cobalt, mg/L (CAS NO - 7440-48-4)	2/26/2008	N/A	0.0037	N/A	N/A	0.013	0.02	N/A	**0.012**
	3/20/2008	N/A	0.0061	N/A	N/A	0.009	0.016	N/A	**0.0095**
	6/9/2008	0.014	0.019	N/A	N/A	0.0091	0.021	N/A	**0.0099**
	8/13/2008	0.023	< 0.002	N/A	N/A	0.014	0.022	N/A	0.019
	9/16/2008	0.029	N/A	N/A	N/A	0.015	0.024	N/A	N/A
	10/31/2008	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	0.078
	3/17/2009	0.0076	N/A	N/A	N/A	0.011	0.037	N/A	N/A
	9/15/2009	0.019	< 0.002	N/A	N/A	0.0082	0.081	N/A	N/A
	3/16/2010	N/A	0.0084	N/A	N/A	0.012	0.059	N/A	N/A
	8/31/2010	0.0097	N/A	N/A	N/A	N/A	N/A	0.017	N/A
	9/21/2010	0.0084	0.0023	0.0062	N/A	0.01	0.06	0.022	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.022	N/A
	2/4/2011	N/A	< 0.002	0.012	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.004	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 0.002	0.014	N/A	0.0084	0.057	0.016	N/A
	3/15/2011	N/A	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.012	N/A
	9/13/2011	N/A	< 0.002	0.023	N/A	0.0066	0.056	0.01	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.0063	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.058	0.012	N/A
	3/27/2012	0.0061	< 0.002	0.026	N/A	0.0043	0.05	0.0055	N/A
	3/27/2012	N/A	N/A	N/A	N/A	0.0043	N/A	N/A	N/A
	9/11/2012	0.0054	0.004	0.033	N/A	0.0037	0.053	0.0049	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.0051	N/A
	3/20/2013	0.0075	N/A	N/A	N/A	0.0054	0.053	0.0046	< 0.002
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.0063	N/A
	9/3/2013	0.0057	0.00026	0.032	N/A	0.0077	0.051	0.0031	N/A
	9/3/2013	N/A	0.00033	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.00367	N/A	N/A	N/A	0.00637	0.0547	< 0.00482	< 0.00241
	3/27/2014	N/A	N/A	N/A	N/A	0.00666	N/A	N/A	N/A
	9/15/2014	0.00381	N/A	N/A	N/A	0.0117	0.0274	< 0.00241	< 0.00241
	9/15/2014	0.019	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.0005	N/A	N/A	N/A	0.00115	0.0182	0.00059	**0.0016**
	3/10/2015	N/A	N/A	N/A	N/A	0.00121	N/A	N/A	N/A
	8/31/2015	0.000161*	N/A	N/A	N/A	**0.00823**	**0.000734**	**0.000574**	0.00071*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	0.000825*	N/A
	3/24/2016	0.000068*	N/A	N/A	N/A	**0.00641**	**0.00201**	**0.00124**	**0.000587**
	3/24/2016	N/A	N/A	N/A	N/A	N/A	**0.00166**	N/A	N/A
	7/18/2016	0.000043*	**0.0315**	**0.0343**	N/A	**0.007**	**0.0115**	**0.00128**	**0.00128**
	3/2/2017	0.000047*	N/A	N/A	N/A	**0.00272**	**0.00577**	**0.00187**	0.000475*
	3/2/2017	N/A	N/A	N/A	N/A	**0.00162**	N/A	N/A	N/A
	8/2/2017	0.000069*	0.000297*	**0.000986**	N/A	**0.00994**	**0.002**	**0.00443**	**0.00123**
	8/2/2017	N/A	N/A	N/A	N/A	N/A	**0.00495**	N/A	N/A
	5/1/2018	< 0.0005	N/A	N/A	N/A	**0.0107**	**0.0201**	**0.00261**	0.000389*
	9/24/2018	0.000525*	0.000479*	**0.00102**	N/A	**0.00936**	**0.0118**	**0.00149**	0.00099*
	9/24/2018	N/A	N/A	N/A	N/A	**0.00872**	N/A	N/A	N/A
	1/21/2019	0.000073*	N/A	N/A	N/A	**0.00807**	**0.00265**	**0.00381**	0.000387*
	1/21/2019	N/A	N/A	N/A	N/A	N/A	**0.00225**	N/A	N/A
	8/13/2019	< 0.0005	**0.000955**	**0.00116**	N/A	**0.00748**	**0.019**	**0.00414**	**0.00181**
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	**0.00515**	N/A
	3/24/2020	N/A	N/A	N/A	N/A	**0.00647**	**0.0133**	**0.00372**	**0.000706**
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.000591**
	9/10/2020	N/A	0.000494*	**0.00118**	N/A	**0.00731**	**0.0178**	**0.00379**	**0.00594**
	9/10/2020	N/A	N/A	N/A	N/A	**0.00766**	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	**0.00747**	**0.0166**	**0.00112**	**0.000517**
	3/31/2021	N/A	N/A	N/A	N/A	**0.00566**	N/A	N/A	N/A
	8/30/2021	N/A	**0.00078**	**0.00114**	N/A	**0.00622**	**0.0206**	**0.00264**	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	**0.0212**	N/A	N/A
	5/24/2022	N/A	N/A	N/A	**0.00189**	**0.00589**	**0.0166**	**0.00101**	**0.000924**
	5/24/2022	N/A	N/A	N/A	N/A	N/A	**0.0163**	N/A	N/A
	8/17/2022	N/A	N/A	**0.00337**	**0.000604**	**0.00469**	**0.00591**	**0.00311**	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	**0.00296**	N/A
	2/6/2023	N/A	**0.000576**	**0.00145**	**0.071**	0.00125	**0.0185**	**0.00295**	N/A
	2/6/2023	N/A	N/A	N/A	N/A	0.00131	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	0.000372*	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	**0.0024**	**0.0014**	**0.00584**	**0.00304**	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	**0.00591**	N/A	N/A
	5/29/2024	N/A	0.000486*	**0.00149**	N/A	**0.000856**	**0.00723**	**0.00307**	0.000467*
	5/29/2024	N/A	N/A	N/A	N/A	N/A	**0.00728**	N/A	N/A
	7/16/2024	N/A	N/A	N/A	0.000233*	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	**0.00164**	**0.0139**	**0.00331**	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	**0.0034**	N/A

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Summary of Groundwater Chemistry
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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Copper, mg/L (CAS NO - 7440-50-8)	2/26/2008	N/A	0.0096	N/A	N/A	0.029	0.023	N/A	**0.005**
	3/20/2008	N/A	0.011	N/A	N/A	0.017	0.0069	N/A	**0.0036**
	6/9/2008	0.038	0.048	N/A	N/A	0.012	0.0062	N/A	**0.009**
	8/13/2008	0.055	0.0032	N/A	N/A	0.025	0.0093	N/A	0.029
	9/16/2008	0.072	N/A	N/A	N/A	0.022	0.006	N/A	N/A
	10/31/2008	N/A	< 0.003	N/A	N/A	N/A	N/A	N/A	0.36
	3/17/2009	0.021	N/A	N/A	N/A	0.025	0.033	N/A	N/A
	9/15/2009	0.05	< 0.003	N/A	N/A	0.044	0.039	N/A	N/A
	3/16/2010	N/A	0.022	N/A	N/A	0.018	0.0094	N/A	N/A
	8/31/2010	0.025	N/A	N/A	N/A	N/A	N/A	0.01	N/A
	9/21/2010	0.02	0.0042	0.018	N/A	0.012	0.0069	0.0064	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.0067	N/A
	2/4/2011	N/A	0.012	0.01	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.025	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.01	0.0089	N/A	0.023	0.016	0.007	N/A
	3/15/2011	N/A	0.013	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0088	N/A
	9/13/2011	N/A	0.018	0.021	N/A	0.021	0.015	0.006	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.016	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.02	0.0089	N/A
	3/27/2012	0.026	0.014	0.0099	N/A	0.0081	0.014	0.01	N/A
	3/27/2012	N/A	N/A	N/A	N/A	0.0075	N/A	N/A	N/A
	9/11/2012	0.015	0.18	0.064	N/A	0.0062	0.01	0.005	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.0055	N/A
	3/20/2013	0.018	N/A	N/A	N/A	0.012	0.0061	0.0044	**0.0078**
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.0094	N/A
	9/3/2013	0.012	0.023	0.016	N/A	0.0082	0.0047	0.0082	N/A
	9/3/2013	N/A	0.02	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.00881	N/A	N/A	N/A	< 0.02	0.0253	0.0199	< 0.02
	3/27/2014	N/A	N/A	N/A	N/A	0.00944	N/A	N/A	N/A
	9/15/2014	0.019	N/A	N/A	N/A	0.0312	0.0359	0.00984	< 0.02
	9/15/2014	0.0109	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.002	N/A	N/A	N/A	0.00707	0.00638	0.00183	0.00089*
	3/10/2015	N/A	N/A	N/A	N/A	0.00793	N/A	N/A	N/A
	8/31/2015	0.00186*	N/A	N/A	N/A	**0.00432**	**0.00461**	**0.00211**	0.00193*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	**0.00236**	N/A
	3/24/2016	< 0.005	N/A	N/A	N/A	< 0.005	**0.00529**	0.0049*	< 0.005
	3/24/2016	N/A	N/A	N/A	N/A	N/A	0.00477*	N/A	N/A
	7/18/2016	< 0.005	**0.018**	**0.0315**	N/A	< 0.005	0.00214*	0.0013*	< 0.005
	3/2/2017	< 0.005	N/A	N/A	N/A	< 0.005	0.00319*	< 0.005	< 0.005
	3/2/2017	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/2/2017	**0.00616**	0.00431*	**0.0068**	N/A	**0.00565**	0.00287*	< 0.005	**0.00553**
	8/2/2017	N/A	N/A	N/A	N/A	N/A	0.00281*	N/A	N/A
	5/1/2018	< 0.005	N/A	N/A	N/A	< 0.005	0.00199*	< 0.005	< 0.005
	9/24/2018	**0.00243**	0.00084*	0.000674*	N/A	**0.00201**	**0.00393**	**0.00325**	0.00138*
	9/24/2018	N/A	N/A	N/A	N/A	0.00157*	N/A	N/A	N/A
	1/21/2019	< 0.005	N/A	N/A	N/A	< 0.005	0.00174*	< 0.005	< 0.005
	1/21/2019	N/A	N/A	N/A	N/A	N/A	0.00204*	N/A	N/A
	8/13/2019	< 0.005	< 0.01	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
	9/10/2020	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	**0.0198**
	9/10/2020	N/A	N/A	N/A	N/A	0.00155*	N/A	N/A	N/A
	11/25/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.00753**
	2/24/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
	3/31/2021	N/A	N/A	N/A	N/A	< 0.005	< 0.005	0.00164*	< 0.005
	3/31/2021	N/A	N/A	N/A	N/A	0.00279*	N/A	N/A	N/A
	8/30/2021	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.005	0.00258*	< 0.005	< 0.005	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/17/2022	N/A	N/A	< 0.005	< 0.005	0.00186*	< 0.005	< 0.005	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	2/6/2023	N/A	< 0.005	< 0.005	**0.0585**	0.0022	< 0.005	< 0.005	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	0.00235*	< 0.005	< 0.005	< 0.005	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/29/2024	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	7/16/2024	N/A	N/A	N/A	**0.012**	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
Lead, mg/L (CAS NO - 7439-92-1)	2/26/2008	N/A	0.0047	N/A	N/A	0.0024	0.0026	N/A	**0.002**
	3/20/2008	N/A	0.0073	N/A	N/A	0.0016	< 0.001	N/A	**0.0013**
	6/9/2008	0.022	0.029	N/A	N/A	0.0016	< 0.001	N/A	**0.0064**
	8/13/2008	0.033	< 0.001	N/A	N/A	0.0034	0.0012	N/A	0.019
	9/16/2008	0.043	N/A	N/A	N/A	0.0025	< 0.001	N/A	N/A
	10/31/2008	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	0.067
	3/17/2009	0.011	N/A	N/A	N/A	0.0023	0.0049	N/A	N/A
	9/15/2009	0.034	< 0.001	N/A	N/A	0.0055	0.0046	N/A	N/A
	3/16/2010	N/A	0.015	N/A	N/A	0.0022	< 0.001	N/A	N/A
	8/31/2010	0.013	N/A	N/A	N/A	N/A	N/A	0.004	N/A
	9/21/2010	0.012	< 0.001	0.0051	N/A	0.0018	0.0011	0.0018	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.002	N/A
	2/4/2011	N/A	0.0069	0.0099	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.0085	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.012	0.022	N/A	0.0033	0.0016	0.0019	N/A
	3/15/2011	N/A	0.0073	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.0021	N/A
	9/13/2011	N/A	0.021	0.0026	N/A	0.0017	0.0017	0.0013	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.0014	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.0031	0.0019	N/A
	3/27/2012	0.0094	0.005	< 0.001	N/A	< 0.001	0.0015	< 0.001	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	9/11/2012	0.0078	0.041	0.012	N/A	< 0.001	0.0014	< 0.001	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/20/2013	0.0093	N/A	N/A	N/A	0.0013	0.0012	< 0.001	< 0.001
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.0015	N/A
	9/3/2013	0.0076	0.0039	0.001	N/A	0.001	0.0011	0.0014	N/A
	9/3/2013	N/A	0.0036	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.0033	N/A	N/A	N/A	0.00185	< 0.004	< 0.004	< 0.004
	3/27/2014	N/A	N/A	N/A	N/A	< 0.004	N/A	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Lead, mg/L (CAS NO - 7439-92-1)	9/15/2014	0.0046	N/A	N/A	N/A	0.00418	0.00232	< 0.004	< 0.004
	9/15/2014	0.0141	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	0.000216	N/A	N/A	N/A	0.00022	0.000209	0.000133	0.000473*
	3/10/2015	N/A	N/A	N/A	N/A	0.000362	N/A	N/A	N/A
	8/31/2015	0.000097*	N/A	N/A	N/A	**0.000952**	< 0.0005	< 0.0025	0.000367*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	0.000171*	N/A
	3/24/2016	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	0.000287*
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	7/18/2016	< 0.0005	**0.00626**	**0.00679**	N/A	< 0.0005	< 0.0005	< 0.0005	0.000296*
	3/2/2017	< 0.0005	N/A	N/A	N/A	0.000408*	< 0.0005	< 0.0005	< 0.0005
	3/2/2017	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A
	8/2/2017	0.000342*	< 0.0005	0.000408*	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	5/1/2018	< 0.0005	N/A	N/A	N/A	0.000496*	< 0.0005	0.000262*	< 0.0005
	9/24/2018	0.000325*	< 0.0005	< 0.0005	N/A	0.000253*	0.000327*	**0.000898**	< 0.0005
	9/24/2018	N/A	N/A	N/A	N/A	0.000217*	N/A	N/A	N/A
	1/21/2019	< 0.0005	N/A	N/A	N/A	< 0.0005	< 0.0005	**0.000639**	< 0.0005
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	8/13/2019	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005
	9/10/2020	N/A	0.000184*	< 0.0005	N/A	0.000148*	< 0.0005	0.000144*	**0.0144**
	9/10/2020	N/A	N/A	N/A	N/A	0.000152*	N/A	N/A	N/A
	11/25/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.0029**
	2/24/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005
	3/31/2021	N/A	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	3/31/2021	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A
	6/15/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005
	8/30/2021	N/A	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	3/29/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005
	5/24/2022	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	0.000498*	< 0.0005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	8/17/2022	N/A	N/A	0.000379*	< 0.0005	< 0.0005	< 0.0005	0.000366*	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	0.000366*	N/A
	2/6/2023	N/A	**0.000597**	< 0.0005	**0.0144**	0.000727	< 0.0005	< 0.0005	N/A
	2/6/2023	N/A	N/A	N/A	N/A	0.000736	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	**0.00159**	< 0.0005	< 0.0005	0.000257*	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	5/29/2024	N/A	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A
	7/16/2024	N/A	N/A	N/A	0.000497*	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.0005	< 0.0005	< 0.0005	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0005	N/A
Mercury, mg/L (CAS NO - 7439-97-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.0002	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0002	< 0.0002	N/A
Nickel, mg/L (CAS NO - 7440-02-0)	2/26/2008	N/A	0.013	N/A	N/A	0.035	0.096	N/A	**0.017**
	3/20/2008	N/A	0.018	N/A	N/A	0.051	0.086	N/A	**0.017**
	6/9/2008	0.056	0.068	N/A	N/A	0.065	0.13	N/A	**0.053**
	8/13/2008	0.069	0.006	N/A	N/A	0.051	0.092	N/A	0.057
	9/16/2008	0.079	N/A	N/A	N/A	0.05	0.096	N/A	N/A
	10/31/2008	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	0.14
	3/17/2009	0.027	N/A	N/A	N/A	0.04	0.12	N/A	N/A
	9/15/2009	0.057	0.0051	N/A	N/A	0.026	0.17	N/A	N/A
	3/16/2010	N/A	0.03	N/A	N/A	0.044	0.13	N/A	N/A
	8/31/2010	0.029	N/A	N/A	N/A	N/A	N/A	0.053	N/A
	9/21/2010	0.029	0.017	0.024	N/A	0.042	0.13	0.06	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.057	N/A
	2/4/2011	N/A	0.034	1.4	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.028	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.21	1.2	N/A	0.035	0.15	0.054	N/A
	3/15/2011	N/A	0.21	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.051	N/A
	9/13/2011	N/A	0.09	0.079	N/A	0.018	0.11	0.046	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.019	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.11	0.038	N/A
	3/27/2012	0.025	0.065	0.086	N/A	0.034	0.13	0.043	N/A
	3/27/2012	N/A	N/A	N/A	N/A	0.035	N/A	N/A	N/A
	9/11/2012	0.019	0.67	0.088	N/A	0.028	0.11	0.034	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.035	N/A
	3/20/2013	0.018	N/A	N/A	N/A	0.015	0.078	0.039	**0.016**
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.0067	N/A
	9/3/2013	0.011	0.012	0.069	N/A	0.016	0.088	0.0077	N/A
	9/3/2013	N/A	0.013	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.0128	N/A	N/A	N/A	0.0218	0.101	0.018	0.00884*
	3/27/2014	N/A	N/A	N/A	N/A	0.0181	N/A	N/A	N/A
	9/15/2014	0.0347	N/A	N/A	N/A	0.0471	0.0945	0.0125	0.0152*
	9/15/2014	0.0194	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.005	N/A	N/A	N/A	0.0225	0.0638	0.00448	**0.0135**
	3/10/2015	N/A	N/A	N/A	N/A	0.022	N/A	N/A	N/A
	8/31/2015	< 0.005	N/A	N/A	N/A	**0.0233**	**0.019**	< 0.025	< 0.025
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	**0.00626**	N/A
	3/24/2016	< 0.005	N/A	N/A	N/A	**0.0208**	**0.0621**	**0.0104**	0.00386*
	3/24/2016	N/A	N/A	N/A	N/A	N/A	**0.0602**	N/A	N/A
	7/18/2016	0.00354*	**0.262**	**0.283**	N/A	**0.0216**	**0.0601**	**0.00876**	0.00332*
	3/2/2017	0.00126*	N/A	N/A	N/A	0.00388*	**0.0671**	0.00439*	0.00461*
	3/2/2017	N/A	N/A	N/A	N/A	**0.00647**	N/A	N/A	N/A
	8/2/2017	0.00399*	0.00376*	**0.0185**	N/A	**0.0218**	**0.0373**	**0.00953**	**0.00608**
	8/2/2017	N/A	N/A	N/A	N/A	N/A	**0.042**	N/A	N/A
	5/1/2018	< 0.005	N/A	N/A	N/A	**0.023**	**0.0449**	**0.00979**	0.00302*
	9/24/2018	**0.00536**	**0.00292**	**0.0201**	N/A	**0.02**	**0.0387**	**0.0104**	**0.00451**
	9/24/2018	N/A	N/A	N/A	N/A	**0.0217**	N/A	N/A	N/A
	1/21/2019	< 0.005	N/A	N/A	N/A	**0.0156**	**0.0308**	**0.00983**	0.0029*
	1/21/2019	N/A	N/A	N/A	N/A	N/A	**0.0344**	N/A	N/A
	8/13/2019	< 0.005	**0.00617**	**0.0178**	N/A	**0.018**	**0.0383**	**0.0108**	0.00417*
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	**0.0111**	N/A
	3/24/2020	N/A	N/A	N/A	N/A	**0.0181**	**0.0397**	**0.00879**	0.00387*
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00349*
	9/10/2020	N/A	0.00365*	**0.0163**	N/A	**0.018**	**0.0287**	**0.0113**	**0.0238**
	9/10/2020	N/A	N/A	N/A	N/A	**0.0186**	N/A	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Nickel, mg/L (CAS NO - 7440-02-0)	3/31/2021	N/A	N/A	N/A	N/A	**0.0194**	**0.0343**	**0.0127**	**0.00649**
	3/31/2021	N/A	N/A	N/A	N/A	**0.0153**	N/A	N/A	N/A
	8/30/2021	N/A	0.0028*	**0.034**	N/A	**0.018**	**0.038**	**0.0119**	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	**0.0382**	N/A	N/A
	5/24/2022	N/A	N/A	N/A	0.00227*	**0.0187**	**0.0305**	**0.0101**	0.00399*
	5/24/2022	N/A	N/A	N/A	N/A	N/A	**0.0307**	N/A	N/A
	8/17/2022	N/A	N/A	**0.0272**	0.00396*	**0.0177**	**0.00833**	**0.0108**	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	**0.0105**	N/A
	2/6/2023	N/A	**0.019**	**0.0269**	**0.432**	0.00445	**0.0419**	**0.0116**	N/A
	2/6/2023	N/A	N/A	N/A	N/A	0.00493	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	0.00229*	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	**0.00572**	**0.00825**	**0.00703**	**0.00966**	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	**0.00719**	N/A	N/A
	5/29/2024	N/A	0.00486*	**0.0151**	N/A	**0.00799**	**0.00877**	**0.011**	0.00325*
	5/29/2024	N/A	N/A	N/A	N/A	N/A	**0.00881**	N/A	N/A
	7/16/2024	N/A	N/A	N/A	0.00266*	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	**0.00627**	**0.0231**	**0.0122**	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	**0.0121**	N/A
Selenium, mg/L (CAS NO - 7782-49-2)	2/26/2008	N/A	0.0033	N/A	N/A	0.001	0.0012	N/A	**0.0012**
	3/20/2008	N/A	0.0029	N/A	N/A	0.0039	0.0066	N/A	**0.0021**
	6/9/2008	0.0036	0.014	N/A	N/A	0.0038	0.0034	N/A	**0.0032**
	8/13/2008	0.0055	0.0021	N/A	N/A	0.0036	0.0019	N/A	**0.0027**
	9/16/2008	0.0028	N/A	N/A	N/A	0.004	0.0064	N/A	N/A
	10/31/2008	N/A	0.0024	N/A	N/A	N/A	N/A	N/A	**0.0065**
	3/17/2009	0.0048	N/A	N/A	N/A	0.0033	0.0031	N/A	N/A
	9/15/2009	0.0058	< 0.001	N/A	N/A	0.0015	0.0012	N/A	N/A
	3/16/2010	N/A	0.0048	N/A	N/A	0.0019	0.0016	N/A	N/A
	8/31/2010	0.0043	N/A	N/A	N/A	N/A	N/A	0.0026	N/A
	9/21/2010	0.0054	0.0021	0.0035	N/A	0.0025	0.0028	0.0033	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.0022	N/A
	2/4/2011	N/A	0.0018	< 0.001	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.0023	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.005	0.0021	N/A	0.0037	0.0032	0.0031	N/A
	3/15/2011	N/A	0.0055	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.015	N/A
	9/13/2011	N/A	0.0075	0.0032	N/A	0.0034	0.0094	0.015	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.0032	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.0078	0.015	N/A
	3/27/2012	0.0043	0.011	0.0032	N/A	0.0055	0.01	0.018	N/A
	3/27/2012	N/A	N/A	N/A	N/A	0.0059	N/A	N/A	N/A
	9/11/2012	0.012	0.0097	0.004	N/A	0.0077	0.011	0.017	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.015	N/A
	3/20/2013	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/3/2013	0.00059	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/3/2013	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/27/2014	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	9/15/2014	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	9/15/2014	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/10/2015	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/31/2015	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.025
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2016	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	7/18/2016	< 0.005	0.00389*	0.00418*	N/A	< 0.005	< 0.005	< 0.005	0.000632*
	3/2/2017	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/2/2017	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/2/2017	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/1/2018	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	9/24/2018	< 0.0025	< 0.0025	< 0.0025	N/A	< 0.0025	< 0.0025	< 0.0025	< 0.0025
	9/24/2018	N/A	N/A	N/A	N/A	< 0.0025	N/A	N/A	N/A
	1/21/2019	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/13/2019	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	8/13/2019	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
	9/10/2020	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	0.00194*
	9/10/2020	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/31/2021	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/30/2021	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/24/2022	N/A	N/A	N/A	**0.00692**	< 0.005	0.00221*	0.00112*	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/17/2022	N/A	N/A	< 0.005	0.00275*	< 0.005	< 0.005	< 0.005	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	2/6/2023	N/A	< 0.005	< 0.005	0.00421*	< 0.005	< 0.005	< 0.005	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/29/2024	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
Silver, mg/L (CAS NO - 7440-22-4)	2/26/2008	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005
	3/20/2008	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005
	6/9/2008	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005
	8/13/2008	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005
	9/16/2008	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	10/31/2008	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	< 0.005
	3/17/2009	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	9/15/2009	< 0.005	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	3/16/2010	N/A	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	8/31/2010	< 0.005	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	9/21/2010	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	2/4/2011	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A

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Summary of Groundwater Chemistry
Great River Regional Waste Authority 56 SDP 07 80P

Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Silver, mg/L (CAS NO - 7440-22-4)	3/15/2011	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	3/15/2011	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	9/13/2011	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A
	3/27/2012	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	9/11/2012	< 0.005	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/20/2013	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	9/3/2013	< 0.005	< 0.005	0.00021	N/A	< 0.005	< 0.005	< 0.005	N/A
	9/3/2013	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.04	< 0.02
	3/27/2014	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A
	9/15/2014	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02
	9/15/2014	< 0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/10/2015	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/31/2015	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2016	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	7/18/2016	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/2/2017	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/2/2017	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/2/2017	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/1/2018	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/24/2018	< 0.0005	< 0.0005	< 0.0005	N/A	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	9/24/2018	N/A	N/A	N/A	N/A	< 0.0005	N/A	N/A	N/A
	1/21/2019	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/13/2019	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001
	9/10/2020	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/10/2020	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/31/2021	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/30/2021	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.001	0.000533*	0.000594*	< 0.001	< 0.001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/17/2022	N/A	N/A	< 0.001	< 0.001	< 0.001	0.000844*	< 0.001	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	2/6/2023	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/29/2024	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
Thallium, mg/L (CAS NO - 7440-28-0)	2/26/2008	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	3/20/2008	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	6/9/2008	< 0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	8/13/2008	0.0011	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	< 0.001
	9/16/2008	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	10/31/2008	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	0.0013
	3/17/2009	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	9/15/2009	0.001	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	3/16/2010	N/A	< 0.001	N/A	N/A	< 0.001	< 0.001	N/A	N/A
	8/31/2010	< 0.001	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/21/2010	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	2/4/2011	N/A	< 0.001	< 0.001	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	3/15/2011	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/13/2011	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.001	< 0.001	N/A
	3/27/2012	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	9/11/2012	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/20/2013	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	9/3/2013	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	9/3/2013	N/A	< 0.001	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 0.002	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002
	3/27/2014	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A
	9/15/2014	0.000599	N/A	N/A	N/A	< 0.002	< 0.002	< 0.002	< 0.002
	9/15/2014	< 0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.001	N/A	N/A	N/A	0.000049	0.000232	< 0.001	< 0.001
	3/10/2015	N/A	N/A	N/A	N/A	0.000035	N/A	N/A	N/A
	8/31/2015	< 0.001	N/A	N/A	N/A	0.000037*	0.00008*	< 0.005	< 0.001
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2016	< 0.001	N/A	N/A	N/A	< 0.001	0.000102*	< 0.001	< 0.001
	3/24/2016	N/A	N/A	N/A	N/A	N/A	0.000113*	N/A	N/A
	7/18/2016	< 0.001	0.000052*	0.000047*	N/A	< 0.001	0.000094*	< 0.001	< 0.001
	3/2/2017	< 0.001	N/A	N/A	N/A	< 0.001	0.00013*	< 0.001	< 0.001
	3/2/2017	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/2/2017	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/2/2017	N/A	N/A	N/A	N/A	N/A	0.000089*	N/A	N/A
	5/1/2018	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/24/2018	< 0.002	< 0.002	< 0.002	N/A	< 0.002	< 0.002	< 0.002	< 0.002
	9/24/2018	N/A	N/A	N/A	N/A	< 0.002	N/A	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Thallium, mg/L (CAS NO - 7440-28-0)	1/21/2019	< 0.001	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	8/13/2019	< 0.001	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001
	9/10/2020	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	9/10/2020	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	3/31/2021	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	8/30/2021	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	5/24/2022	N/A	N/A	N/A	N/A	N/A	0.000387*	N/A	N/A
	8/17/2022	N/A	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
	2/6/2023	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.001	**0.00177**	< 0.001	< 0.001	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	2/27/2024	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A
	5/29/2024	N/A	< 0.001	< 0.001	N/A	< 0.001	< 0.001	< 0.001	< 0.001
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.001	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.001	< 0.001	< 0.001	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.001	N/A
Tin, mg/L (CAS NO - 7440-31-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.06	< 0.06	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.06	< 0.06	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.06	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A
Vanadium, mg/L (CAS NO - 7440-62-2)	2/26/2008	N/A	0.025	N/A	N/A	< 0.005	< 0.005	N/A	**0.0054**
	3/20/2008	N/A	0.028	N/A	N/A	< 0.005	< 0.005	N/A	< 0.005
	6/9/2008	0.053	0.1	N/A	N/A	< 0.005	< 0.005	N/A	**0.016**
	8/13/2008	0.095	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	0.043
	9/16/2008	0.11	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	10/31/2008	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	0.1
	3/17/2009	0.022	N/A	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	9/15/2009	0.073	< 0.005	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	3/16/2010	N/A	0.055	N/A	N/A	< 0.005	< 0.005	N/A	N/A
	8/31/2010	0.044	N/A	N/A	N/A	N/A	N/A	0.0052	N/A
	9/21/2010	0.039	< 0.005	0.018	N/A	< 0.005	< 0.005	< 0.005	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	2/4/2011	N/A	< 0.005	< 0.005	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	3/15/2011	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	9/13/2011	N/A	< 0.005	< 0.005	N/A	0.0087	0.0062	< 0.005	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A
	3/27/2012	0.032	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	9/11/2012	0.017	0.14	0.0089	N/A	< 0.005	< 0.005	< 0.005	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/20/2013	0.025	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	9/3/2013	0.012	< 0.005	< 0.005	N/A	< 0.005	0.00045	0.0011	N/A
	9/3/2013	N/A	< 0.005	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.00575	N/A	N/A	N/A	< 0.05	< 0.05	< 0.1	< 0.05
	3/27/2014	N/A	N/A	N/A	N/A	< 0.05	N/A	N/A	N/A
	9/15/2014	0.0124	N/A	N/A	N/A	0.00823	0.0103	0.00497	< 0.05
	9/15/2014	0.00858	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	0.000542	N/A	N/A	N/A	0.000953	0.00105	< 0.005	< 0.005
	3/10/2015	N/A	N/A	N/A	N/A	0.000915	N/A	N/A	N/A
	8/31/2015	0.000744*	N/A	N/A	N/A	0.001*	0.0012*	< 0.005	< 0.025
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2016	0.000472*	N/A	N/A	N/A	0.000255*	0.00116*	< 0.005	0.000591*
	3/24/2016	N/A	N/A	N/A	N/A	N/A	0.00125*	N/A	N/A
	7/18/2016	0.000306*	**0.0219**	**0.023**	N/A	< 0.005	0.00183*	< 0.005	< 0.005
	3/2/2017	< 0.005	N/A	N/A	N/A	< 0.005	0.00101*	0.00172*	< 0.005
	3/2/2017	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	8/2/2017	< 0.005	< 0.005	< 0.005	N/A	< 0.005	0.00133*	< 0.005	< 0.005
	8/2/2017	N/A	N/A	N/A	N/A	N/A	0.000906*	N/A	N/A
	5/1/2018	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	9/24/2018	0.00261*	< 0.005	< 0.005	N/A	0.00283*	0.0036*	**0.00632**	0.00286*
	9/24/2018	N/A	N/A	N/A	N/A	0.0029*	N/A	N/A	N/A
	1/21/2019	< 0.005	N/A	N/A	N/A	< 0.005	< 0.005	0.000776*	< 0.005
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/13/2019	< 0.005	< 0.005	< 0.005	N/A	< 0.005	0.00126*	< 0.005	< 0.005
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
	9/10/2020	N/A	0.000858*	< 0.005	N/A	< 0.005	< 0.005	< 0.005	**0.0196**
	9/10/2020	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	3/31/2021	N/A	N/A	N/A	N/A	0.0013*	N/A	N/A	N/A
	8/30/2021	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.005	0.00135*	< 0.005	< 0.005	< 0.005
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	8/17/2022	N/A	N/A	0.00153*	0.00122*	< 0.005	< 0.005	< 0.005	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	2/6/2023	N/A	< 0.005	< 0.005	**0.0267**	< 0.005	< 0.005	< 0.005	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	0.0027*	< 0.005	< 0.005	< 0.005	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	5/29/2024	N/A	< 0.005	< 0.005	N/A	< 0.005	< 0.005	< 0.005	< 0.005
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.005	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.005	< 0.005	< 0.005	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Zinc, mg/L (CAS NO - 7440-66-6)	2/26/2008	N/A	0.054	N/A	N/A	0.019	0.06	N/A	**0.04**
	3/20/2008	N/A	0.042	N/A	N/A	0.023	0.013	N/A	**0.029**
	6/9/2008	0.11	0.14	N/A	N/A	0.023	0.021	N/A	**0.066**
	8/13/2008	0.19	0.024	N/A	N/A	0.027	0.024	N/A	0.13
	9/16/2008	0.23	N/A	N/A	N/A	0.044	0.018	N/A	N/A
	10/31/2008	N/A	0.021	N/A	N/A	N/A	N/A	N/A	1.6
	3/17/2009	0.051	N/A	N/A	N/A	0.023	0.027	N/A	N/A
	9/15/2009	0.14	0.011	N/A	N/A	0.036	0.054	N/A	N/A
	3/16/2010	N/A	0.1	N/A	N/A	0.03	0.058	N/A	N/A
	8/31/2010	0.084	N/A	N/A	N/A	N/A	N/A	0.054	N/A
	9/21/2010	0.067	0.012	0.059	N/A	0.022	0.019	0.025	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	0.029	N/A
	2/4/2011	N/A	0.067	0.58	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	0.058	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	0.19	0.23	N/A	0.016	0.047	0.023	N/A
	3/15/2011	N/A	0.18	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	0.019	N/A
	9/13/2011	N/A	1.3	0.054	N/A	0.015	0.017	0.024	N/A
	9/13/2011	N/A	N/A	N/A	N/A	0.011	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	0.021	0.024	N/A
	3/27/2012	0.078	0.14	0.019	N/A	0.0071	0.015	0.014	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 0.006	N/A	N/A	N/A
	9/11/2012	0.068	0.86	0.025	N/A	< 0.006	0.014	0.011	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	0.01	N/A
	3/20/2013	0.055	N/A	N/A	N/A	0.0092	0.016	0.013	< 0.006
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	0.011	N/A
	9/3/2013	0.034	0.11	0.012	N/A	0.014	0.016	0.016	N/A
	9/3/2013	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.0155	N/A	N/A	N/A	< 0.02	< 0.02	< 0.04	< 0.02
	3/27/2014	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A
	9/15/2014	0.0285	N/A	N/A	N/A	0.0307	0.048	< 0.02	< 0.02
	9/15/2014	0.0599	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.01	N/A	N/A	N/A	0.00858	0.0192	0.00849	0.00897*
	3/10/2015	N/A	N/A	N/A	N/A	< 0.01	N/A	N/A	N/A
	8/31/2015	0.00748*	N/A	N/A	N/A	**0.0146**	< 0.01	0.00697*	< 0.01
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	0.00847*	N/A
	3/24/2016	< 0.01	N/A	N/A	N/A	< 0.01	< 0.01	**0.0297**	< 0.01
	3/24/2016	N/A	N/A	N/A	N/A	N/A	**0.0103**	N/A	N/A
	7/18/2016	< 0.01	**0.171**	**0.163**	N/A	< 0.01	0.00527*	0.00787*	< 0.01
	3/2/2017	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	**0.0232**	< 0.02
	3/2/2017	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A
	8/2/2017	< 0.02	< 0.02	< 0.02	N/A	< 0.02	**0.022**	0.0115*	< 0.02
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A
	5/1/2018	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	0.0111*	< 0.02
	9/24/2018	0.0147*	0.00705*	< 0.02	N/A	0.00851*	**0.0234**	0.0182*	< 0.02
	9/24/2018	N/A	N/A	N/A	N/A	0.00798*	N/A	N/A	N/A
	1/21/2019	< 0.02	N/A	N/A	N/A	< 0.02	< 0.02	0.0122*	< 0.02
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A
	8/13/2019	< 0.02	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02
	9/10/2020	N/A	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	**0.0655**
	9/10/2020	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02
	3/31/2021	N/A	N/A	N/A	N/A	0.0121*	N/A	N/A	N/A
	8/30/2021	N/A	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A
	8/17/2022	N/A	N/A	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A
	2/6/2023	N/A	< 0.02	< 0.02	**0.077**	0.0415	< 0.02	< 0.02	N/A
	2/6/2023	N/A	N/A	N/A	N/A	0.0444	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	0.0103*	< 0.02	< 0.02	< 0.02	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A
	5/29/2024	N/A	< 0.02	< 0.02	N/A	< 0.02	< 0.02	< 0.02	< 0.02
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.02	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.02	< 0.02	< 0.02	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.02	N/A
Total Suspended Solids, mg/L (CAS NO - TSS)	3/27/2014	9460	N/A	N/A	N/A	53	49.3	21.7	**29.7**
	3/27/2014	N/A	N/A	N/A	N/A	26.5	N/A	N/A	N/A
	9/15/2014	7850	N/A	N/A	N/A	228	47	54	**14.2**
	9/15/2014	5990	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	25.3	N/A	N/A	N/A	5.67	7.5	7.83	**59.3**
	3/10/2015	N/A	N/A	N/A	N/A	5.67	N/A	N/A	N/A
	5/15/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	8/31/2015	**18.5**	N/A	N/A	N/A	**20.5**	**3.38**	**6.5**	**95**
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	**17.8**	N/A
	2/23/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**20.3**
	3/24/2016	**7.25**	N/A	N/A	N/A	0.75*	0.875*	1.25*	**26.5**
	3/24/2016	N/A	N/A	N/A	N/A	N/A	1*	N/A	N/A
	7/18/2016	**1.88**	**118**	**24.3**	N/A	**2.5**	**2.38**	**4.88**	**31.6**
	3/2/2017	1.38*	N/A	N/A	N/A	1.38*	1.25*	**10.6**	**4.88**
	3/2/2017	N/A	N/A	N/A	N/A	0.75*	N/A	N/A	N/A
	8/2/2017	0.625*	**40.6**	**66.1**	N/A	1.25*	**2.13**	**16.9**	1.25*
	8/2/2017	N/A	N/A	N/A	N/A	N/A	1.63*	N/A	N/A
	5/1/2018	**2.75**	N/A	N/A	N/A	1.5*	**2.25**	**3.63**	**5**
	9/24/2018	**19.3**	**68**	**27.3**	N/A	**11.4**	**4.88**	**18.5**	**10.7**
	9/24/2018	N/A	N/A	N/A	N/A	**7.62**	N/A	N/A	N/A
	1/21/2019	1.38*	N/A	N/A	N/A	1.75*	**2.25**	**3.63**	**19.5**
	1/21/2019	N/A	N/A	N/A	N/A	N/A	1.38*	N/A	N/A
	8/13/2019	< 1.88	**165**	**38.3**	N/A	0.75*	**2.63**	**5.88**	**45**
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	**4.13**	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1.88	**1.88**	**12.5**	**12.3**
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**12**
	9/10/2020	N/A	**48**	**37.4**	N/A	0.75*	**19.5**	**9**	**221**
	9/10/2020	N/A	N/A	N/A	N/A	< 1.88	N/A	N/A	N/A
	11/25/2020	N/A	N/A	N/A	N/A	N/A	**10**	N/A	**24.8**
	2/24/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**30.3**
	3/31/2021	N/A	N/A	N/A	N/A	< 5	**2.5**	**4**	< 1.88
	3/31/2021	N/A	N/A	N/A	N/A	< 1.88	N/A	N/A	N/A

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Total Metals Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Total Suspended Solids, mg/L (CAS NO - TSS)	6/15/2021	N/A	N/A	N/A	N/A	N/A	13.1	N/A	3.13
	8/30/2021	N/A	25.4	38.1	N/A	< 1.88	2.5	8.87	10.4
	8/30/2021	N/A	N/A	N/A	N/A	N/A	3.63	N/A	N/A
	3/29/2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.33
	5/24/2022	N/A	N/A	N/A	1.88	< 1.88	7	3.33	< 1.88
	5/24/2022	N/A	N/A	N/A	N/A	N/A	13	N/A	N/A
	8/17/2022	N/A	N/A	19.5	8.88	< 1.88	3.33*	16.5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A
	2/6/2023	N/A	52	48.5	6.67	142	6	9.33	N/A
	2/6/2023	N/A	N/A	N/A	N/A	104	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	11.8	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	167	17.3	7.88	14.7	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	12.5	N/A	N/A
	2/27/2024	N/A	N/A	N/A	N/A	13	N/A	N/A	N/A
	5/29/2024	N/A	55	39	N/A	25	11	27	21.5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	13	N/A	N/A
	7/16/2024	N/A	N/A	N/A	25	N/A	N/A	N/A	N/A
	8/28/2024	N/A	N/A	N/A	N/A	N/A	N/A	10.7	N/A
	11/12/2024	N/A	N/A	N/A	N/A	13.6	4.38	13.5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	13.1	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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Summary of Groundwater Chemistry
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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,1,1,2-Tetrachloroethane, ug/L (CAS NO - 630-20-6)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6)	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5)	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	3.5	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	1.1	1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,1-Dichloroethane, ug/L (CAS NO - 75-34-3)	9/11/2012	< 1	< 1	1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.226*
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	0.226*	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	0.255*	0.303*	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/27/2014	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	9/15/2014	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	9/15/2014	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/10/2015	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	8/31/2015	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	3/24/2016	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	7/18/2016	< 2	< 20	< 20	N/A	< 2	< 2	< 2	< 2
	3/2/2017	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/2/2017	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	8/2/2017	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	5/1/2018	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	9/24/2018	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	9/24/2018	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/21/2019	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	8/13/2019	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	9/10/2020	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	9/10/2020	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,1-Dichloroethene, ug/L (CAS NO - 75-35-4)	3/31/2021	N/A	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/31/2021	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	8/30/2021	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	8/17/2022	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/6/2023	N/A	< 2	< 2	< 2	< 20	< 2	< 2	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 20	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 2	< 2	< 2	< 2	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	5/29/2024	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 2	< 2	< 2	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8)	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 0.12	N/A	N/A	N/A	< 0.12	< 0.12	< 0.12	< 0.12
	3/27/2014	N/A	N/A	N/A	N/A	< 0.12	N/A	N/A	N/A
	9/15/2014	< 0.12	N/A	N/A	N/A	< 0.12	< 0.12	< 0.12	< 0.12
	9/15/2014	< 0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.12	N/A	N/A	N/A	< 0.12	< 0.12	< 0.12	< 0.12
	3/10/2015	N/A	N/A	N/A	N/A	< 0.12	N/A	N/A	N/A
	8/31/2015	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	3/24/2016	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	7/18/2016	< 0.5	< 5	< 5	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/2/2017	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/2/2017	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	8/2/2017	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	5/1/2018	< 0.5	N/A	N/A	N/A	< 0.5	< 0.12	< 0.12	< 0.5
	9/24/2018	< 0.5	< 0.5	< 0.5	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	9/24/2018	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	1/21/2019	< 1.2	N/A	N/A	N/A	< 1.2	< 1.2	< 1.2	< 1.2
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1.2	N/A	N/A
	8/13/2019	< 1.2	< 1.2	< 1.2	N/A	< 1.2	< 1.2	< 1.2	< 1.2
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1.2	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	3/27/2014	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A
	9/15/2014	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	9/15/2014	< 0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	3/10/2015	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A
	8/31/2015	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A
	3/24/2016	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A
	7/18/2016	< 0.13	< 1.3	< 1.3	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	3/2/2017	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	3/2/2017	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A
	8/2/2017	< 0.13	< 0.13	< 0.13	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A
	5/1/2018	< 0.13	N/A	N/A	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	9/24/2018	< 0.13	< 0.13	< 0.13	N/A	< 0.13	< 0.13	< 0.13	< 0.13
	9/24/2018	N/A	N/A	N/A	N/A	< 0.13	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4)	1/21/2019	< 0.34	N/A	N/A	N/A	< 0.34	< 0.34	< 0.34	< 0.34
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.34	N/A	N/A
	8/13/2019	< 0.34	< 0.34	< 0.34	N/A	< 0.34	< 0.34	< 0.34	< 0.34
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.34	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,2-Dichloroethane, ug/L (CAS NO - 107-06-2)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	1.2	2.4	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	5	2.3	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	3.9	2.7	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	2.1	1.9	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	2.2	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.795*
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.77*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	0.388*	0.594*	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	0.5*	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	0.5*	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	0.46*	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	0.551*	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,2-Dichloropropane, ug/L (CAS NO - 78-87-5)	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	0.303*	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	**2.4**	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	**1.4**
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	5/15/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	0.858*	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	**1.31**	0.849*	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	**1.69**	**1.04**	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	0.239*	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	0.66*	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7)	2/6/2023	N/A	2.13	0.683*	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	1.16	0.95*	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
2-Butanone, ug/L (CAS NO - 78-93-3)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	82	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	200	190	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	3/27/2012	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/11/2012	< 5	2800	5.7	N/A	< 5	< 5	< 5	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/20/2013	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/3/2013	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/3/2013	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	0.605*	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	1.53*
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	0.638*	N/A	N/A	N/A	< 10	1.07*	< 10	4.72*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	< 10	< 100	< 100	N/A	< 10	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	3.53*	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	3.04*	3.53*	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	2.22*
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	2.68*
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.47*
	9/10/2020	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	2.8*	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	< 10	< 100	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 100	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 10	< 10	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/29/2024	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
2-Hexanone, ug/L (CAS NO - 591-78-6)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	3/27/2012	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
2-Hexanone, ug/L (CAS NO - 591-78-6)	9/11/2012	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/20/2013	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/3/2013	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/3/2013	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	< 10	< 100	< 100	N/A	< 10	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	9/10/2020	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	< 10	< 100	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 100	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 10	< 10	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/29/2024	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	3/27/2012	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/11/2012	< 5	**150**	< 5	N/A	< 5	< 5	< 5	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/20/2013	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/3/2013	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/3/2013	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	< 10	< 100	< 100	N/A	< 10	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	9/10/2020	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1)	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	< 10	< 100	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 100	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 10	< 10	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/29/2024	N/A	< 10	< 10	N/A	< 10	< 10	3.84*	< 10
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Acetone, ug/L (CAS NO - 67-64-1)	2/26/2008	N/A	< 10	N/A	N/A	< 10	< 10	N/A	< 10
	3/20/2008	N/A	23	N/A	N/A	< 10	< 10	N/A	< 10
	6/9/2008	< 10	< 10	N/A	N/A	< 10	< 10	N/A	< 10
	8/13/2008	< 10	< 10	N/A	N/A	< 10	< 10	N/A	< 10
	9/16/2008	< 10	N/A	N/A	N/A	< 10	< 10	N/A	N/A
	10/31/2008	N/A	< 10	N/A	N/A	N/A	N/A	N/A	< 10
	3/17/2009	< 10	N/A	N/A	N/A	< 10	< 10	N/A	N/A
	9/15/2009	< 10	< 10	N/A	N/A	< 10	< 10	N/A	N/A
	3/16/2010	N/A	42	N/A	N/A	< 10	< 10	N/A	N/A
	8/31/2010	< 10	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	9/21/2010	< 10	93	96	N/A	< 10	< 10	< 10	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/4/2011	N/A	< 10	< 10	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	3/15/2011	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	9/13/2011	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	3/27/2012	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/11/2012	< 10	840	< 10	N/A	< 10	< 10	< 10	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/20/2013	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/3/2013	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/3/2013	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	1.98*	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	2.1*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	2.93*	N/A	N/A	N/A	3.46*	< 10	< 10	2.03*
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	2.01*	37.6*	45.3*	N/A	< 10	3.86*	< 10	4.42*
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	11	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	2.55*	3.98*	4.69*	N/A	4.15*	3.78*	4.22*	4.27*
	8/2/2017	N/A	N/A	N/A	N/A	N/A	3.92*	N/A	N/A
	5/1/2018	1.83*	N/A	N/A	N/A	2.42*	3.32*	3.83*	3.11*
	9/24/2018	< 10	< 10	3.22*	N/A	< 10	< 10	3.45*	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	3.22*	< 10	< 10	4.74*
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	3.93*	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	9/10/2020	N/A	< 10	3.45*	N/A	< 10	< 10	< 10	22.7
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	11/25/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 100
	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	12.8	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	3.32*	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	24.5	77.1*	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	76.5*	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	3.69*	11.5	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	2/27/2024	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/29/2024	N/A	3.72*	3.78*	N/A	< 10	9.44*	4.86*	8.28*
	5/29/2024	N/A	N/A	N/A	N/A	N/A	8.04*	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Acrylonitrile, ug/L (CAS NO - 107-13-1)	2/26/2008	N/A	< 50	N/A	N/A	< 50	< 50	N/A	< 50
	3/20/2008	N/A	< 50	N/A	N/A	< 50	< 50	N/A	< 50
	6/9/2008	< 50	< 50	N/A	N/A	< 50	< 50	N/A	< 50
	8/13/2008	< 50	< 50	N/A	N/A	< 50	< 50	N/A	< 50
	9/16/2008	< 50	N/A	N/A	N/A	< 50	< 50	N/A	N/A
	10/31/2008	N/A	< 50	N/A	N/A	N/A	N/A	N/A	< 50
	3/17/2009	< 50	N/A	N/A	N/A	< 50	< 50	N/A	N/A
	9/15/2009	< 50	< 50	N/A	N/A	< 50	< 50	N/A	N/A
	3/16/2010	N/A	< 50	N/A	N/A	< 50	< 50	N/A	N/A
	8/31/2010	< 50	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	9/21/2010	< 50	< 50	< 50	N/A	< 50	< 50	< 50	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Acrylonitrile, ug/L (CAS NO - 107-13-1)	2/4/2011	N/A	< 50	< 50	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 50	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 50	< 50	N/A	< 50	< 50	< 50	N/A
	3/15/2011	N/A	< 50	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	9/13/2011	N/A	< 50	< 50	N/A	< 50	< 50	< 50	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/27/2012	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/11/2012	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/20/2013	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	9/3/2013	< 10	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	9/3/2013	N/A	< 10	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	< 10	< 100	< 100	N/A	< 10	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Benzene, ug/L (CAS NO - 71-43-2)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	**1.3**	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	**1.3**	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	**1.2**	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	**1.1**	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	**6**	**2.1**	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	**6**	**4.2**	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	**4.5**	**7.1**	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	**6**	**5.6**	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	**5.6**	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.145*	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/27/2014	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	9/15/2014	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	9/15/2014	< 0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	**5.48**
	3/10/2015	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	5/15/2015	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5
	8/31/2015	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	**5.25**
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	2/23/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5
	3/24/2016	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	7/18/2016	< 0.5	< 5	< 5	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/2/2017	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/2/2017	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Benzene, ug/L (CAS NO - 71-43-2)	8/2/2017	< 0.5	**1.51**	**3.74**	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	5/1/2018	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	9/24/2018	< 0.5	0.305*	**3.91**	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	9/24/2018	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	1/21/2019	< 0.5	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	8/13/2019	< 0.5	< 0.5	**4.24**	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5
	9/10/2020	N/A	0.295*	**4.27**	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	9/10/2020	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	3/31/2021	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A
	8/30/2021	N/A	< 0.5	**3.97**	N/A	< 0.5	< 0.5	< 0.5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	8/17/2022	N/A	N/A	**2.51**	< 0.5	< 0.5	< 0.5	< 0.5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	2/6/2023	N/A	**1.57**	**3.36**	< 0.5	< 5	< 0.5	< 0.5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	< 0.5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	5/29/2024	N/A	< 0.5	**5.81**	N/A	< 0.5	< 0.5	< 0.5	< 0.5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 0.5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 0.5	< 0.5	< 0.5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
Bromochloromethane, ug/L (CAS NO - 74-97-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/27/2014	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/15/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/15/2014	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/10/2015	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/31/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/18/2016	< 5	< 50	< 50	N/A	< 5	< 5	< 5	< 5
	3/2/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/2/2017	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/2/2017	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/1/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/24/2018	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/24/2018	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/21/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/13/2019	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Bromodichloromethane, ug/L (CAS NO - 75-27-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Bromoform, ug/L (CAS NO - 75-25-2)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/27/2014	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/15/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/15/2014	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Bromoform, ug/L (CAS NO - 75-25-2)	3/10/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/10/2015	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/31/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/18/2016	< 5	< 50	< 50	N/A	< 5	< 5	< 5	< 5
	3/2/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/2/2017	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/2/2017	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/1/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/24/2018	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/24/2018	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/21/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/13/2019	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Bromomethane, ug/L (CAS NO - 74-83-9)	2/26/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	3/20/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	6/9/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	8/13/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	9/16/2008	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	10/31/2008	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2
	3/17/2009	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	9/15/2009	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	3/16/2010	N/A	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	8/31/2010	< 2	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/21/2010	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/4/2011	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	3/15/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/13/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/20/2013	1.2	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/27/2014	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	9/15/2014	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	9/15/2014	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/10/2015	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/31/2015	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	3/24/2016	< 4	N/A	N/A	N/A	< 4	0.357*	< 4	< 4
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	7/18/2016	0.48*	< 40	< 40	N/A	0.291*	0.245*	0.335*	0.333*
	3/2/2017	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/2/2017	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/2/2017	< 4	< 4	< 4	N/A	0.308*	0.257*	< 4	< 4
	8/2/2017	N/A	N/A	N/A	N/A	N/A	0.234*	N/A	N/A
	5/1/2018	< 4	N/A	N/A	N/A	< 4	< 4	0.397*	< 4
	9/24/2018	< 4	< 4	< 4	N/A	< 4	< 4	< 4	3.01*
	9/24/2018	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	1/21/2019	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	8/13/2019	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4
	9/10/2020	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	9/10/2020	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/31/2021	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/30/2021	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	8/17/2022	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	2/6/2023	N/A	< 4	< 4	< 4	< 40	< 4	< 4	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 40	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Bromomethane, ug/L (CAS NO - 74-83-9)	5/9/2023	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 4	< 4	< 4	< 4	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/29/2024	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 4	< 4	< 4	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
Carbon Disulfide, ug/L (CAS NO - 75-15-0)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	**1.9**	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	**2**	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	**8.6**	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	0.171*	0.206*	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	0.468*	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	0.479*	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	**5.44**	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	**1.57**	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	0.904*	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Carbon Tetrachloride, ug/L (CAS NO - 56-23-5)	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/27/2014	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	9/15/2014	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	9/15/2014	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/10/2015	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	8/31/2015	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	3/24/2016	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	7/18/2016	< 2	< 20	< 20	N/A	< 2	< 2	< 2	< 2
	3/2/2017	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/2/2017	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	8/2/2017	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	5/1/2018	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	9/24/2018	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	9/24/2018	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/21/2019	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	8/13/2019	< 2	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 2
	9/10/2020	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	9/10/2020	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/31/2021	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	8/30/2021	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 2	< 2	< 2	< 2	< 2
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	8/17/2022	N/A	N/A	< 2	< 2	< 2	< 2	< 2	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/6/2023	N/A	< 2	< 2	< 2	< 20	< 2	< 2	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 20	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 2	< 2	< 2	< 2	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	5/29/2024	N/A	< 2	< 2	N/A	< 2	< 2	< 2	< 2
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 2	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 2	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 2	< 2	< 2	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
Chlorobenzene, ug/L (CAS NO - 108-90-7)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	1.2	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.429*
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.46*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	0.332*	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	0.782*	0.467*	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Chlorobenzene, ug/L (CAS NO - 108-90-7)	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	0.51*	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	1.27	0.579*	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	1.22	0.824*	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Chlorodibromomethane, ug/L (CAS NO - 124-48-1)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/27/2014	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/15/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/15/2014	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/10/2015	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/31/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/18/2016	< 5	< 50	< 50	N/A	< 5	< 5	< 5	< 5
	3/2/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/2/2017	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/2/2017	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/1/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/24/2018	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/24/2018	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/21/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/13/2019	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Chloroethane, ug/L (CAS NO - 75-00-3)	2/26/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	3/20/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	6/9/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	8/13/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	9/16/2008	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	10/31/2008	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2
	3/17/2009	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	9/15/2009	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	3/16/2010	N/A	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	8/31/2010	< 2	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/21/2010	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/4/2011	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	3/15/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Chloroethane, ug/L (CAS NO - 75-00-3)	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/13/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	1.7	2.3	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/27/2014	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	9/15/2014	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	9/15/2014	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/10/2015	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/31/2015	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	3/24/2016	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	7/18/2016	< 4	< 40	< 40	N/A	< 4	< 4	< 4	< 4
	3/2/2017	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/2/2017	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/2/2017	< 4	0.696*	< 4	N/A	< 4	< 4	< 4	< 4
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/1/2018	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	9/24/2018	< 4	1.24*	1.11*	N/A	< 4	< 4	< 4	< 4
	9/24/2018	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	1/21/2019	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	8/13/2019	< 4	< 4	0.839*	N/A	< 4	< 4	< 4	< 4
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4
	9/10/2020	N/A	< 4	0.854*	N/A	< 4	< 4	< 4	< 4
	9/10/2020	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/31/2021	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/30/2021	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	8/17/2022	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	2/6/2023	N/A	< 4	< 4	< 4	< 40	< 4	< 4	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 40	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	8.71	< 4	< 4	6.59	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	2/27/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	5/29/2024	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 4	< 4	< 4	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
Chloroform, ug/L (CAS NO - 67-66-3)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	2.4	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	2.3	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	1.9	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	9.5*	9.02*	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	9/24/2018	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Chloroform, ug/L (CAS NO - 67-66-3)	1/21/2019	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	8/13/2019	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3
	9/10/2020	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	9/10/2020	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/31/2021	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/30/2021	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	8/17/2022	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	2/6/2023	N/A	< 3	< 3	< 3	< 30	< 3	< 3	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 30	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 3	< 3	< 3	< 3	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/29/2024	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 3	< 3	< 3	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
Chloromethane, ug/L (CAS NO - 74-87-3)	2/26/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	3/20/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	6/9/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	8/13/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	9/16/2008	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	10/31/2008	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2
	3/17/2009	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	9/15/2009	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	3/16/2010	N/A	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	8/31/2010	< 2	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/21/2010	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/4/2011	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	3/15/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/13/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/27/2014	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	9/15/2014	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	9/15/2014	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/10/2015	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/31/2015	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	3/24/2016	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	7/18/2016	< 3	< 30	< 30	N/A	< 3	< 3	< 3	< 3
	3/2/2017	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/2/2017	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/2/2017	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/1/2018	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	9/24/2018	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	9/24/2018	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	1/21/2019	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	8/13/2019	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3
	9/10/2020	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	9/10/2020	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/31/2021	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/30/2021	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	8/17/2022	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	2/6/2023	N/A	< 3	< 3	< 3	< 30	< 3	< 3	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 30	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 3	< 3	< 3	< 3	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/29/2024	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 3	< 3	< 3	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	6.1	2.1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	13	8.4	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	18	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	4.5	4.2	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	4.9	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.982*
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	1.3
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/23/2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	0.245*	0.746*	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	0.508*	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	0.433*	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	0.37*	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	0.349*	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/27/2014	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5)	9/15/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/15/2014	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/10/2015	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/31/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/18/2016	< 5	< 50	< 50	N/A	< 5	< 5	< 5	< 5
	3/2/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/2/2017	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/2/2017	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/1/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/24/2018	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/24/2018	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/21/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/13/2019	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Ethylbenzene, ug/L (CAS NO - 100-41-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	11	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	6.7	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	0.344*	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	0.403*	< 1	< 1	N/A	0.351*	0.379*	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	0.36*	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Ethylbenzene, ug/L (CAS NO - 100-41-4)	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Iodomethane, ug/L (CAS NO - 74-88-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	0.979*	< 100	< 100	N/A	0.904*	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	9/10/2020	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	< 10	< 100	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 100	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 10	< 10	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/29/2024	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Methylene Bromide, ug/L (CAS NO - 74-95-3)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Methylene Bromide, ug/L (CAS NO - 74-95-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Methylene Chloride, ug/L (CAS NO - 75-09-2)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	**2.3**	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 5	N/A	N/A	N/A	< 5	< 5	0.212*	0.324*
	3/27/2014	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/15/2014	< 5	N/A	N/A	N/A	< 5	0.203*	< 5	< 5
	9/15/2014	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/10/2015	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/31/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/18/2016	0.208*	< 50	< 50	N/A	< 5	< 5	< 5	0.277*
	3/2/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/2/2017	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/2/2017	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/1/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/24/2018	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/24/2018	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/21/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/13/2019	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Methylene Chloride, ug/L (CAS NO - 75-09-2)	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
Styrene, ug/L (CAS NO - 100-42-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Tetrachloroethene, ug/L (CAS NO - 127-18-4)	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	**2.7**	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	**1.8**	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	**2.5**	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	**11**
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Toluene, ug/L (CAS NO - 108-88-3)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	**1.6**	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	**17**	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	0.15*	N/A	N/A	N/A	0.207*	0.64*	0.484*	0.352*
	3/27/2014	N/A	N/A	N/A	N/A	**1.28**	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.15*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Toluene, ug/L (CAS NO - 108-88-3)	8/2/2017	0.151*	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/27/2014	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	9/15/2014	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/15/2014	< 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/10/2015	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/31/2015	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2016	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/18/2016	< 5	< 50	< 50	N/A	< 5	< 5	< 5	< 5
	3/2/2017	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/2/2017	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/2/2017	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/1/2018	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	9/24/2018	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/24/2018	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/21/2019	< 5	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/13/2019	< 5	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 5
	9/10/2020	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	9/10/2020	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 5	< 5	< 5	< 5
	3/31/2021	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	8/30/2021	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 5	< 5	< 5	< 5	< 5
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	8/17/2022	N/A	N/A	< 5	< 5	< 5	< 5	< 5	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/6/2023	N/A	< 5	< 5	< 5	< 50	< 5	< 5	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 50	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 5	< 5	< 5	< 5	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	5/29/2024	N/A	< 5	< 5	N/A	< 5	< 5	< 5	< 5
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 5	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 5	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 5	< 5	< 5	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/27/2014	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	9/15/2014	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/15/2014	< 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6)	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	< 10	< 100	< 100	N/A	< 10	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	9/10/2020	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	< 10	< 100	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 100	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 10	< 10	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/29/2024	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Trichloroethene, ug/L (CAS NO - 79-01-6)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	5.6	2.5	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	2.6	1.2	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	2.1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Trichloroethene, ug/L (CAS NO - 79-01-6)	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Trichlorofluoromethane, ug/L (CAS NO - 75-69-4)	2/26/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	3/20/2008	N/A	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	6/9/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	8/13/2008	< 1	< 1	N/A	N/A	< 1	< 1	N/A	< 1
	9/16/2008	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	10/31/2008	N/A	< 1	N/A	N/A	N/A	N/A	N/A	< 1
	3/17/2009	< 1	N/A	N/A	N/A	< 1	< 1	N/A	N/A
	9/15/2009	< 1	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	3/16/2010	N/A	< 1	N/A	N/A	< 1	< 1	N/A	N/A
	8/31/2010	< 1	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/21/2010	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/4/2011	N/A	< 1	< 1	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/15/2011	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/13/2011	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/27/2014	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	9/15/2014	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	9/15/2014	< 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/10/2015	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/31/2015	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	3/24/2016	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	7/18/2016	< 4	< 40	< 40	N/A	< 4	< 4	< 4	< 4
	3/2/2017	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/2/2017	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/2/2017	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/1/2018	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	9/24/2018	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	9/24/2018	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	1/21/2019	< 4	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	8/13/2019	< 4	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 4
	9/10/2020	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	9/10/2020	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 4	< 4	< 4	< 4
	3/31/2021	N/A	N/A	N/A	N/A	< 4	N/A	N/A	N/A
	8/30/2021	N/A	< 4	< 4	N/A	< 4	< 4	< 4	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 4	< 4	< 4	< 4	< 4
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	8/17/2022	N/A	N/A	< 4	< 4	< 4	< 4	< 4	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
	2/6/2023	N/A	< 4	< 4	< 4	< 40	< 4	< 4	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 40	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 4	< 4	< 4	< 4	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	5/29/2024	N/A	< 4	< 4	N/A	< 4	< 4	< 4	< 4
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 4	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 4	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 4	< 4	< 4	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 4	N/A
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	2/26/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	3/20/2008	N/A	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	6/9/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	8/13/2008	< 5	< 5	N/A	N/A	< 5	< 5	N/A	< 5
	9/16/2008	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	10/31/2008	N/A	< 5	N/A	N/A	N/A	N/A	N/A	< 5
	3/17/2009	< 5	N/A	N/A	N/A	< 5	< 5	N/A	N/A
	9/15/2009	< 5	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	3/16/2010	N/A	< 5	N/A	N/A	< 5	< 5	N/A	N/A
	8/31/2010	< 5	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/21/2010	< 5	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	2/4/2011	N/A	< 5	< 5	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	3/15/2011	N/A	< 5	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	9/13/2011	N/A	< 5	< 5	N/A	< 5	< 5	< 5	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 5	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Vinyl Acetate, ug/L (CAS NO - 108-05-4)	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	< 1	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	3/27/2014	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	9/15/2014	< 2	N/A	N/A	N/A	< 2	< 2	< 2	< 2
	9/15/2014	< 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/10/2015	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/31/2015	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2016	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/18/2016	< 10	< 100	< 100	N/A	< 10	< 10	< 10	< 10
	3/2/2017	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/2/2017	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/2/2017	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/1/2018	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	9/24/2018	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/24/2018	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	1/21/2019	< 10	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/13/2019	< 10	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 10
	9/10/2020	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	9/10/2020	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 10	< 10	< 10	< 10
	3/31/2021	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	8/30/2021	N/A	< 10	< 10	N/A	< 10	< 10	< 10	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 10	< 10	< 10	< 10	< 10
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	8/17/2022	N/A	N/A	< 10	< 10	< 10	< 10	< 10	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	2/6/2023	N/A	< 10	< 10	< 10	< 100	< 10	< 10	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 100	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 10	< 10	< 10	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	5/29/2024	N/A	< 10	< 10	N/A	< 10	< 10	< 10	< 10
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 10	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 10	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 10	< 10	< 10	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	2/26/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	3/20/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	6/9/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	8/13/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	9/16/2008	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	10/31/2008	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2
	3/17/2009	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	9/15/2009	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	3/16/2010	N/A	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	8/31/2010	< 2	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/21/2010	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/4/2011	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	3/15/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/13/2011	N/A	**3.7**	**3**	N/A	< 2	< 2	< 2	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2012	< 1	**1.4**	**1.2**	N/A	< 1	< 1	< 1	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/11/2012	< 1	< 1	**1.5**	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	9/3/2013	< 1	**2.3**	**1.8**	N/A	< 1	< 1	< 1	N/A
	9/3/2013	N/A	**2.2**	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/27/2014	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	9/15/2014	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/15/2014	< 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.411*
	3/10/2015	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/31/2015	< 1	N/A	N/A	N/A	< 1	< 1	< 1	0.42*
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	< 1	< 10	< 10	N/A	< 1	< 1	< 1	< 1
	3/2/2017	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/2/2017	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	8/2/2017	< 1	0.109*	< 1	N/A	< 1	< 1	< 1	< 1
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/1/2018	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	9/24/2018	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/24/2018	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	1/21/2019	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	< 1	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 1
	9/10/2020	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	9/10/2020	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/31/2021	N/A	N/A	N/A	N/A	< 1	N/A	N/A	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Vinyl Chloride, ug/L (CAS NO - 75-01-4)	8/30/2021	N/A	< 1	< 1	N/A	< 1	< 1	< 1	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 1	< 1	< 1	< 1	< 1
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/17/2022	N/A	N/A	< 1	< 1	< 1	< 1	< 1	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	2/6/2023	N/A	< 1	< 1	< 1	< 10	< 1	< 1	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 10	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 1	< 1	< 1	< 1	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	5/29/2024	N/A	< 1	< 1	N/A	< 1	< 1	< 1	< 1
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 1	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 1	< 1	< 1	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
Xylenes, total, ug/L (CAS NO - 1330-20-7)	2/26/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	3/20/2008	N/A	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	6/9/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	8/13/2008	< 2	< 2	N/A	N/A	< 2	< 2	N/A	< 2
	9/16/2008	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	10/31/2008	N/A	< 2	N/A	N/A	N/A	N/A	N/A	< 2
	3/17/2009	< 2	N/A	N/A	N/A	< 2	< 2	N/A	N/A
	9/15/2009	< 2	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	3/16/2010	N/A	< 2	N/A	N/A	< 2	< 2	N/A	N/A
	8/31/2010	< 2	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/21/2010	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	12/14/2010	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	2/4/2011	N/A	< 2	< 2	N/A	N/A	N/A	N/A	N/A
	2/4/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/15/2011	N/A	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	3/15/2011	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	6/20/2011	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	9/13/2011	N/A	3.1	< 2	N/A	< 2	< 2	< 2	N/A
	9/13/2011	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
	3/27/2012	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	3/27/2012	N/A	N/A	N/A	N/A	< 2	N/A	N/A	N/A
	9/11/2012	< 2	57	< 2	N/A	< 2	< 2	< 2	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
	3/20/2013	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	9/3/2013	< 2	< 2	< 2	N/A	< 2	< 2	< 2	N/A
	9/3/2013	N/A	< 2	N/A	N/A	N/A	N/A	N/A	N/A
	3/27/2014	< 3	N/A	N/A	N/A	1.61*	0.984*	0.73*	0.481*
	3/27/2014	N/A	N/A	N/A	N/A	0.302*	N/A	N/A	N/A
	9/15/2014	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	9/15/2014	< 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3/10/2015	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/10/2015	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/31/2015	1.22*	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	3/24/2016	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	7/18/2016	< 3	< 30	< 30	N/A	< 3	< 3	< 3	< 3
	3/2/2017	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/2/2017	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/2/2017	< 3	< 3	< 3	N/A	0.141*	0.171*	0.139*	< 3
	8/2/2017	N/A	N/A	N/A	N/A	N/A	0.139*	N/A	N/A
	5/1/2018	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	9/24/2018	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	9/24/2018	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	1/21/2019	< 3	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	8/13/2019	< 3	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	3/24/2020	N/A	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/24/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3
	9/10/2020	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	9/10/2020	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	3/31/2021	N/A	N/A	N/A	N/A	< 3	< 3	< 3	< 3
	3/31/2021	N/A	N/A	N/A	N/A	< 3	N/A	N/A	N/A
	8/30/2021	N/A	< 3	< 3	N/A	< 3	< 3	< 3	N/A
	8/30/2021	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/24/2022	N/A	N/A	N/A	< 3	< 3	< 3	< 3	< 3
	5/24/2022	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	8/17/2022	N/A	N/A	< 3	< 3	< 3	< 3	< 3	N/A
	8/17/2022	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
	2/6/2023	N/A	< 3	< 3	< 3	< 30	< 3	< 3	N/A
	2/6/2023	N/A	N/A	N/A	N/A	< 30	N/A	N/A	N/A
	5/9/2023	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	8/9/2023	N/A	N/A	N/A	< 3	< 3	< 3	< 3	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	5/29/2024	N/A	< 3	< 3	N/A	< 3	< 3	< 3	< 3
	5/29/2024	N/A	N/A	N/A	N/A	N/A	< 3	N/A	N/A
	7/16/2024	N/A	N/A	N/A	< 3	N/A	N/A	N/A	N/A
	11/12/2024	N/A	N/A	N/A	N/A	< 3	< 3	< 3	N/A
	11/12/2024	N/A	N/A	N/A	N/A	N/A	N/A	< 3	N/A
M&P-Xylene, ug/L (CAS NO - 179601-23-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	9/11/2012	< 1	42	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A

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Appendix I VOC Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
O-Xylene, ug/L (CAS NO - 95-47-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	9/11/2012	< 1	**15**	< 1	N/A	< 1	< 1	< 1	N/A
	9/11/2012	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/20/2013	< 1	N/A	N/A	N/A	< 1	< 1	< 1	< 1
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
1,1-Dichloropropene, ug/L (CAS NO - 563-58-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
1,2,4,5-Tetrachlorobenzene, ug/L (CAS NO - 95-94-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
1,2,4-Trichlorobenzene, ug/L (CAS NO - 120-82-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
1,3,5-Trinitrobenzene, ug/L (CAS NO - 99-35-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
1,3-Dichlorobenzene, ug/L (CAS NO - 541-73-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
1,3-Dichloropropane, ug/L (CAS NO - 142-28-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
1,3-Dinitrobenzene, ug/L (CAS NO - 99-65-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
1,4-Naphthoquinone, ug/L (CAS NO - 130-15-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
1,4-Phenylenediamine, ug/L (CAS NO - 106-50-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
1-Naphthylamine, ug/L (CAS NO - 134-32-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,2-Dichloropropane, ug/L (CAS NO - 594-20-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 4	< 4	N/A
2,3,4,6-Tetrachlorophenol, ug/L (CAS NO - 58-90-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,4,5-T [2C], ug/L (CAS NO - 93-76-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1.08	< 1.13	N/A
2,4,5-TP [Silvex] [2C], ug/L (CAS NO - 93-72-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1.08	< 1.13	N/A
2,4,5-Trichlorophenol, ug/L (CAS NO - 95-95-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,4,6-Trichlorophenol, ug/L (CAS NO - 88-06-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,4-D [2C], ug/L (CAS NO - 94-75-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1.08	< 1.13	N/A
2,4-Dichlorophenol, ug/L (CAS NO - 120-83-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,4-Dimethylphenol, ug/L (CAS NO - 105-67-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,4-Dinitrophenol, ug/L (CAS NO - 51-28-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 21.7	< 20	N/A
2,4-Dinitrotoluene, ug/L (CAS NO - 121-14-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,6-Dichlorophenol, ug/L (CAS NO - 87-65-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2,6-Dinitrotoluene, ug/L (CAS NO - 606-20-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Acetylaminofluorene, ug/L (CAS NO - 53-96-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Chloronaphthalene, ug/L (CAS NO - 91-58-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Chlorophenol, ug/L (CAS NO - 95-57-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A

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Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
2-Methylnaphthalene, ug/L (CAS NO - 91-57-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Methylphenol, ug/L (CAS NO - 95-48-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Naphthylamine, ug/L (CAS NO - 91-59-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Nitroaniline, ug/L (CAS NO - 88-74-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
2-Nitrophenol, ug/L (CAS NO - 88-75-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
3,3-Dichlorobenzidine, ug/L (CAS NO - 91-94-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
3,3-Dimethylbenzidine, ug/L (CAS NO - 119-93-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
3/4-Methylphenol, ug/L (CAS NO - T-34MP)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
3-Chloropropene, ug/L (CAS NO - 107-05-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
3-Methylcholanthrene, ug/L (CAS NO - 56-49-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
3-Nitroaniline, ug/L (CAS NO - 99-09-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4,4`-DDD, ug/L (CAS NO - 72-54-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	0.00311*	< 0.032	N/A
4,4`-DDE, ug/L (CAS NO - 72-55-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
4,4`-DDT, ug/L (CAS NO - 50-29-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
4,6-Dinitro-2-methylphenol, ug/L (CAS NO - 534-52-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Aminobiphenyl, ug/L (CAS NO - 92-67-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Bromophenyl phenyl ether, ug/L (CAS NO - 101-55-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Chloro-3-methylphenol, ug/L (CAS NO - 59-50-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Chloroaniline, ug/L (CAS NO - 106-47-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Chlorophenyl phenyl ether, ug/L (CAS NO - 7005-72-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Nitroaniline, ug/L (CAS NO - 100-01-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
4-Nitrophenol, ug/L (CAS NO - 100-02-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
5-Nitro-o-toluidine, ug/L (CAS NO - 99-55-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
7,12-Dimethylbenz [a] anthracene, ug/L (CAS NO - 57-97-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Acenaphthene, ug/L (CAS NO - 83-32-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Acenaphthylene, ug/L (CAS NO - 208-96-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A

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Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Acetonitrile, ug/L (CAS NO - 75-05-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10000	< 10000	N/A
Acetophenone, ug/L (CAS NO - 98-86-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Acrolein, ug/L (CAS NO - 107-02-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
Aldrin, ug/L (CAS NO - 309-00-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Anthracene, ug/L (CAS NO - 120-12-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Benzo [a] anthracene, ug/L (CAS NO - 56-55-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Benzo [a] pyrene, ug/L (CAS NO - 50-32-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Benzo [b] fluoranthene, ug/L (CAS NO - 205-99-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Benzo [g,h,i] perylene, ug/L (CAS NO - 191-24-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Benzo [k] fluoranthene, ug/L (CAS NO - 207-08-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Benzyl alcohol, ug/L (CAS NO - 100-51-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Alpha-BHC, ug/L (CAS NO - 319-84-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Beta-BHC, ug/L (CAS NO - 319-85-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Delta-BHC, ug/L (CAS NO - 319-86-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Gamma-BHC [Lindane], ug/L (CAS NO - 58-89-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Bis[2-chloroethoxy]methane, ug/L (CAS NO - 111-91-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Bis[2-chloroethyl]ether, ug/L (CAS NO - 111-44-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Bis[2-chloroisopropyl]ether, ug/L (CAS NO - 108-60-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Bis[2-ethylhexyl]phthalate, ug/L (CAS NO - 117-81-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Butyl benzyl phthalate, ug/L (CAS NO - 85-68-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Chlordane, ug/L (CAS NO - 57-74-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 2.11	< 2	N/A
Alpha-Chlordane, ug/L (CAS NO - 5103-71-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A
Gamma-Chlordane, ug/L (CAS NO - 5566-34-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A
Chlorobenzilate, ug/L (CAS NO - 510-15-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Chloroprene, ug/L (CAS NO - 126-99-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
Chrysene, ug/L (CAS NO - 218-01-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A

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Summary of Groundwater Chemistry
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Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Cyanide, mg/L (CAS NO - 57-12-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.005	< 0.005	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.01	0.00434*	N/A
Diallate [cis or trans], ug/L (CAS NO - 2303-16-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Dibenz [a,h] anthracene, ug/L (CAS NO - 53-70-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Dibenzofuran, ug/L (CAS NO - 132-64-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Dichlorodifluoromethane, ug/L (CAS NO - 75-71-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 3	< 3	N/A
Dieldrin, ug/L (CAS NO - 60-57-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Diethyl phthalate, ug/L (CAS NO - 84-66-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Dimethoate, ug/L (CAS NO - 60-51-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Dimethyl phthalate, ug/L (CAS NO - 131-11-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Dimethylaminoazobenzene, ug/L (CAS NO - 60-11-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Di-n-butyl phthalate, ug/L (CAS NO - 84-74-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Di-n-octyl phthalate, ug/L (CAS NO - 117-84-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 21.7	< 20	N/A
Dinoseb, ug/L (CAS NO - 88-85-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Diphenylamine, ug/L (CAS NO - 122-39-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Disulfoton, ug/L (CAS NO - 298-04-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 8	< 8	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 8	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Endosulfan I, ug/L (CAS NO - 959-98-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Endosulfan II, ug/L (CAS NO - 33213-65-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Endosulfan sulfate, ug/L (CAS NO - 1031-07-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Endrin, ug/L (CAS NO - 72-20-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Endrin aldehyde, ug/L (CAS NO - 7421-93-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.1	< 0.1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Ethyl Methacrylate, ug/L (CAS NO - 97-63-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
Ethyl Methanesulfonate, ug/L (CAS NO - 62-50-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Famphur, ug/L (CAS NO - 52-85-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.4	< 0.4	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.4	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Fluoranthene, ug/L (CAS NO - 206-44-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Fluorene, ug/L (CAS NO - 86-73-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Heptachlor, ug/L (CAS NO - 76-44-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A

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Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Heptachlor Epoxide, ug/L (CAS NO - 1024-57-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.05	< 0.05	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.05	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Hexachlorobenzene, ug/L (CAS NO - 118-74-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Hexachlorobutadiene, ug/L (CAS NO - 87-68-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Hexachlorocyclopentadiene, ug/L (CAS NO - 77-47-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Hexachloroethane, ug/L (CAS NO - 67-72-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Hexachloropropene, ug/L (CAS NO - 1888-71-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Indeno [1,2,3-cd] pyrene, ug/L (CAS NO - 193-39-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Isobutanol, mg/L (CAS NO - 78-83-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
Isodrin, ug/L (CAS NO - 465-73-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Isophorone, ug/L (CAS NO - 78-59-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Isosafrole, ug/L (CAS NO - 120-58-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Kepone, ug/L (CAS NO - 143-50-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Methacrylonitrile, ug/L (CAS NO - 126-98-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
Methapyrilene, ug/L (CAS NO - 91-80-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Methoxychlor, ug/L (CAS NO - 72-43-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.0337	< 0.032	N/A
Methyl Methacrylate, ug/L (CAS NO - 80-62-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
Methyl Methanesulfonate, ug/L (CAS NO - 66-27-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Naphthalene, ug/L (CAS NO - 91-20-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 5	< 5	N/A
Nitrobenzene, ug/L (CAS NO - 98-95-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosodiethylamine, ug/L (CAS NO - 55-18-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosodimethylamine, ug/L (CAS NO - 62-75-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosodi-n-butylamine, ug/L (CAS NO - 924-16-3)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosodi-n-propylamine, ug/L (CAS NO - 621-64-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosodiphenylamine, ug/L (CAS NO - 86-30-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosomethylethylamine, ug/L (CAS NO - 10595-95-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
N-Nitrosopiperidine, ug/L (CAS NO - 100-75-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A

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Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
N-Nitrosopyrrolidine, ug/L (CAS NO - 930-55-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
O,O,O-Triethyl Phosphorothioate, ug/L (CAS NO - 126-68-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
O-Toluidine, ug/L (CAS NO - 95-53-4)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Parathion-Ethyl, ug/L (CAS NO - 56-38-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Parathion-Methyl, ug/L (CAS NO - 298-00-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
PCB-1016, ug/L (CAS NO - 12674-11-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
PCB-1221, ug/L (CAS NO - 11104-28-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
PCB-1232, ug/L (CAS NO - 11141-16-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
PCB-1242, ug/L (CAS NO - 53469-21-9)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
PCB-1248, ug/L (CAS NO - 12672-29-6)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
PCB-1254, ug/L (CAS NO - 11097-69-1)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
PCB-1260, ug/L (CAS NO - 11096-82-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 0.851	< 0.808	N/A
Pentachlorobenzene, ug/L (CAS NO - 608-93-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Pentachloronitrobenzene, ug/L (CAS NO - 82-68-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Pentachlorophenol [2C], ug/L (CAS NO - 87-86-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.04	< 0.04	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.04	< 0.04	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.04	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Phenacetin, ug/L (CAS NO - 62-44-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Phenanthrene, ug/L (CAS NO - 85-01-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Phenol, ug/L (CAS NO - 108-95-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Phorate, ug/L (CAS NO - 298-02-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.2	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Pronamide, ug/L (CAS NO - 23950-58-5)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 50	< 50	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 50	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Propionitrile, ug/L (CAS NO - 107-12-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 25	< 25	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 25	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
Pyrene, ug/L (CAS NO - 129-00-0)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Safrole, ug/L (CAS NO - 94-59-7)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 10	< 10	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Sulfide, mg/L (CAS NO - 18496-25-8)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	**4.7**	**3.5**	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	**3.1**	N/A
	9/3/2013	N/A	N/A	N/A	N/A	N/A	< 2	< 2	N/A
	2/19/2014	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/27/2014	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	8/7/2014	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	9/15/2014	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/10/2015	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	8/31/2015	< 1	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	8/31/2015	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A

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Summary of Groundwater Chemistry
Great River Regional Waste Authority 56 SDP 07 80P

Other Constituents	Sample Date	MW-10R UPG	GU-1 DNG	GU-2 DNG	GU-3A DNG	MW-26 DNG	MW-28 DNG	MW-29 DNG	Phase2Underdrain DNG
Sulfide, mg/L (CAS NO - 18496-25-8)	3/24/2016	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	7/18/2016	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	3/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	1.7	N/A
	8/2/2017	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	9/24/2018	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	1/21/2019	N/A	N/A	N/A	N/A	N/A	< 1	N/A	N/A
	8/13/2019	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	8/13/2019	N/A	N/A	N/A	N/A	N/A	N/A	< 1	N/A
	3/24/2020	N/A	N/A	N/A	N/A	N/A	< 1	< 1	N/A
	9/10/2020	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	3/31/2021	N/A	N/A	N/A	N/A	N/A	N/A	< 10	N/A
	8/9/2023	N/A	N/A	N/A	N/A	N/A	N/A	< 2	N/A
Thionazin, ug/L (CAS NO - 297-97-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.2	< 0.2	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 20	< 20	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 20	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 10.9	< 10	N/A
Toxaphene, ug/L (CAS NO - 8001-35-2)	1/19/2012	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	< 0.5	< 0.5	N/A
	3/20/2013	N/A	N/A	N/A	N/A	N/A	N/A	< 0.5	N/A
	5/1/2018	N/A	N/A	N/A	N/A	N/A	< 2.11	< 2	N/A

Note: * indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.
Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

Appendix D

Statistical Method and Output

Statistical Method and Output

Purpose

The purpose of this document is to provide the statistical evaluation of groundwater analytical data collected from the groundwater monitoring network of the Phase 2 municipal solid waste landfill unit (Phase 2 MSWLF unit) at the Great River Regional Waste Authority Sanitary Landfill.

Diagnostic and Exploratory Evaluations and Tests of Assumptions

The detection and assessment monitoring statistical programs include diagnostic and exploratory evaluations and statistical tests of assumptions, as appropriate, including the following:

- Time Series Plots
- Shapiro-Wilk test for normality
- Ohio Environmental Protection Agency (EPA) Method for outliers
- Mann-Kendall/Sen's Slope trend test

Management of Non-Detect Data

Non-detect values in the dataset are managed using simple substitution or the Kaplan-Meier estimator. If less than 15% of the data are non-detects, simple substitution is used, where non-detect values are assigned a concentration of one-half (½) of the practical quantification limit (PQL). If greater than 15% but less than 50% of the data are non-detects, the Kaplan-Meier estimator is used to define the distribution for the dataset. If non-detects comprise greater than 50% of the available data, non-parametric statistical methods are used.

Management of Outliers

Background datasets are evaluated for outliers using the Ohio EPA Method as included in the Sanitas™ statistical software program and described below, which includes the use of Dixon's, Rosner's, and Tukey's outlier tests, as appropriate based on the diagnostic tests, for the datasets that contain less than 75% of the measured concentrations below the PQL. Outliers are not confirmed unless a physical cause or explanation for the outlier is determined.

Management of Data (ND data < 75%)

If less than 75% of the background dataset is below the PQL, outliers are statistically evaluated using the following guidelines.

- A parametric dataset with $n < 20$ was evaluated with the Dixon's outlier test.
- A parametric dataset with $n \geq 20$ was evaluated with the Rosner's outlier test.
- A non-parametric dataset was evaluated with the Tukey's outlier test.

In accordance with the Ohio EPA Method, if a statistically significant outlier is not found using the above tests, but the highest value data point exceeds the second highest data point by an order of magnitude, the highest point is considered an outlier.

Management of Data (ND data ≥ 75%)

If greater than or equal to 75% of the background dataset is less than the PQL, outliers are statistically evaluated using the following guidelines.

- Single detection ≥ the PQL:
  - If ≥ 50% of the background dataset has detections ≥ the method detection limit (MDL), any value ≥ two times the PQL of background is considered an outlier.
  - If < 50% of the background dataset has detections ≥ the MDL, any value ≥ the PQL of background is considered an outlier.
- Two or more detections ≥ the PQL:
  - If ≥ 50% of the background dataset has detections ≥ the MDL, any value ≥ three times the PQL of background is considered an outlier.
  - If < 50% of the background dataset has detections ≥ the MDL, any value ≥ two times the PQL of background is considered an outlier.

Confirmed outliers, if any, are shown in the Summary of Groundwater Chemistry included in the Annual Water Quality Report.

Detection Monitoring Statistical Program

The detection monitoring statistical program for the Phase 2 MSWLF unit is defined by Iowa Administrative Code (IAC) 567-113.10(4)"g." Intrawell prediction limits with retesting were selected as the appropriate statistical method for the determination of statistically significant increases (SSIs) over background for inorganic constituents with historical detections in the background dataset. Prediction limits are established using the process below. Data from the most recent sampling event is compared to the prediction limits for the determination of SSIs.

Intrawell Prediction Limits with Retesting

- If the dataset has a normal distribution (or can be transformed to a normal distribution using Ladder of Powers), parametric intrawell prediction limits are calculated if at least six datasets have been collected.
- If the dataset does not have a normal distribution (and cannot be transformed to a normal distribution using Ladder of Powers) or has greater than 50% non-detects, nonparametric intrawell prediction limits are calculated if at least six datasets have been collected.
- If an SSI above the prediction limit is indicated, retesting samples using the 1-of-3 retesting scheme should be collected prior to the next regularly scheduled sampling event with temporal sample spacing consideration to provide samples with greater independence. If the retesting results are both above the prediction limit, the SSI is confirmed, and the monitoring well should be placed into the assessment monitoring program or discharge from the monitoring point should be treated with the leachate for groundwater underdrain discharge points. If any retesting sample concentration is below the prediction limit, the SSI is not confirmed, and the monitoring point continues in the detection monitoring program.

Updating the Background Dataset for Intrawell Prediction Limits

If no SSI is confirmed for any two-year period, the intrawell background dataset will be updated using the following procedure:

- Test for normality (normal distribution) of the dataset either outright or through a transformation using Ladder of Powers:
  - Shapiro-Wilk test
- Test for statistically significant trends:
  - Mann-Kendall/Sen's Slope trend test

If an increasing trend is detected, the monitoring point will be placed into the assessment monitoring program or the discharge treated with the leachate for groundwater underdrain discharge points.

- If the dataset has a normal distribution and no trend is present, conduct a two-sample Welch's t-test at a 0.01 significance level to compare current background to the most recent two years of detection monitoring data.

If Welch's t-test test is significant and shows that the most recent two years of concentration data appear to be increasing, the background will not be updated.

- If the dataset does not a have normal distribution and no trend is present, conduct a two-sample non-parametric Wilcoxon rank-sum test (also known as the Mann-Whitney test) at a 0.01 significance level to compare current background to the most recent two years of detection monitoring data.

If the Wilcoxon rank-sum test is significant and shows that the most recent two years of concentration data appear to be increasing, the background will not be updated.

- If the Welch's t-test and the Wilcoxon rank-sum test are not significant, the most recent two years of detection monitoring data will be added to the intrawell background dataset.
- Establish prediction limits based on the updated intrawell background dataset.

The process will repeat every two years in which an SSI is not confirmed.

Double Quantification Method

The quasi-statistical "double quantification" method is used for constituents not detected in the associated background data set. If a constituent is detected in the compliance dataset that has not been historically detected in the background dataset, that constituent is retested before the next regularly scheduled sampling event. If the retesting results confirm the original detection with a quantifiable detection, the SSI is confirmed, and the monitoring point must be placed into the assessment monitoring program.

Assessment Monitoring Statistical Program

Confidence intervals or confidence bands, as appropriate, were selected as the appropriate statistical methods for comparison of the groundwater analytical data against a fixed groundwater protection standard (GWPS). The assessment monitoring statistical evaluations are performed using the most recent eight samples or all samples if less than eight samples were available. The confidence intervals or confidence bands used for the assessment monitoring statistical evaluation are established using the process below. Transformation of the distribution is not considered.

Confidence Intervals or Confidence Bands

- A parametric confidence interval around a normal mean is calculated if the dataset has a normal distribution and no statistically significant trend is present.
- A non-parametric confidence interval around a median is calculated if the dataset does not have a normal distribution and no statistically significant trend is present.
- Non-parametric confidence bands around a Theil-Sen trend line are calculated if the dataset has a statistically significant trend.

In the event that the lower confidence limit or any part of the lower confidence band, as appropriate, exceeds the GWPS, then the monitoring point is declared out of compliance, and an assessment of corrective measures (ACM) is required.

Statistical Software Output

Sanitas™ statistical software was used to perform the statistical evaluations. The statistical output for the 1st and 2nd 2024 statistical evaluations are included in Attachments A and B of this appendix, respectively.

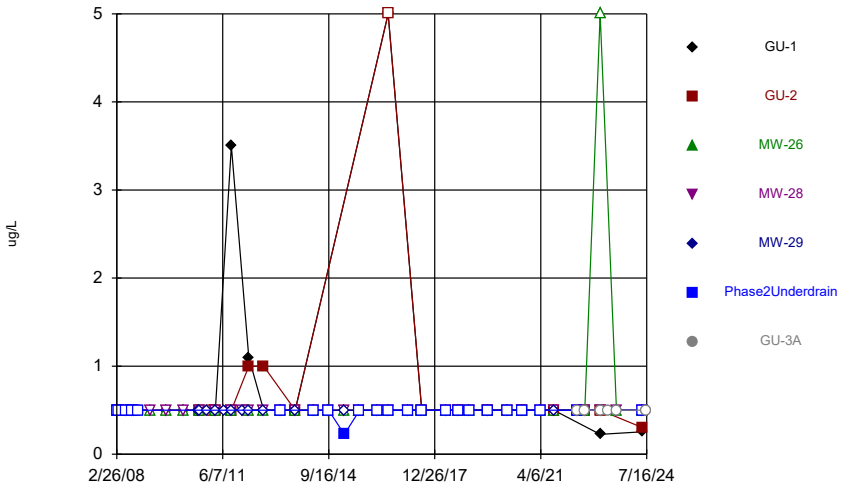
Attachment A

1st 2024 Statistical Evaluation Output

Time Series Plots

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

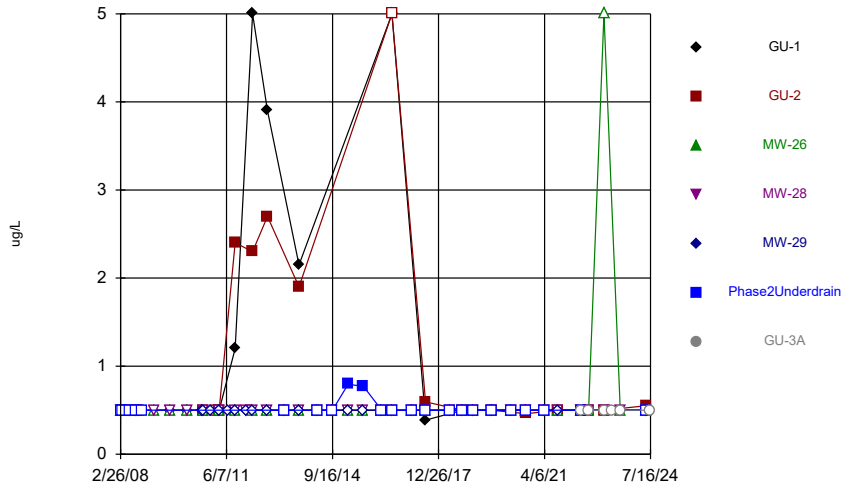
Time Series



Constituent: 1,1-Dichloroethane Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: 1,2-Dichloroethane Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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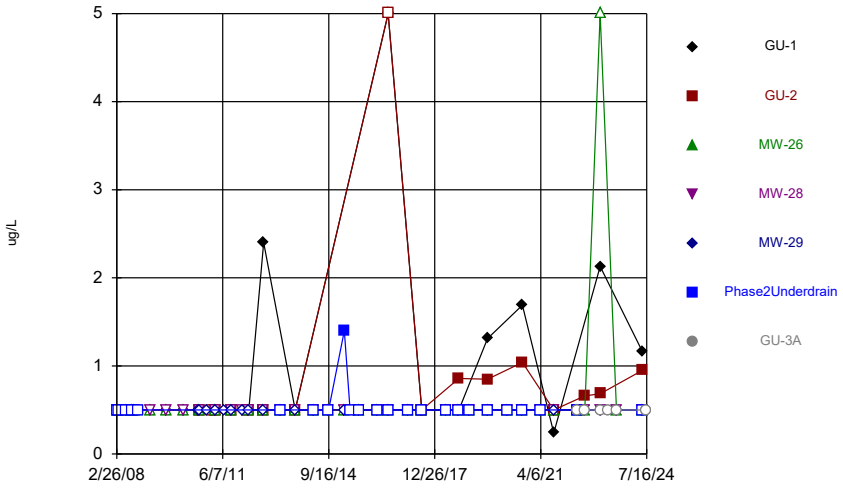
Hollow symbols indicate censored values.

Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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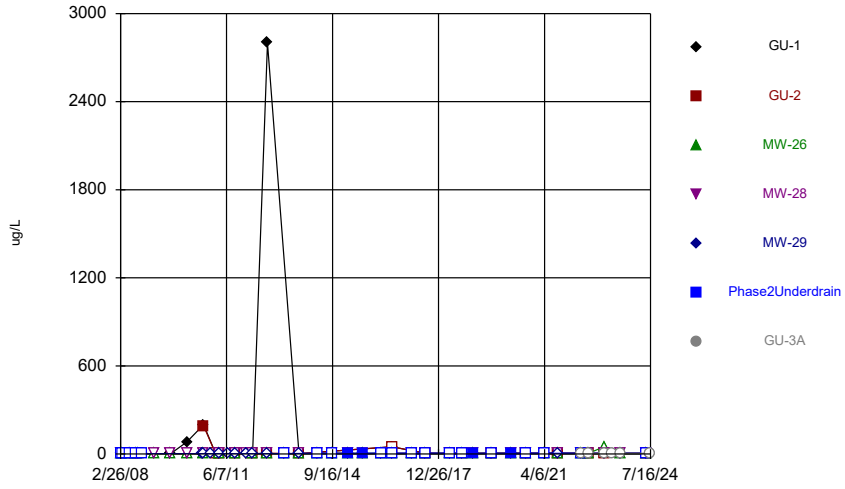
Hollow symbols indicate censored values.

Time Series



Constituent: 2-Butanone Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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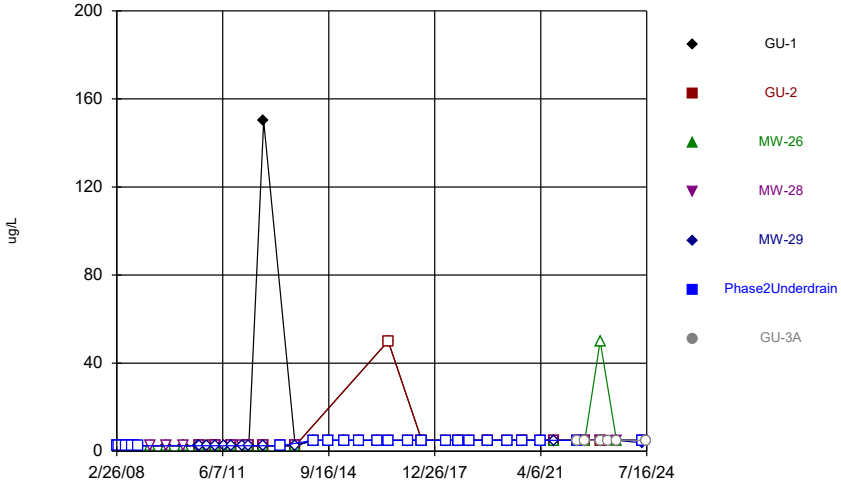
Hollow symbols indicate censored values.

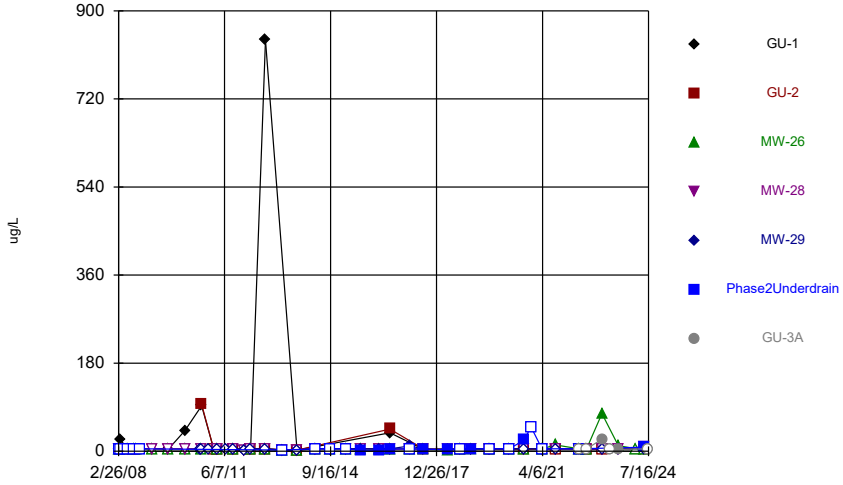
Time Series



Constituent: 4-Methyl-2-pentanone Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

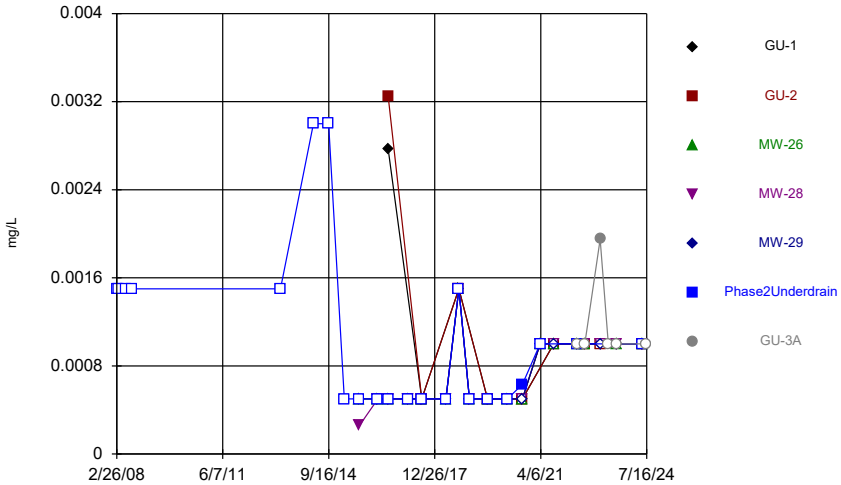
Time Series



Constituent: Acetone Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

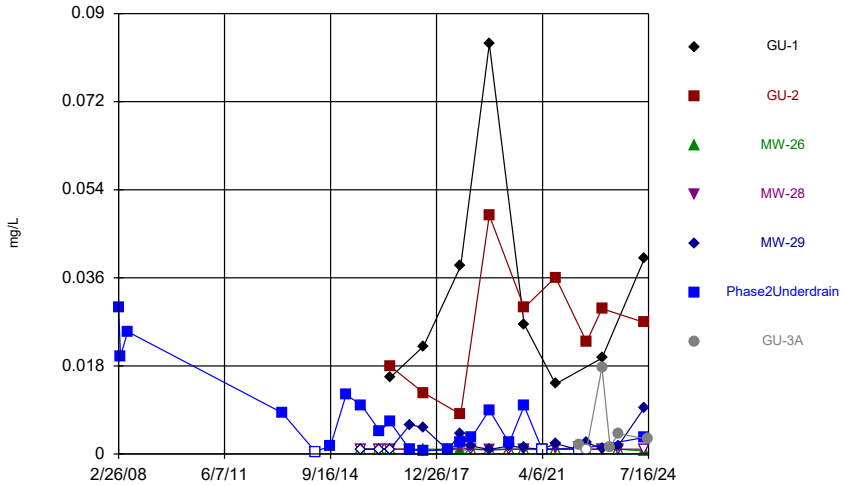
Time Series



Constituent: Antimony Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

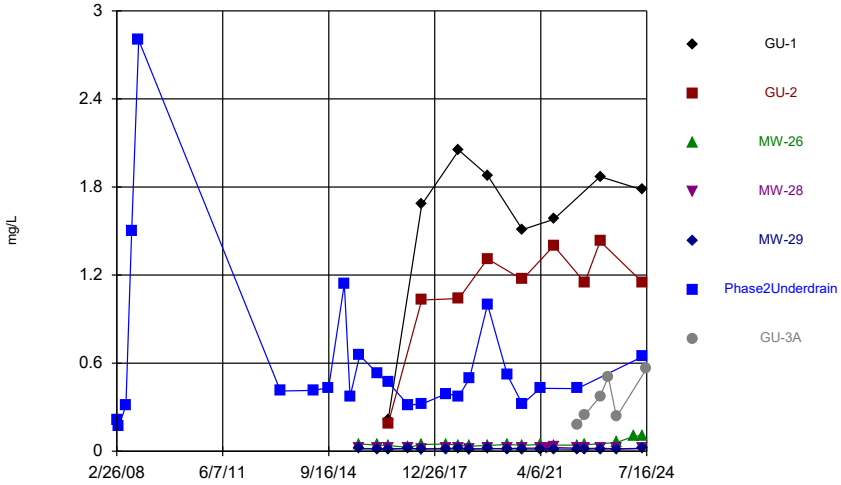
Time Series



Constituent: Arsenic Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

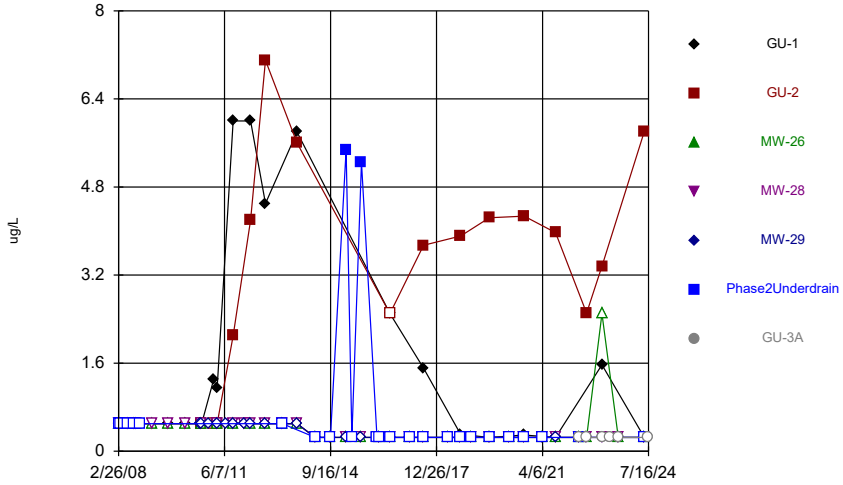
Time Series



Constituent: Barium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Benzene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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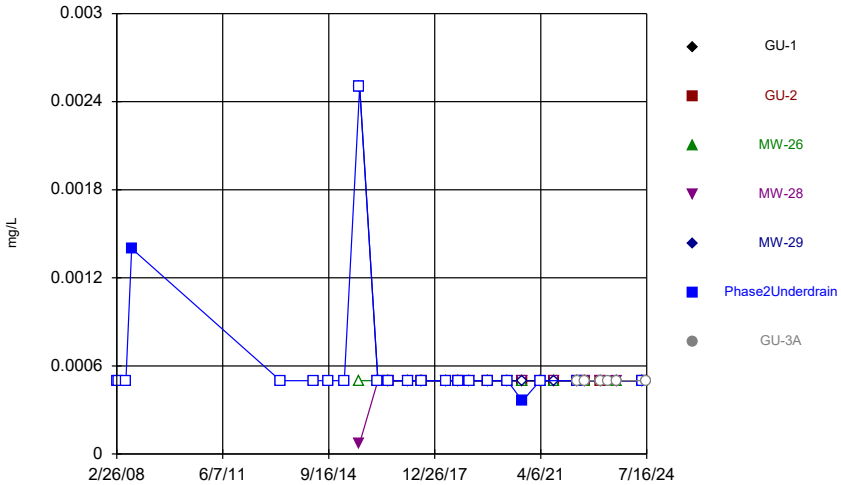
Hollow symbols indicate censored values.

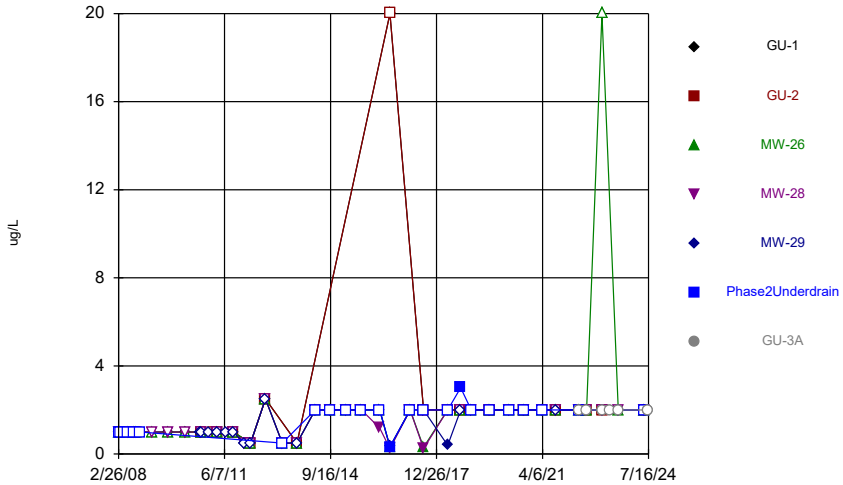
Time Series



Constituent: Beryllium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

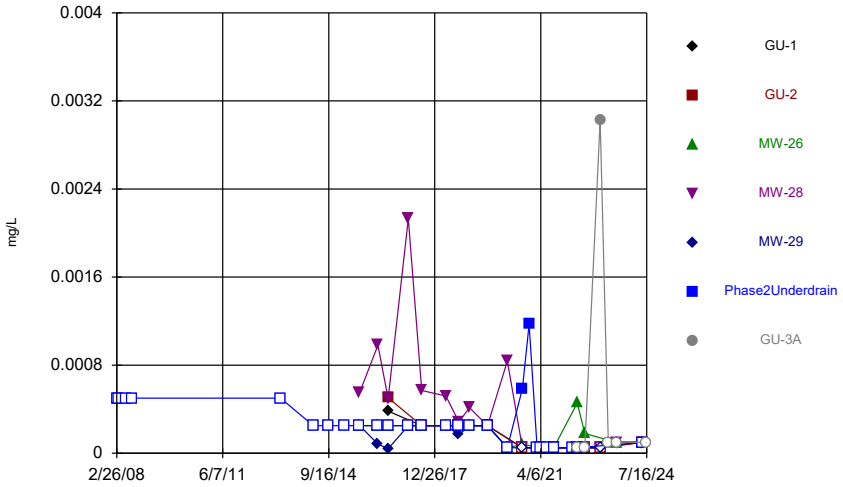
Time Series



Constituent: Bromomethane Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

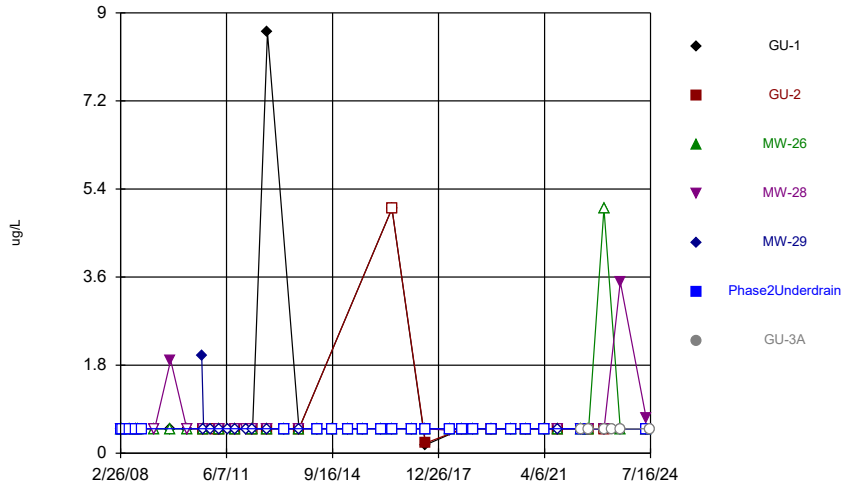
Time Series



Constituent: Cadmium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Carbon disulfide Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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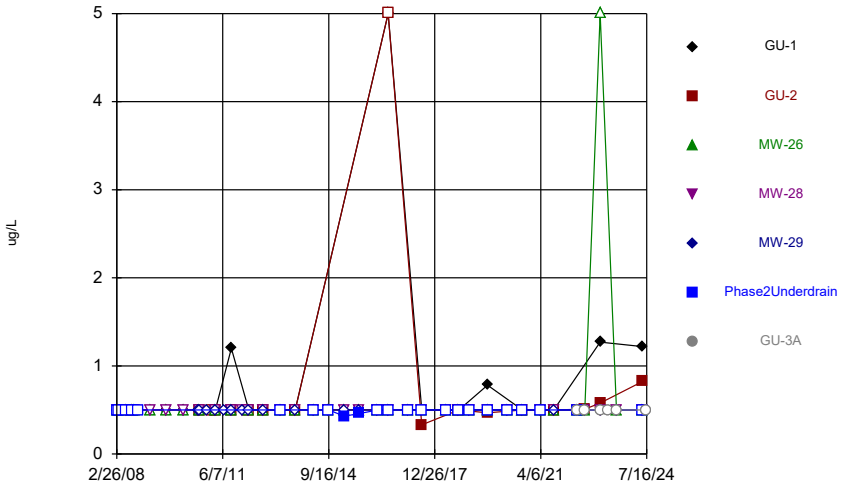
Hollow symbols indicate censored values.

Time Series



Constituent: Chlorobenzene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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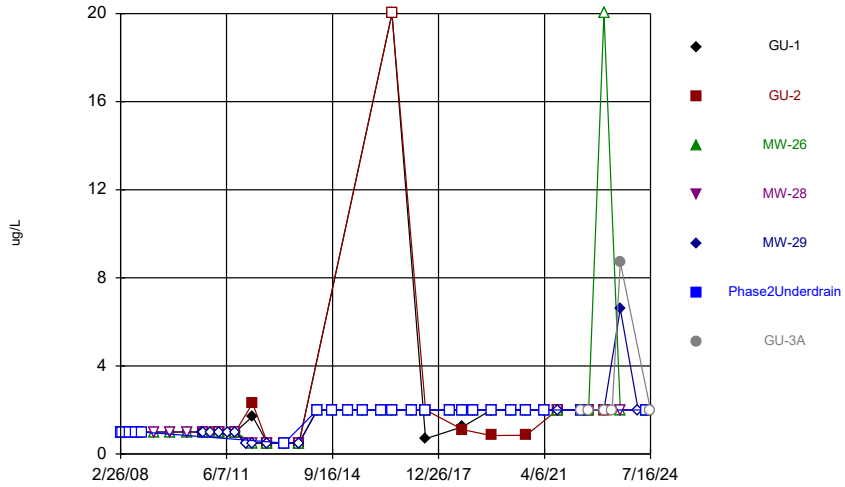
Hollow symbols indicate censored values.

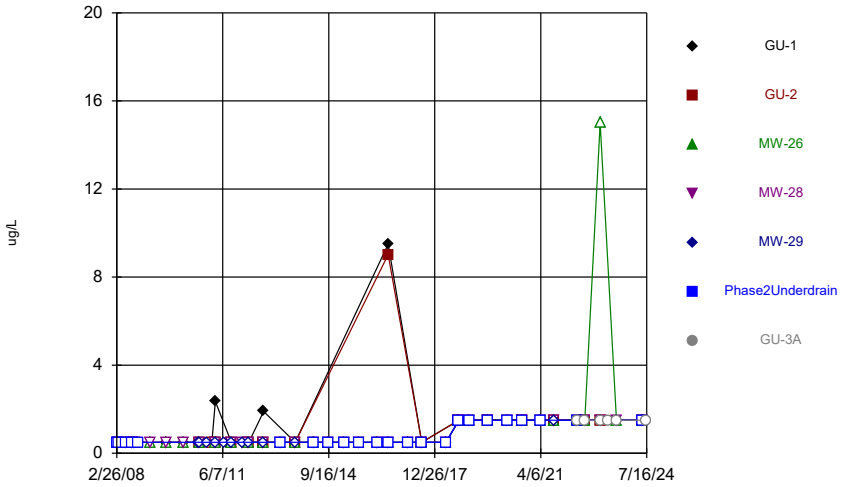
Time Series



Constituent: Chloroethane Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

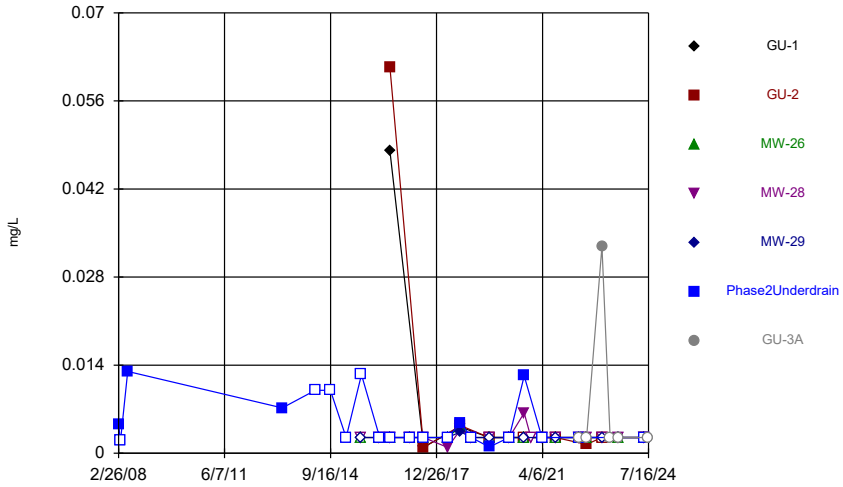
Time Series



Constituent: Chloroform Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

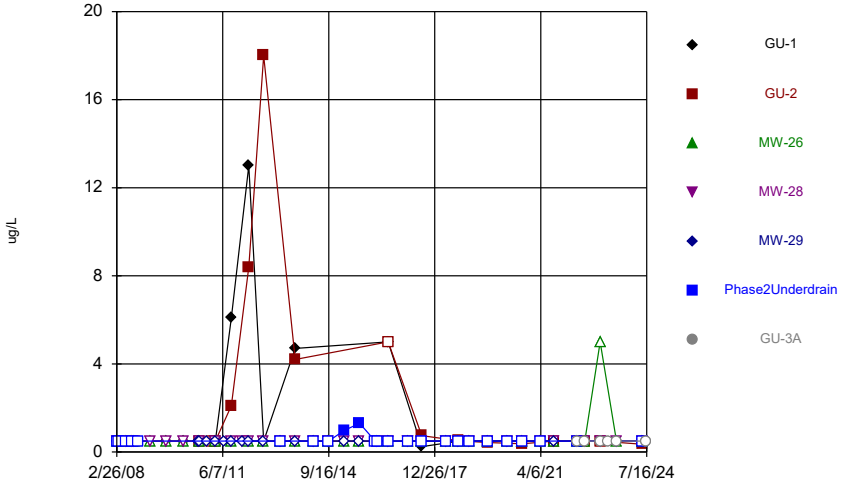
Time Series



Constituent: Chromium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

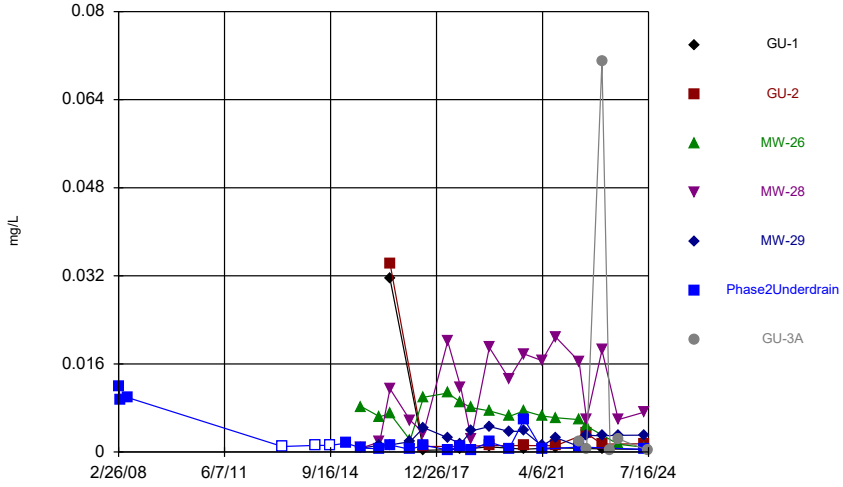
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

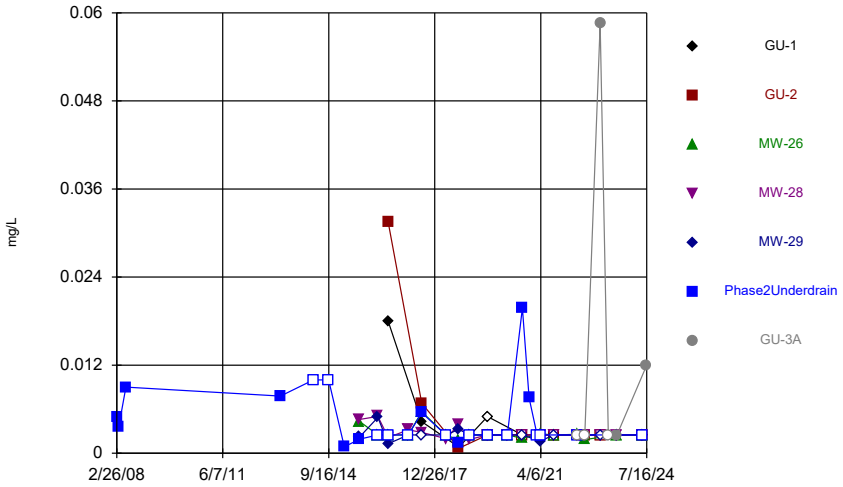
Time Series



Constituent: Cobalt Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

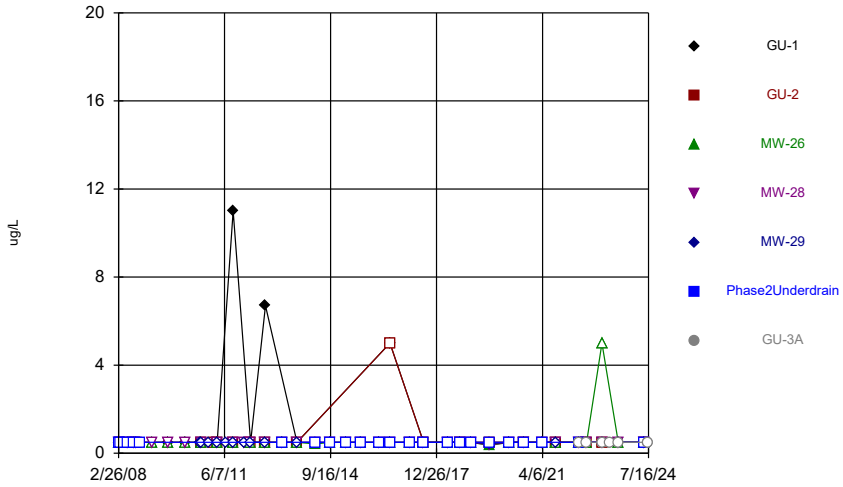
Time Series



Constituent: Copper Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

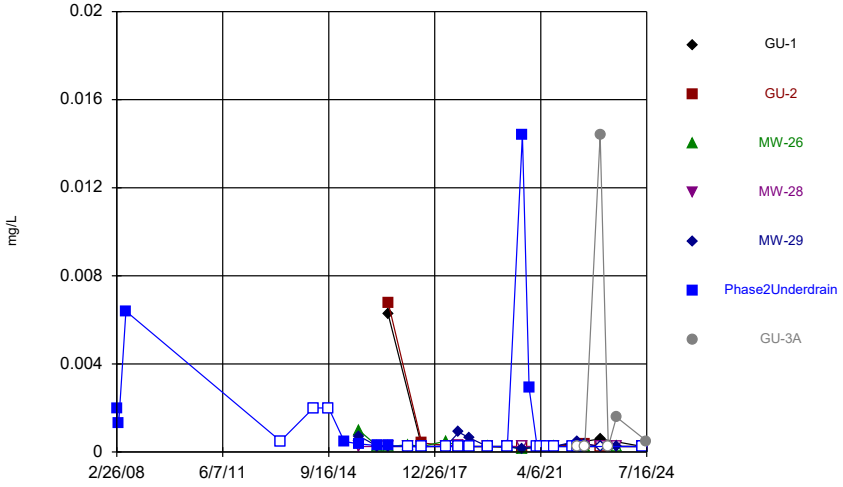
Time Series



Constituent: Ethylbenzene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

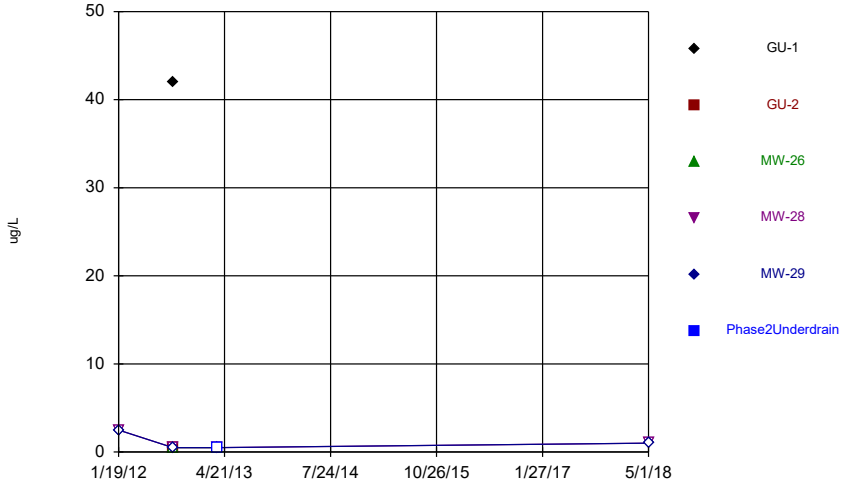
Time Series



Constituent: Lead Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

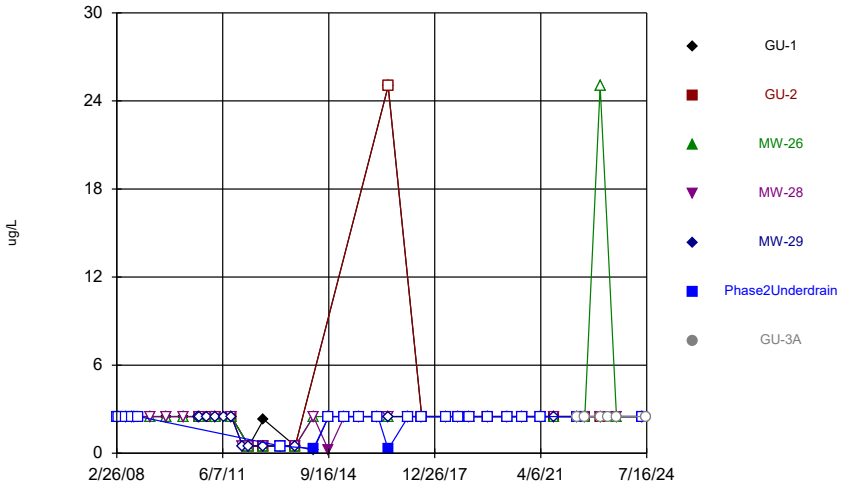
Time Series



Constituent: M&P-Xylene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

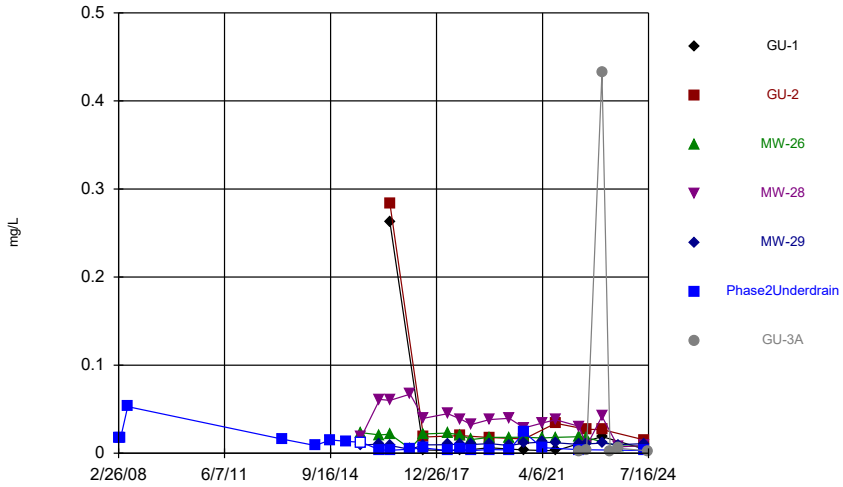
Time Series



Constituent: Methylene Chloride Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

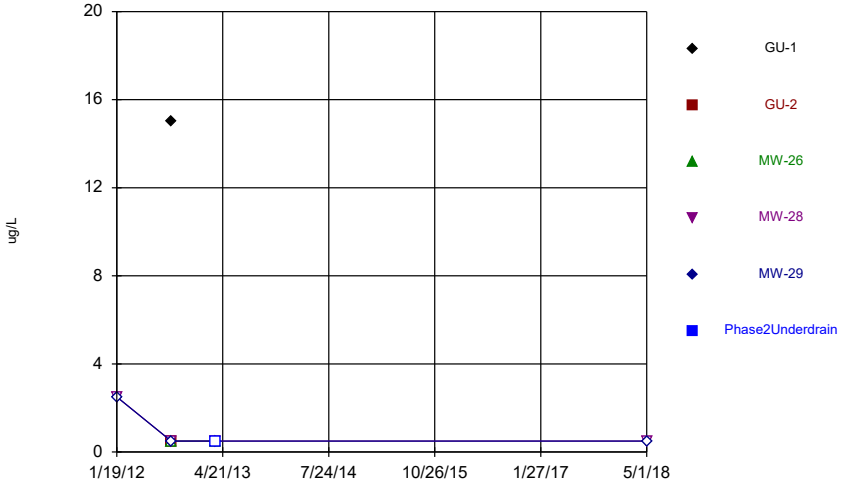
Time Series



Constituent: Nickel Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

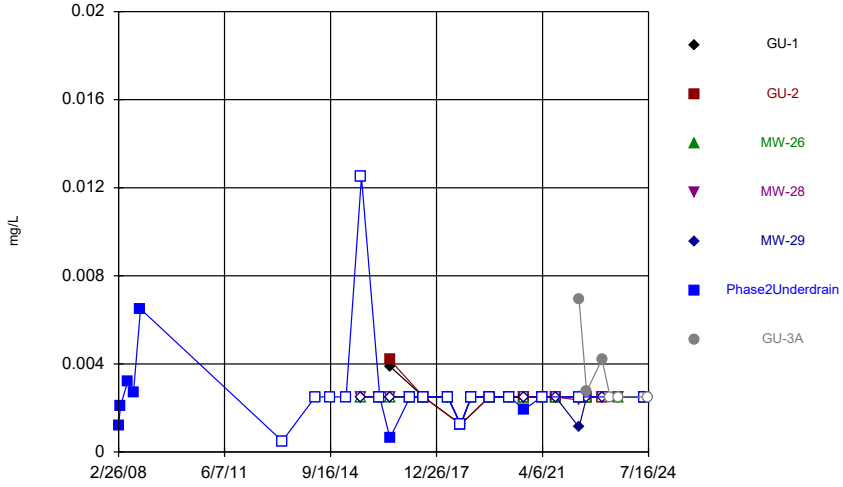
Time Series



Constituent: O-Xylene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

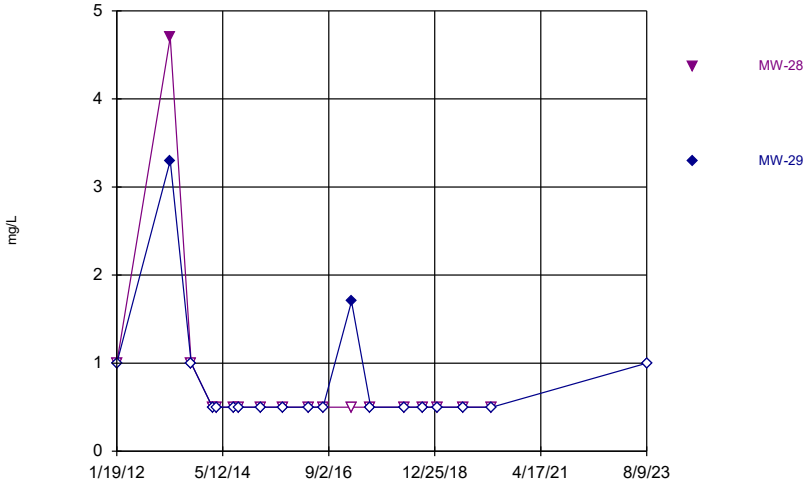
Time Series



Constituent: Selenium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

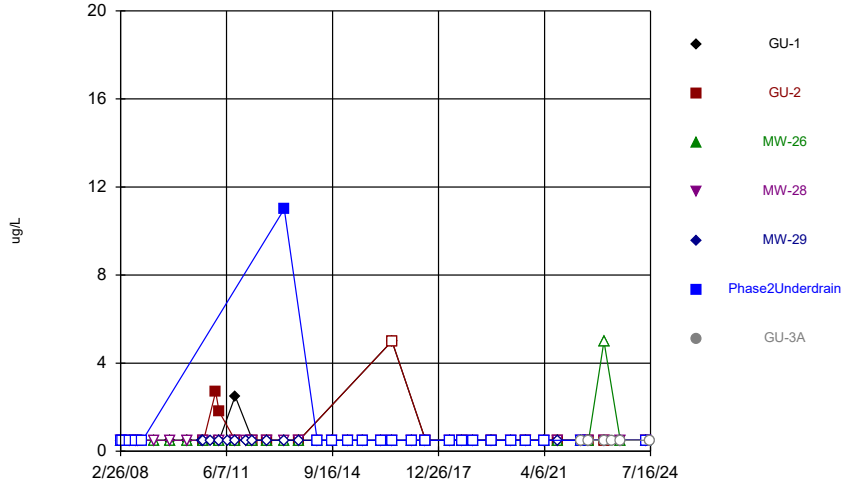
Time Series



Constituent: Sulfide Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

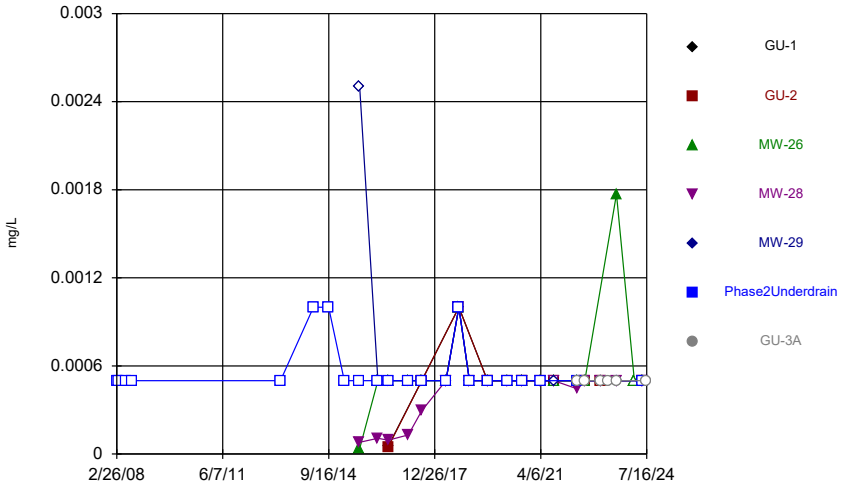
Time Series



Constituent: Tetrachloroethene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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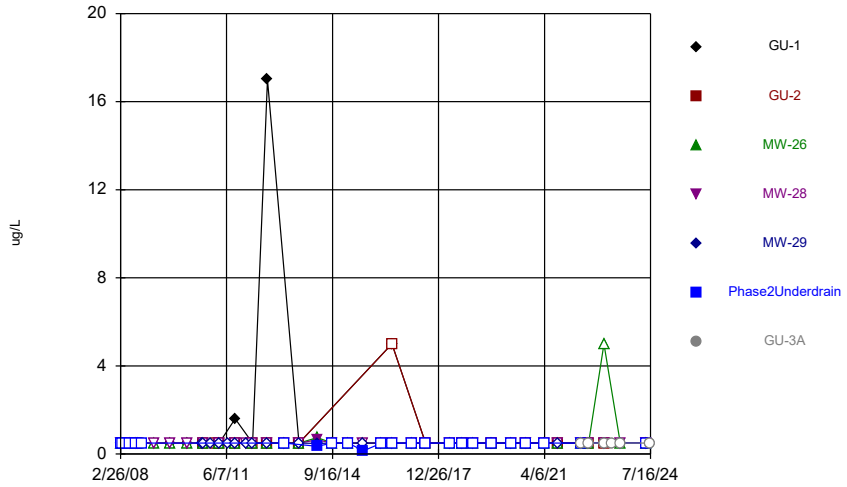
Hollow symbols indicate censored values.

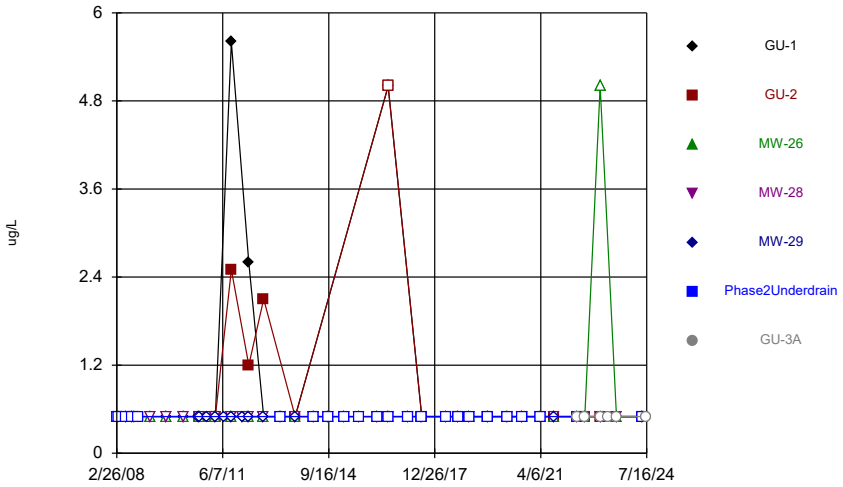
Time Series



Constituent: Toluene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

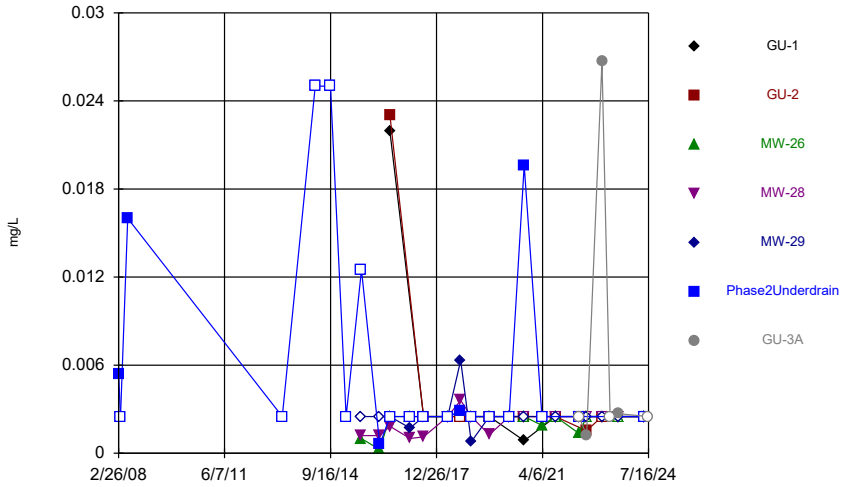
Time Series



Constituent: Trichloroethene Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

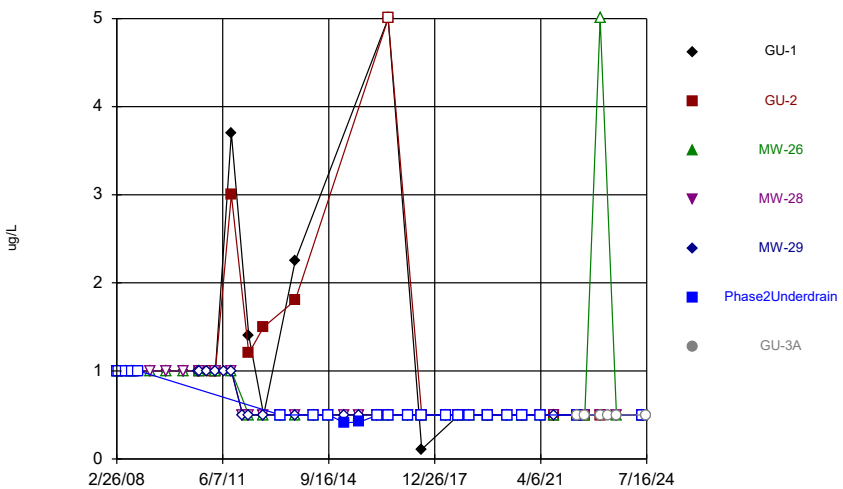
Time Series



Constituent: Vanadium Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

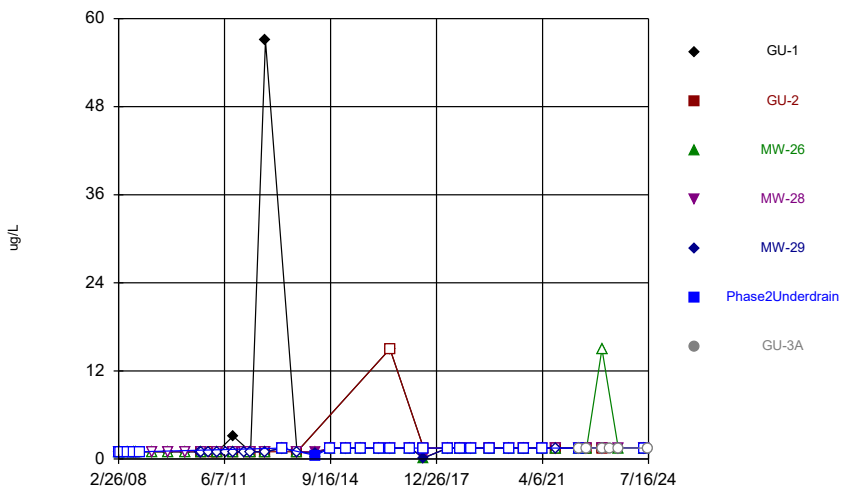
Time Series



Constituent: Vinyl chloride Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

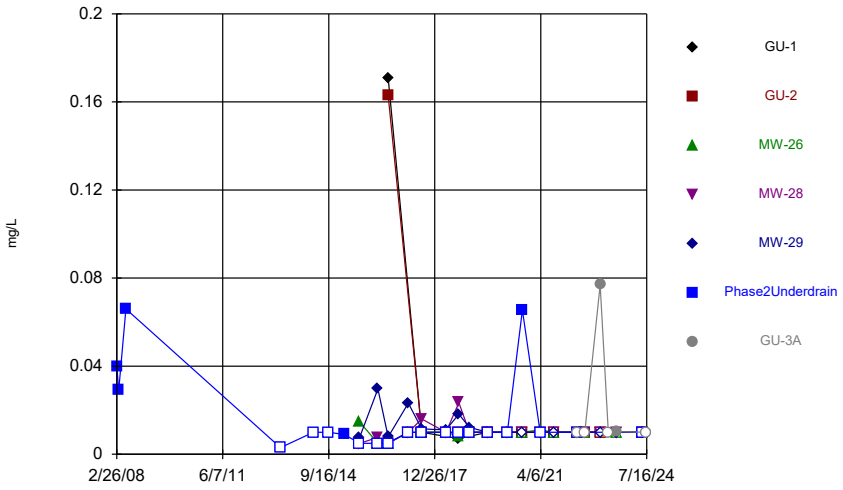
Time Series



Constituent: Xylenes, total Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Time Series



Constituent: Zinc Analysis Run 8/5/2024 1:15 PM View: 2024SSN - Time Series

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Outlier Tests Summary Table and Graphs

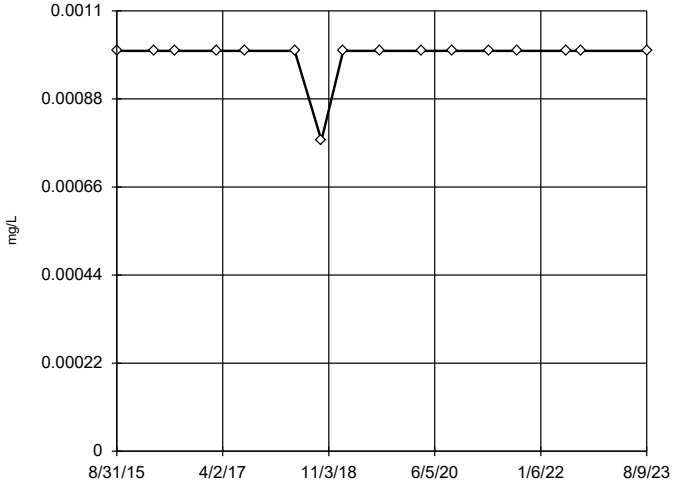
BG Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 1:19 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Arsenic (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.000986	0.000056	n/a
Barium (mg/L)	**MW-26**	**Yes**	**0.103,0.0268**	**2/27/2024,3/2/2017**	**Dixon/OH**	**0.05**	**17**	**0.04649**	**0.0161**	**ShapiroWilk**
Cadmium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.0002013	0.0001095	n/a
Chromium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.002613	0.0004525	n/a
Cobalt (mg/L)	**MW-26**	**Yes**	**0.00217,0.0014**	**3/2/2017,8/9/2023**	**Dixon/OH**	**0.05**	**16**	**0.006735**	**0.002465**	**ShapiroWilk**
Copper (mg/L)	**MW-26**	**Yes**	**0.00432,0.00565,0.00179,0.002025,0.00186**	**8/31/2015,8/2/2017,9/24/2018,9/10/2020,8/17/2022**	**NP (nrm)/OH**	**NaN**	**16**	**0.002711**	**0.0009554**	**ShapiroWilk**
Lead (mg/L)	MW-26	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.000307	0.0001858	ShapiroWilk
Nickel (mg/L)	**MW-26**	**Yes**	**0.00825,0.005175**	**8/9/2023,3/2/2017**	**Dixon/OH**	**0.05**	**16**	**0.01791**	**0.004917**	**ShapiroWilk**
Silver (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.0004864	0.00006359	n/a
Thallium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	17	0.0005769	0.0003515	n/a
Vanadium (mg/L)	MW-26	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002179	0.0007053	ShapiroWilk
Zinc (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.009618	0.002206	n/a

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Arsenic Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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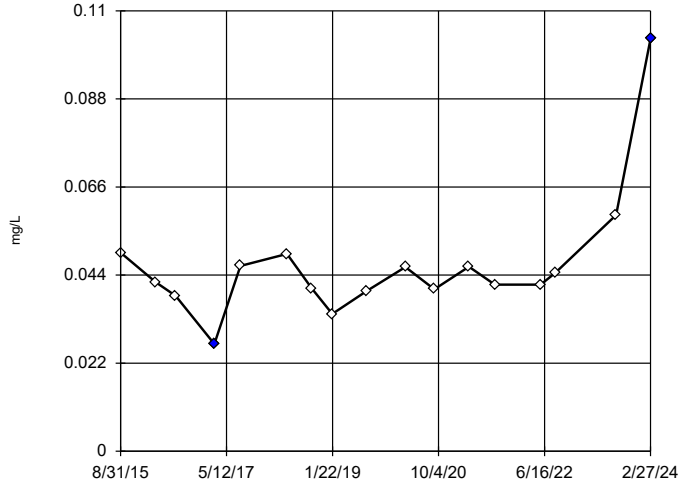
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 17

Statistical outliers are drawn as solid.
Testing for 1 high and 1 low outliers.
Mean = 0.04649.
Std. Dev. = 0.0161.
0.103: c = 0.8318
tabl = 0.49.
0.0268 (D): c = 0.5263
tabl = 0.49.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9259
Critical = 0.901
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Barium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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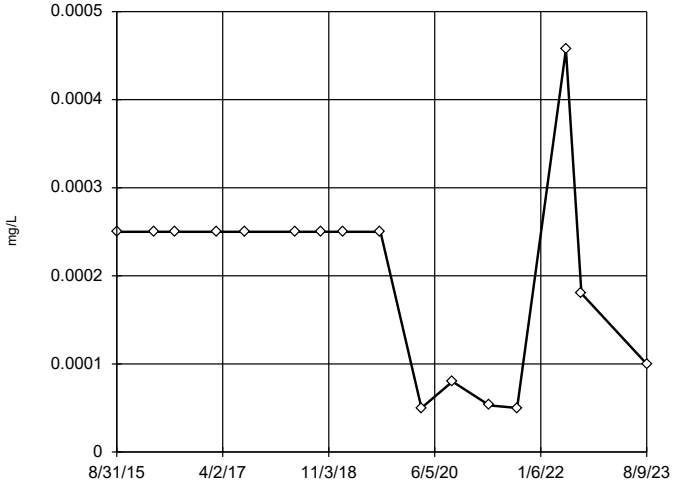
Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9259
Critical = 0.901
The distribution was found to be normally distributed.

Constituent: Cadmium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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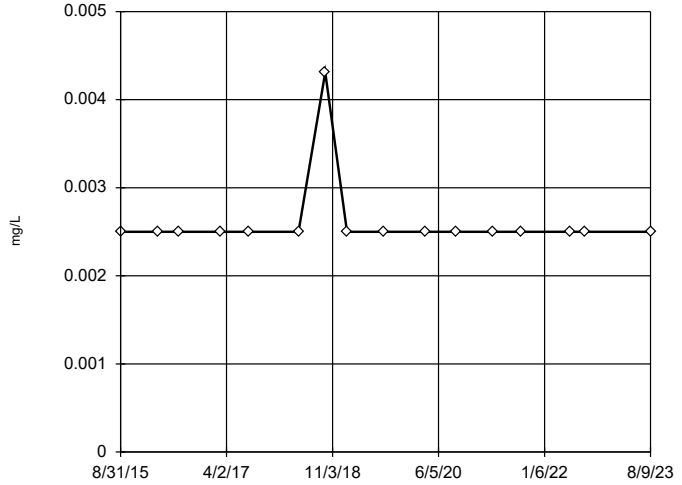
Ohio EPA 0715 Outlier Algorithm

MW-26



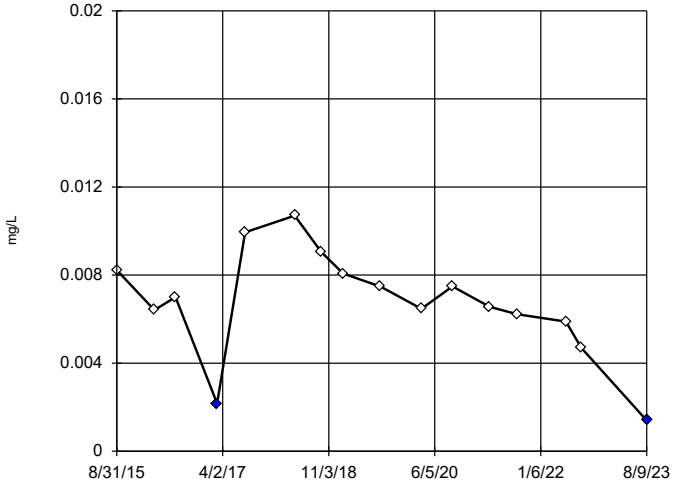
n = 16

No statistical outliers.

Constituent: Chromium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

Statistical outliers are drawn as solid.
Testing for 2 low outliers.
Mean = 0.006735.
Std. Dev. = 0.002465.
0.00217 (D): c = 0.5415
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9639
Critical = 0.895
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Cobalt Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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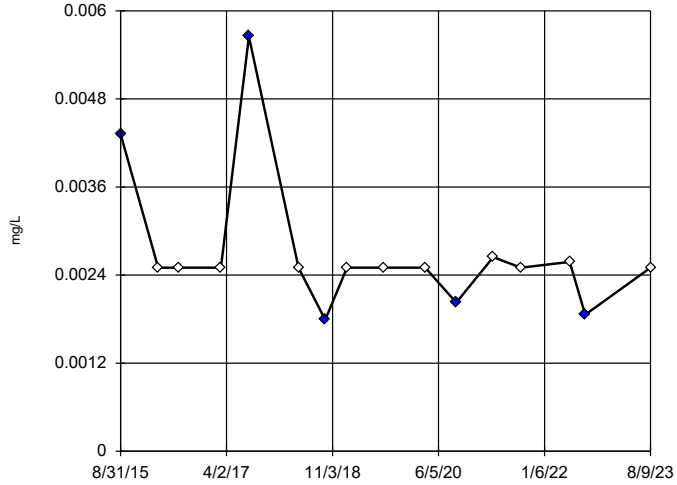
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

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 natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.002663, low cutoff = 0.002385, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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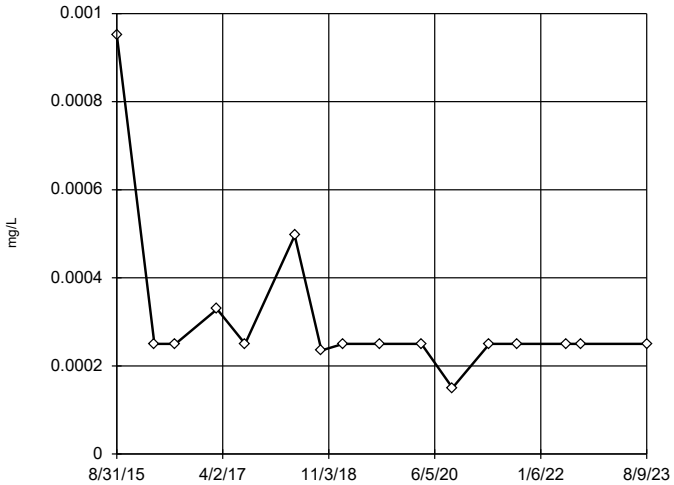
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

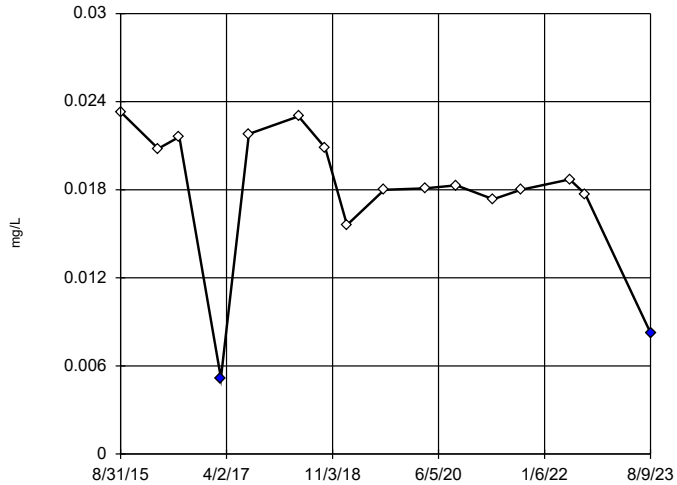
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

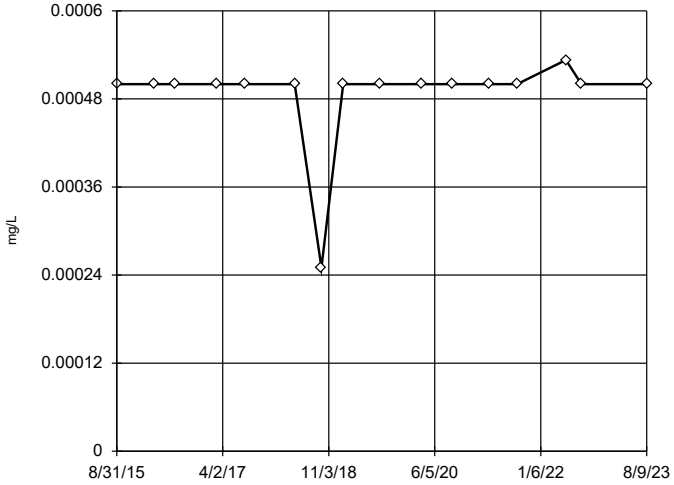
Statistical outliers are drawn as solid.
Testing for 2 low outliers.
Mean = 0.01791.
Std. Dev. = 0.004917.
0.00825: c = 0.6716
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9253
Critical = 0.895
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Nickel Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Silver Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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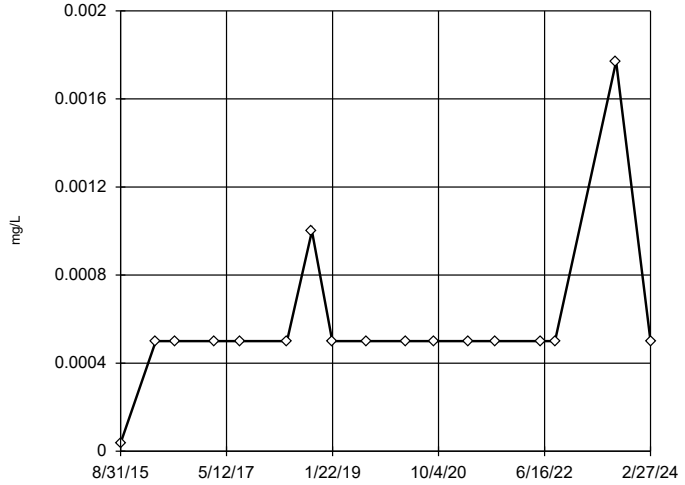
Ohio EPA 0715 Outlier Algorithm

MW-26



n = 17

No statistical outliers.

Constituent: Thallium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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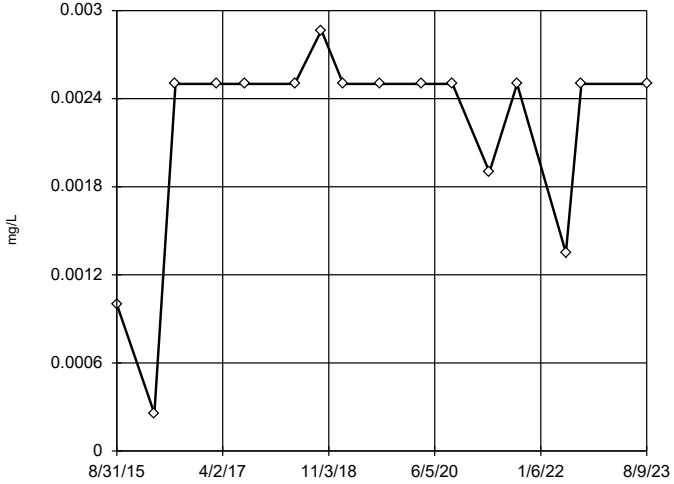
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x^5 transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

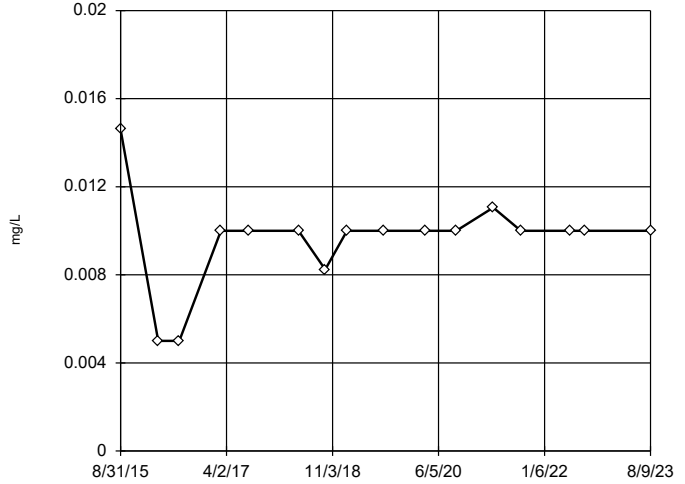
Constituent: Vanadium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Zinc Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

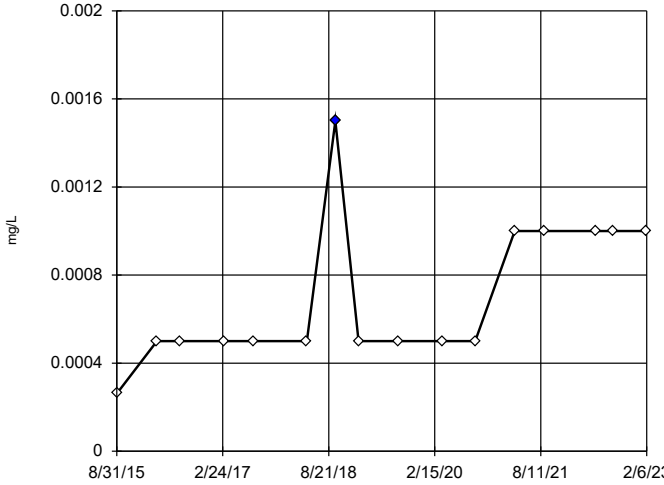
BG Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 3:45 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Antimony (mg/L)	**MW-28**	**Yes**	**0.0015**	**9/24/2018**	**OH**	**NaN**	**16**	**0.0007039**	**0.0003308**	**n/a**
Arsenic (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.001002	0.0001689	ShapiroWilk
Barium (mg/L)	MW-28	No	n/a	n/a	EPA/OH	0.05	17	0.01954	0.003131	ShapiroWilk
Beryllium (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.0004734	0.0001063	n/a
Cadmium (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.0004586	0.0005362	ShapiroWilk
Chromium (mg/L)	MW-28	No	n/a	n/a	OH	NaN	17	0.002715	0.001083	n/a
Cobalt (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.01163	0.007214	ShapiroWilk
Copper (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002851	0.0009047	ShapiroWilk
Lead (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.0002548	0.00001925	n/a
Nickel (mg/L)	MW-28	No	n/a	n/a	Dixon/OH	0.05	16	0.03895	0.01495	ShapiroWilk
Selenium (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.002413	0.0003122	n/a
Silver (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.0005088	0.0001101	n/a
Thallium (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.0004156	0.0002329	ShapiroWilk
Vanadium (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002108	0.0007408	ShapiroWilk
Zinc (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.01046	0.004204	n/a

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Antimony Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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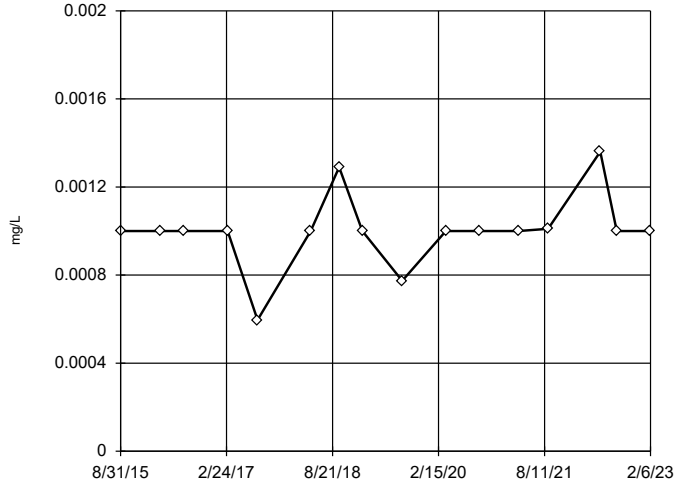
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Arsenic Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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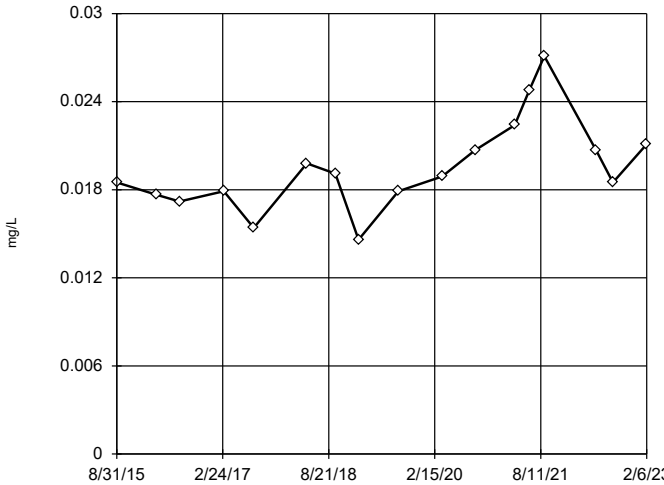
EPA Screening (suspected outliers for Dixon's Test)

MW-28



n = 17

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.01954, std. dev. 0.003131, critical Tn 2.475

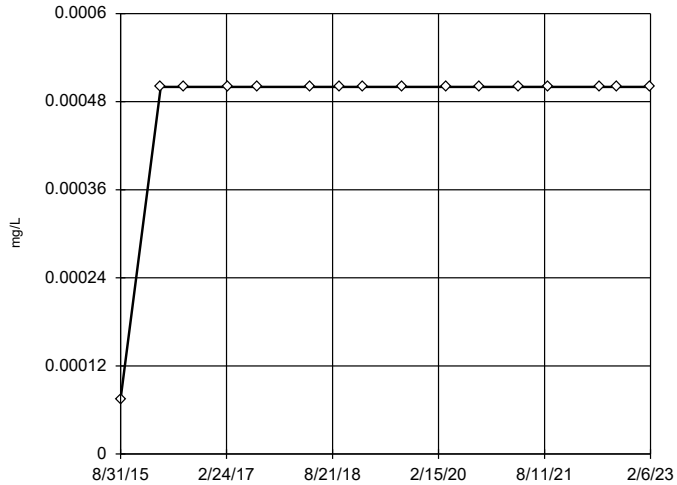
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9399
Critical = 0.91
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-28



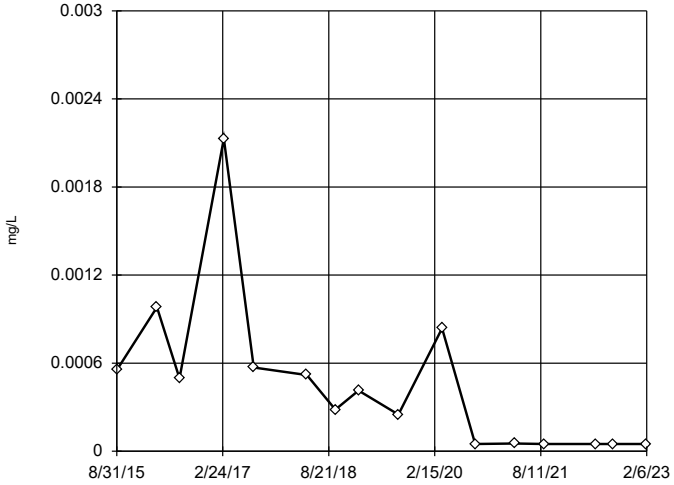
n = 16

No statistical outliers.

Constituent: Beryllium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found. 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 = 0.01058, low cutoff = -0.001005, based on IQR multiplier of 3.

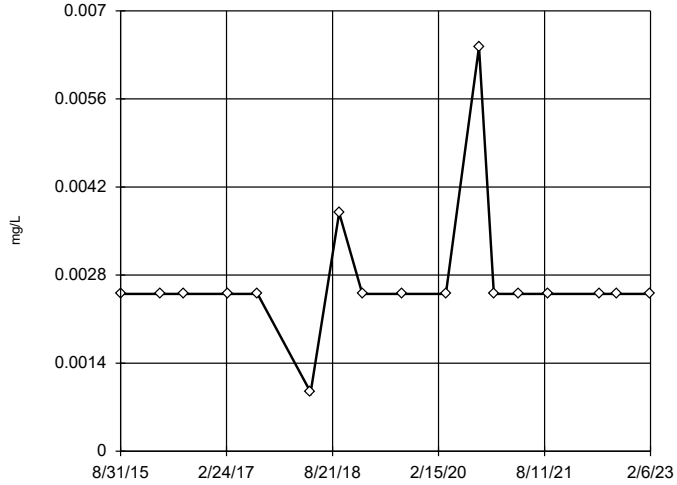
Constituent: Cadmium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 17

No statistical outliers.

Constituent: Chromium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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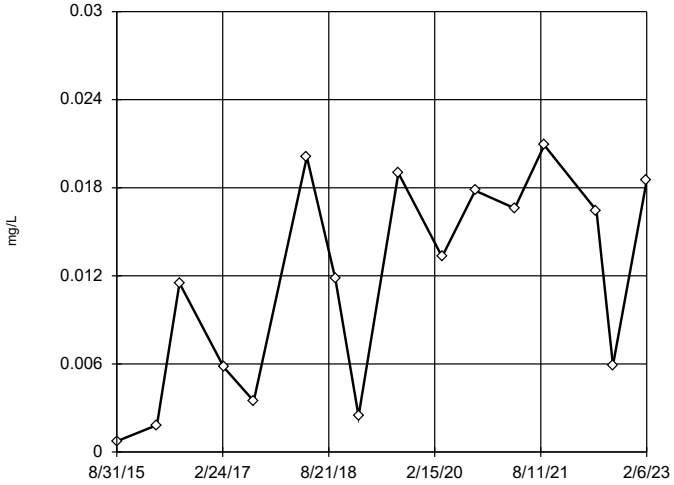
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.05873, low cutoff = -0.03596, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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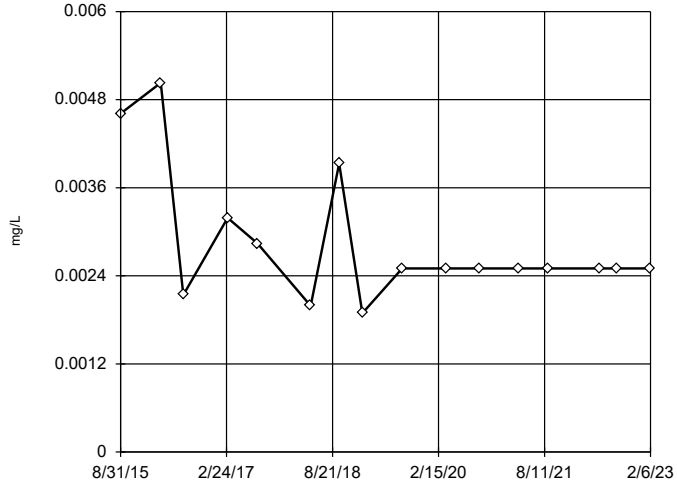
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

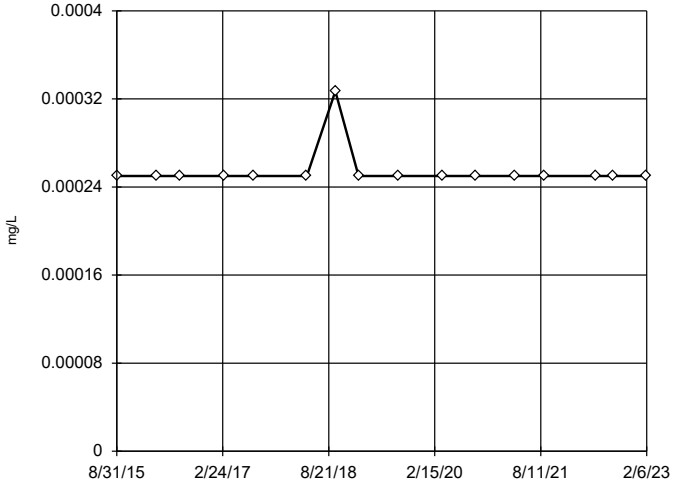
High cutoff = 0.005253, low cutoff = 0.001433, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No statistical outliers.

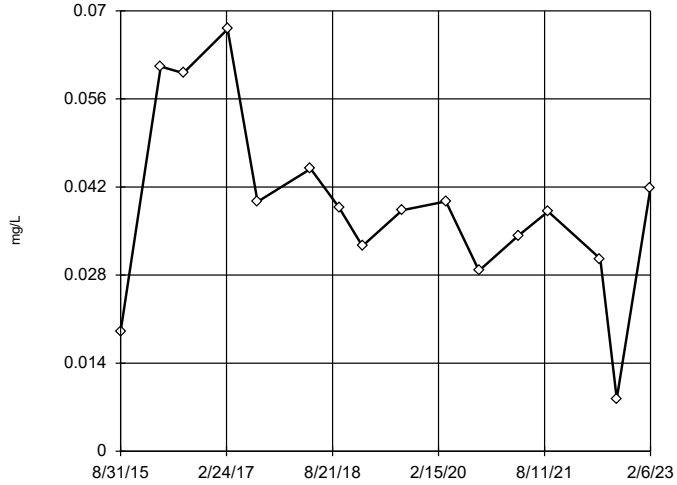
Constituent: Lead Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No statistical outliers.
Testing for 1 low outlier.
Mean = 0.03895.
Std. Dev. = 0.01495.
0.00833: c = 0.3935
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9155
Critical = 0.901
The distribution was found to be normally distrib-uted.

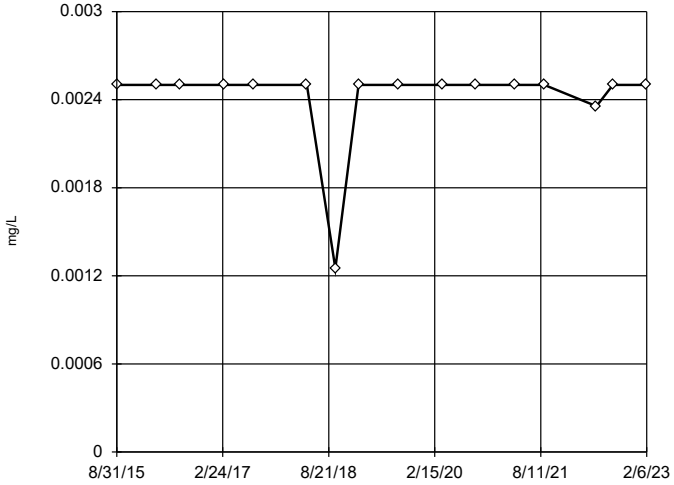
Constituent: Nickel Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No statistical outliers.

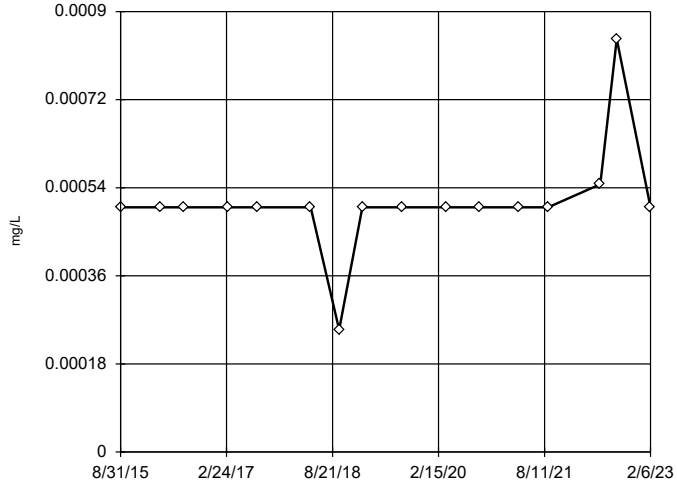
Constituent: Selenium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

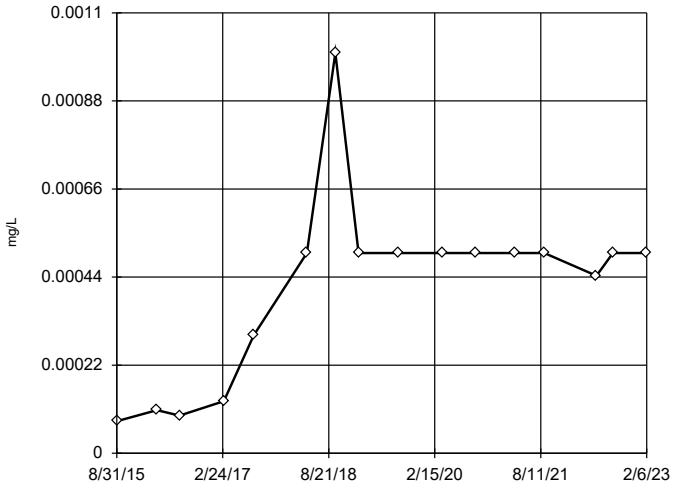
No statistical outliers.

Constituent: Silver Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

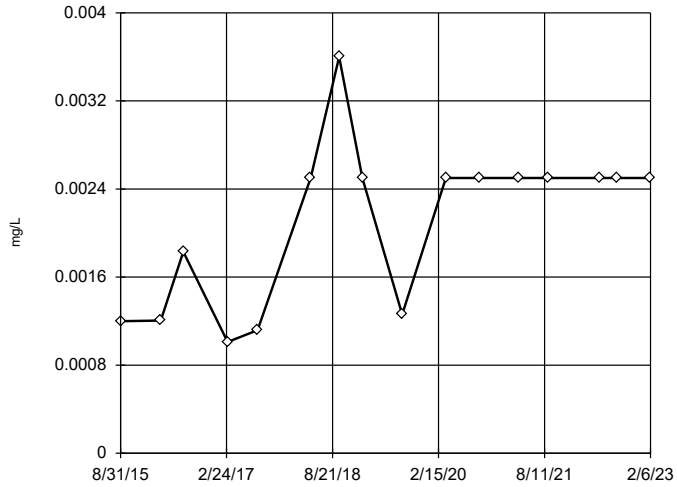
High cutoff = 0.002171, low cutoff = -0.00009913, based on IQR multiplier of 3.

Constituent: Thallium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.006302, low cutoff = -0.00257, based on IQR multiplier of 3.

Constituent: Vanadium Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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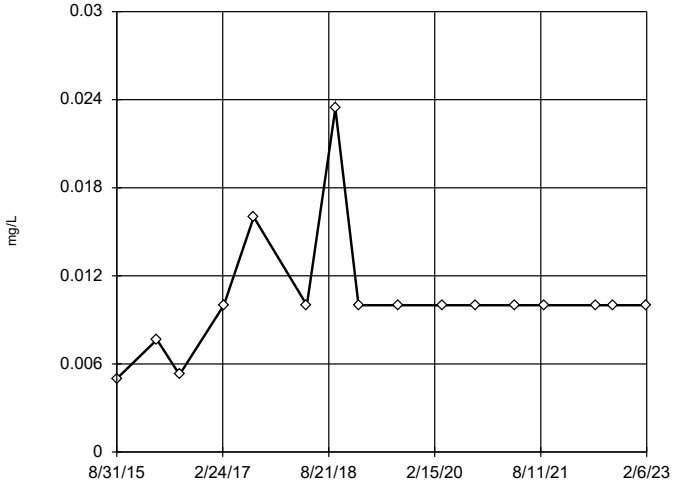
Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No statistical outliers.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8148
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Zinc Analysis Run 8/6/2024 3:42 PM View: 2024SSN MW-28 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

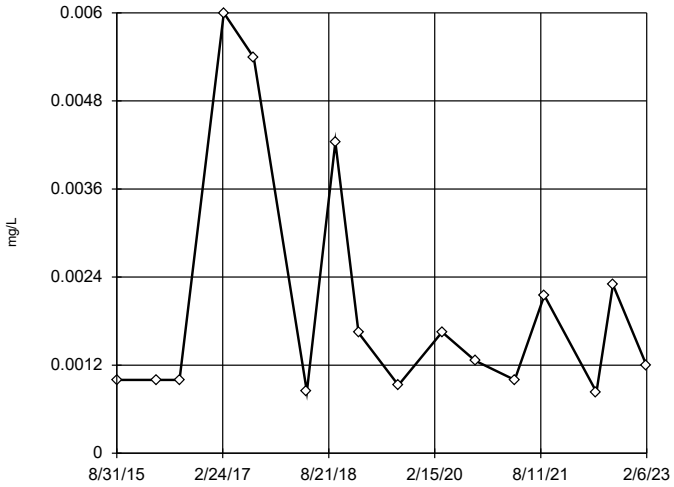
BG Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 4:07 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Arsenic (mg/L)	MW-29	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002026	0.001672	ShapiroWilk
Barium (mg/L)	MW-29	No	n/a	n/a	EPA/OH	0.05	16	0.01602	0.001352	ShapiroWilk
Cadmium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.0001339	0.00009748	n/a
Chromium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.002557	0.0002275	n/a
Cobalt (mg/L)	MW-29	No	n/a	n/a	EPA/OH	0.05	16	0.002521	0.001306	ShapiroWilk
Copper (mg/L)	MW-29	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002552	0.0007541	ShapiroWilk
Lead (mg/L)	MW-29	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.0003605	0.000212	ShapiroWilk
Nickel (mg/L)	**MW-29**	**Yes**	**0.00439**	**3/2/2017**	**Dixon/OH**	**0.05**	**16**	**0.01003**	**0.001861**	**ShapiroWilk**
Selenium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.002336	0.0004498	n/a
Vanadium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.002582	0.001097	n/a
Zinc (mg/L)	**MW-29**	**Yes**	**0.0297,0.0232**	**3/24/2016,3/2/2017**	**NP (nrm)/OH**	**NaN**	**16**	**0.01259**	**0.006**	**ShapiroWilk**

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.02435, low cutoff = 0.00009124, based on IQR multiplier of 3.

Constituent: Arsenic Analysis Run 8/6/2024 4:05 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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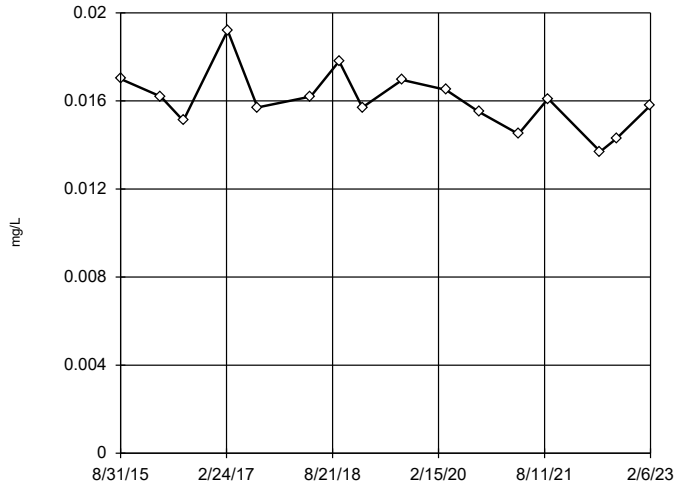
EPA Screening (suspected outliers for Dixon's Test)

MW-29



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.01602, std. dev. 0.001352, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9676
Critical = 0.906
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 8/6/2024 4:05 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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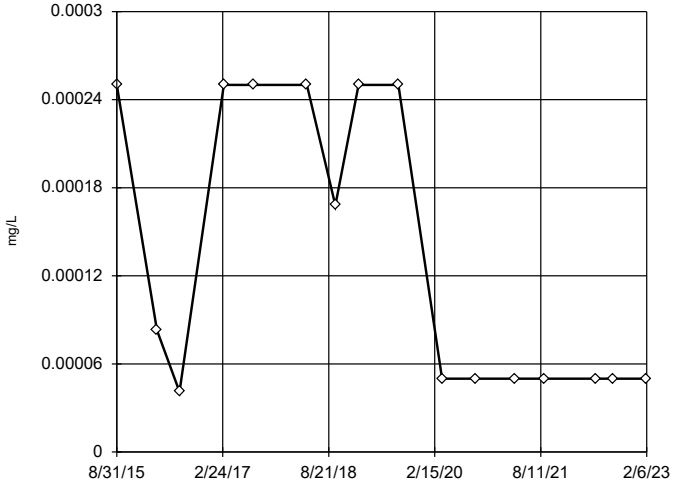
Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

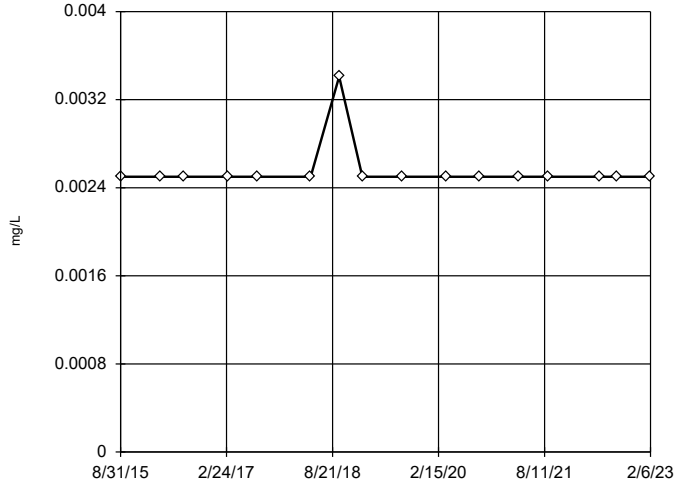
No statistical outliers.

Constituent: Cadmium Analysis Run 8/6/2024 4:05 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-29



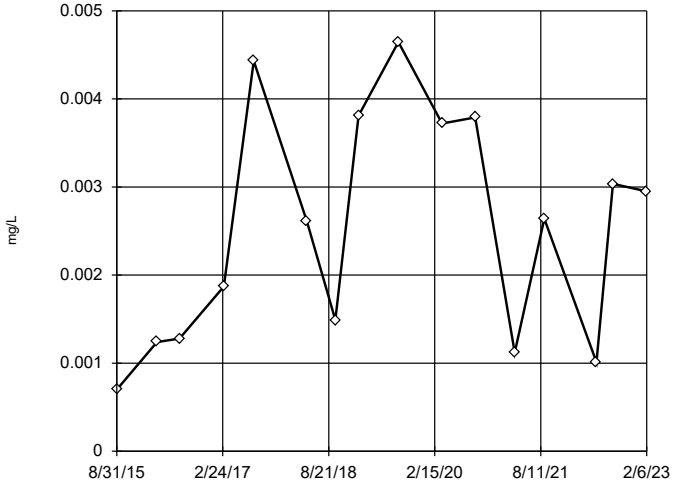
n = 16

No statistical outliers.

Constituent: Chromium Analysis Run 8/6/2024 4:05 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

EPA Screening (suspected outliers for Dixon's Test)

MW-29



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.002521, std. dev. 0.001306, critical Tn 2.443

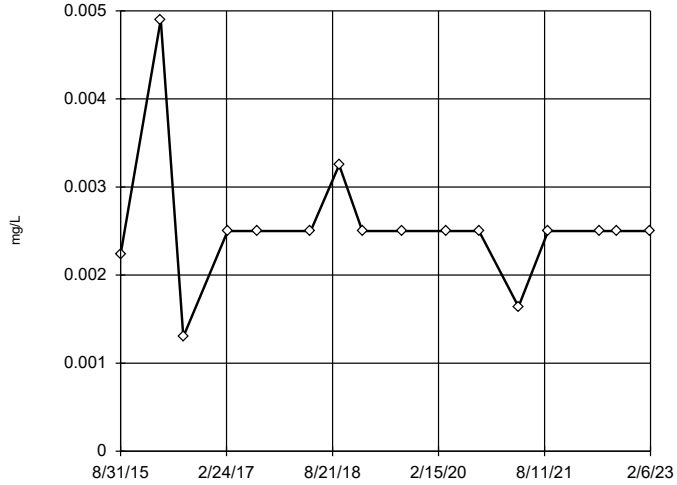
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.926
Critical = 0.906
The distribution was found to be normally distributed.

Constituent: Cobalt Analysis Run 8/6/2024 4:05 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

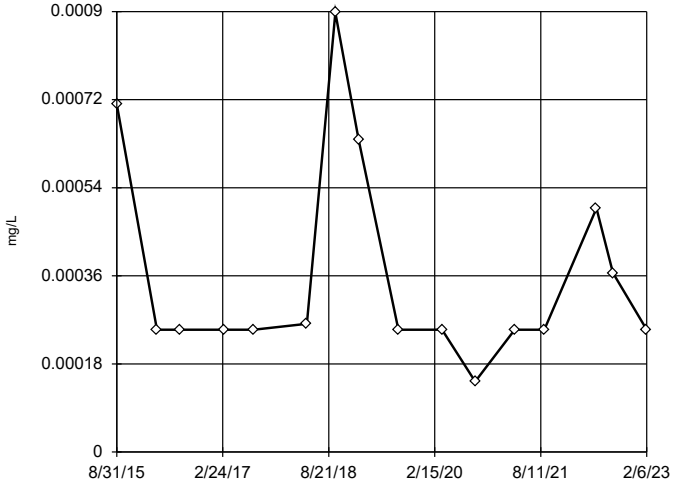
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Copper Analysis Run 8/6/2024 4:05 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.002126, low cutoff = 0.0000502, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 8/6/2024 4:06 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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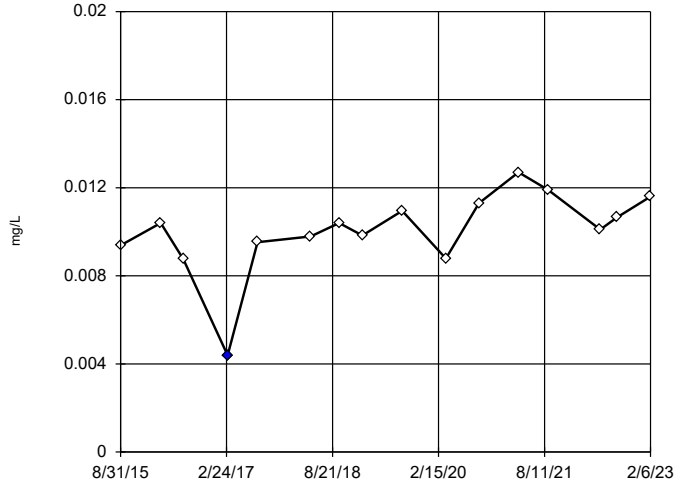
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

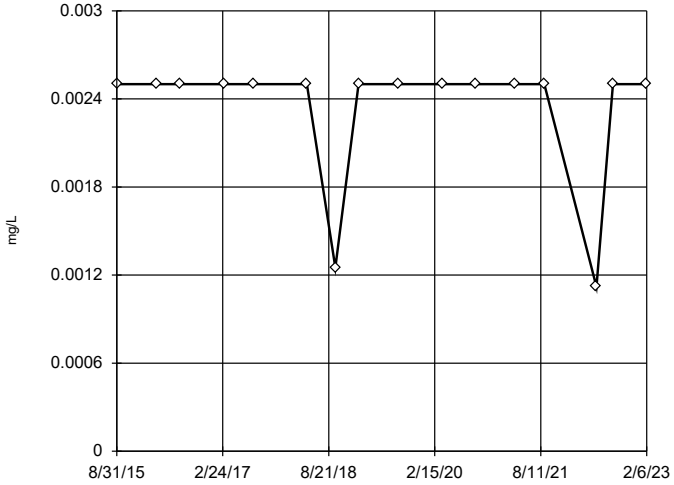
Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 0.01003.
Std. Dev. = 0.001861.
0.00439 (J): c = 0.6103
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9722
Critical = 0.901
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Nickel Analysis Run 8/6/2024 4:06 PM View: 2024SSN MW-29 Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No statistical outliers.

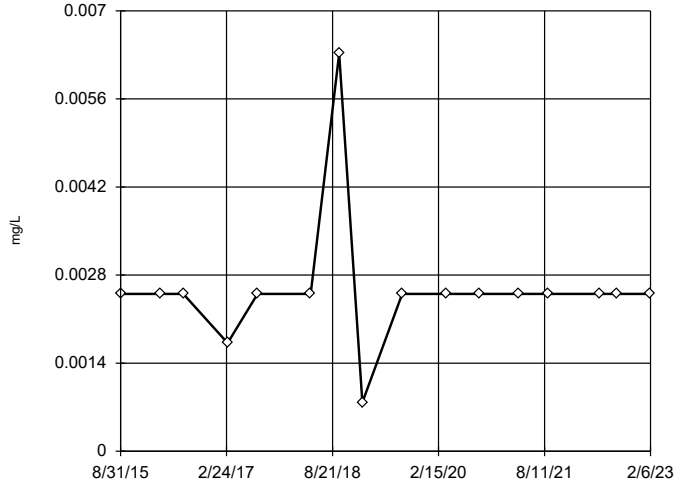
Constituent: Selenium Analysis Run 8/6/2024 4:06 PM View: 2024SSN MW-29 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No statistical outliers.

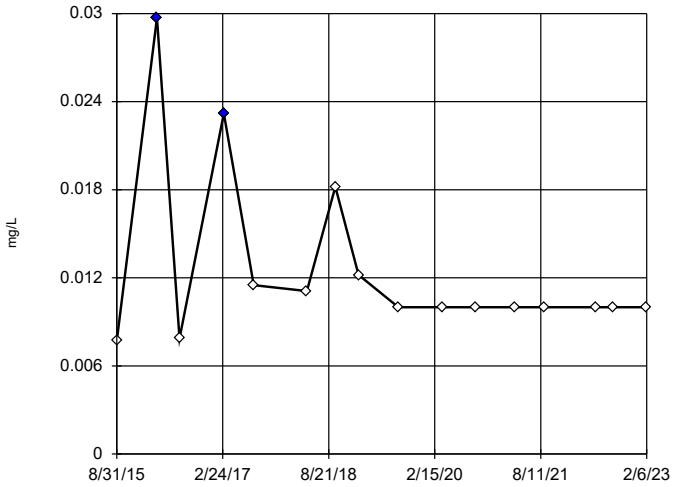
Constituent: Vanadium Analysis Run 8/6/2024 4:06 PM View: 2024SSN MW-29 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

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 natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.01968, low cutoff = 0.006017, based on IQR multiplier of 3.

Constituent: Zinc Analysis Run 8/6/2024 4:06 PM View: 2024SSN MW-29 Outliers

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

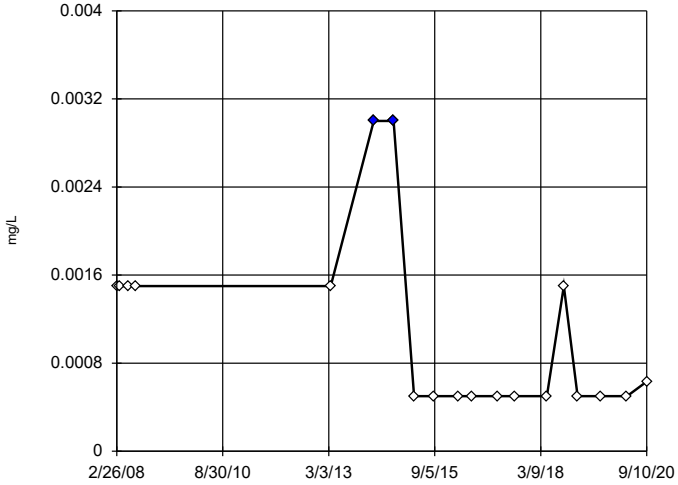
BG Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 4:40 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Antimony (mg/L)	**Phase2Underdrain**	**Yes**	**0.003,0.003**	**3/27/2014,9/15/2014**	**OH**	**NaN**	**19**	**0.001086**	**0.0008163**	**n/a**
Arsenic (mg/L)	Phase2Underdrain	No	n/a	n/a	EPA/OH	0.05	18	0.008216	0.008728	ShapiroWilk
Barium (mg/L)	Phase2Underdrain	No	n/a	n/a	Dixon/OH	0.05	21	0.626	0.593	ShapiroWilk
Beryllium (mg/L)	**Phase2Underdrain**	**Yes**	**0.0025**	**8/31/2015**	**OH**	**NaN**	**19**	**0.0006453**	**0.000496**	**n/a**
Chromium (mg/L)	Phase2Underdrain	No	n/a	n/a	NP (nrm)/OH	NaN	18	0.00541	0.004205	ShapiroWilk
Cobalt (mg/L)	Phase2Underdrain	No	n/a	n/a	NP (nrm)/OH	NaN	18	0.002825	0.003754	ShapiroWilk
Copper (mg/L)	Phase2Underdrain	No	n/a	n/a	EPA/OH	0.05	20	0.005123	0.004534	ShapiroWilk
Nickel (mg/L)	Phase2Underdrain	No	n/a	n/a	NP (nrm)/OH	NaN	18	0.01183	0.0121	ShapiroWilk
Selenium (mg/L)	**Phase2Underdrain**	**Yes**	**0.0065,0.0005,0.0125,0.000632**	**10/31/2008,3/20/2013,8/31/2015,7/18/2016**	**NP (nrm)/OH**	**NaN**	**20**	**0.002876**	**0.002564**	**ShapiroWilk**
Vanadium (mg/L)	Phase2Underdrain	No	n/a	n/a	NP (nrm)/OH	NaN	18	0.007331	0.008329	ShapiroWilk
Zinc (mg/L)	Phase2Underdrain	No	n/a	n/a	NP (nrm)/OH	NaN	18	0.01764	0.01963	ShapiroWilk

Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 19

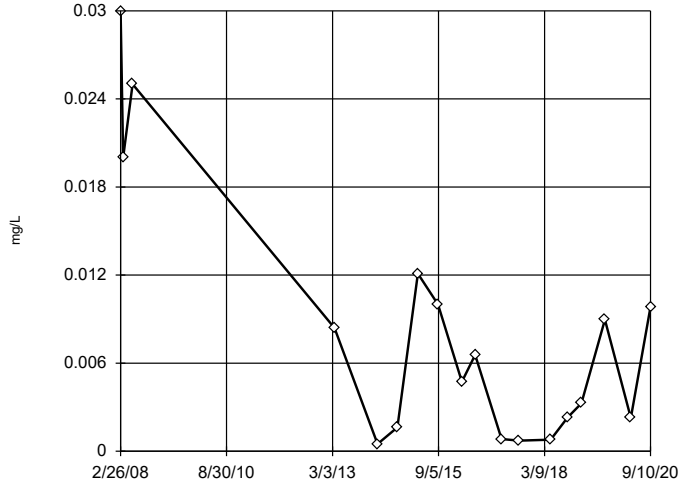
Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Antimony Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

EPA Screening (suspected outliers for Dixon's Test)

Phase2Underdrain



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.008216, std. dev. 0.008728, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9449
Critical = 0.914 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Arsenic Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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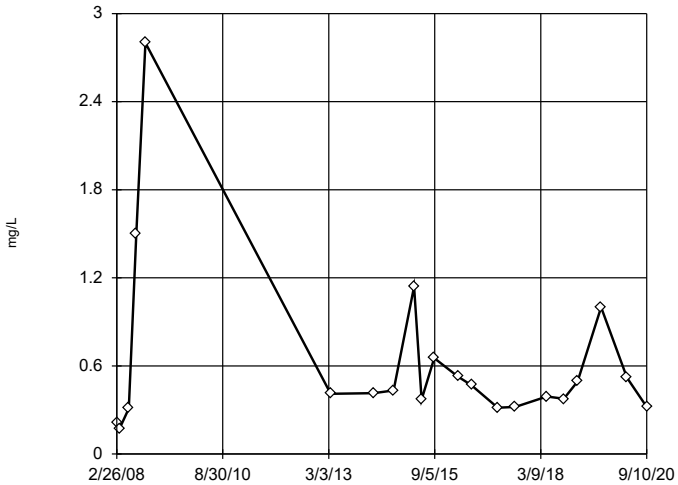
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 21

No statistical outliers.
Testing for 1 high outlier.
Mean = 0.626.
Std. Dev. = 0.593.
2.8: c = 0.4083
tabl = 0.44.
Alpha = 0.05.

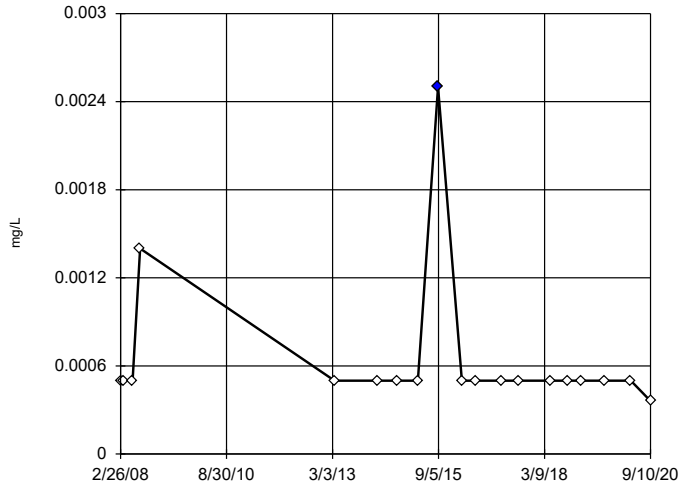
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9374
Critical = 0.92 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Barium Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



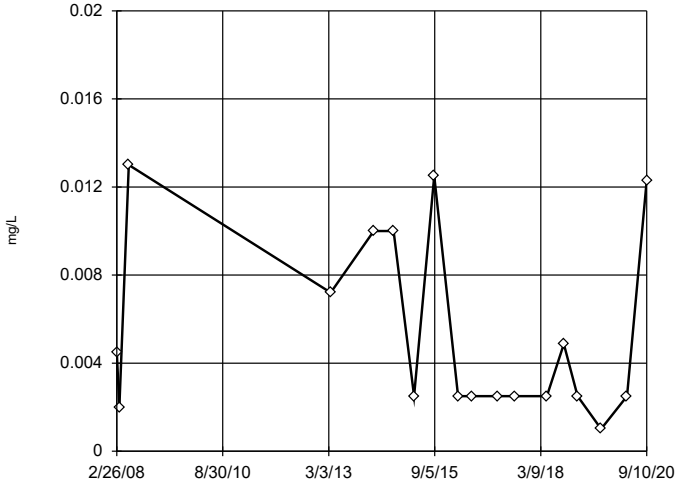
n = 19

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Beryllium Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 18

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Chromium Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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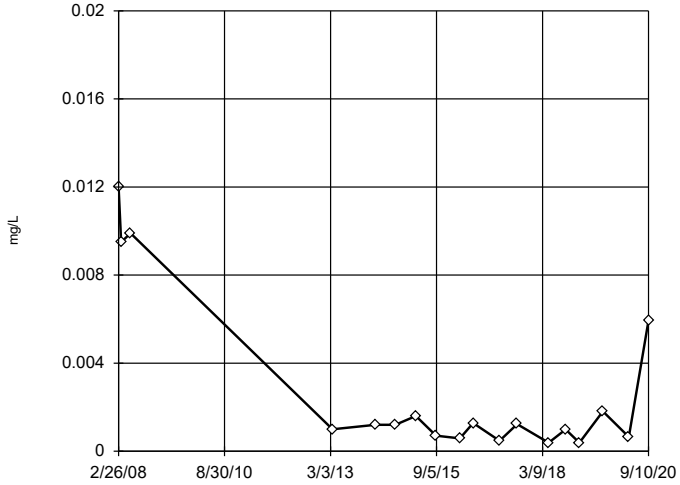
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 18

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

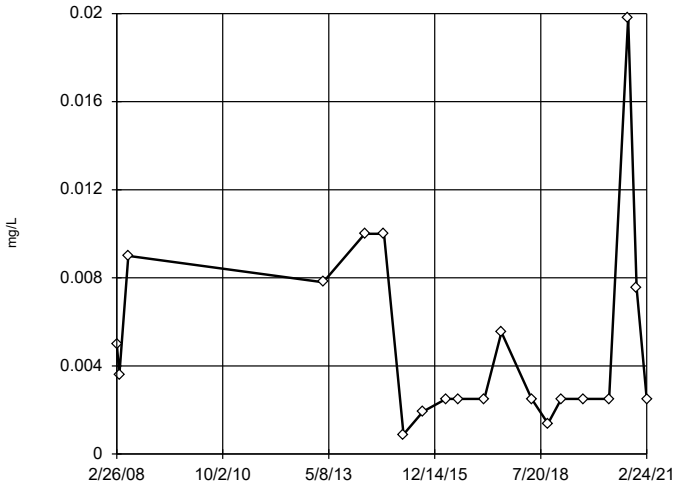
High cutoff = 0.4922, low cutoff = 0.000004111, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

EPA Screening (suspected outliers for Dixon's Test)

Phase2Underdrain



n = 20

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.005123, std. dev. 0.004534, critical Tn 2.557

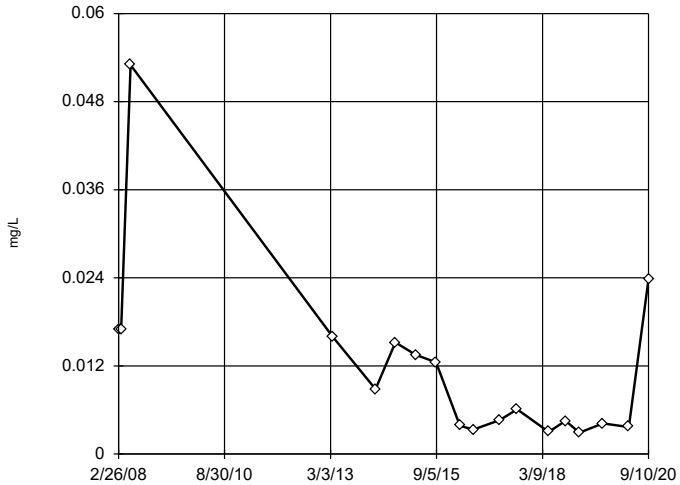
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.931
Critical = 0.92 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Copper Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 18

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

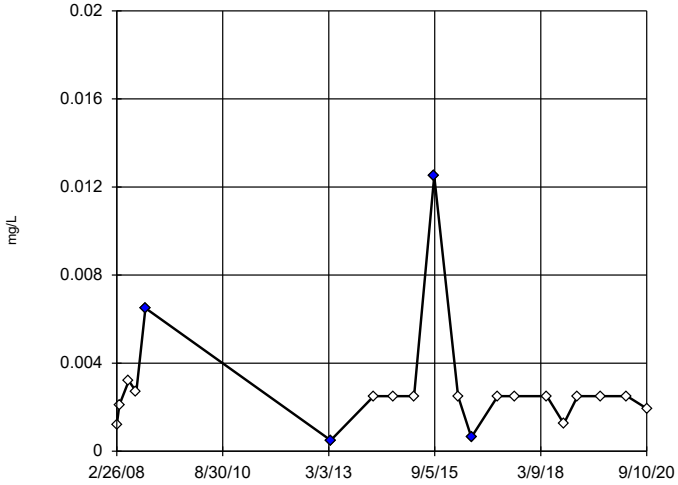
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1.382, low cutoff = 0.00004498, based on IQR multiplier of 3.

Constituent: Nickel Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 20

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 natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.00475, low cutoff = 0.001062, based on IQR multiplier of 3.

Constituent: Selenium Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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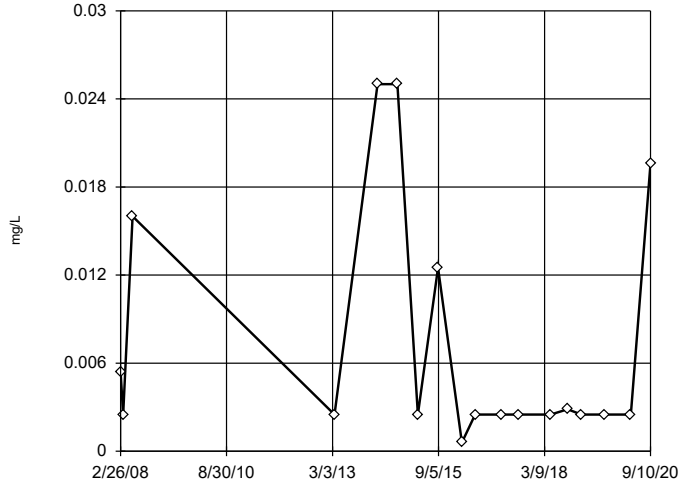
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 18

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 2.56, low cutoff = 0.00001381, based on IQR multiplier of 3.

Constituent: Vanadium Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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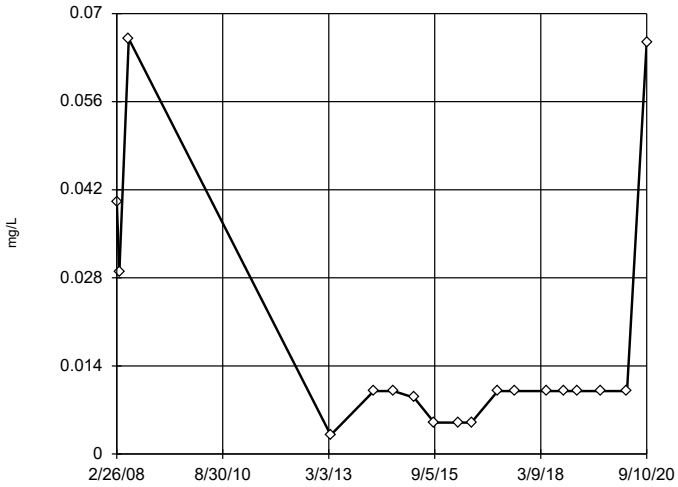
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

Phase2Underdrain



n = 18

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.28, low cutoff = 0.0004073, based on IQR multiplier of 3.

Constituent: Zinc Analysis Run 8/6/2024 4:37 PM View: 2024SSN PH2UD Outliers
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

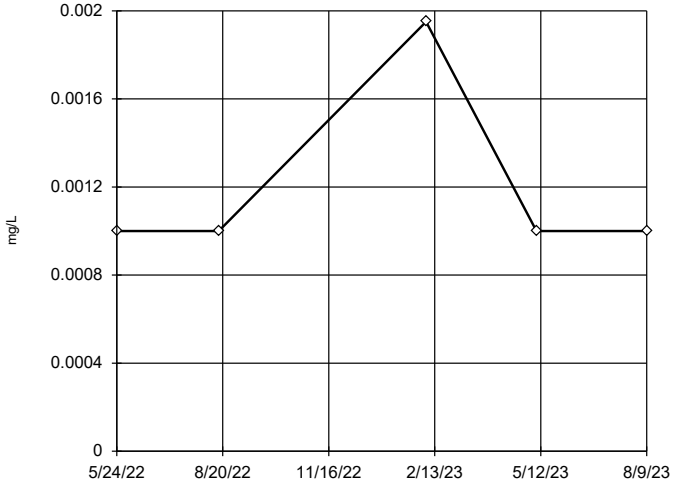
Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/5/2024, 5:34 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Antimony (mg/L)	GU-3A	No	n/a	n/a	OH	NaN	5	0.00119	0.0004249	n/a
Arsenic (mg/L)	GU-3A	No	n/a	n/a	EPA/OH	0.05	5	0.005222	0.007083	ShapiroWilk
Barium (mg/L)	GU-3A	No	n/a	n/a	EPA/OH	0.05	5	0.308	0.1318	ShapiroWilk
Cadmium (mg/L)	**GU-3A**	**Yes**	**0.00303**	**2/6/2023**	**OH**	**NaN**	**5**	**0.000666**	**0.001322**	**n/a**
Chromium (mg/L)	**GU-3A**	**Yes**	**0.0329**	**2/6/2023**	**OH**	**NaN**	**5**	**0.00858**	**0.0136**	**n/a**
Cobalt (mg/L)	**GU-3A**	**Yes**	**0.071**	**2/6/2023**	**EPA/OH**	**0.05**	**5**	**0.01525**	**0.03118**	**ShapiroWilk**
Copper (mg/L)	**GU-3A**	**Yes**	**0.0585**	**2/6/2023**	**NP (nrm)/OH**	**NaN**	**5**	**0.01367**	**0.02506**	**ShapiroWilk**
Lead (mg/L)	GU-3A	No	n/a	n/a	NP (nrm)/OH	NaN	5	0.003348	0.006205	ShapiroWilk
Nickel (mg/L)	**GU-3A**	**Yes**	**0.432**	**2/6/2023**	**Dixon/OH**	**0.05**	**5**	**0.08925**	**0.1916**	**ShapiroWilk**
Selenium (mg/L)	GU-3A	No	n/a	n/a	EPA/OH	0.05	5	0.003776	0.001896	ShapiroWilk
Vanadium (mg/L)	GU-3A	No	n/a	n/a	NP (nrm)/OH	NaN	5	0.007124	0.01096	ShapiroWilk
Zinc (mg/L)	GU-3A	No	n/a	n/a	NP (nrm)/OH	NaN	5	0.02346	0.02993	ShapiroWilk

Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No statistical outliers.

Constituent: Antimony Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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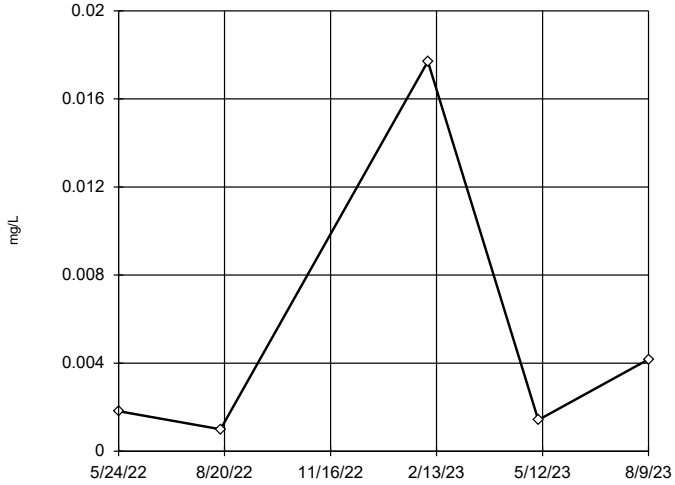
EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.005222, std. dev. 0.007083, critical Tn 1.672

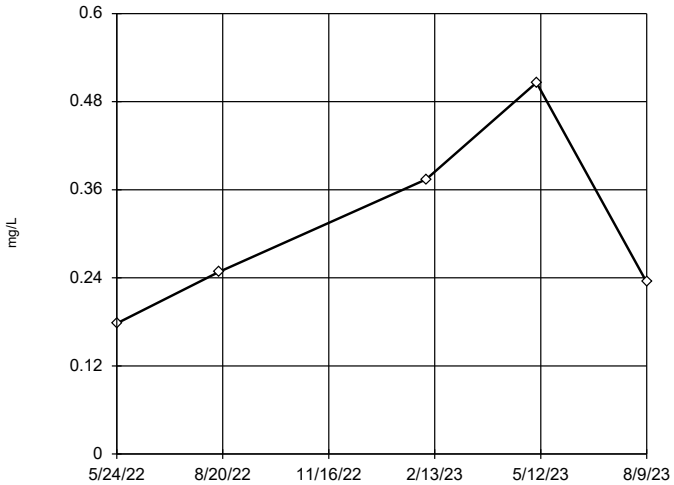
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8944
Critical = 0.806 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Arsenic Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.308, std. dev. 0.1318, critical Tn 1.672

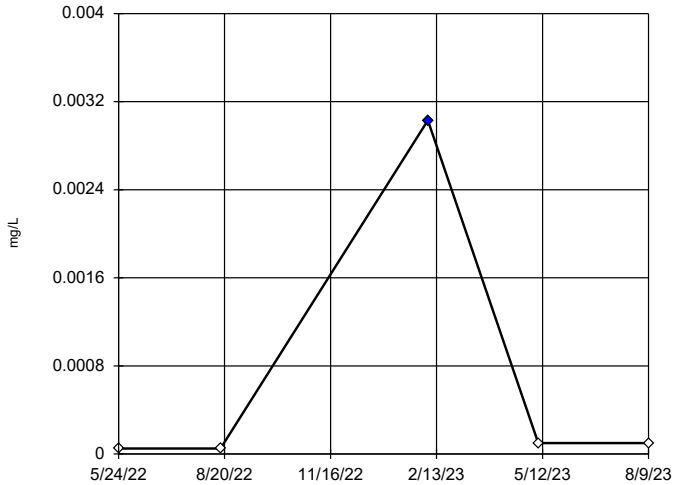
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9116
Critical = 0.806
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

GU-3A



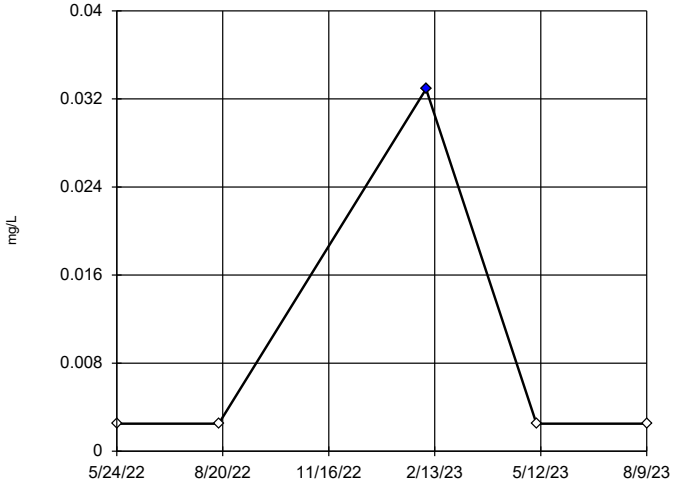
n = 5

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Cadmium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

GU-3A



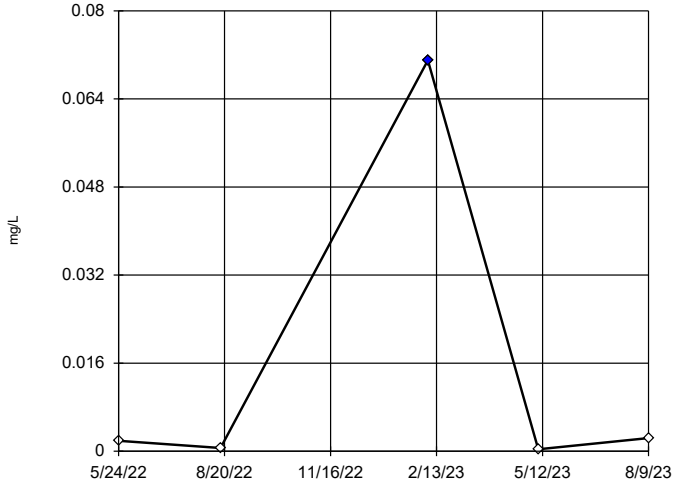
n = 5

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Chromium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

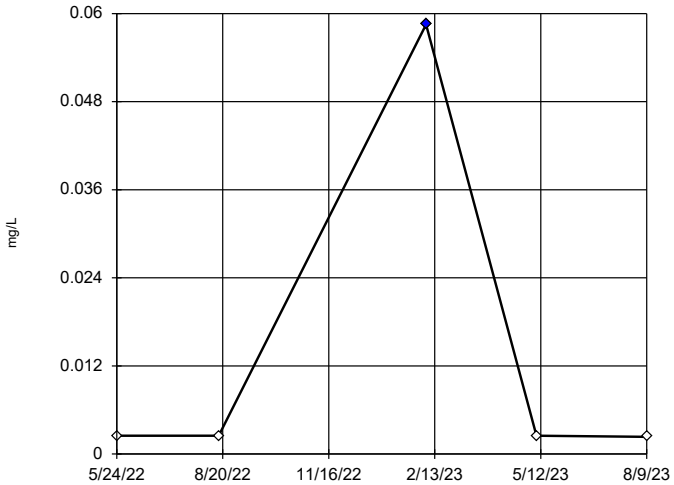
Statistical outlier is drawn as solid.
Outlier per Ohio method.
Mean 0.01525, std. dev. 0.03118, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8645
Critical = 0.806 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Cobalt Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

Outlier is 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.

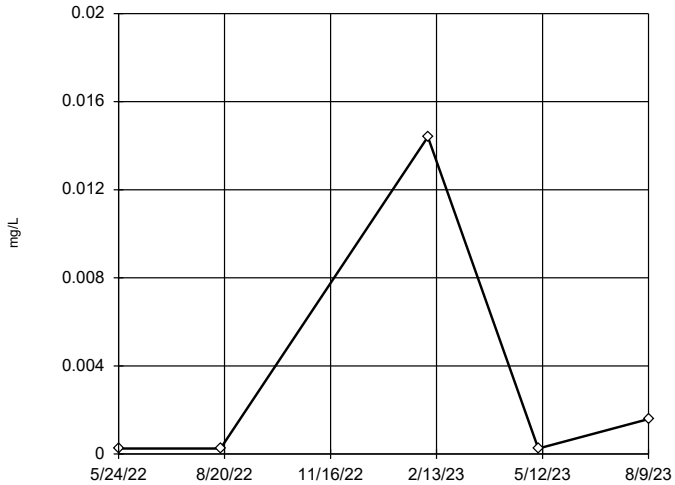
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1.502, low cutoff = 0.00001952, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

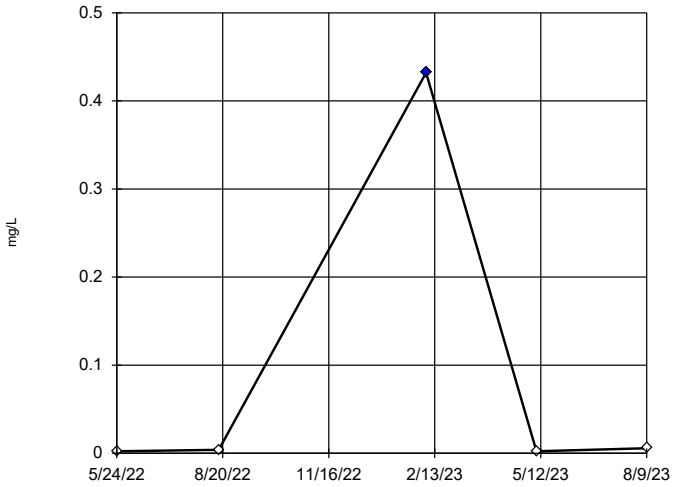
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 33.55, low cutoff = 3.6e-8, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

Statistical outliers are drawn as solid.
Outliers per both outlier test and Ohio method.
Testing for 1 high outlier.
Mean = 0.08925.
Std. Dev. = 0.1916.
0.432: c = 0.992
tabl = 0.642.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8673
Critical = 0.792
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Nickel Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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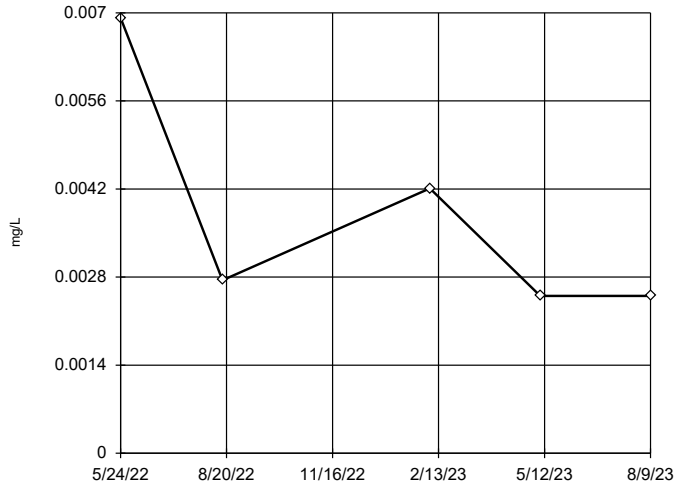
EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.003776, std. dev. 0.001896, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8224
Critical = 0.806 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Selenium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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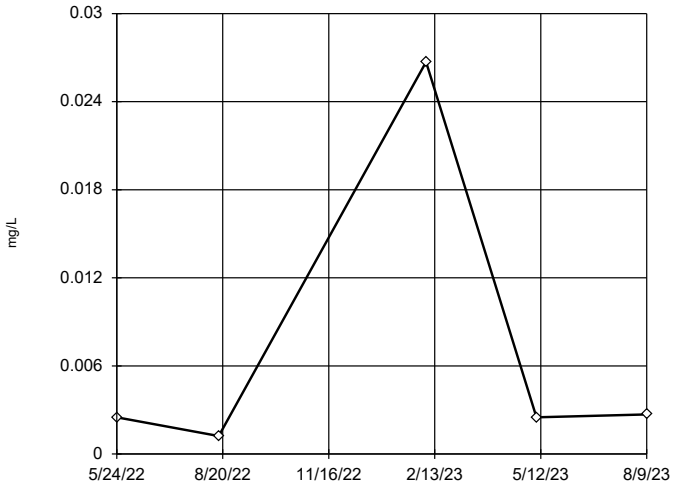
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

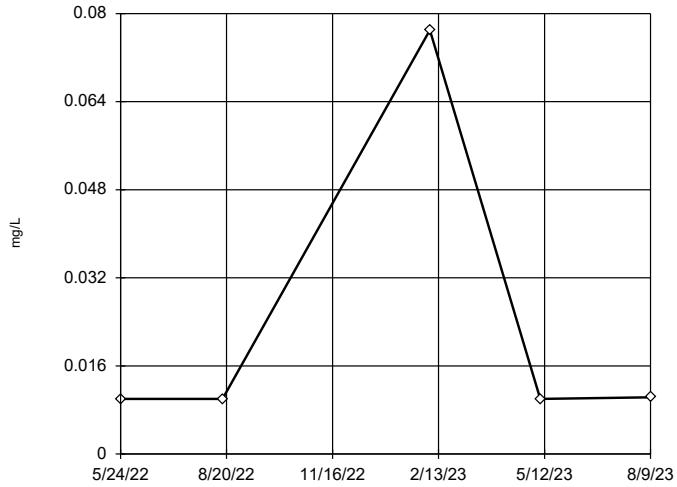
High cutoff = 0.9757, low cutoff = 0.0000152, based on IQR multiplier of 3.

Constituent: Vanadium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.629, low cutoff = 0.0004477, based on IQR multiplier of 3.

Constituent: Zinc Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Intrawell Prediction Limit Summary Tables and Graphs

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 2:03 PM

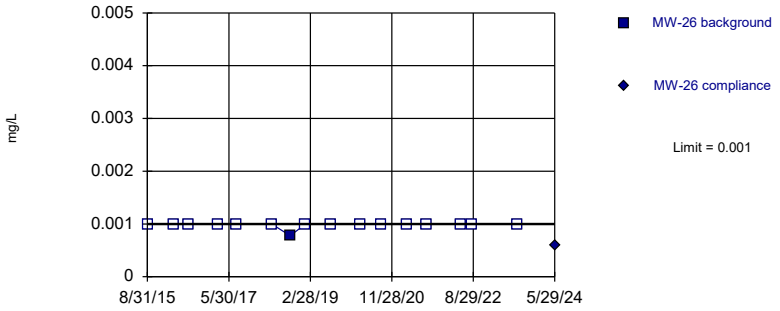
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MW-26	0.001	n/a	5/29/2024	0.000602J	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Barium (mg/L)	**MW-26**	**0.103**	**n/a**	**5/29/2024**	**0.106**	**Yes**	**17**	**n/a**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.000910**	**NP Intra (normality) 1 of 3**
Cadmium (mg/L)	MW-26	0.000457	n/a	5/29/2024	0.0001ND	No	16	n/a	n/a	n/a	75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Chromium (mg/L)	MW-26	0.00431	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	MW-26	0.0108	n/a	5/29/2024	0.000856	No	16	n/a	0.006735	0.002465	0	None	No	0.000877	Param Intra 1 of 3
Copper (mg/L)	MW-26	0.00565	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	56.25	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Lead (mg/L)	MW-26	0.000952	n/a	5/29/2024	0.00025ND	No	16	n/a	n/a	n/a	68.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Nickel (mg/L)	MW-26	0.02411	n/a	5/29/2024	0.00799	No	16	n/a	0.0003434	0.0001444	0	None	x^2	0.000877	Param Intra 1 of 3
Silver (mg/L)	MW-26	0.000533	n/a	5/29/2024	0.0005ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Thallium (mg/L)	MW-26	0.00177	n/a	5/29/2024	0.0005ND	No	17	n/a	n/a	n/a	88.24	n/a	n/a	0.000910	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	MW-26	0.002865	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	68.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Zinc (mg/L)	MW-26	0.0146	n/a	5/29/2024	0.01ND	No	16	n/a	n/a	n/a	81.25	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



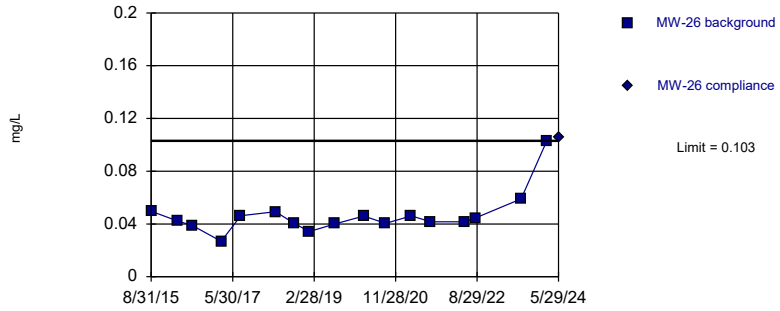
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Arsenic Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Exceeds 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 17 background values. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

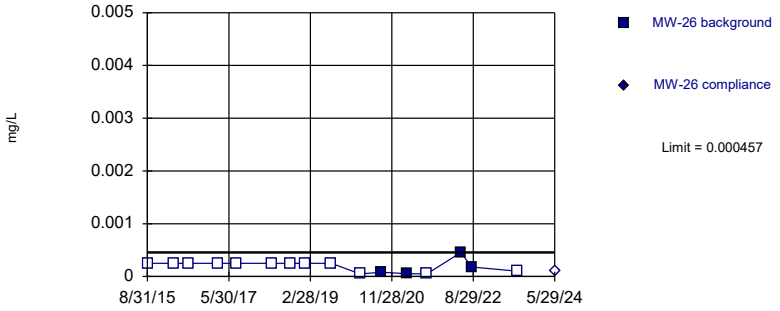
Constituent: Barium Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

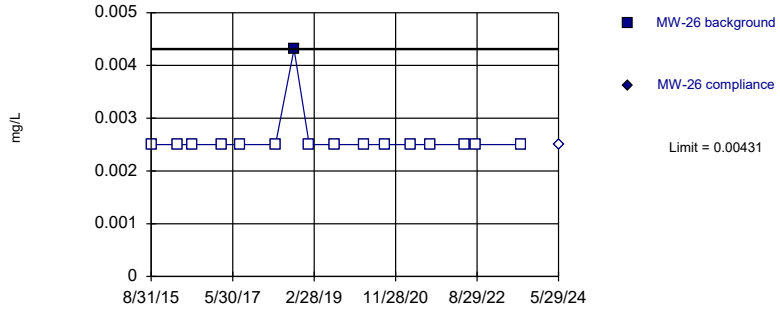
Constituent: Cadmium Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Chromium Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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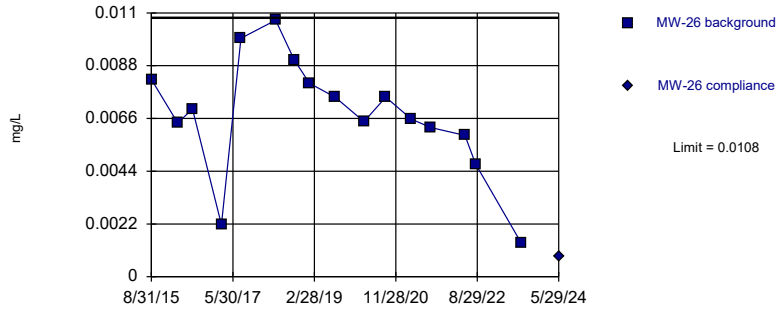
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.006735, Std. Dev.=0.002465, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.939, critical = 0.844. Kappa = 1.648 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

Constituent: Cobalt Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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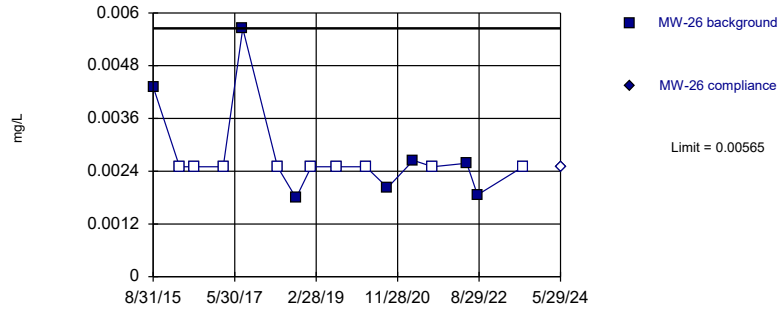
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 56.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Copper Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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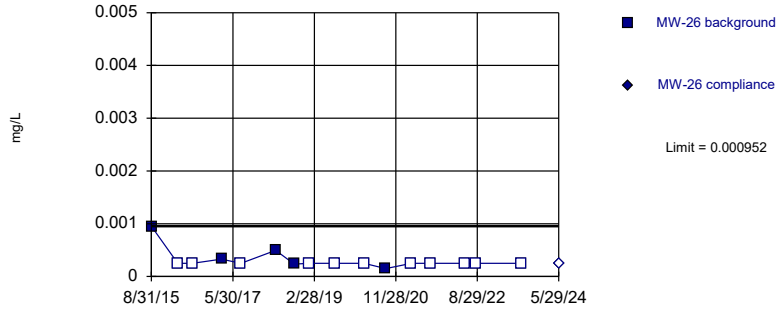
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Lead Analysis Run 8/6/2024 1:59 PM View: 2024SSN - MW-26 IntraPL

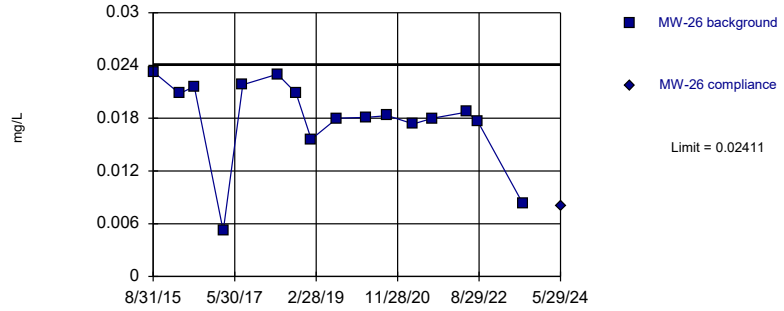
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=0.0003434, Std. Dev.=0.0001444, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9087, critical = 0.844. Kappa = 1.648 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

Constituent: Nickel Analysis Run 8/6/2024 2:00 PM View: 2024SSN - MW-26 IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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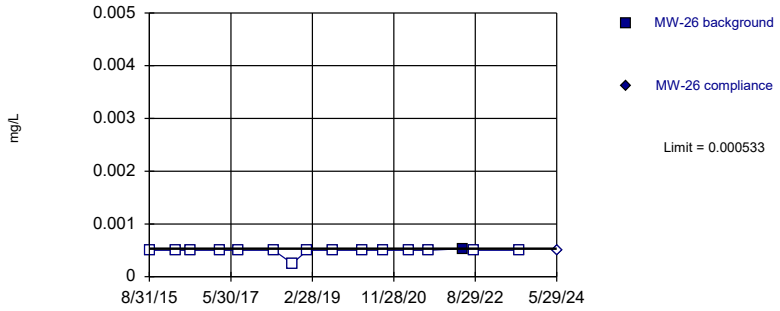
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Silver Analysis Run 8/6/2024 2:00 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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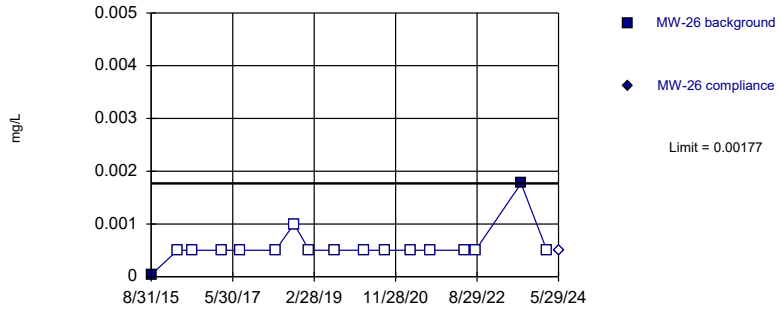
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 17 background values. 88.24% NDs. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

Constituent: Thallium Analysis Run 8/6/2024 2:00 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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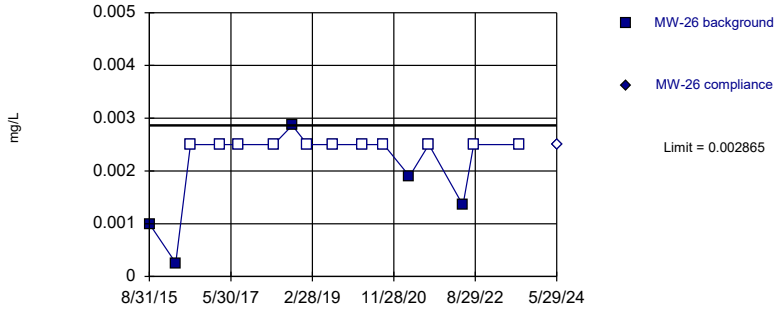
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

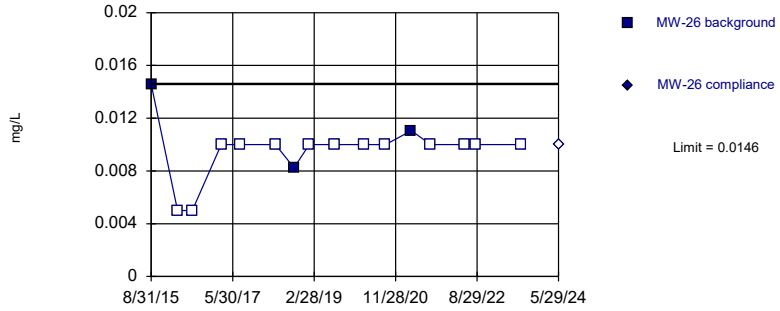
Constituent: Vanadium Analysis Run 8/6/2024 2:00 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 81.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Zinc Analysis Run 8/6/2024 2:00 PM View: 2024SSN - MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 3:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MW-28	0.0015	n/a	5/29/2024	0.001ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Arsenic (mg/L)	MW-28	0.00136	n/a	5/29/2024	0.001ND	No	16	n/a	n/a	n/a	68.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Barium (mg/L)	MW-28	0.02481	n/a	5/29/2024	0.0197	No	17	n/a	0.01954	0.003131	0	None	No	0.0007022	Param Intra 1 of 3
Beryllium (mg/L)	MW-28	0.0005	n/a	5/29/2024	0.0005ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Cadmium (mg/L)	MW-28	0.001378	n/a	5/29/2024	0.0001ND	No	16	n/a	0.0182	0.0111	37.5	Kaplan-Meier	sqrt(x)	0.0007022	Param Intra 1 of 3
Chromium (mg/L)	MW-28	0.00643	n/a	5/29/2024	0.0025ND	No	17	n/a	n/a	n/a	82.35	n/a	n/a	0.0009102	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	MW-28	0.02393	n/a	5/29/2024	0.007255	No	16	n/a	0.01163	0.007214	0	None	No	0.0007022	Param Intra 1 of 3
Copper (mg/L)	MW-28	0.00503	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	50	n/a	n/a	0.001026	NP Intra (normality) 1 of 3
Lead (mg/L)	MW-28	0.000327	n/a	5/29/2024	0.00025ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Nickel (mg/L)	MW-28	0.06443	n/a	5/29/2024	0.00879	No	16	n/a	0.03895	0.01495	0	None	No	0.0007022	Param Intra 1 of 3
Selenium (mg/L)	MW-28	0.0025	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Silver (mg/L)	MW-28	0.000844	n/a	5/29/2024	0.0005ND	No	16	n/a	n/a	n/a	87.5	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Thallium (mg/L)	MW-28	0.001	n/a	5/29/2024	0.0005ND	No	16	n/a	n/a	n/a	62.5	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	MW-28	0.0036	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	56.25	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Zinc (mg/L)	MW-28	0.0234	n/a	5/29/2024	0.01ND	No	16	n/a	n/a	n/a	75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3

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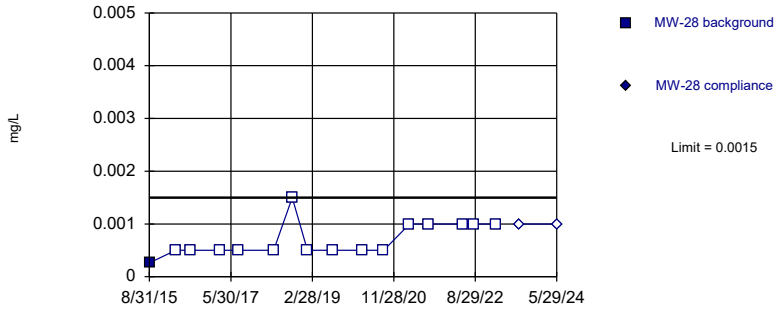
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

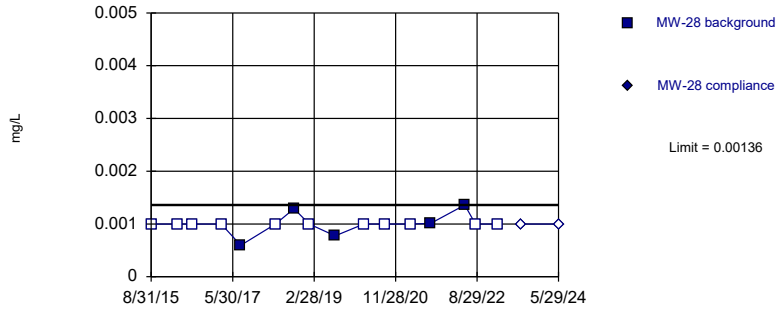
Constituent: Antimony Analysis Run 8/6/2024 3:51 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

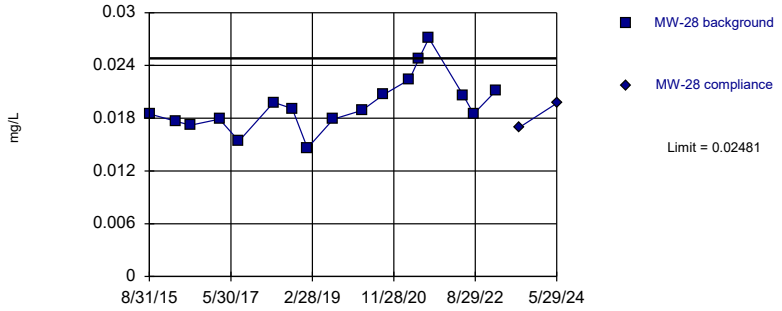
Constituent: Arsenic Analysis Run 8/6/2024 3:51 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01954, Std. Dev.=0.003131, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.851. Kappa = 1.684 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

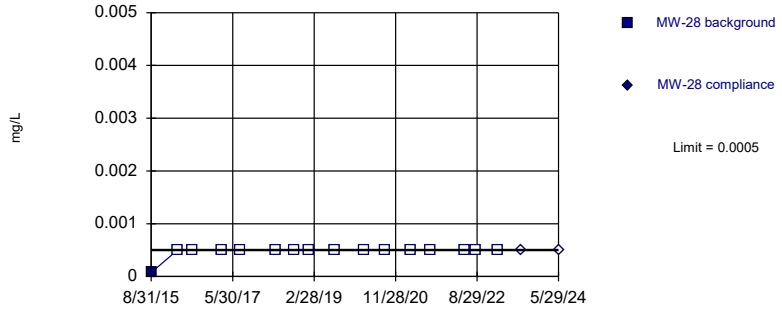
Constituent: Barium Analysis Run 8/6/2024 3:51 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

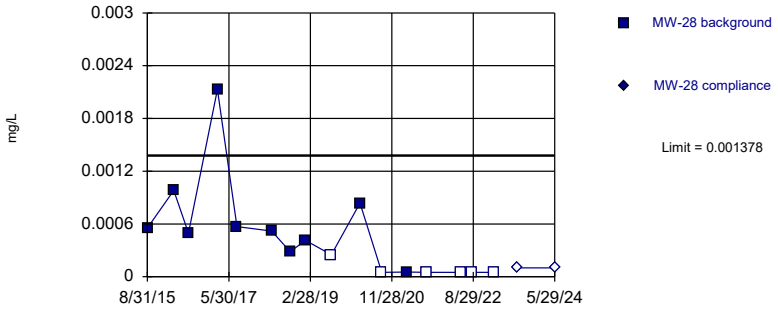
Constituent: Beryllium Analysis Run 8/6/2024 3:51 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.0182, Std. Dev.=0.0111, n=16, 37.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8727, critical = 0.844. Kappa = 1.705 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

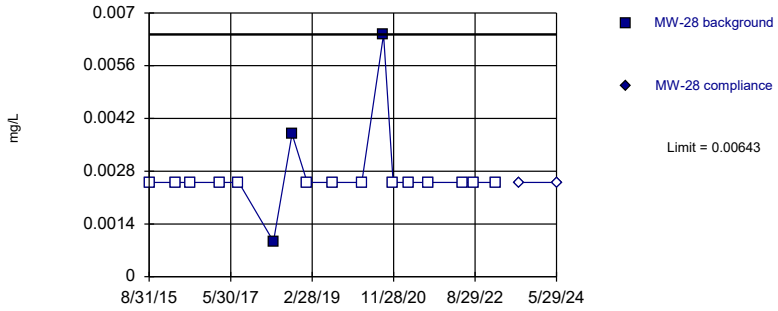
Constituent: Cadmium Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 17 background values. 82.35% NDs. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

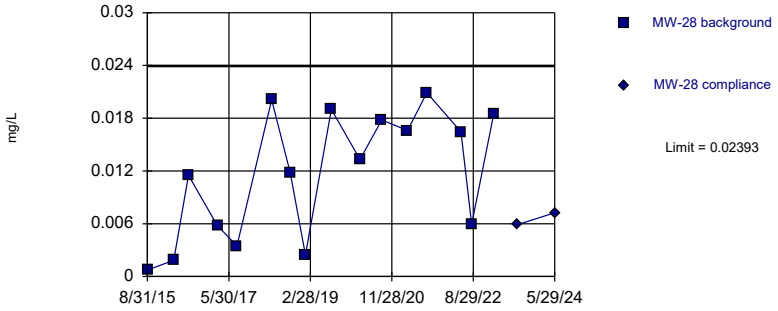
Constituent: Chromium Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01163, Std. Dev.=0.007214, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.844. Kappa = 1.705 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

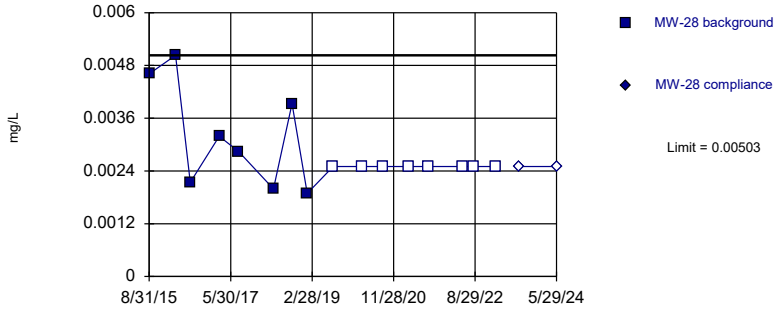
Constituent: Cobalt Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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 16 background values. 50% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

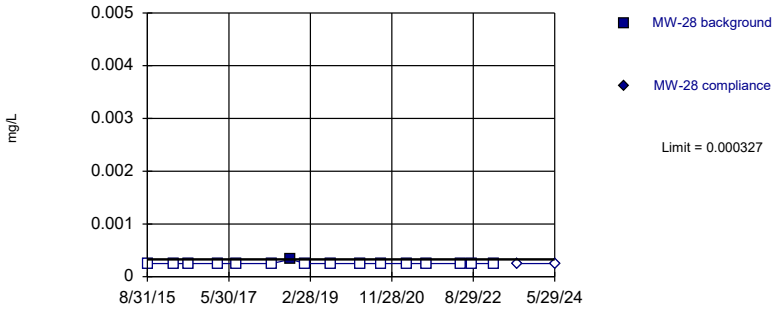
Constituent: Copper Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

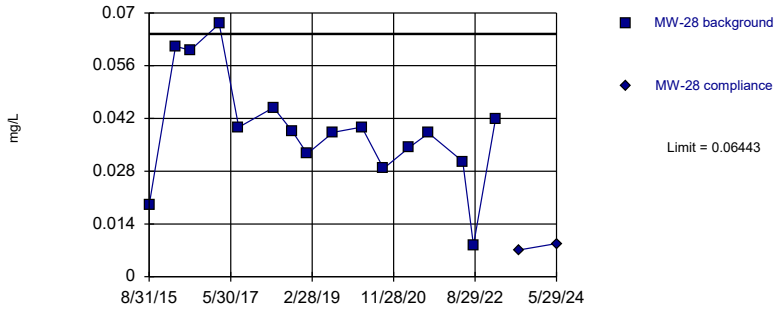
Constituent: Lead Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03895, Std. Dev.=0.01495, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9444, critical = 0.844. Kappa = 1.705 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

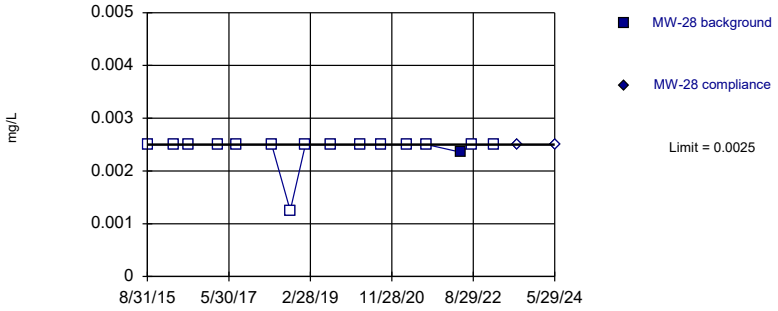
Constituent: Nickel Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

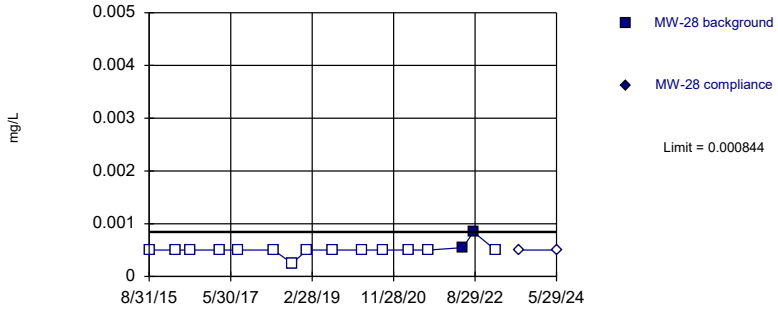
Constituent: Selenium Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 87.5% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

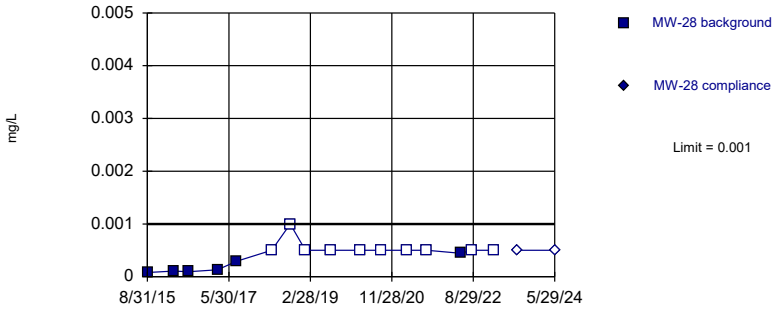
Constituent: Silver Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 62.5% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

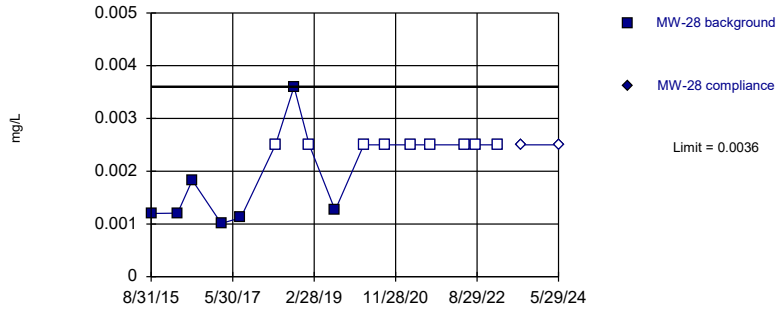
Constituent: Thallium Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 56.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

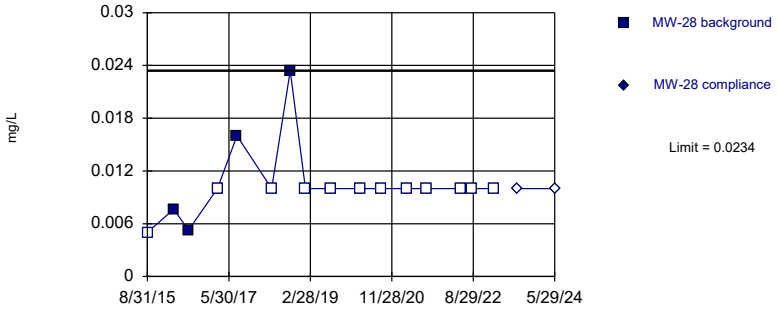
Constituent: Vanadium Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Zinc Analysis Run 8/6/2024 3:52 PM View: 2024SSN MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 4:18 PM

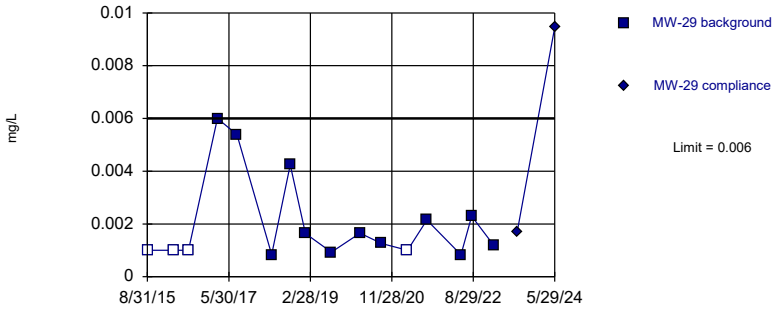
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**MW-29**	**0.006**	**n/a**	**5/29/2024**	**0.00945**	**Yes**	**16**	**n/a**	**n/a**	**n/a**	**25**	**n/a**	**n/a**	**0.001026**	**NP Intra (normality) 1 of 3**
Barium (mg/L)	MW-29	0.01822	n/a	5/29/2024	0.0174	No	16	n/a	0.01602	0.001352	0	None	No	0.0009574	Param Intra 1 of 3
Cadmium (mg/L)	MW-29	0.00025	n/a	5/29/2024	0.0001ND	No	16	n/a	n/a	n/a	81.25	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Chromium (mg/L)	MW-29	0.00341	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	MW-29	0.004648	n/a	5/29/2024	0.00307	No	16	n/a	0.002521	0.001306	0	None	No	0.0009574	Param Intra 1 of 3
Copper (mg/L)	MW-29	0.0049	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	68.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Lead (mg/L)	MW-29	0.000898	n/a	5/29/2024	0.00025ND	No	16	n/a	n/a	n/a	56.25	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Nickel (mg/L)	MW-29	0.01306	n/a	5/29/2024	0.011	No	16	n/a	0.01003	0.001861	0	None	No	0.0009574	Param Intra 1 of 3
Selenium (mg/L)	MW-29	0.0025	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	93.75	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	MW-29	0.00632	n/a	5/29/2024	0.0025ND	No	16	n/a	n/a	n/a	81.25	n/a	n/a	0.001026	NP Intra (NDs) 1 of 3
Zinc (mg/L)	MW-29	0.0297	n/a	5/29/2024	0.01ND	No	16	n/a	n/a	n/a	50	n/a	n/a	0.001026	NP Intra (normality) 1 of 3

Hollow symbols indicate censored values.

Exceeds Limit

Prediction Limit

Intrawell Non-parametric



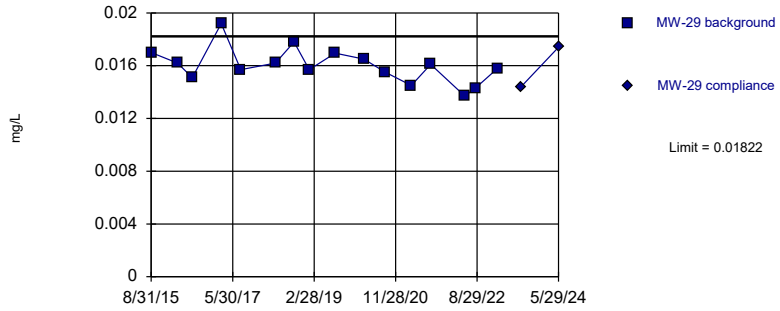
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 16 background values. 25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Arsenic Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01602, Std. Dev.=0.001352, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9676, critical = 0.844. Kappa = 1.629 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

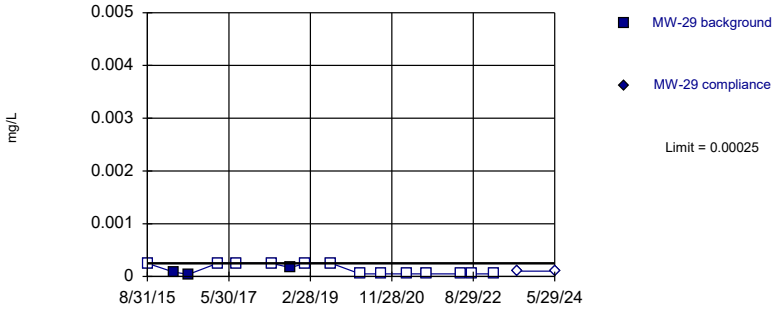
Constituent: Barium Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 81.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

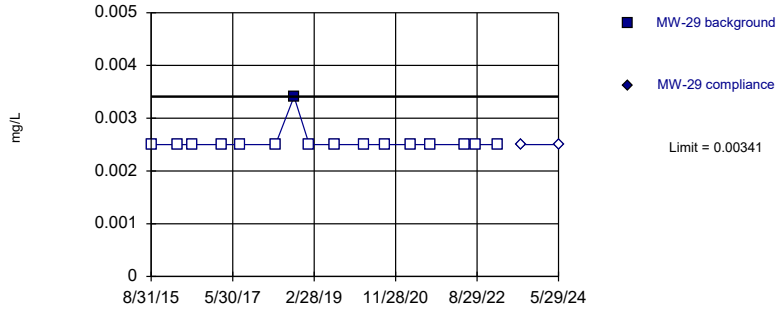
Constituent: Cadmium Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



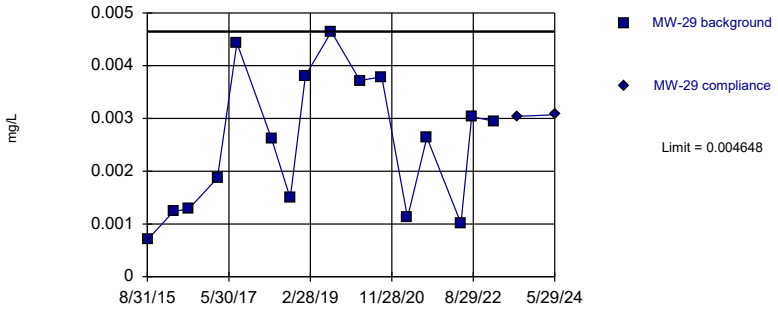
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Chromium Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.002521, Std. Dev.=0.001306, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.926, critical = 0.844. Kappa = 1.629 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

Constituent: Cobalt Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL

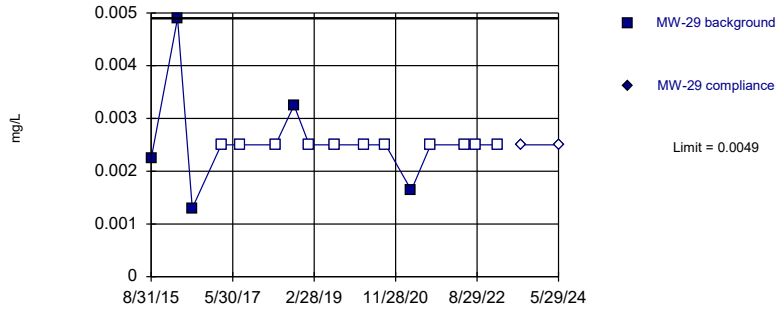
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Copper Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL

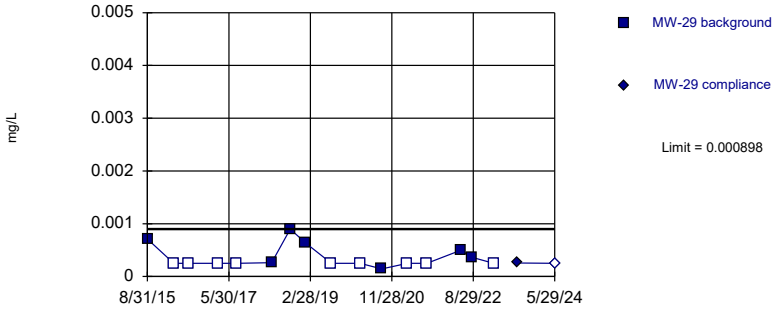
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 56.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

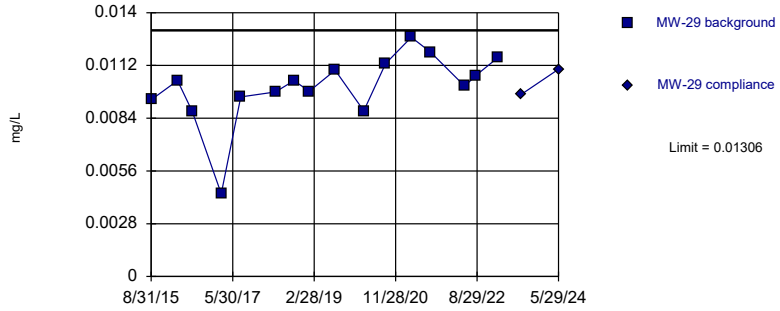
Constituent: Lead Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01003, Std. Dev.=0.001861, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8506, critical = 0.844. Kappa = 1.629 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

Constituent: Nickel Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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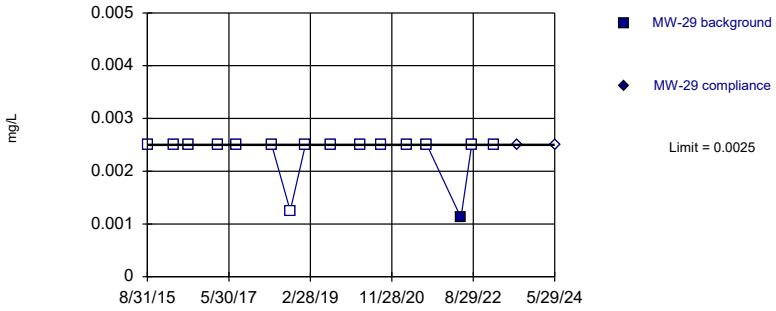
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Selenium Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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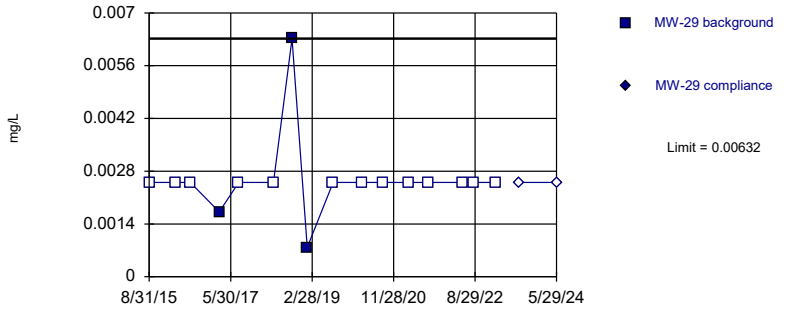
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 81.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Vanadium Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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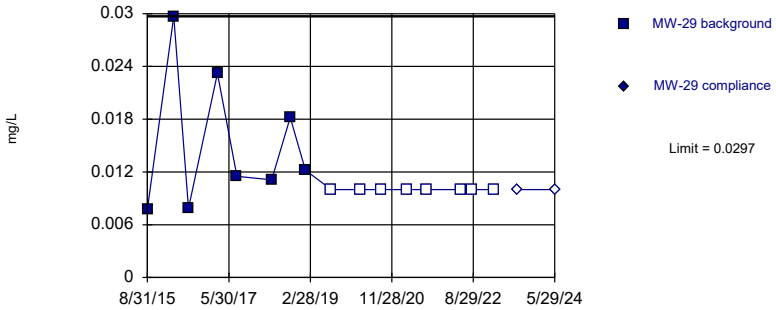
Hollow symbols indicate censored values.

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 16 background values. 50% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Zinc Analysis Run 8/6/2024 4:16 PM View: 2024SSN MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 5:15 PM

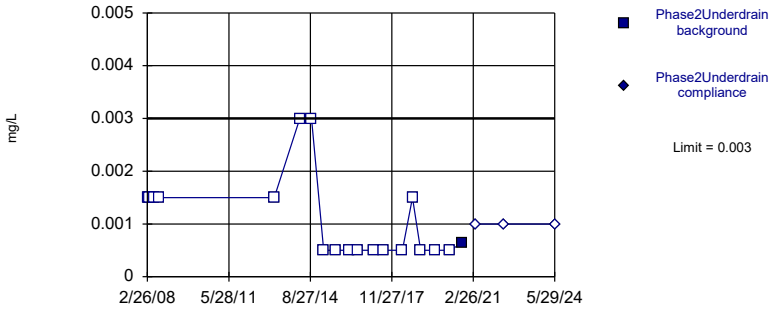
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	Phase2Underdrain	0.003	n/a	5/29/2024	0.001ND	No	19	n/a	n/a	n/a	94.74	n/a	n/a	0.0006785	NP Intra (NDs) 1 of 3
Arsenic (mg/L)	Phase2Underdrain	0.02314	n/a	5/29/2024	0.00337	No	18	n/a	0.07874	0.0462	5.556	None	sqrt(x)	0.0009574	Param Intra 1 of 3
Barium (mg/L)	Phase2Underdrain	1.327	n/a	5/29/2024	0.645	No	21	n/a	-0.7173	0.6511	0	None	ln(x)	0.0009574	Param Intra 1 of 3
Beryllium (mg/L)	Phase2Underdrain	0.0025	n/a	5/29/2024	0.0005ND	No	19	n/a	n/a	n/a	89.47	n/a	n/a	0.0006785	NP Intra (NDs) 1 of 3
Chromium (mg/L)	Phase2Underdrain	0.013	n/a	5/29/2024	0.0025ND	No	18	n/a	n/a	n/a	66.67	n/a	n/a	0.0007943	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	Phase2Underdrain	0.008097	n/a	5/29/2024	0.000467J	No	18	n/a	-6.591	1.117	16.67	Kaplan-Meier	ln(x)	0.0009574	Param Intra 1 of 3
Copper (mg/L)	Phase2Underdrain	0.01071	n/a	5/29/2024	0.0025ND	No	20	n/a	0.05936	0.02851	50	Kaplan-Meier	sqrt(x)	0.0009574	Param Intra 1 of 3
Nickel (mg/L)	Phase2Underdrain	0.02985	n/a	5/29/2024	0.00325J	No	18	n/a	0.2098	0.06319	5.556	None	x^(1/3)	0.0009574	Param Intra 1 of 3
Selenium (mg/L)	Phase2Underdrain	0.0125	n/a	5/29/2024	0.0025ND	No	20	n/a	n/a	n/a	65	n/a	n/a	0.0005627	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	Phase2Underdrain	0.025	n/a	5/29/2024	0.0025ND	No	18	n/a	n/a	n/a	72.22	n/a	n/a	0.0007943	NP Intra (NDs) 1 of 3
Zinc (mg/L)	Phase2Underdrain	0.066	n/a	5/29/2024	0.01ND	No	18	n/a	n/a	n/a	72.22	n/a	n/a	0.0007943	NP Intra (NDs) 1 of 3

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 94.74% NDs. Well-constituent pair annual alpha = 0.001357. Individual comparison alpha = 0.0006785 (1 of 3).

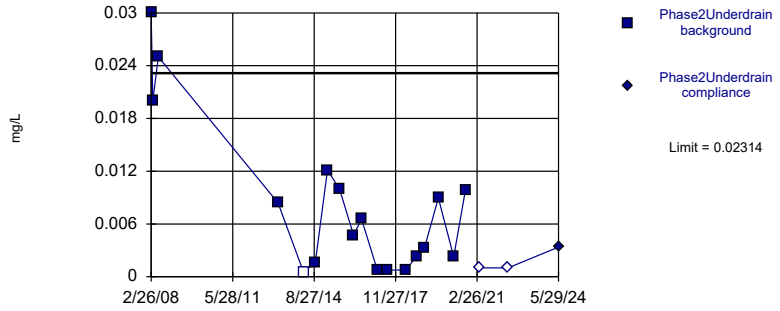
Constituent: Antimony Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.07874, Std. Dev.=0.0462, n=18, 5.556% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9248, critical = 0.858. Kappa = 1.589 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

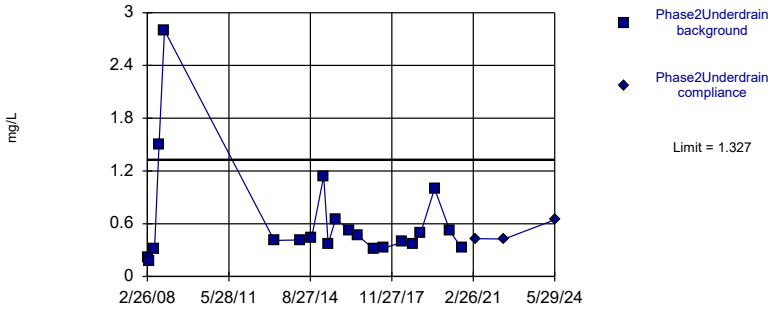
Constituent: Arsenic Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=-0.7173, Std. Dev.=0.6511, n=21. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9049, critical = 0.873. Kappa = 1.536 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

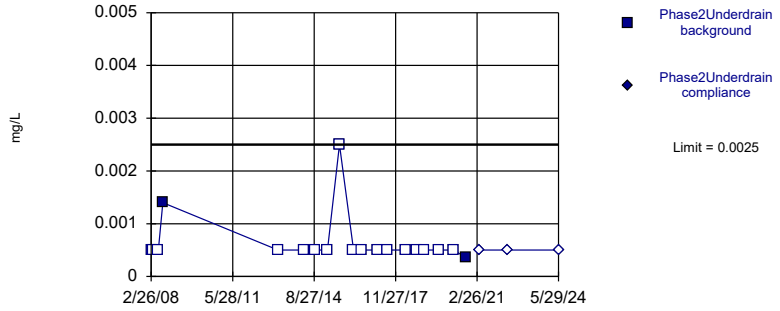
Constituent: Barium Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 19 background values. 89.47% NDs. Well-constituent pair annual alpha = 0.001357. Individual comparison alpha = 0.0006785 (1 of 3).

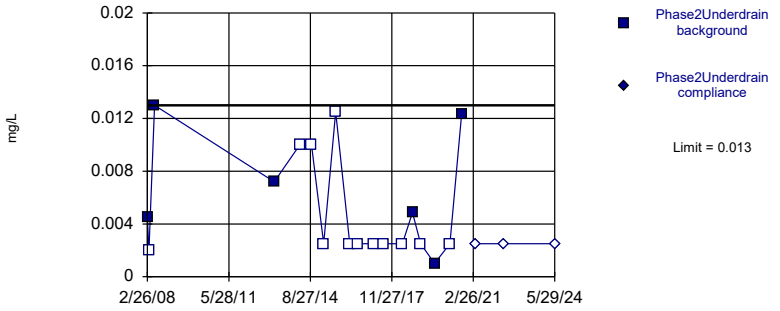
Constituent: Beryllium Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 18 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.001588. Individual comparison alpha = 0.0007943 (1 of 3).

Constituent: Chromium Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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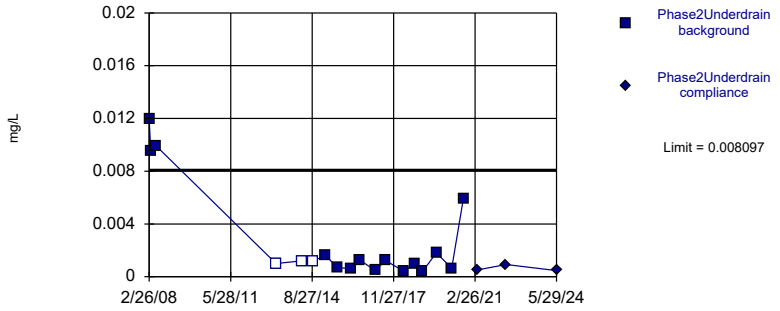
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-6.591, Std. Dev.=1.117, n=18, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.87, critical = 0.858. Kappa = 1.589 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

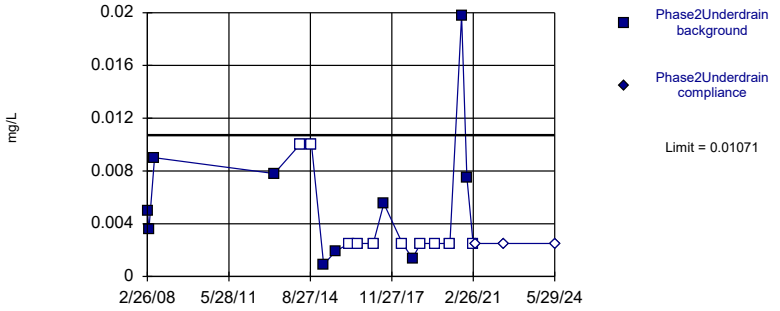
Constituent: Cobalt Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.05936, Std. Dev.=0.02851, n=20, 50% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8697, critical = 0.868. Kappa = 1.548 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

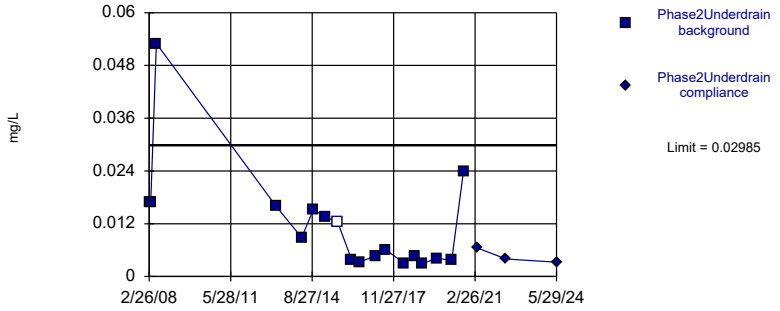
Constituent: Copper Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



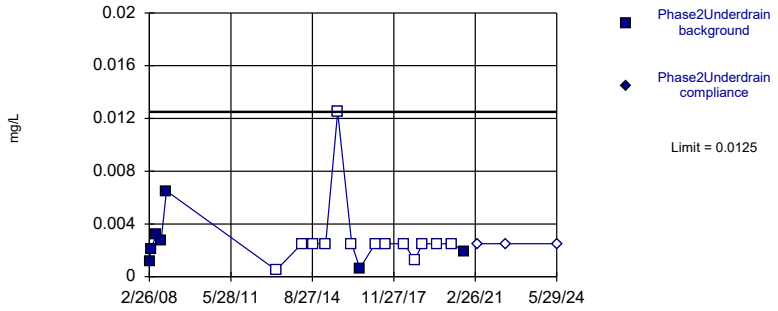
Background Data Summary (based on cube root transformation): Mean=0.2098, Std. Dev.=0.06319, n=18, 5.556% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8772, critical = 0.858. Kappa = 1.589 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

Constituent: Nickel Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



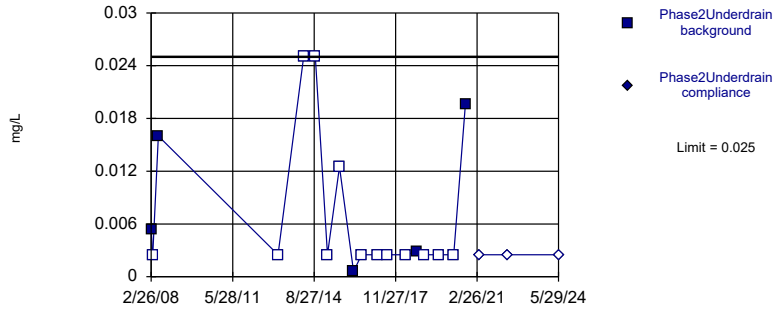
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 20 background values. 65% NDs. Well-constituent pair annual alpha = 0.001125. Individual comparison alpha = 0.0005627 (1 of 3).

Constituent: Selenium Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



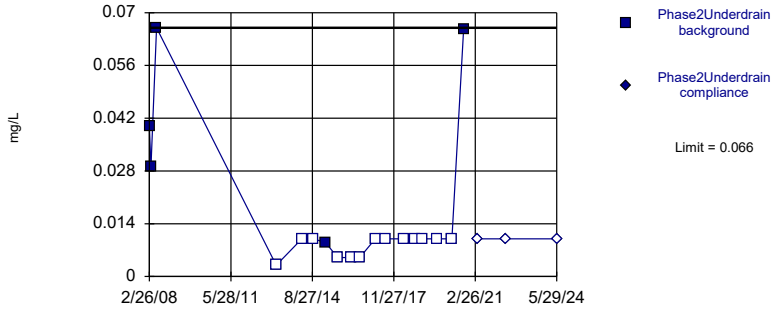
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 18 background values. 72.22% NDs. Well-constituent pair annual alpha = 0.001588. Individual comparison alpha = 0.0007943 (1 of 3).

Constituent: Vanadium Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 18 background values. 72.22% NDs. Well-constituent pair annual alpha = 0.001588. Individual comparison alpha = 0.0007943 (1 of 3).

Constituent: Zinc Analysis Run 8/6/2024 5:14 PM View: 2024SSN PH2UD IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/5/2024, 5:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	GU-3A	0.00195	n/a	7/16/2024	0.001ND	No	5	n/a	n/a	n/a	80	n/a	n/a	0.01896	NP Intra (NDs) 1 of 3
Arsenic (mg/L)	GU-3A	0.02735	n/a	7/16/2024	0.00302	No	5	n/a	0.005346	0.006257	20	Kaplan-Meier	No	0.0008776	Param Intra 1 of 3
Barium (mg/L)	GU-3A	0.7716	n/a	7/16/2024	0.564	No	5	n/a	0.308	0.1318	0	None	No	0.0008776	Param Intra 1 of 3
Cadmium (mg/L)	GU-3A	0.00303	n/a	7/16/2024	0.0001ND	No	5	n/a	n/a	n/a	80	n/a	n/a	0.01896	NP Intra (NDs) 1 of 3
Chromium (mg/L)	GU-3A	0.0329	n/a	7/16/2024	0.0025ND	No	5	n/a	n/a	n/a	80	n/a	n/a	0.01896	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	GU-3A	0.2907	n/a	7/16/2024	0.000233J	No	5	n/a	0.1656	0.1413	0	None	x^(1/3)	0.0008776	Param Intra 1 of 3
Copper (mg/L)	GU-3A	0.0585	n/a	7/16/2024	0.012	No	5	n/a	n/a	n/a	60	n/a	n/a	0.01896	NP Intra (NDs) 1 of 3
Lead (mg/L)	GU-3A	0.0144	n/a	7/16/2024	0.000497J	No	5	n/a	n/a	n/a	60	n/a	n/a	0.01896	NP Intra (NDs) 1 of 3
Nickel (mg/L)	GU-3A	0.432	n/a	7/16/2024	0.00266J	No	5	n/a	n/a	n/a	0	n/a	n/a	0.01896	NP Intra (xform) 1 of 3
Selenium (mg/L)	GU-3A	0.009523	n/a	7/16/2024	0.0025ND	No	5	n/a	0.004168	0.001523	40	Kaplan-Meier	No	0.0008776	Param Intra 1 of 3
Vanadium (mg/L)	GU-3A	0.06928	n/a	7/16/2024	0.0025ND	No	5	n/a	0.1582	0.07181	40	Kaplan-Meier	x^(1/3)	0.0008776	Param Intra 1 of 3
Zinc (mg/L)	GU-3A	0.077	n/a	7/16/2024	0.01ND	No	5	n/a	n/a	n/a	60	n/a	n/a	0.01896	NP Intra (NDs) 1 of 3

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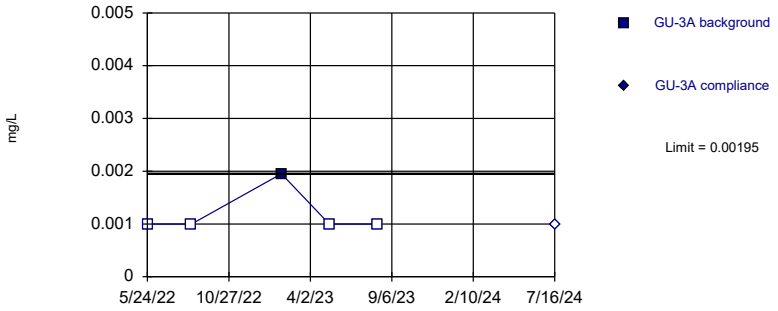
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 80% NDs. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

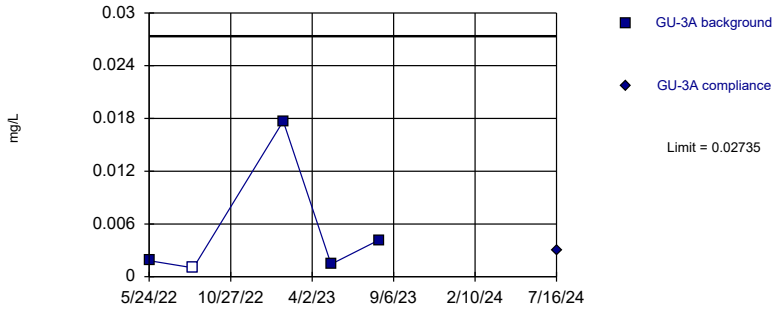
Constituent: Antimony Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.005346, Std. Dev.=0.006257, n=5, 20% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.6895, critical = 0.686. Kappa = 3.516 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

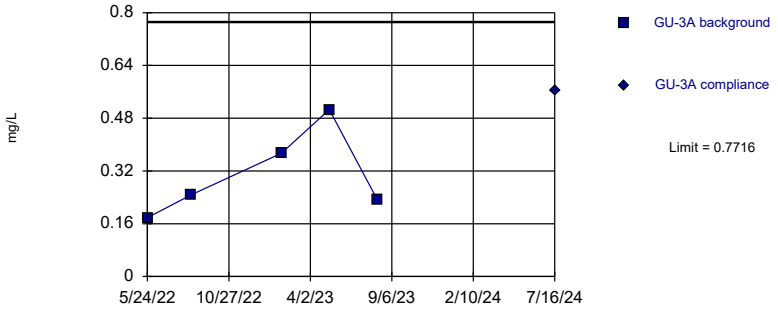
Constituent: Arsenic Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.308, Std. Dev.=0.1318, n=5. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9116, critical = 0.686. Kappa = 3.516 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

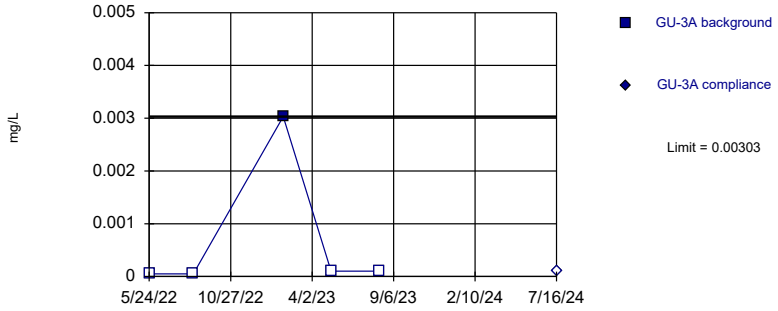
Constituent: Barium Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 80% NDs. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

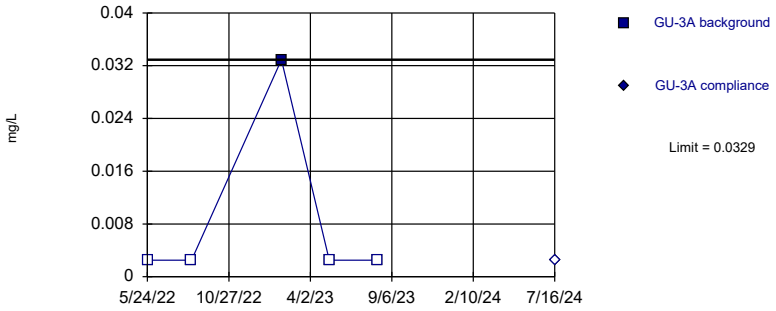
Constituent: Cadmium Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 80% NDs. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

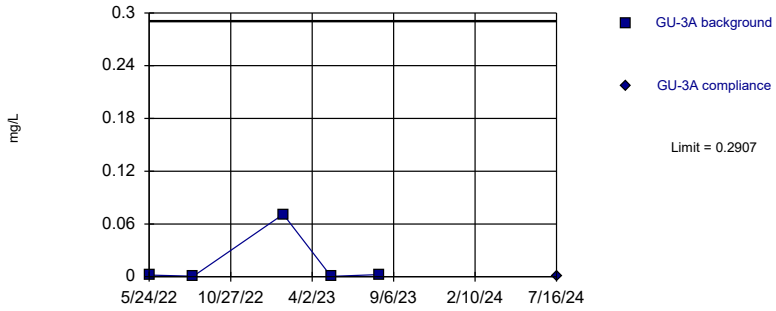
Constituent: Chromium Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=0.1656, Std. Dev.=0.1413, n=5. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7171, critical = 0.686. Kappa = 3.516 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

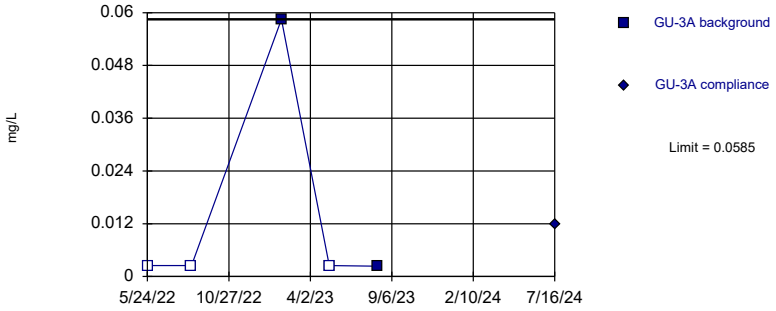
Constituent: Cobalt Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 60% NDs. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

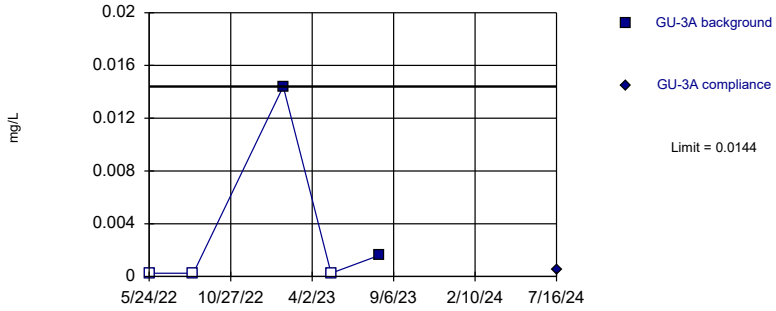
Constituent: Copper Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 60% NDs. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

Constituent: Lead Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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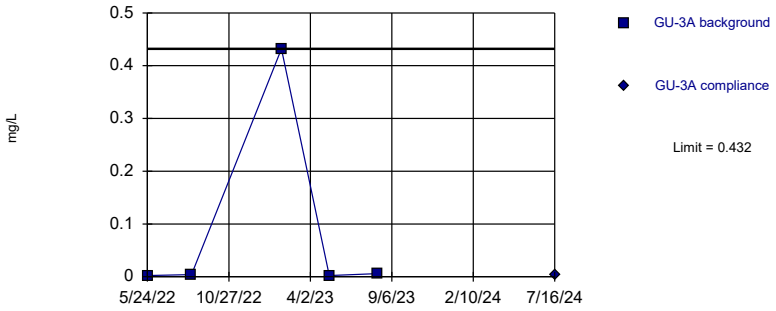
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used after natural log transformation resulted in a parametric limit of 21.09, which exceeds 10 times the highest background value (user-adjustable cutoff). Limit is highest of 5 background values. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

Constituent: Nickel Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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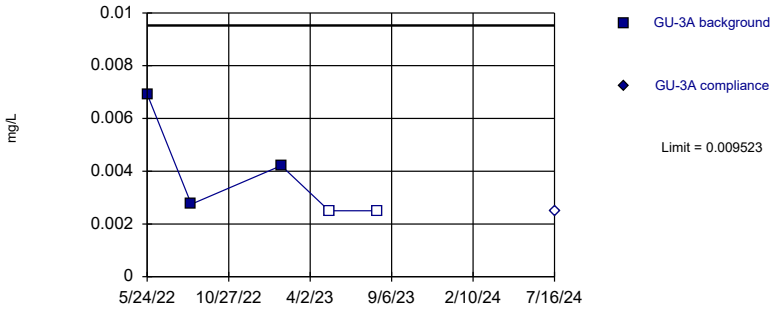
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.004168, Std. Dev.=0.001523, n=5, 40% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7804, critical = 0.686. Kappa = 3.516 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

Constituent: Selenium Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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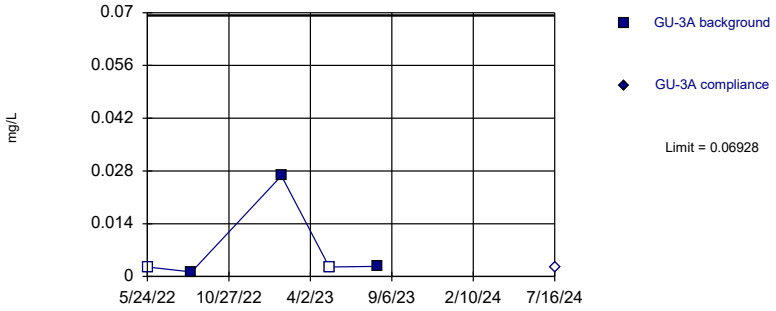
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.1582, Std. Dev.=0.07181, n=5, 40% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.6974, critical = 0.686. Kappa = 3.516 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

Constituent: Vanadium Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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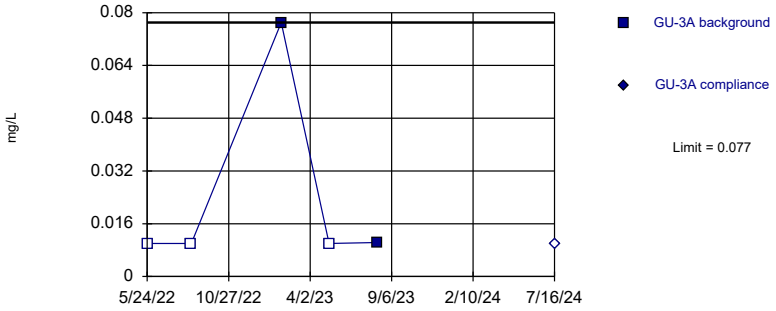
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 60% NDs. Well-constituent pair annual alpha = 0.03756. Individual comparison alpha = 0.01896 (1 of 3).

Constituent: Zinc Analysis Run 8/5/2024 5:51 PM View: 2024SSN - GU-3A IntraPL

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

MW-26 Background Update

Outliers, Trends, and Welch's T-Test/Mann-Whitney Summary Table and Graphs

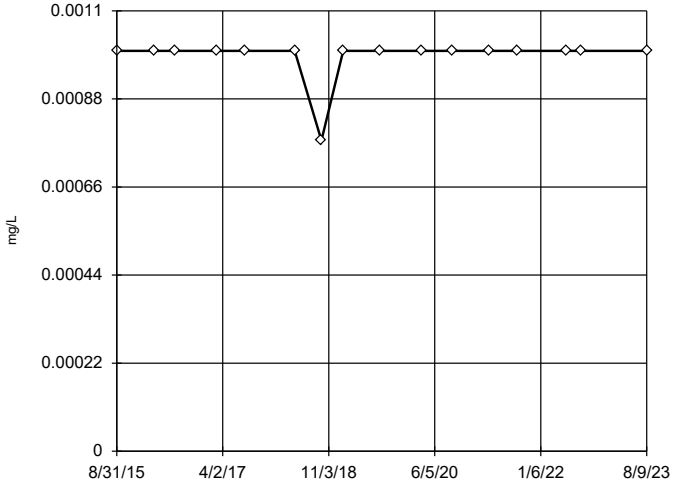
BG Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 1:19 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Arsenic (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.000986	0.000056	n/a
Barium (mg/L)	**MW-26**	**Yes**	**0.103,0.0268**	**2/27/2024,3/2/2017**	**Dixon/OH**	**0.05**	**17**	**0.04649**	**0.0161**	**ShapiroWilk**
Cadmium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.0002013	0.0001095	n/a
Chromium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.002613	0.0004525	n/a
Cobalt (mg/L)	**MW-26**	**Yes**	**0.00217,0.0014**	**3/2/2017,8/9/2023**	**Dixon/OH**	**0.05**	**16**	**0.006735**	**0.002465**	**ShapiroWilk**
Copper (mg/L)	**MW-26**	**Yes**	**0.00432,0.00565,0.00179,0.002025,0.00186**	**8/31/2015,8/2/2017,9/24/2018,9/10/2020,8/17/2022**	**NP (nrm)/OH**	**NaN**	**16**	**0.002711**	**0.0009554**	**ShapiroWilk**
Lead (mg/L)	MW-26	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.000307	0.0001858	ShapiroWilk
Nickel (mg/L)	**MW-26**	**Yes**	**0.00825,0.005175**	**8/9/2023,3/2/2017**	**Dixon/OH**	**0.05**	**16**	**0.01791**	**0.004917**	**ShapiroWilk**
Silver (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.0004864	0.00006359	n/a
Thallium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	17	0.0005769	0.0003515	n/a
Vanadium (mg/L)	MW-26	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002179	0.0007053	ShapiroWilk
Zinc (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.009618	0.002206	n/a

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Arsenic Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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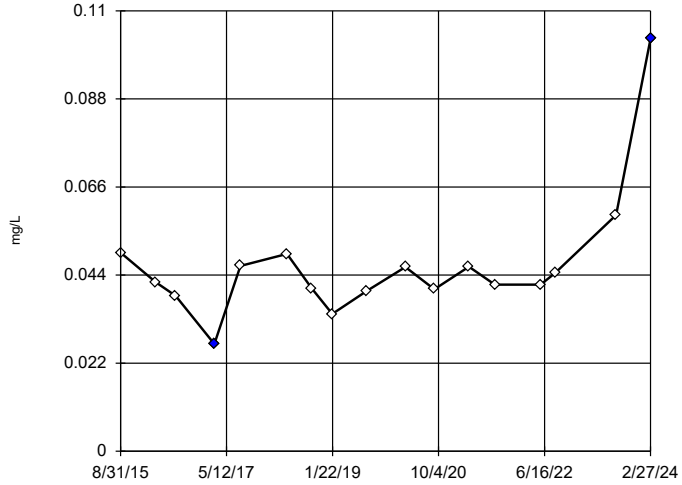
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 17

Statistical outliers are drawn as solid.
Testing for 1 high and 1 low outliers.
Mean = 0.04649.
Std. Dev. = 0.0161.
0.103: c = 0.8318
tabl = 0.49.
0.0268 (D): c = 0.5263
tabl = 0.49.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9259
Critical = 0.901
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Barium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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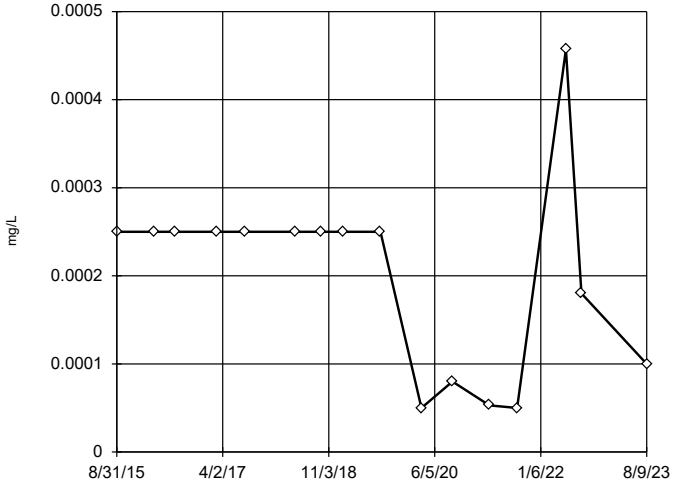
Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9259
Critical = 0.901
The distribution was found to be normally distributed.

Constituent: Cadmium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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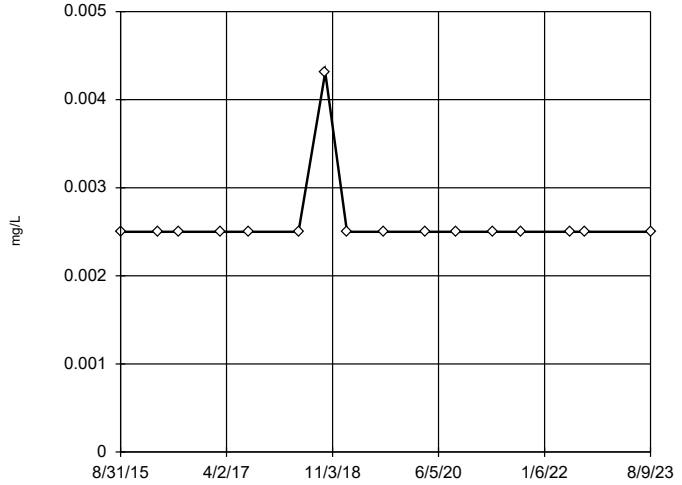
Ohio EPA 0715 Outlier Algorithm

MW-26



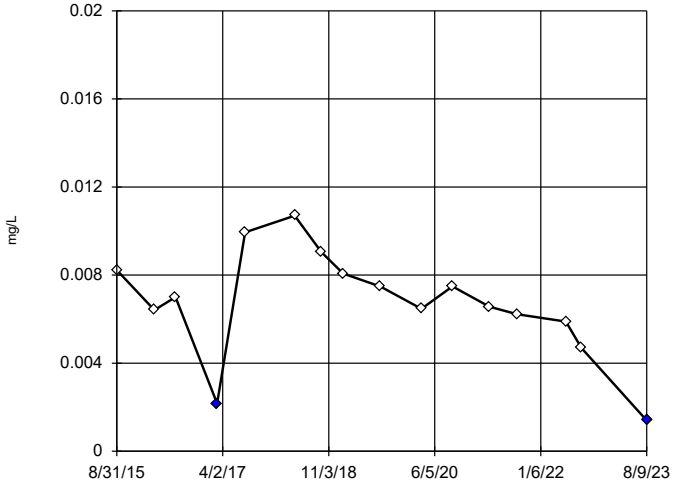
n = 16

No statistical outliers.

Constituent: Chromium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

Statistical outliers are drawn as solid.
Testing for 2 low outliers.
Mean = 0.006735.
Std. Dev. = 0.002465.
0.00217 (D): c = 0.5415
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9639
Critical = 0.895
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Cobalt Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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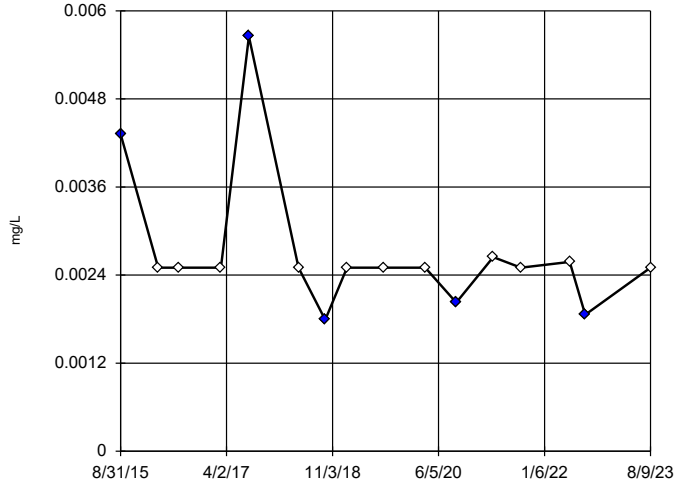
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

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 natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.002663, low cutoff = 0.002385, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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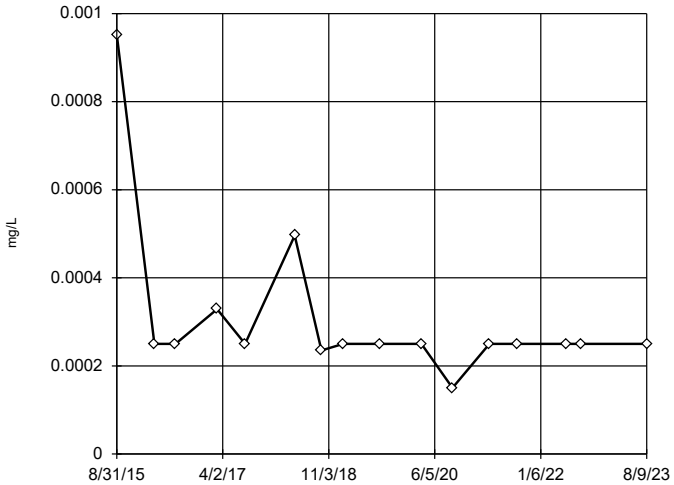
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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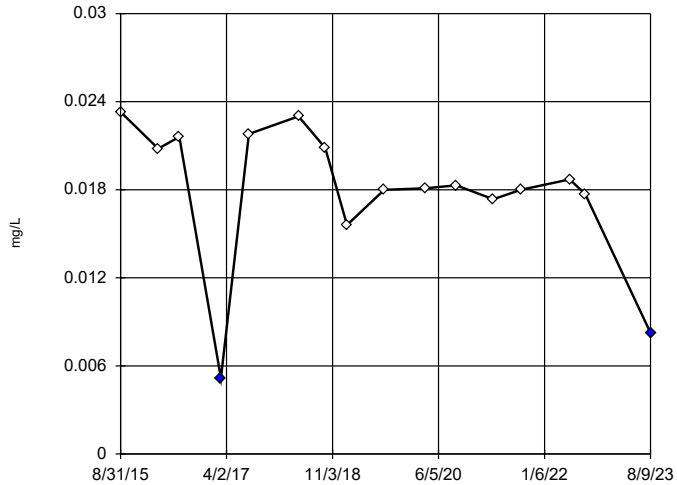
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

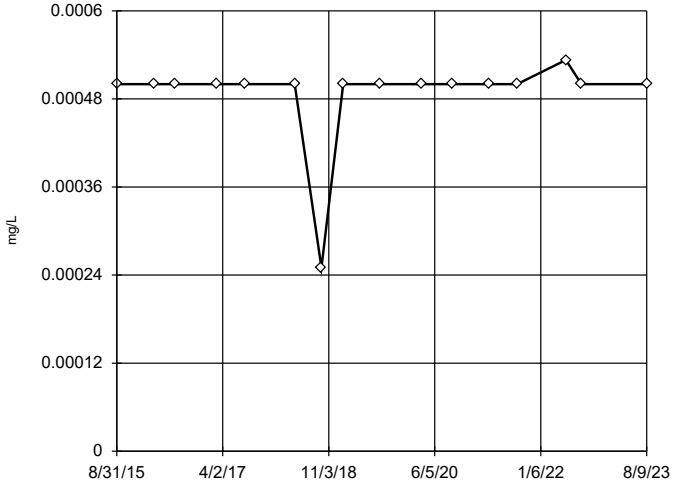
Statistical outliers are drawn as solid.
Testing for 2 low outliers.
Mean = 0.01791.
Std. Dev. = 0.004917.
0.00825: c = 0.6716
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9253
Critical = 0.895
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Nickel Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Silver Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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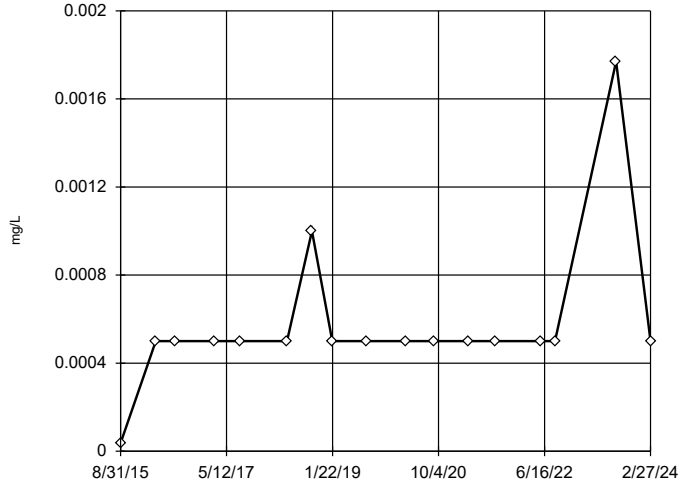
Ohio EPA 0715 Outlier Algorithm

MW-26



n = 17

No statistical outliers.

Constituent: Thallium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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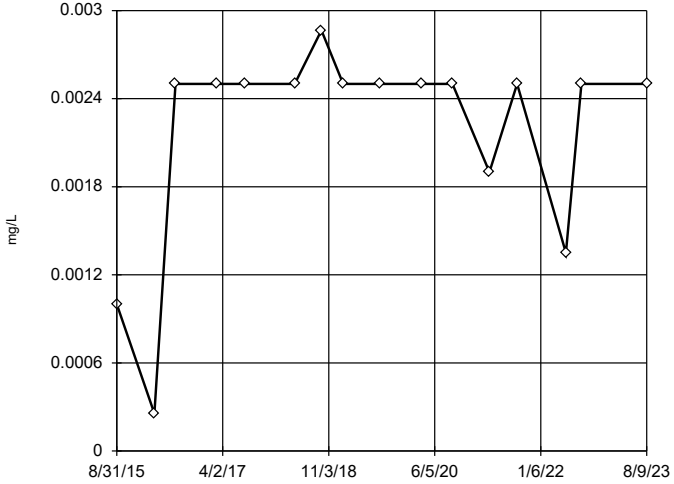
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x^5 transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Vanadium Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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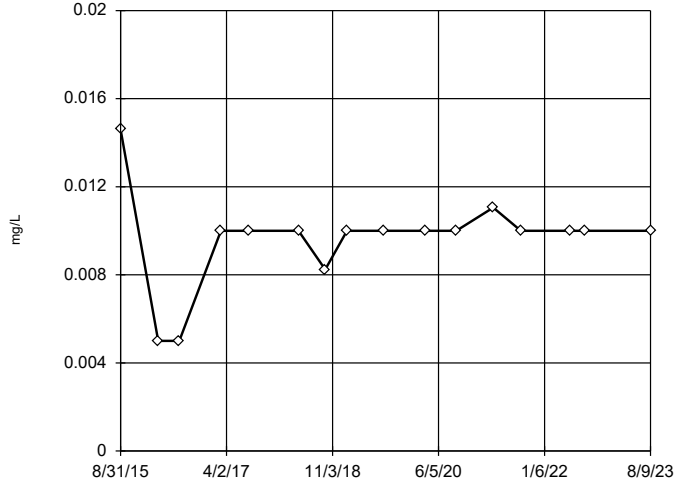
Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Zinc Analysis Run 8/6/2024 1:17 PM View: 2024SSN - MW-26 BGupdate

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

BG Trend Test

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 1:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Arsenic (mg/L)	MW-26	0	3	58	No	16	93.75	0.01	NP
Barium (mg/L)	MW-26	0.000943	31	63	No	17	0	0.01	NP
Cadmium (mg/L)	MW-26	-0.000003602	-37	-58	No	16	75	0.01	NP
Chromium (mg/L)	MW-26	0	-3	-58	No	16	93.75	0.01	NP
Cobalt (mg/L)	MW-26	-0.0006827	-54	-58	No	16	0	0.01	NP
Copper (mg/L)	MW-26	0	-18	-58	No	16	56.25	0.01	NP
Lead (mg/L)	MW-26	0	-27	-58	No	16	68.75	0.01	NP
Nickel (mg/L)	MW-26	-0.0007875	-47	-58	No	16	0	0.01	NP
Silver (mg/L)	MW-26	0	13	58	No	16	93.75	0.01	NP
Thallium (mg/L)	MW-26	0	25	63	No	17	88.24	0.01	NP
Vanadium (mg/L)	MW-26	0	9	58	No	16	68.75	0.01	NP
Zinc (mg/L)	MW-26	0	20	58	No	16	81.25	0.01	NP

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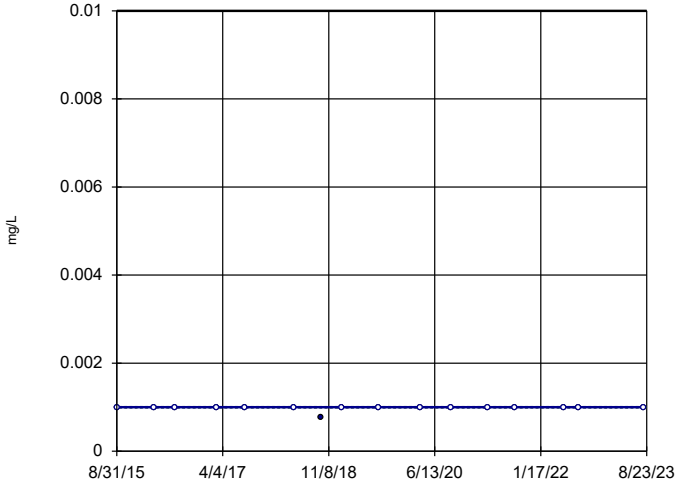
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 16

Slope = 0
units per year.

Mann-Kendall
statistic = 3
critical = 58

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Confidence band is
unusable with this
dataset.

Constituent: Arsenic Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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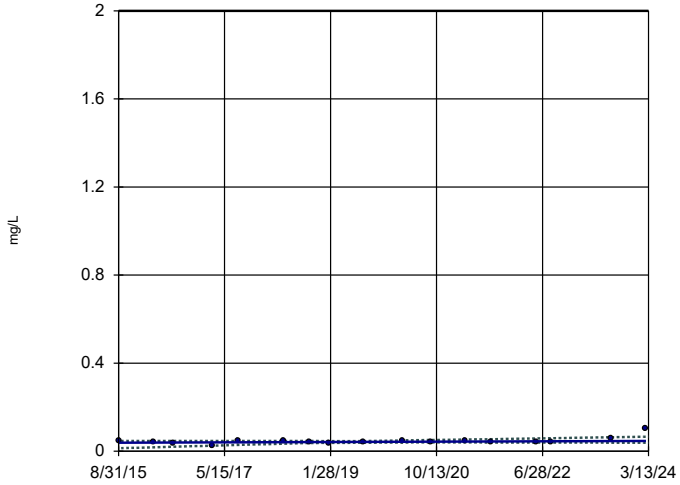
Sen's Slope and 99% Confidence Band

MW-26



n = 17

Slope = 0.000943
units per year.

Mann-Kendall
statistic = 31
critical = 63

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Confidence band is
below GWPS mg/L (2).

Constituent: Barium Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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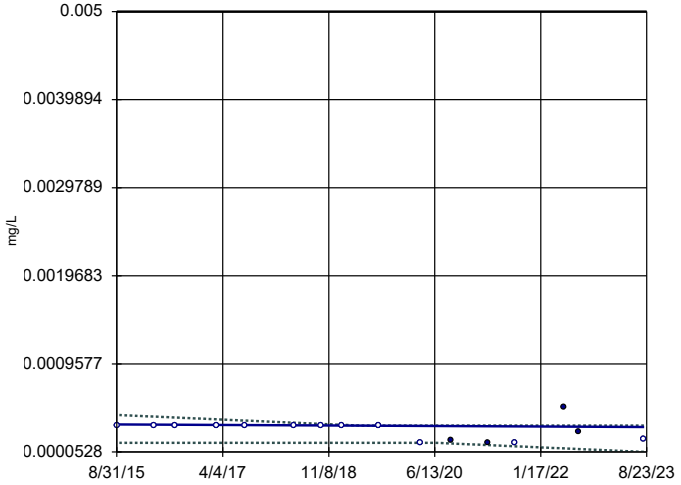
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 16

Slope = -0.000003602
units per year.

Mann-Kendall
statistic = -37
critical = -58

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Confidence band is
below GWPS mg/L (0.005).

Constituent: Cadmium Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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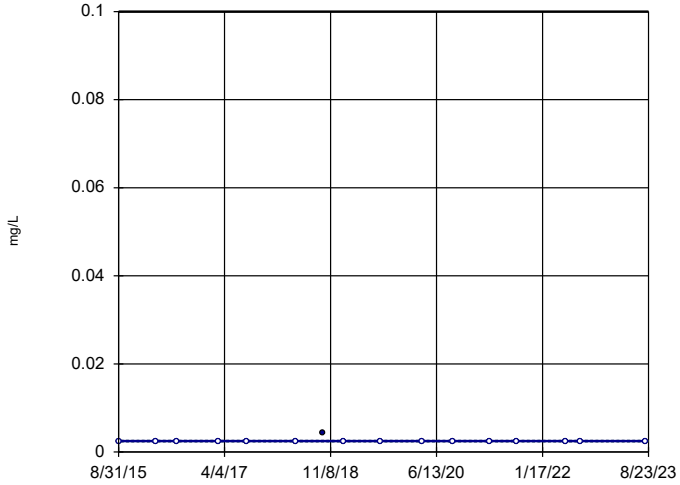
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 16

Slope = 0
units per year.

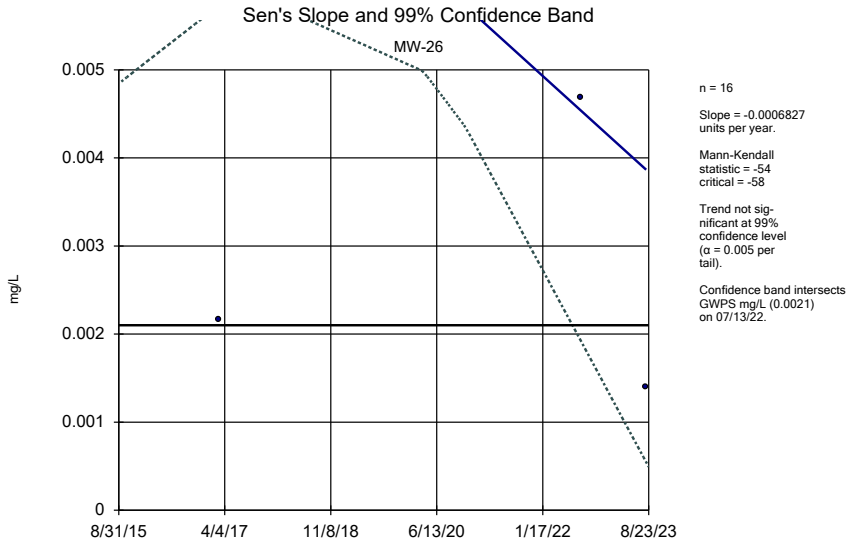
Mann-Kendall
statistic = -3
critical = -58

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Confidence band is
unusable with this
dataset.

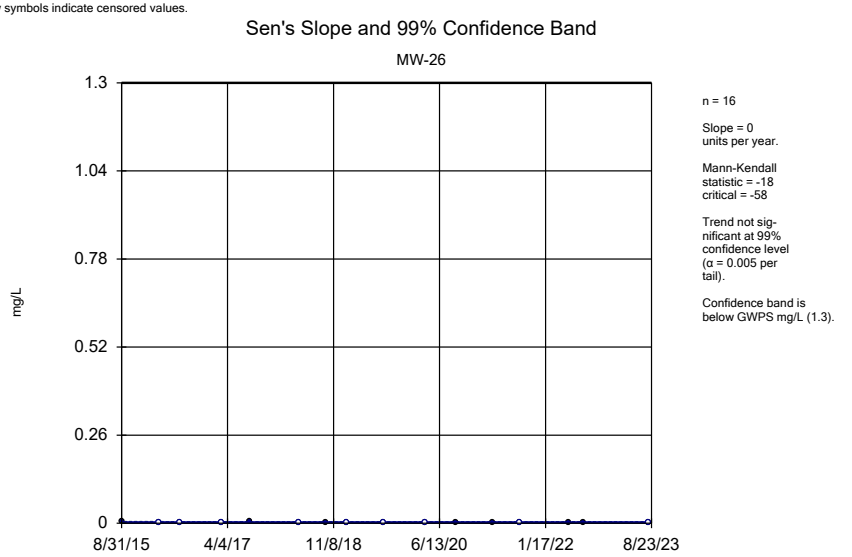
Constituent: Chromium Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG



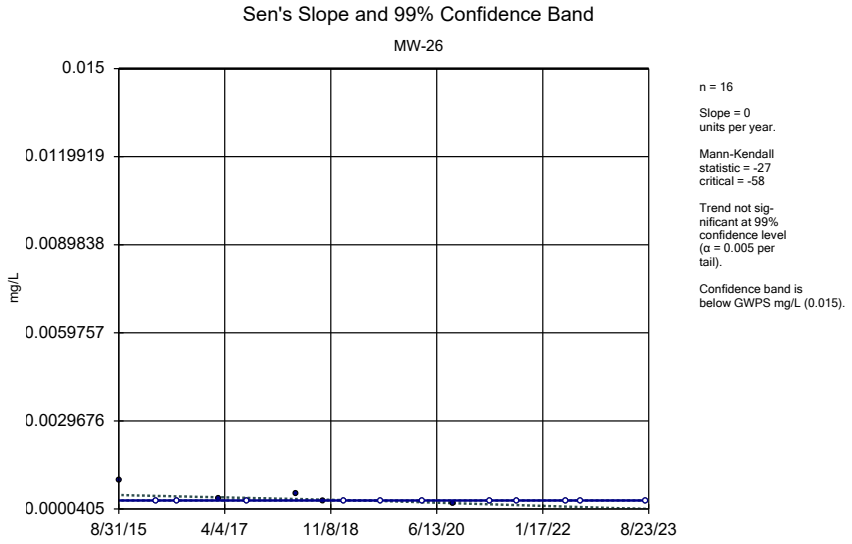
Constituent: Cobalt Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.



Constituent: Copper Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.



Constituent: Lead Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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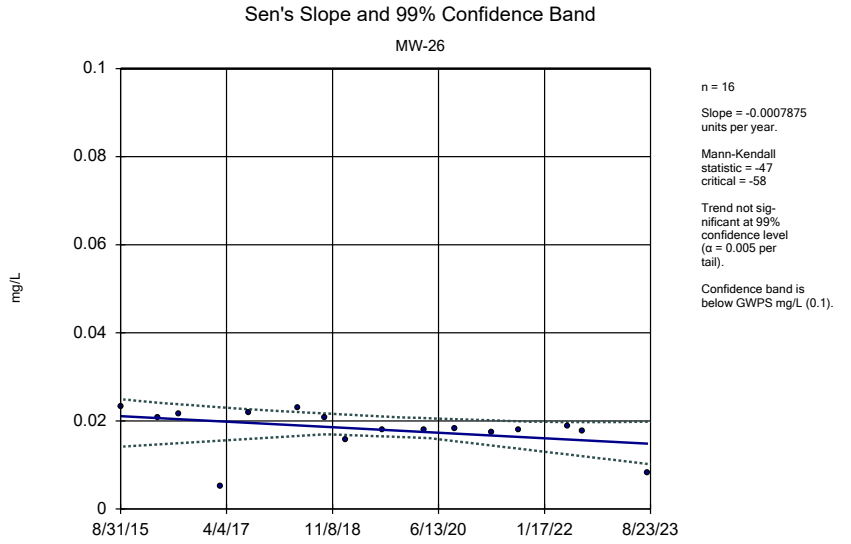
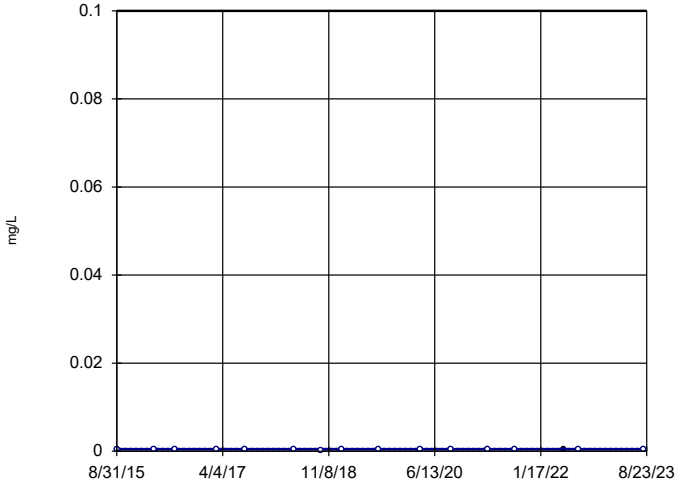


Constituent: Nickel Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 16

Slope = 0
units per year.

Mann-Kendall
statistic = 13
critical = 58

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Confidence band is
unusable with this
dataset.

Constituent: Silver Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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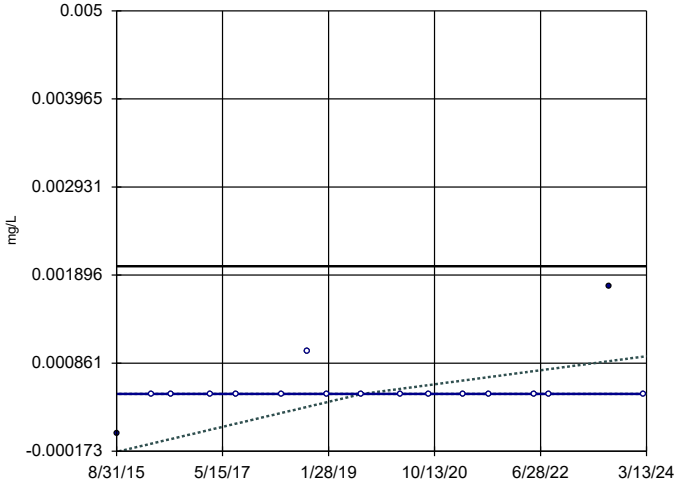
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 17

Slope = 0
units per year.

Mann-Kendall
statistic = 25
critical = 63

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

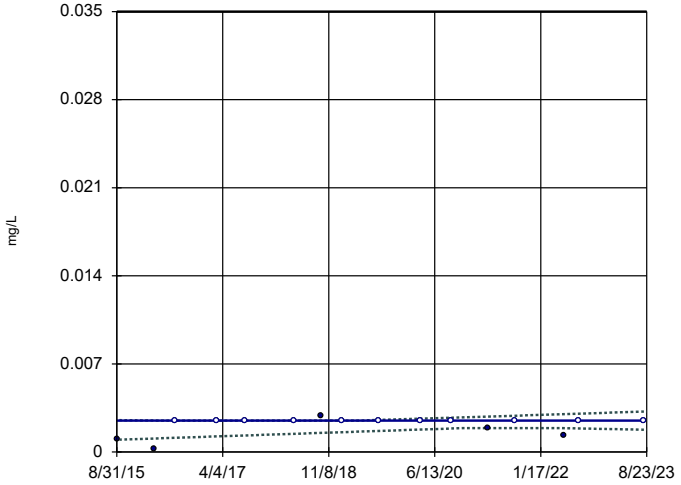
Confidence band is
below GWPS mg/L (0.002).

Constituent: Thallium Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 16

Slope = 0
units per year.

Mann-Kendall
statistic = 9
critical = 58

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

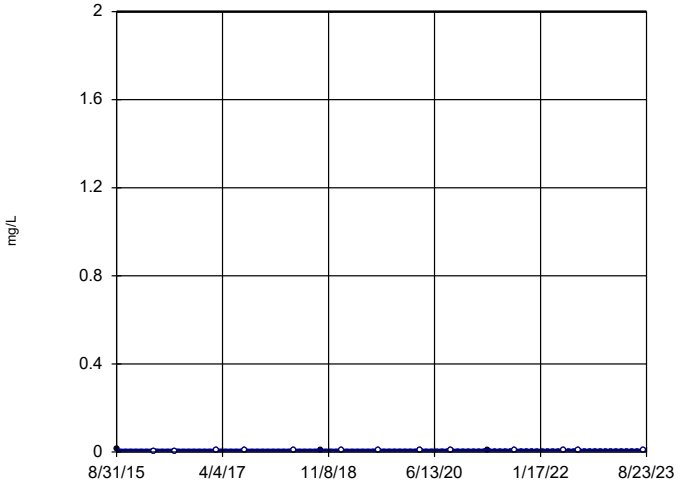
Confidence band is
below GWPS mg/L (0.035).

Constituent: Vanadium Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Sen's Slope and 99% Confidence Band

MW-26



n = 16

Slope = 0
units per year.

Mann-Kendall
statistic = 20
critical = 58

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Confidence band is
below GWPS mg/L (2).

Constituent: Zinc Analysis Run 8/6/2024 1:26 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Welch's t-test/Mann-Whitney

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/6/2024, 1:55 PM

Constituent	Well	Calc.	0.01	Method
Arsenic (mg/L)	MW-26 (bg)	0.433	No	Mann-W (NDs)
Barium (mg/L)	MW-26	1.367	No	Welch`s
Cadmium (mg/L)	MW-26 (bg)	-0.8025	No	Mann-W (NDs)
Chromium (mg/L)	MW-26 (bg)	-0.7217	No	Mann-W (NDs)
Cobalt (mg/L)	MW-26	-2.304	No	Welch`s
Copper (mg/L)	MW-26 (bg)	-0.4677	No	Mann-W (normality)
Lead (mg/L)	MW-26 (bg)	-0.3686	No	Mann-W (normality)
Nickel (mg/L)	MW-26	-1.366	No	Welch`s
Silver (mg/L)	MW-26 (bg)	1.476	No	Mann-W (NDs)
Thallium (mg/L)	MW-26 (bg)	0.8716	No	Mann-W (NDs)
Vanadium (mg/L)	MW-26 (bg)	-0.2212	No	Mann-W (normality)
Zinc (mg/L)	MW-26 (bg)	0.2214	No	Mann-W (normality)

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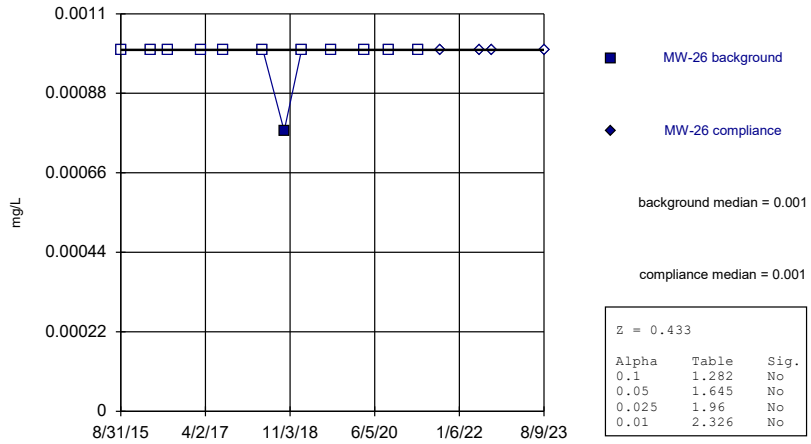
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



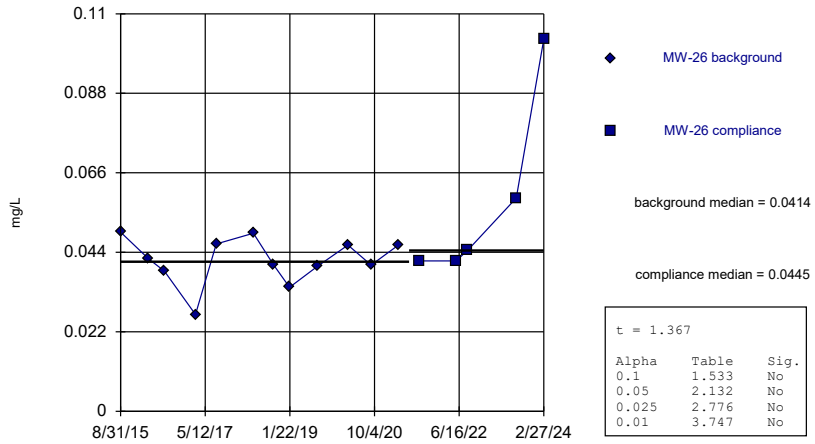
Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because censored data exceeded 75%.

Constituent: Arsenic Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Welch's t-test

MW-26



Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9155, critical = 0.859.

Constituent: Barium Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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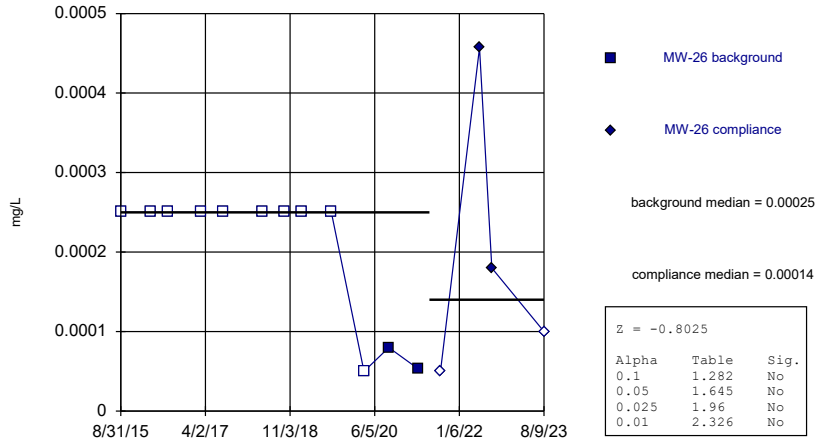
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



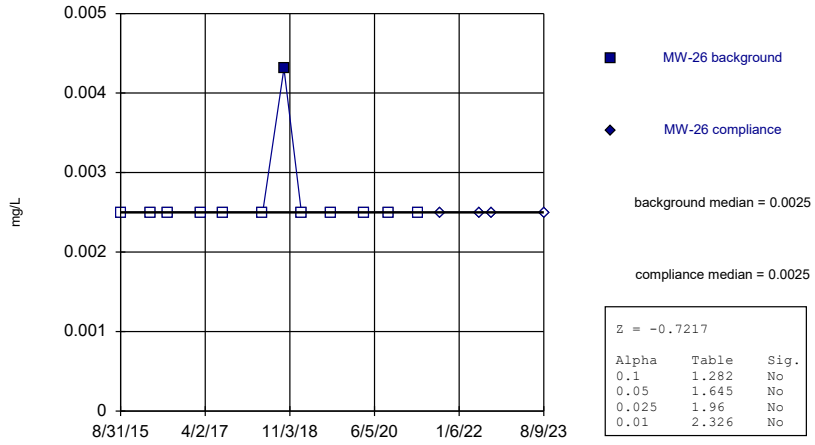
Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because censored data exceeded 75%.

Constituent: Cadmium Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)

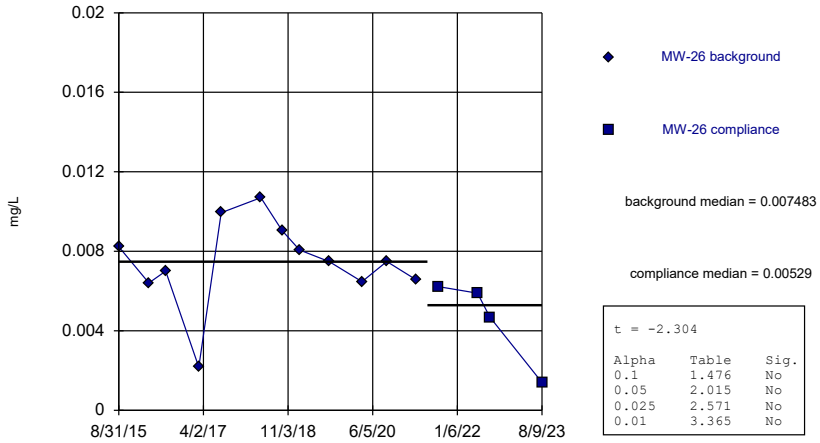


Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because censored data exceeded 75%.

Constituent: Chromium Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Welch's t-test

MW-26



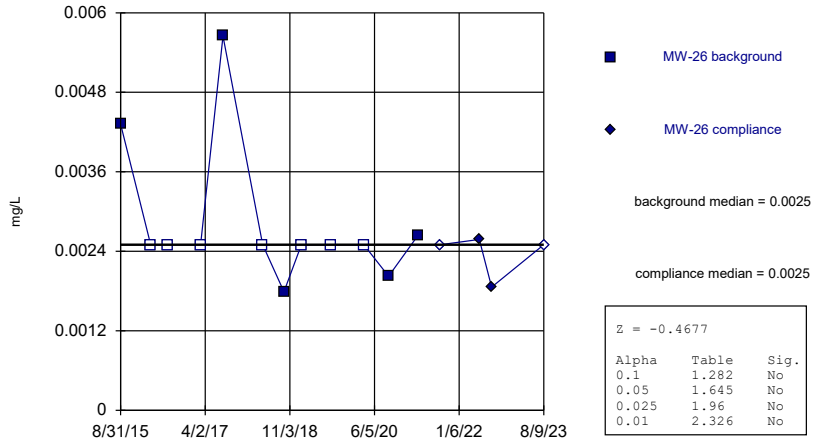
Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.906, critical = 0.859.

Constituent: Cobalt Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



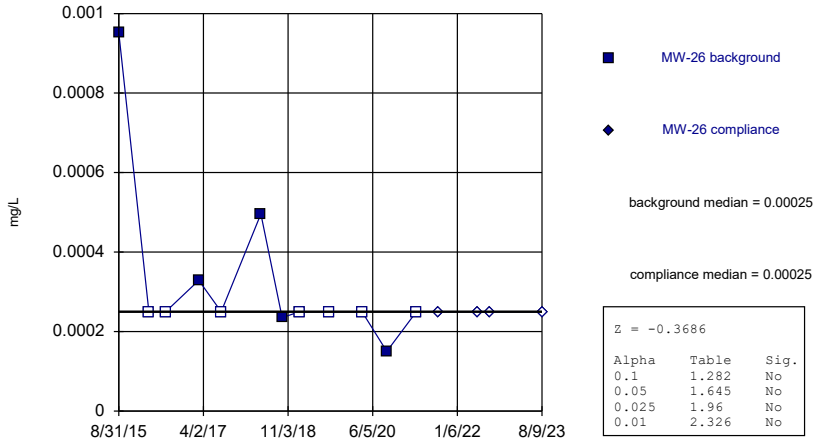
Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level.

Constituent: Copper Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)

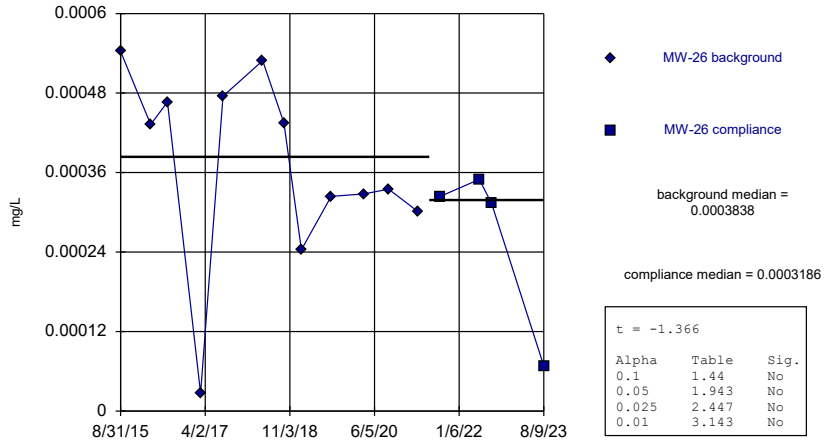


Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level.

Constituent: Lead Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Welch's t-test

MW-26



Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9058 after square transformation, critical = 0.859.

Constituent: Nickel Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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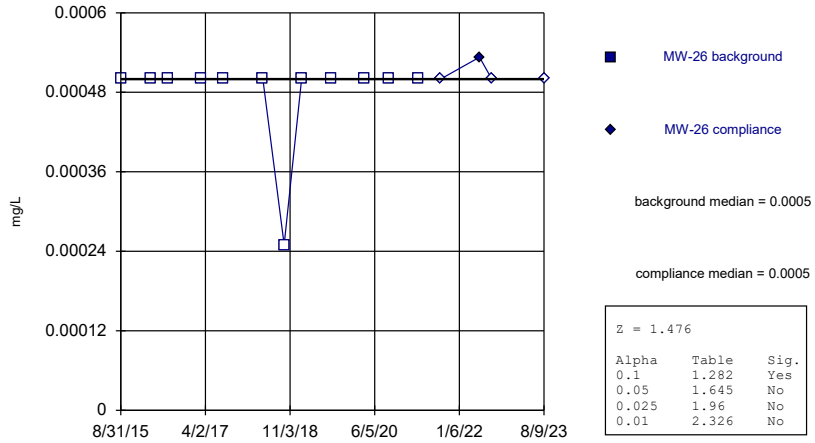
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because censored data exceeded 75%.

Constituent: Silver Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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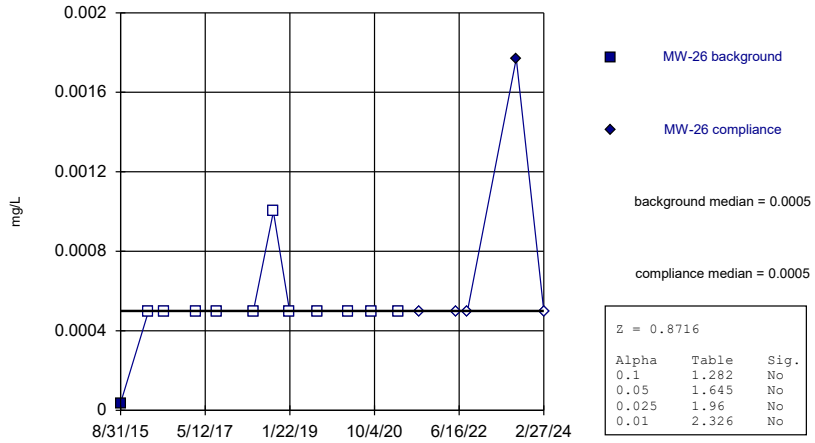
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



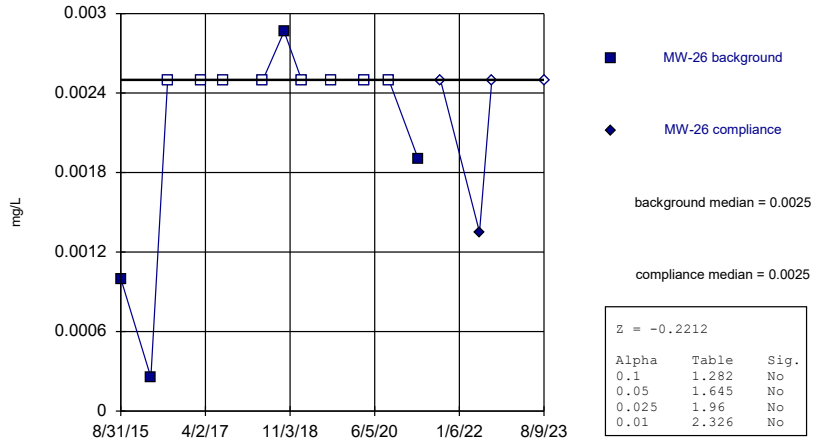
Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because censored data exceeded 75%.

Constituent: Thallium Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level.

Constituent: Vanadium Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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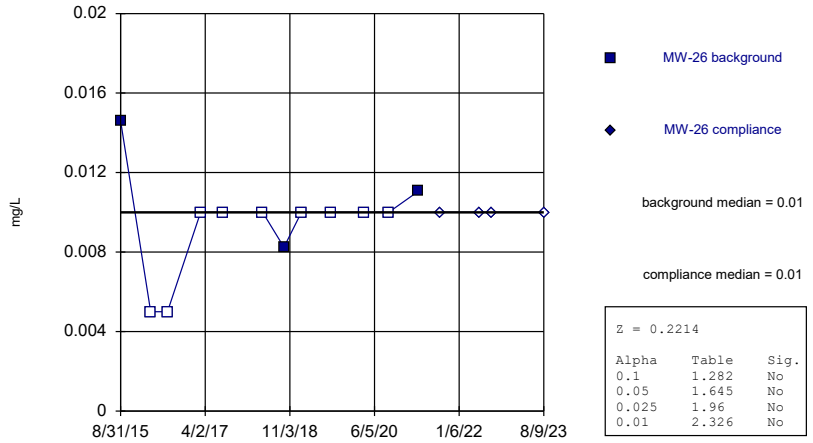
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

MW-26 (bg)



Mann-Whitney (Wilcoxon Rank Sum) used in lieu of Welch's t-test because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level.

Constituent: Zinc Analysis Run 8/6/2024 1:54 PM View: 2024SSN - MW-26 BGupdate
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

GU-3A Background Establishment

Outliers and Trends Summary Tables and Graphs

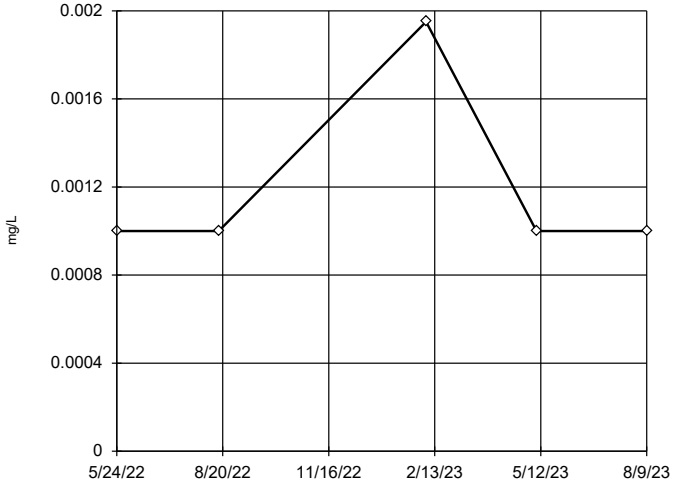
Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/5/2024, 5:34 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Normality Test
Antimony (mg/L)	GU-3A	No	n/a	n/a	OH	NaN	5	0.00119	0.0004249	n/a
Arsenic (mg/L)	GU-3A	No	n/a	n/a	EPA/OH	0.05	5	0.005222	0.007083	ShapiroWilk
Barium (mg/L)	GU-3A	No	n/a	n/a	EPA/OH	0.05	5	0.308	0.1318	ShapiroWilk
Cadmium (mg/L)	**GU-3A**	**Yes**	**0.00303**	**2/6/2023**	**OH**	**NaN**	**5**	**0.000666**	**0.001322**	**n/a**
Chromium (mg/L)	**GU-3A**	**Yes**	**0.0329**	**2/6/2023**	**OH**	**NaN**	**5**	**0.00858**	**0.0136**	**n/a**
Cobalt (mg/L)	**GU-3A**	**Yes**	**0.071**	**2/6/2023**	**EPA/OH**	**0.05**	**5**	**0.01525**	**0.03118**	**ShapiroWilk**
Copper (mg/L)	**GU-3A**	**Yes**	**0.0585**	**2/6/2023**	**NP (nrm)/OH**	**NaN**	**5**	**0.01367**	**0.02506**	**ShapiroWilk**
Lead (mg/L)	GU-3A	No	n/a	n/a	NP (nrm)/OH	NaN	5	0.003348	0.006205	ShapiroWilk
Nickel (mg/L)	**GU-3A**	**Yes**	**0.432**	**2/6/2023**	**Dixon/OH**	**0.05**	**5**	**0.08925**	**0.1916**	**ShapiroWilk**
Selenium (mg/L)	GU-3A	No	n/a	n/a	EPA/OH	0.05	5	0.003776	0.001896	ShapiroWilk
Vanadium (mg/L)	GU-3A	No	n/a	n/a	NP (nrm)/OH	NaN	5	0.007124	0.01096	ShapiroWilk
Zinc (mg/L)	GU-3A	No	n/a	n/a	NP (nrm)/OH	NaN	5	0.02346	0.02993	ShapiroWilk

Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No statistical outliers.

Constituent: Antimony Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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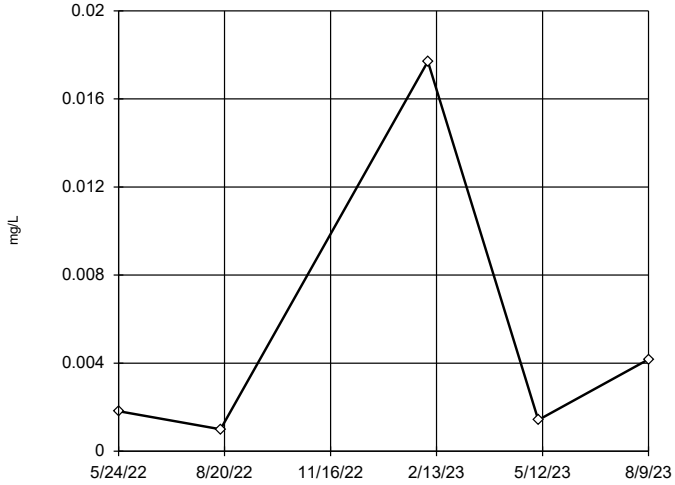
EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.005222, std. dev. 0.007083, critical Tn 1.672

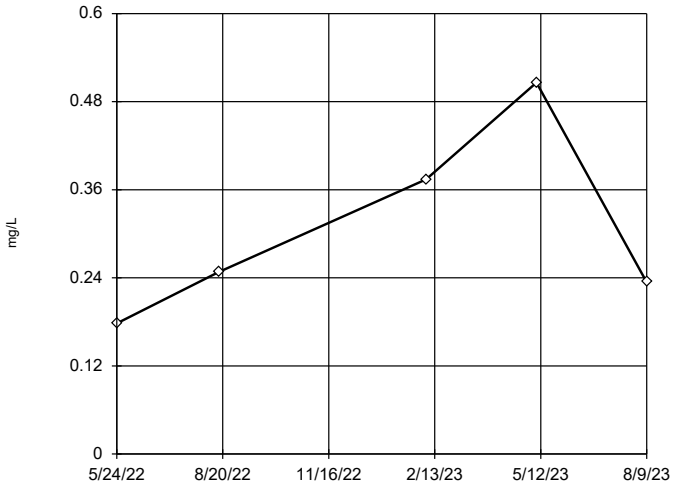
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8944
Critical = 0.806 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Arsenic Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.308, std. dev. 0.1318, critical Tn 1.672

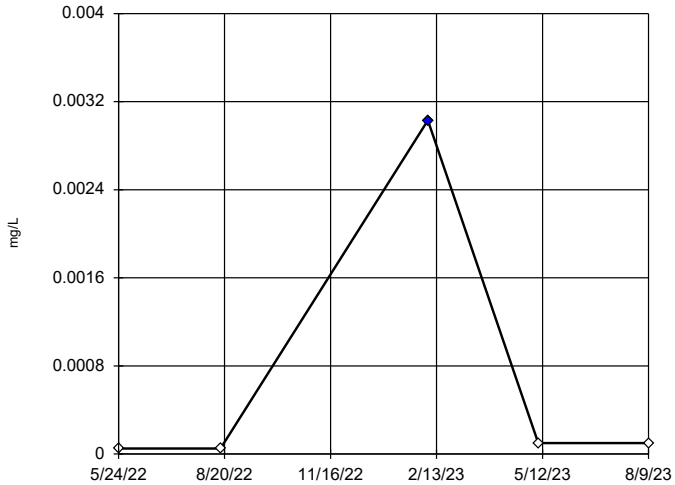
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9116
Critical = 0.806
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

GU-3A



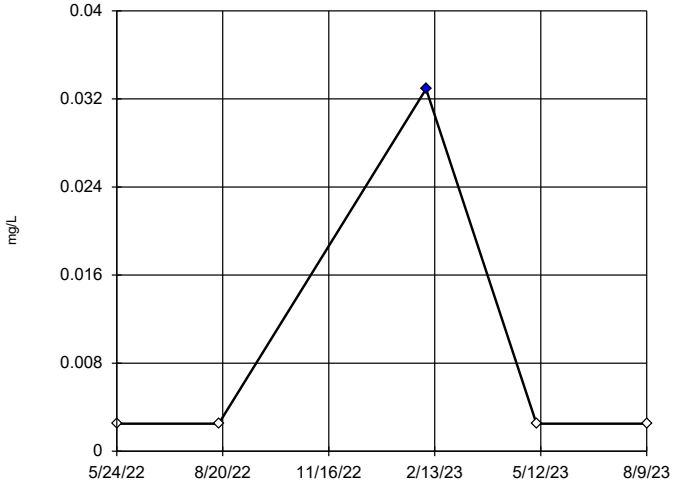
n = 5

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Cadmium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

GU-3A



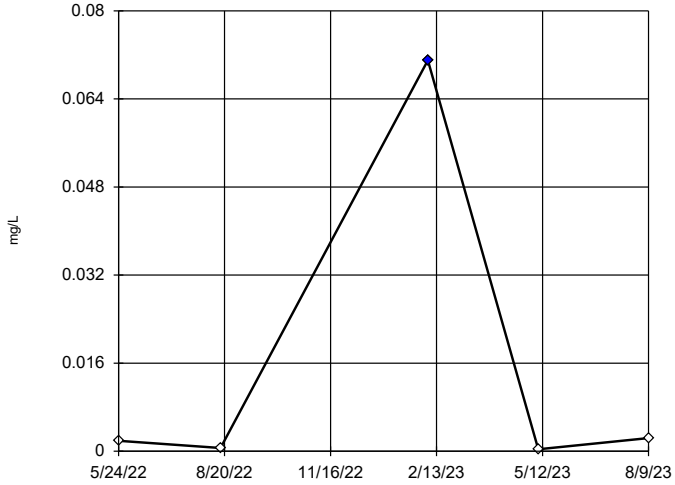
n = 5

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Chromium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

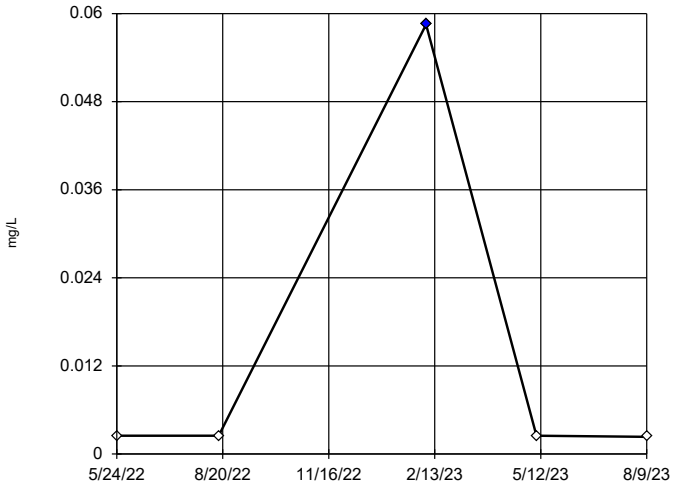
Statistical outlier is drawn as solid.
Outlier per Ohio method.
Mean 0.01525, std. dev. 0.03118, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8645
Critical = 0.806 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Cobalt Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

Outlier is 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.

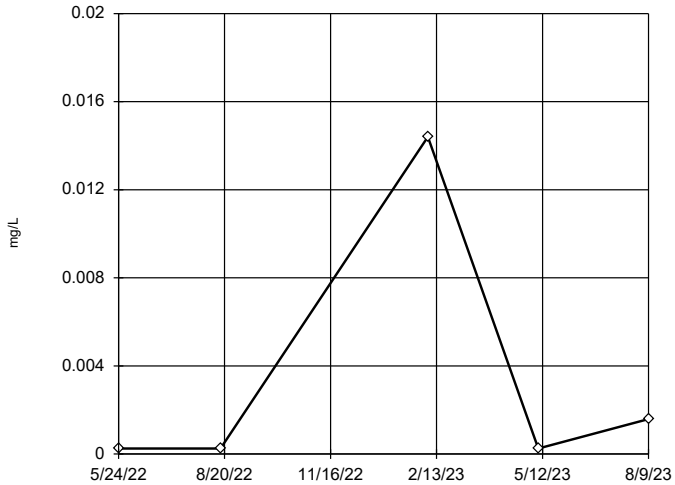
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1.502, low cutoff = 0.00001952, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

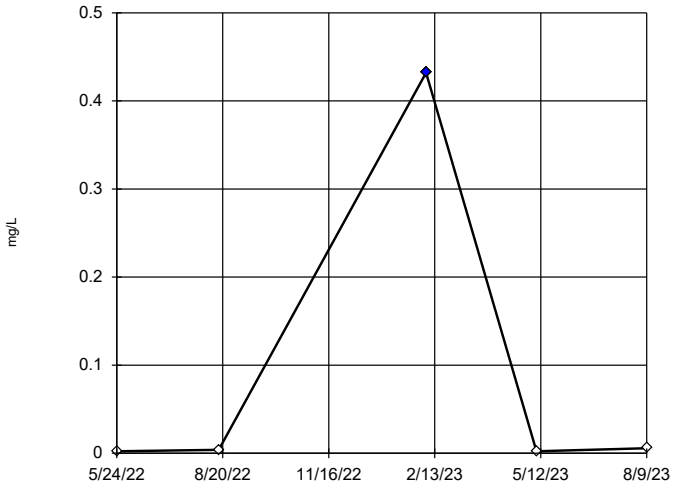
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 33.55, low cutoff = 3.6e-8, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

Statistical outliers are drawn as solid.
Outliers per both outlier test and Ohio method.
Testing for 1 high outlier.
Mean = 0.08925.
Std. Dev. = 0.1916.
0.432: c = 0.992
tabl = 0.642.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8673
Critical = 0.792
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Nickel Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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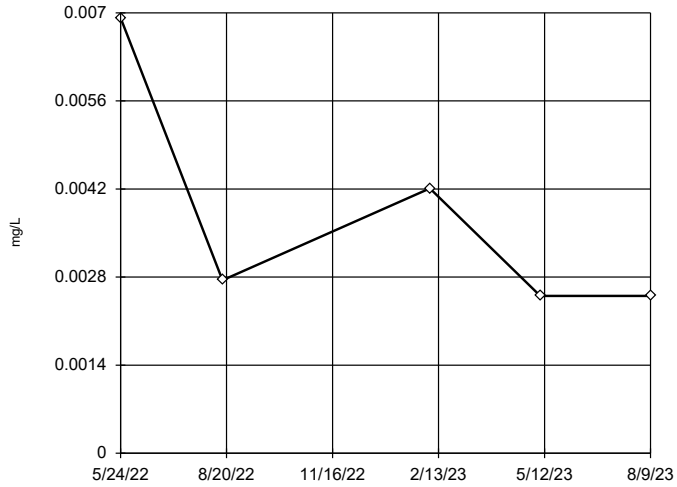
EPA Screening (suspected outliers for Dixon's Test)

GU-3A



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.003776, std. dev. 0.001896, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8224
Critical = 0.806 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Selenium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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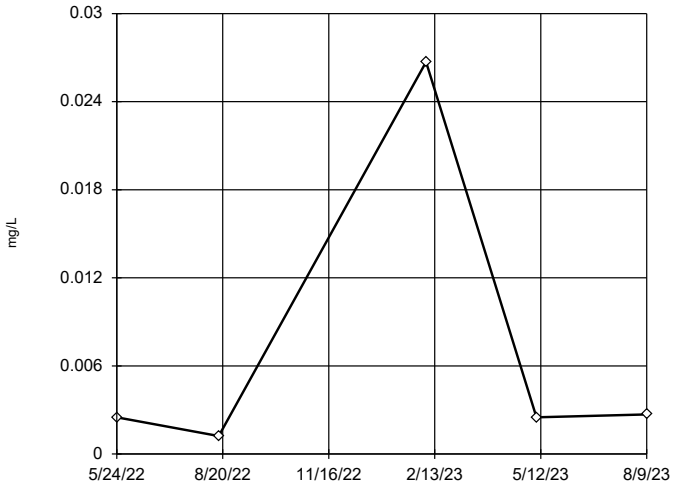
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.9757, low cutoff = 0.0000152, based on IQR multiplier of 3.

Constituent: Vanadium Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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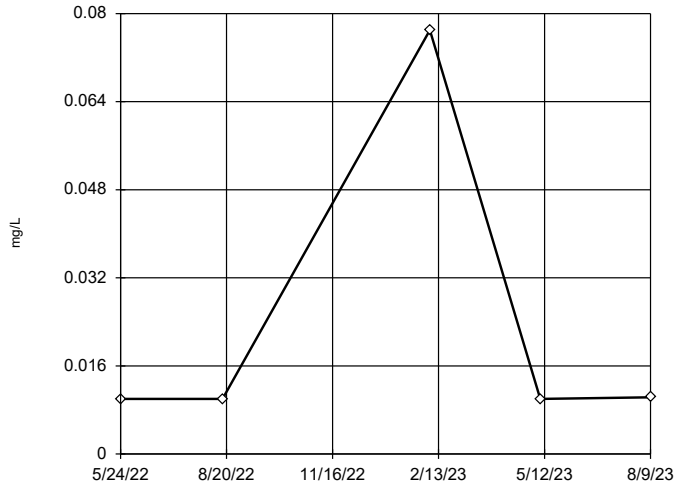
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

GU-3A



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.629, low cutoff = 0.0004477, based on IQR multiplier of 3.

Constituent: Zinc Analysis Run 8/5/2024 5:30 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

BG Trend Test

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 8/5/2024, 5:37 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Alpha	Method
Antimony (mg/L)	GU-3A	0	0	12	No	5	80	0.01	NP
Arsenic (mg/L)	GU-3A	0.00126	2	12	No	5	20	0.01	NP
Barium (mg/L)	GU-3A	0.2716	4	12	No	5	0	0.01	NP
Cadmium (mg/L)	GU-3A	0.00004621	4	12	No	5	80	0.01	NP
Chromium (mg/L)	GU-3A	0	0	12	No	5	80	0.01	NP
Cobalt (mg/L)	GU-3A	0.0000508	0	12	No	5	0	0.01	NP
Copper (mg/L)	GU-3A	-0.00006193	-3	-12	No	5	60	0.01	NP
Lead (mg/L)	GU-3A	0.0005533	3	12	No	5	60	0.01	NP
Nickel (mg/L)	GU-3A	0.002324	4	12	No	5	0	0.01	NP
Selenium (mg/L)	GU-3A	-0.003521	-7	-12	No	5	40	0.01	NP
Vanadium (mg/L)	GU-3A	0.0004793	3	12	No	5	40	0.01	NP
Zinc (mg/L)	GU-3A	0.0001239	3	12	No	5	60	0.01	NP

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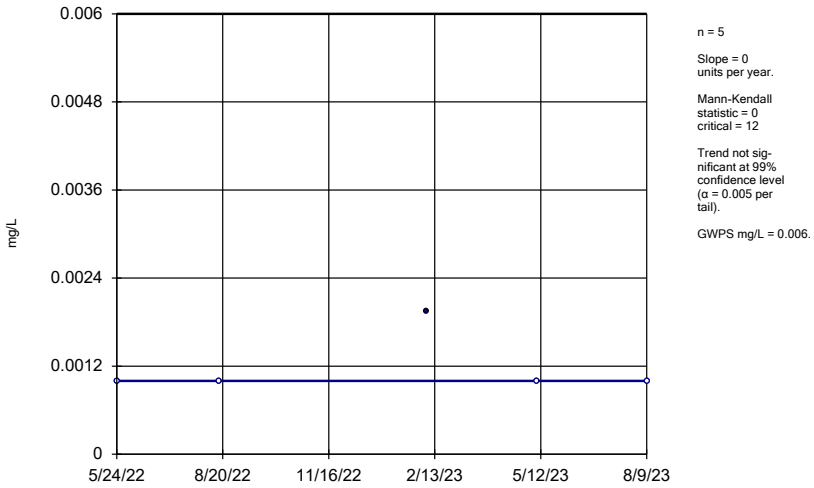
Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 0.006.

Constituent: Antimony Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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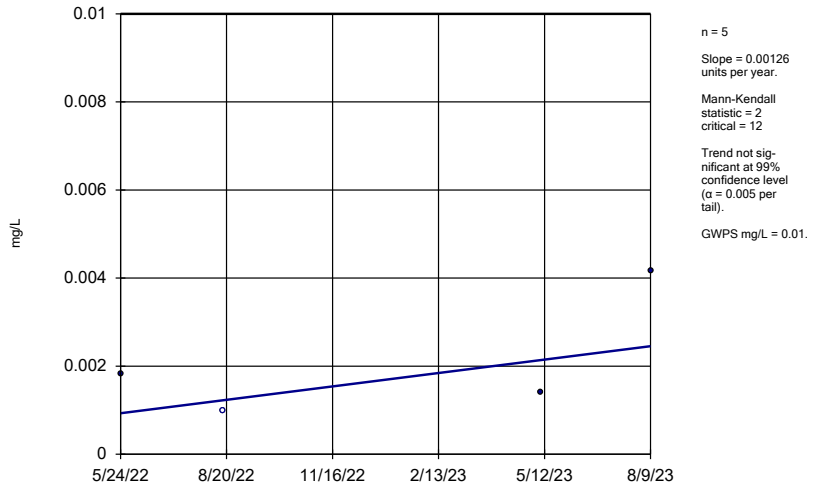
Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.00126
units per year.

Mann-Kendall
statistic = 2
critical = 12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

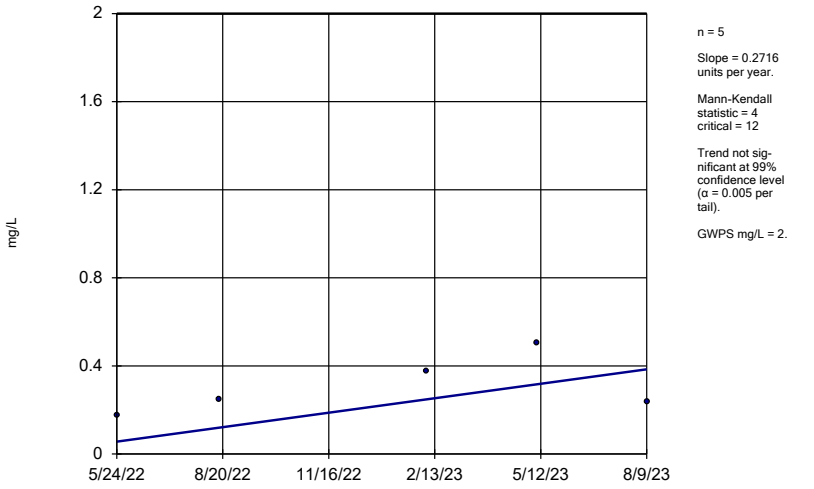
GWPS mg/L = 0.01.

Constituent: Arsenic Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.9.6.37 Software licensed to SCS Engineers. UG

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.2716
units per year.

Mann-Kendall
statistic = 4
critical = 12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 2.

Constituent: Barium Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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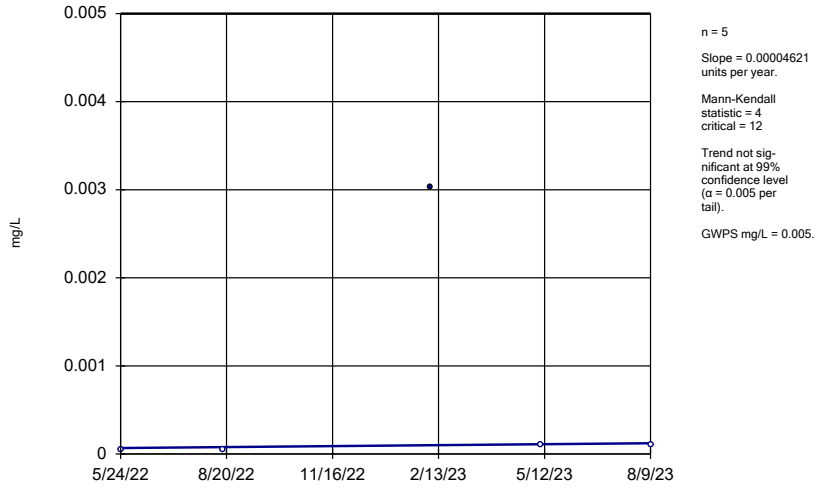
Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.00004621
units per year.

Mann-Kendall
statistic = 4
critical = 12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 0.005.

Constituent: Cadmium Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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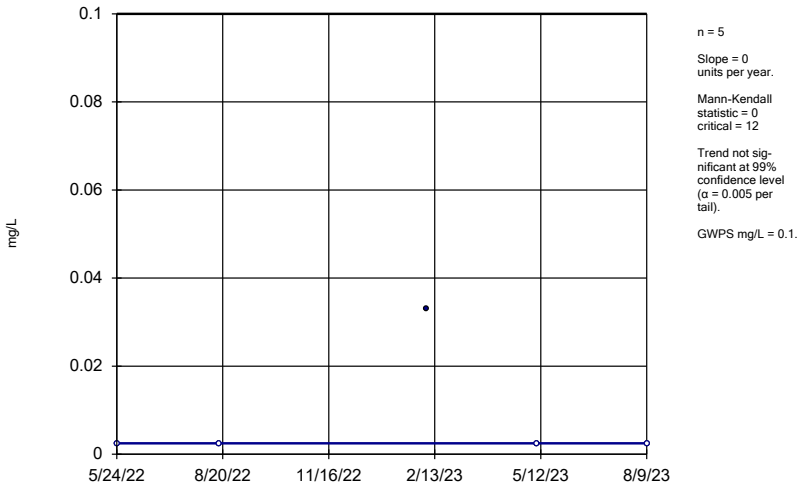
Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 0.1.

Constituent: Chromium Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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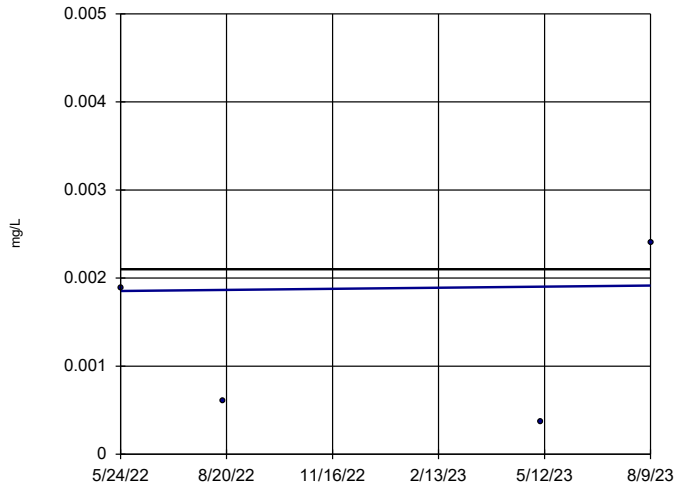
Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.0000508
units per year.

Mann-Kendall
statistic = 0
critical = 12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 0.0021.

Constituent: Cobalt Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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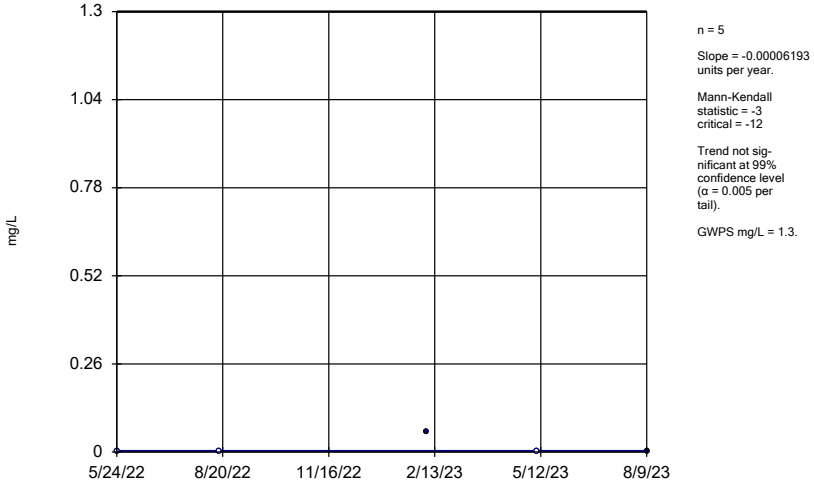
Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = -0.00006193
units per year.

Mann-Kendall
statistic = -3
critical = -12

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 1.3.

Constituent: Copper Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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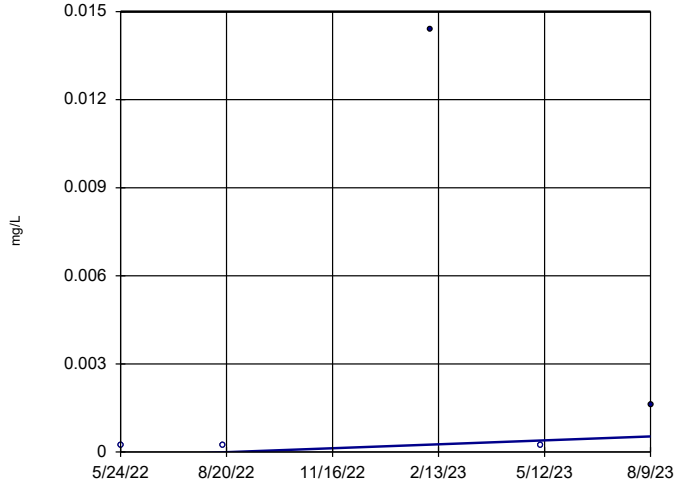
Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.0005533
units per year.

Mann-Kendall
statistic = 3
critical = 12

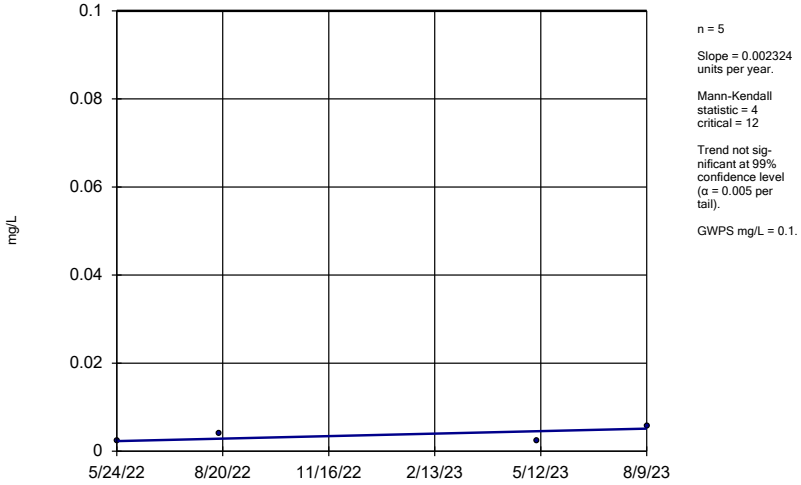
Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

GWPS mg/L = 0.015.

Constituent: Lead Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.002324 units per year.

Mann-Kendall statistic = 4
critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

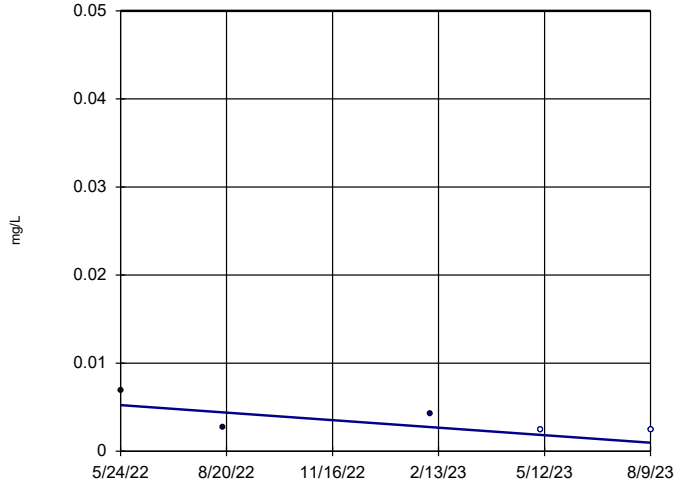
GWPS mg/L = 0.1.

Constituent: Nickel Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = -0.003521 units per year.

Mann-Kendall statistic = -7
critical = -12

Trend not significant at 99% confidence level (α = 0.005 per tail).

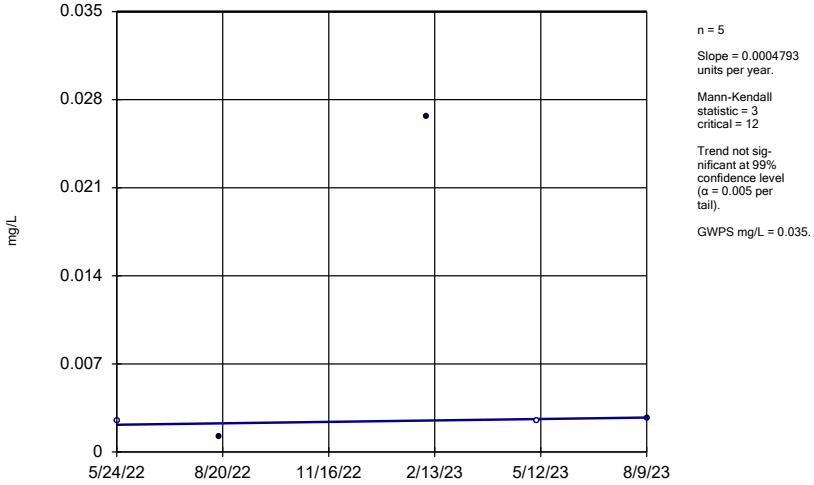
GWPS mg/L = 0.05.

Constituent: Selenium Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.0004793 units per year.

Mann-Kendall statistic = 3
critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

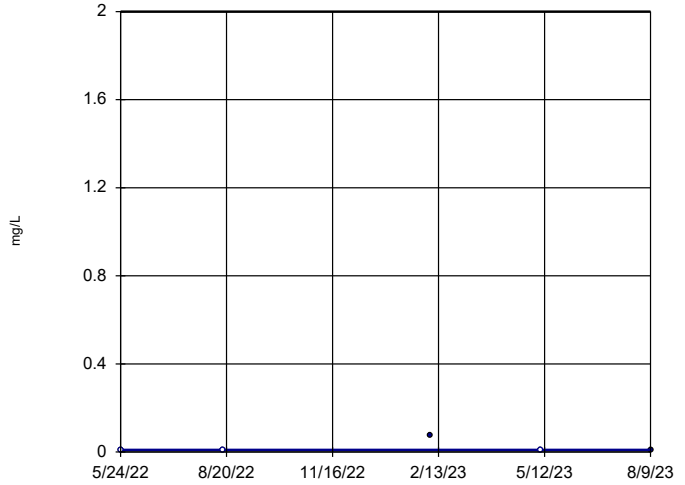
GWPS mg/L = 0.035.

Constituent: Vanadium Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Sen's Slope Estimator

GU-3A



n = 5

Slope = 0.0001239 units per year.

Mann-Kendall statistic = 3
critical = 12

Trend not significant at 99% confidence level (α = 0.005 per tail).

GWPS mg/L = 2.

Constituent: Zinc Analysis Run 8/5/2024 5:36 PM View: 2024SSN - GU-3A BG
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

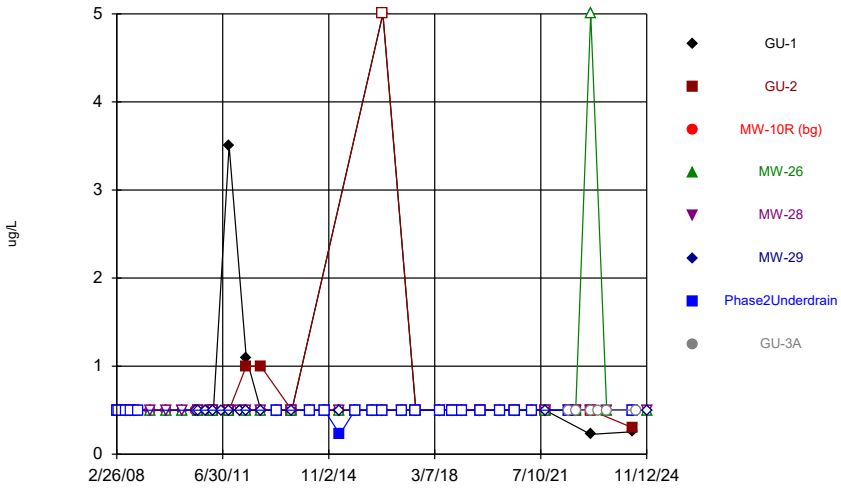
Attachment B

2nd 2024 Statistical Evaluation Output

Time Series Plots

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

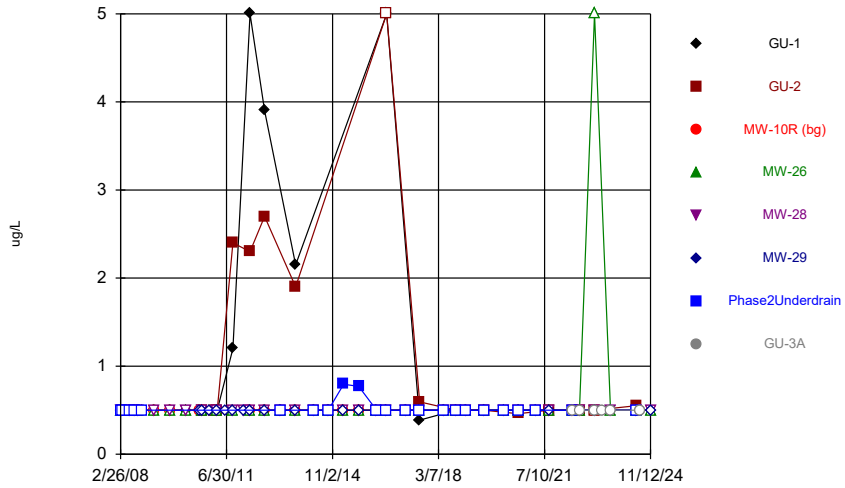
Time Series



Constituent: 1,1-Dichloroethane Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

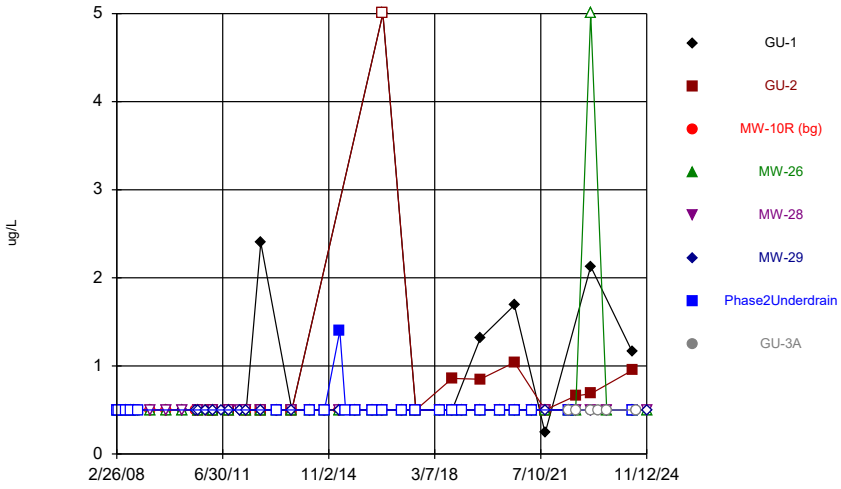
Time Series



Constituent: 1,2-Dichloroethane Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

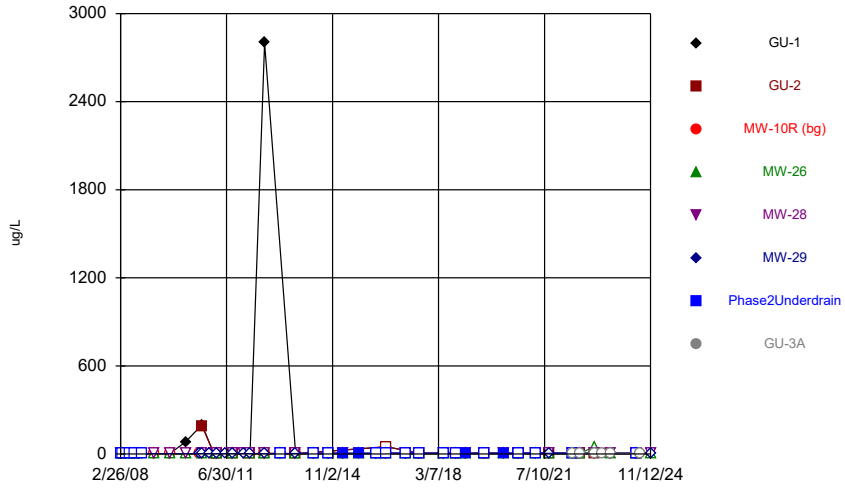
Time Series



Constituent: 1,4-Dichlorobenzene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

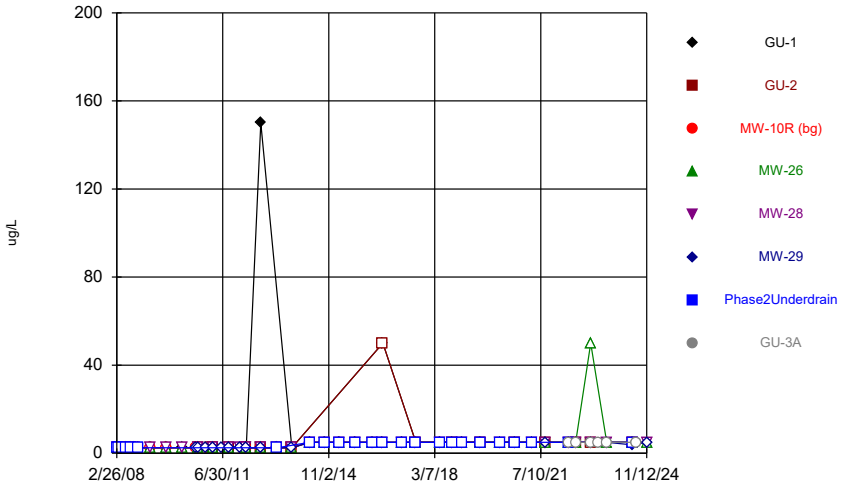
Time Series



Constituent: 2-Butanone Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

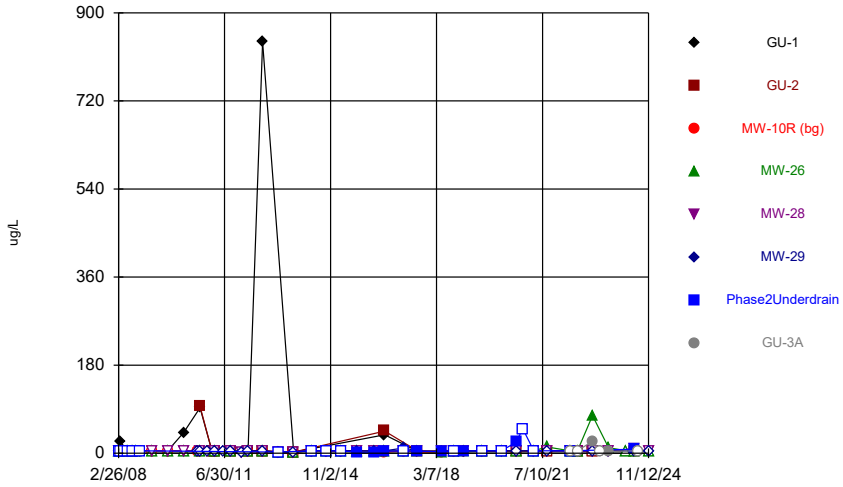
Time Series



Constituent: 4-Methyl-2-pentanone Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

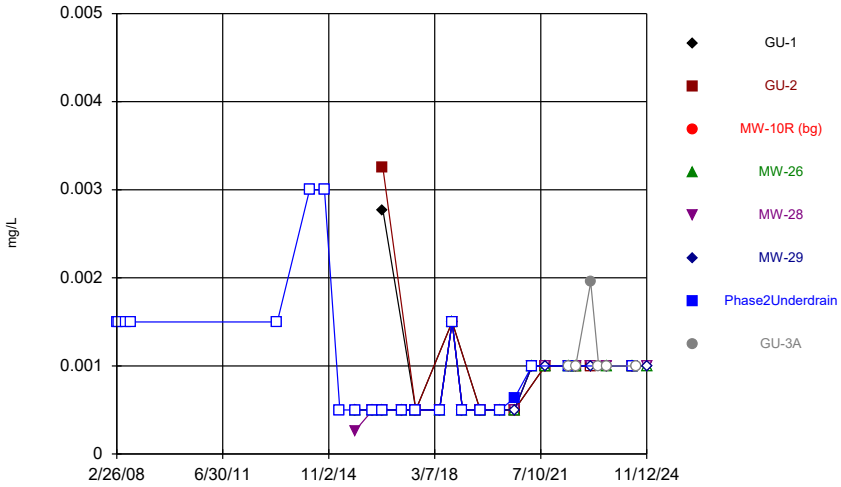
Time Series



Constituent: Acetone Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

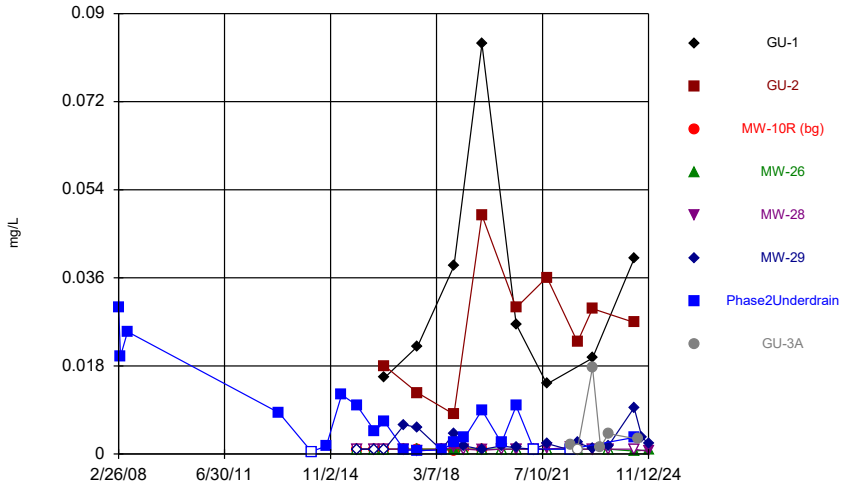
Time Series



Constituent: Antimony Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

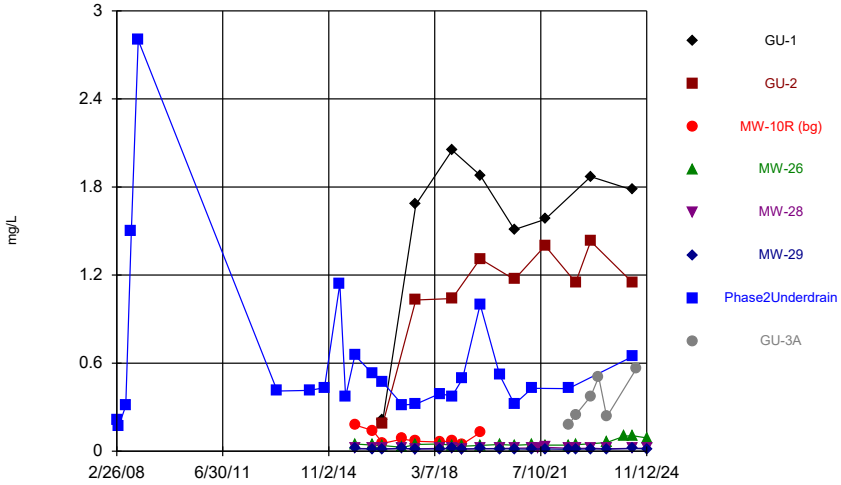
Time Series



Constituent: Arsenic Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

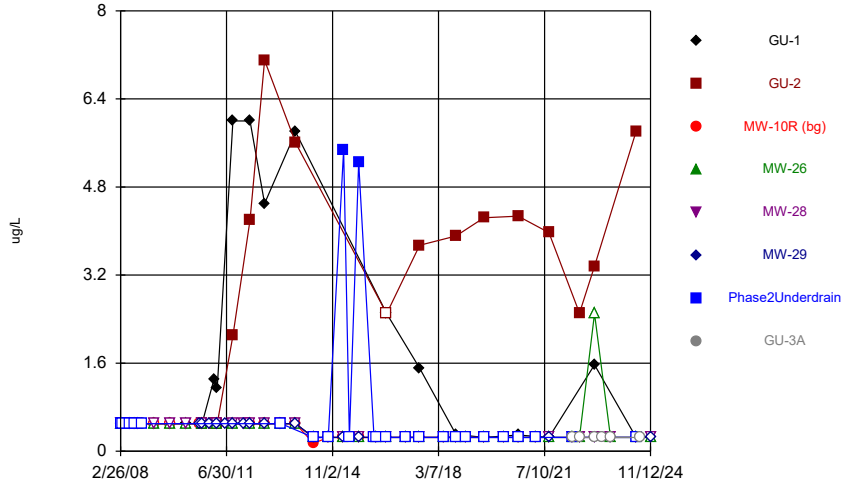
Time Series



Constituent: Barium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

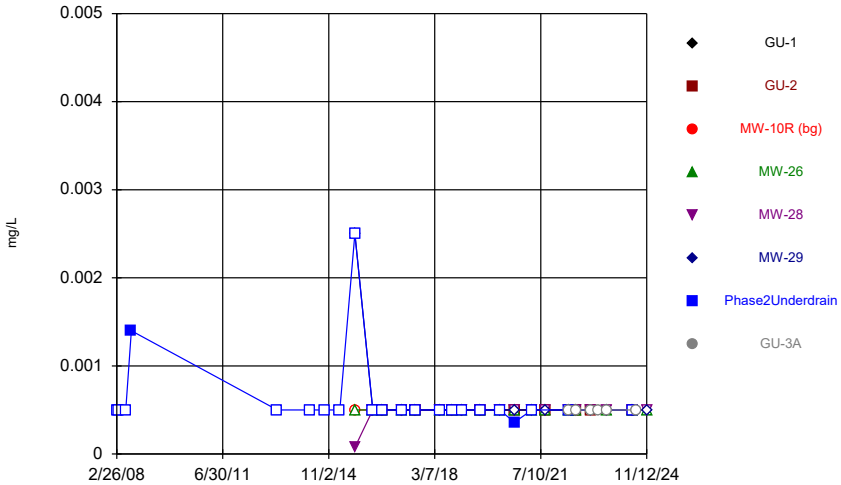
Time Series



Constituent: Benzene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

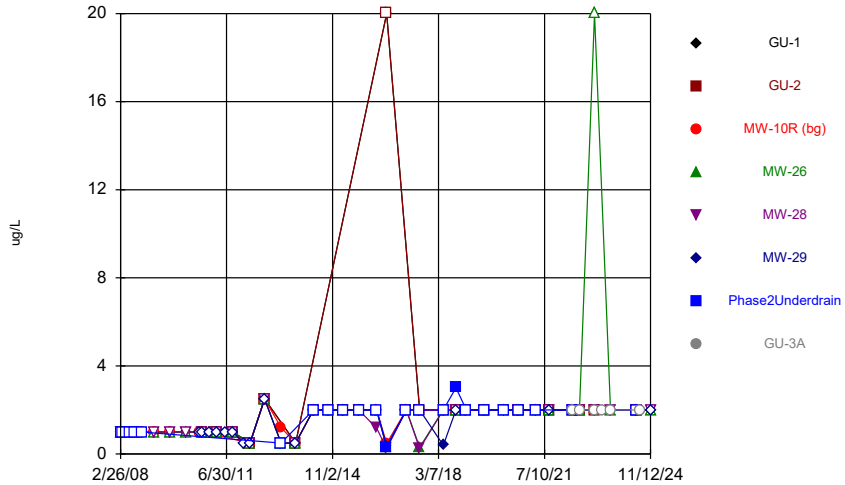
Time Series



Constituent: Beryllium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

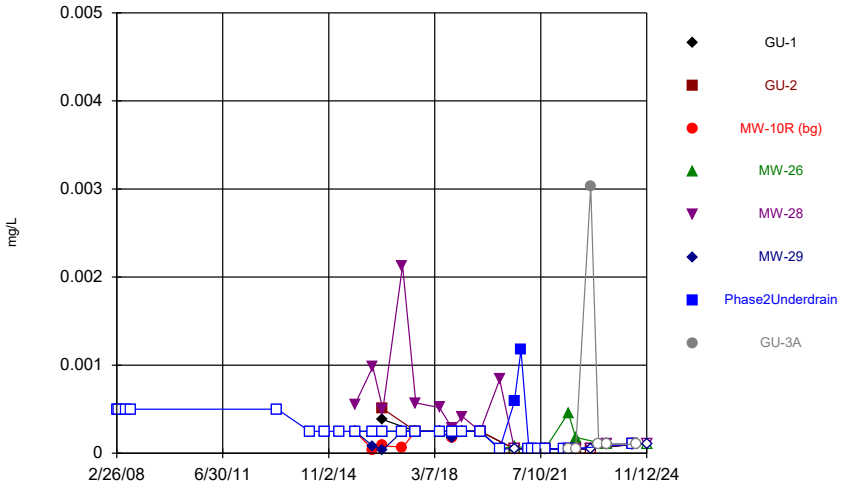
Time Series



Constituent: Bromomethane Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

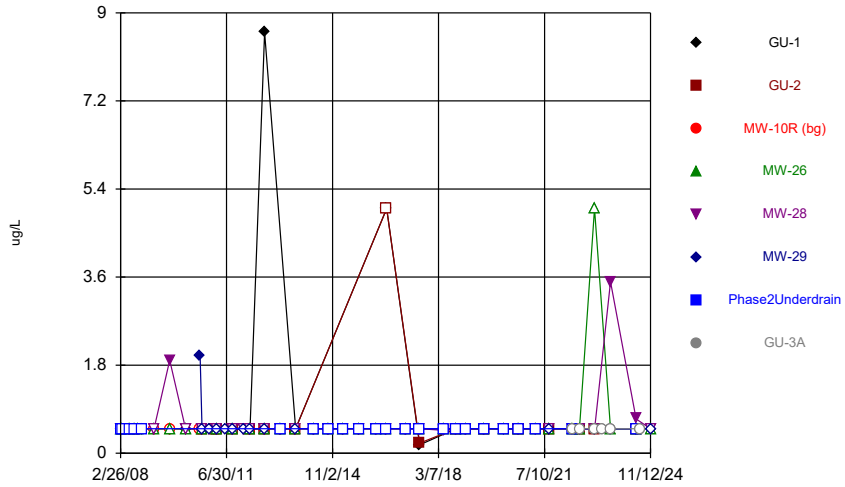
Time Series



Constituent: Cadmium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

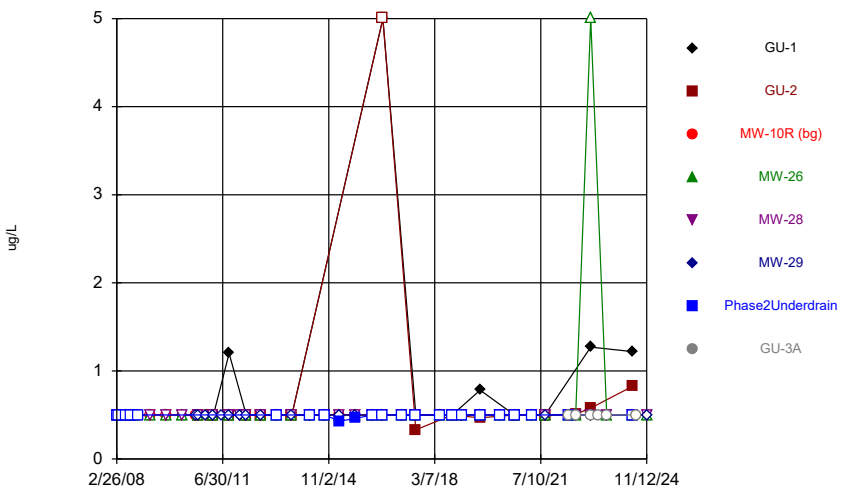
Time Series



Constituent: Carbon disulfide Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Chlorobenzene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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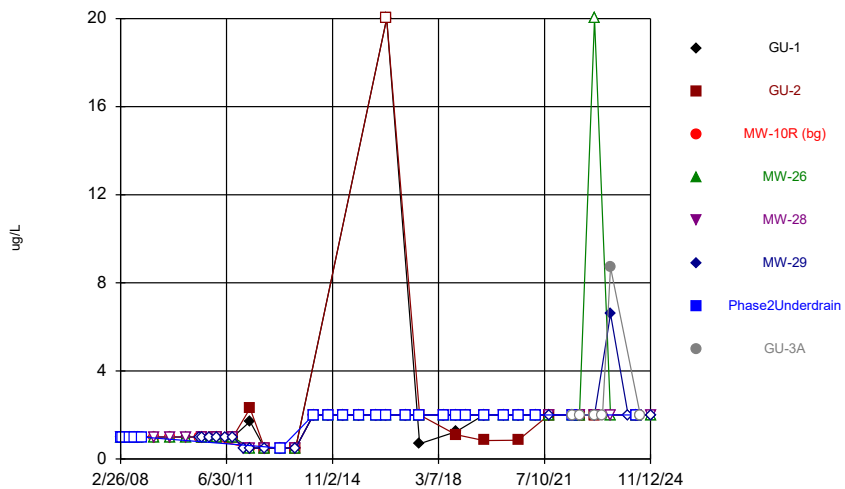
Hollow symbols indicate censored values.

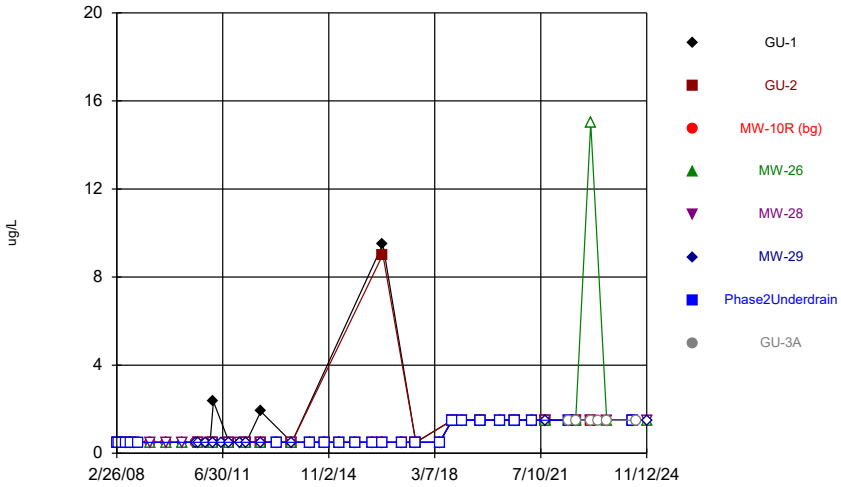
Time Series



Constituent: Chloroethane Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

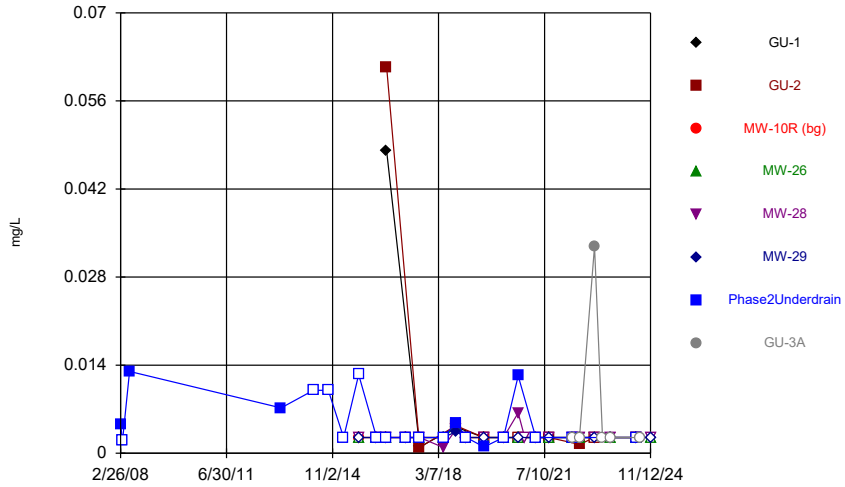
Time Series



Constituent: Chloroform Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

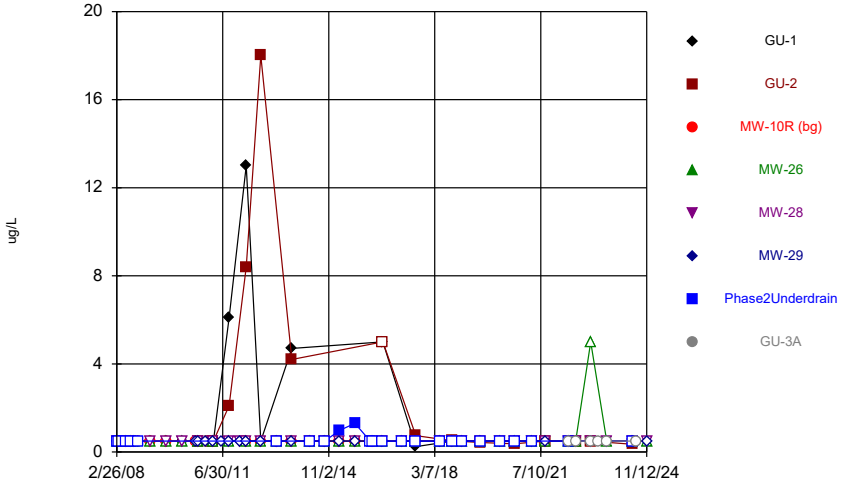
Time Series



Constituent: Chromium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

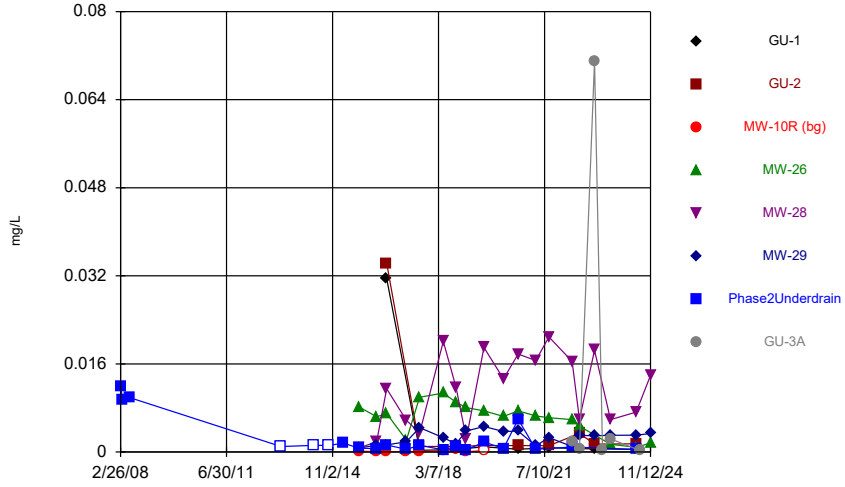
Time Series



Constituent: cis-1,2-Dichloroethene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

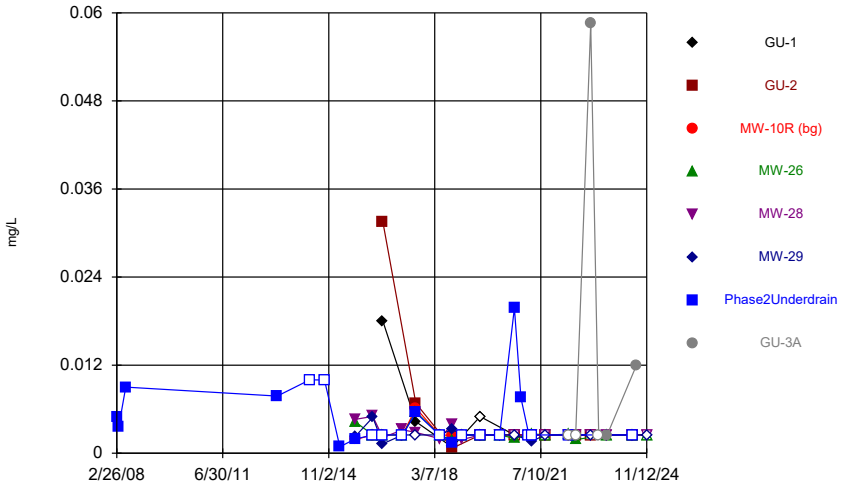
Time Series



Constituent: Cobalt Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

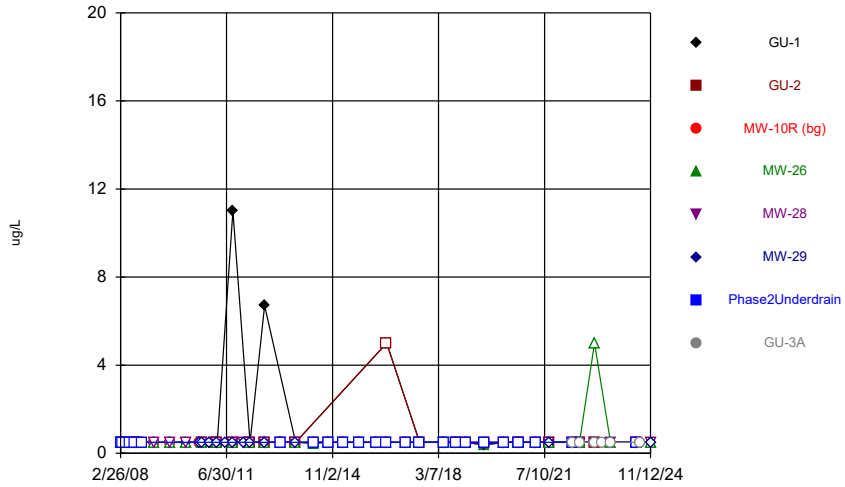
Time Series



Constituent: Copper Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

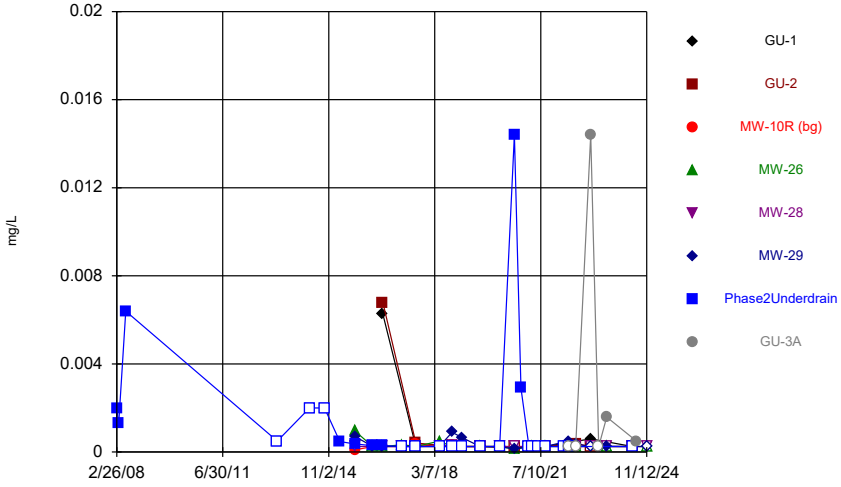
Time Series



Constituent: Ethylbenzene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

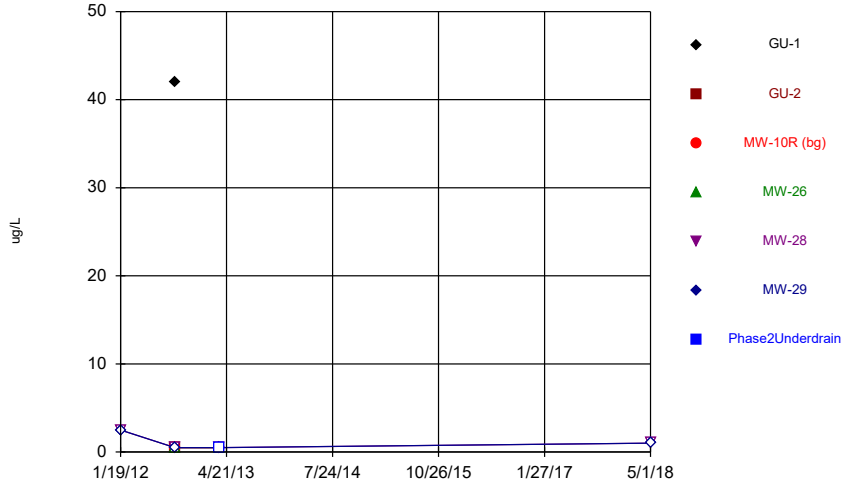
Time Series



Constituent: Lead Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

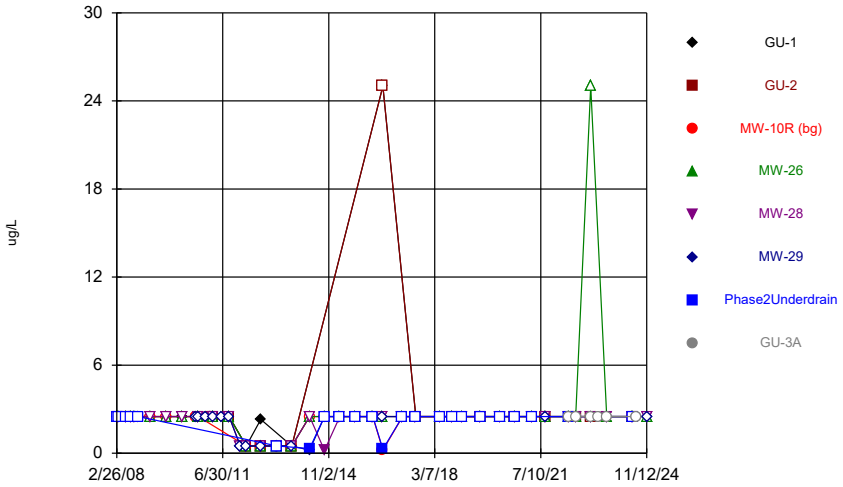
Time Series



Constituent: M&P-Xylene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

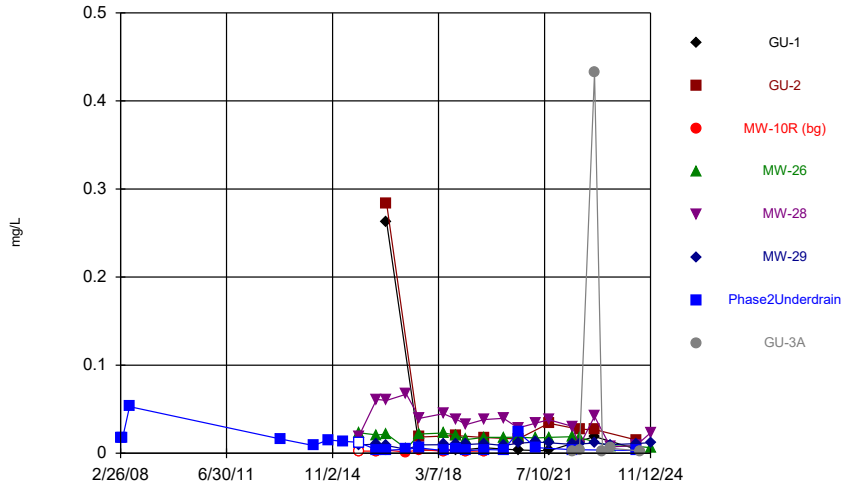
Time Series



Constituent: Methylene Chloride Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

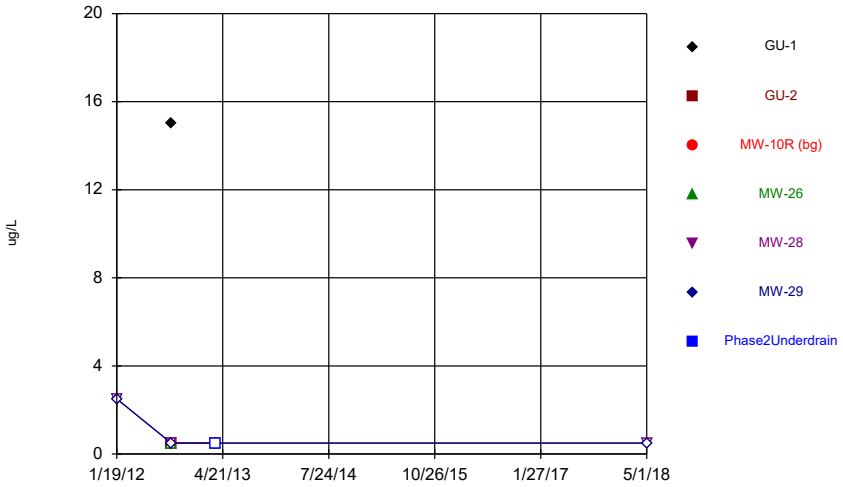
Time Series



Constituent: Nickel Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

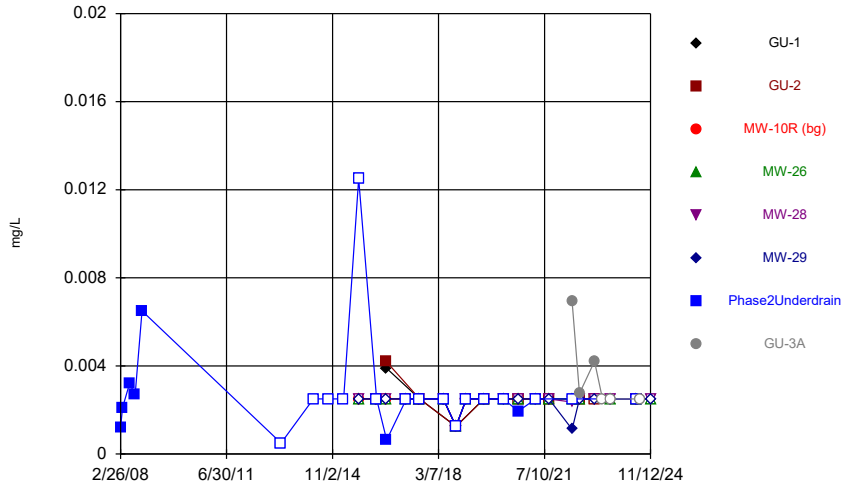
Time Series



Constituent: O-Xylene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

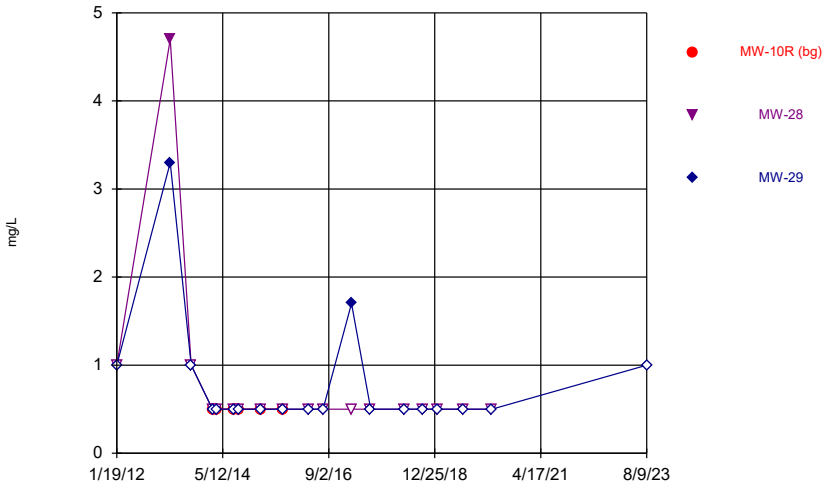
Time Series



Constituent: Selenium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

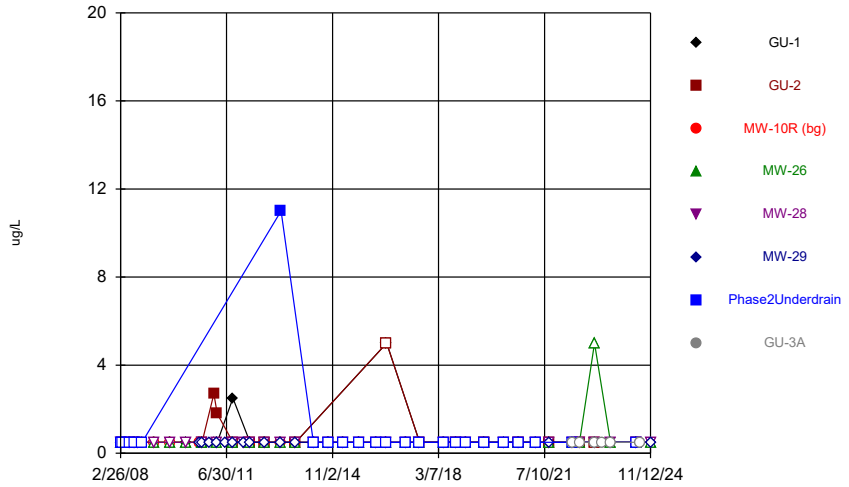
Time Series



Constituent: Sulfide Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

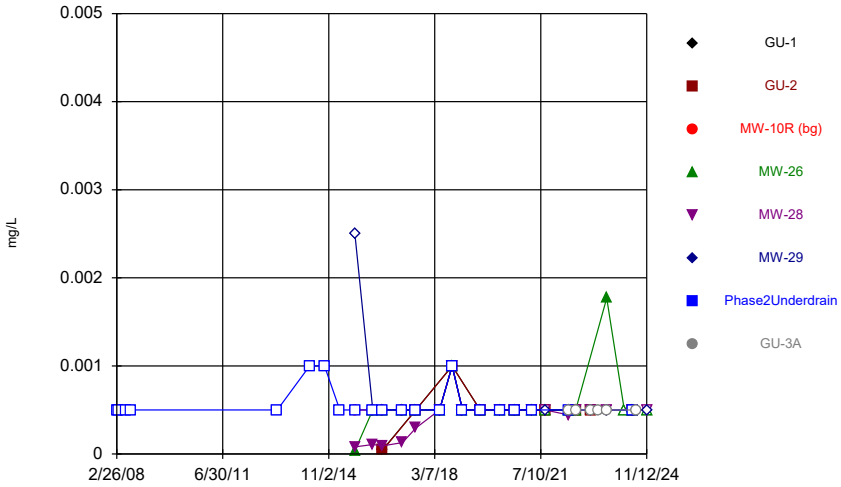
Time Series



Constituent: Tetrachloroethene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

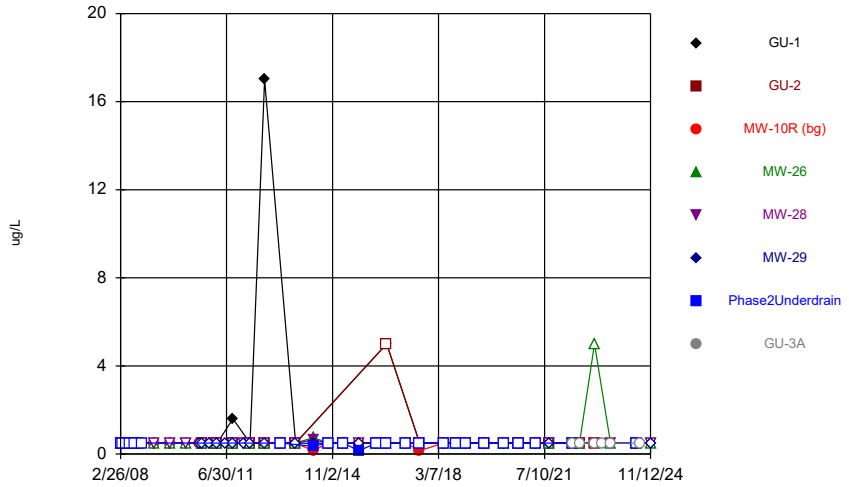
Time Series



Constituent: Thallium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

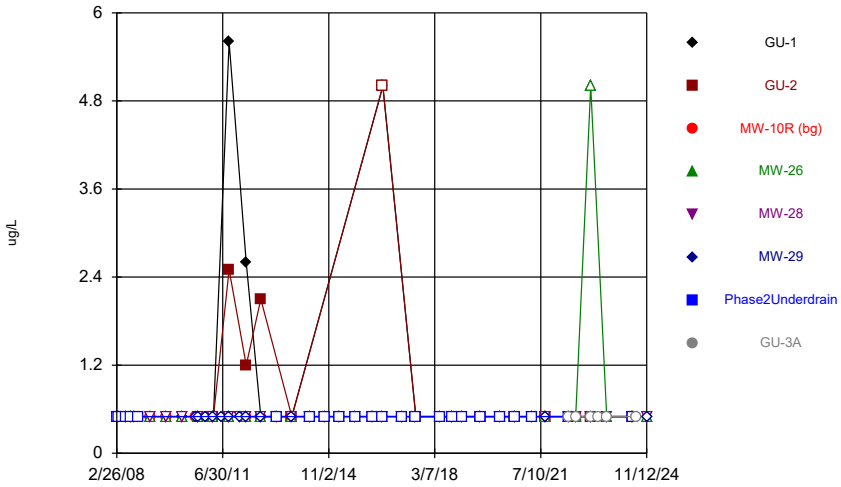
Time Series



Constituent: Toluene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

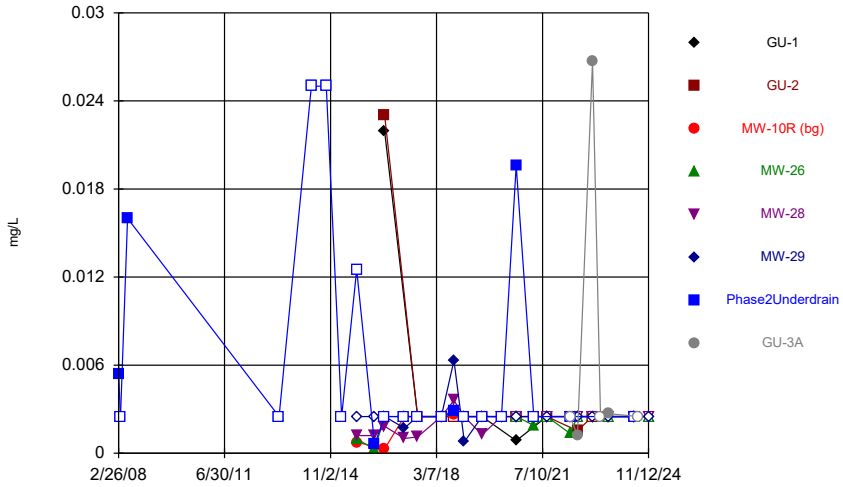
Time Series



Constituent: Trichloroethene Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

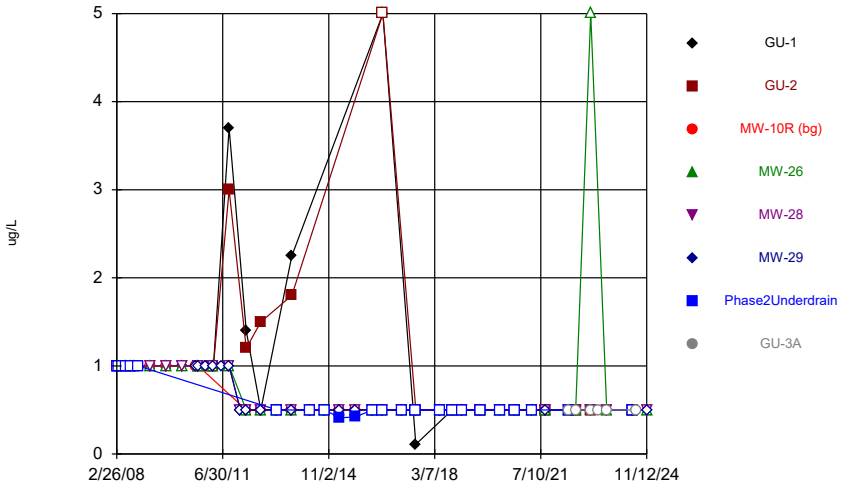
Time Series



Constituent: Vanadium Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

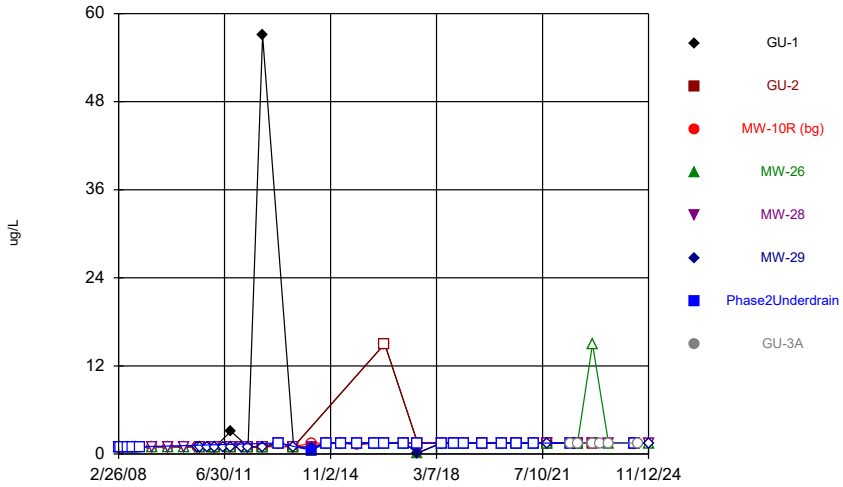
Time Series



Constituent: Vinyl chloride Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

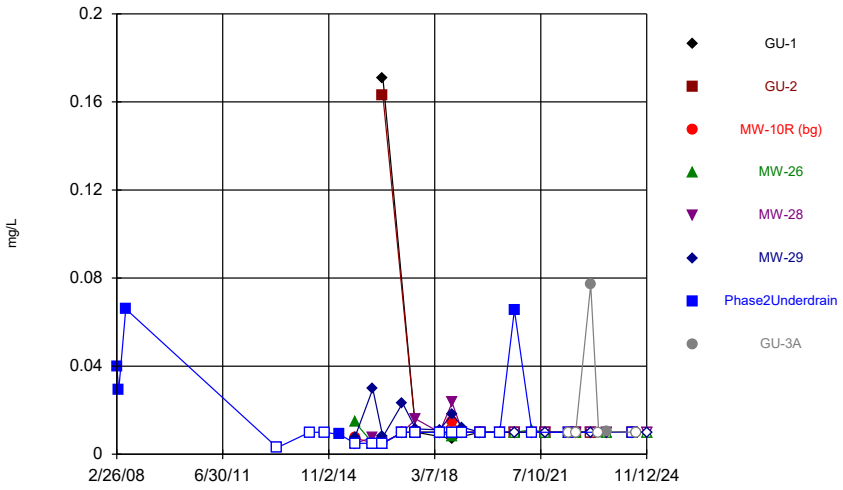
Time Series



Constituent: Xylenes, total Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Time Series



Constituent: Zinc Analysis Run 1/8/2025 10:18 AM View: 2024 AWQR Time Series

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Outlier Tests Summary Table and Graphs

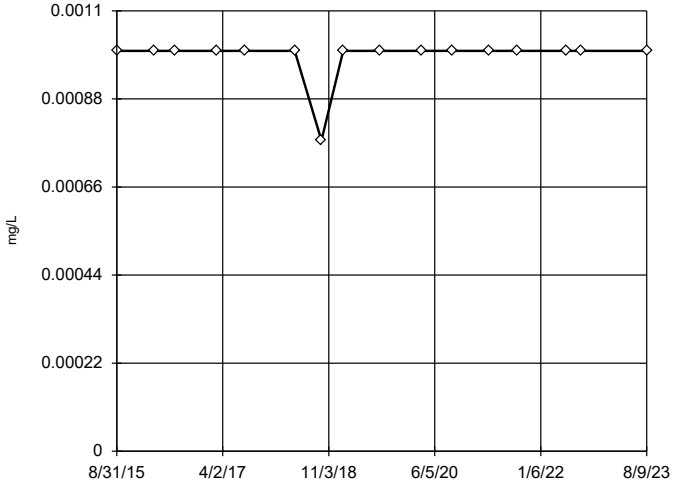
Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 1/16/2025, 10:15 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Normality Test
Arsenic (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.000986	n/a
Barium (mg/L)	**MW-26**	**Yes**	**0.103,0.0268**	**2/27/2024,3/2/2017**	**Dixon/OH**	**0.05**	**17**	**0.04649**	**ShapiroWilk**
Cadmium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.0002013	n/a
Chromium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.002613	n/a
Cobalt (mg/L)	**MW-26**	**Yes**	**0.00217,0.0014**	**3/2/2017,8/9/2023**	**Dixon/OH**	**0.05**	**16**	**0.006735**	**ShapiroWilk**
Copper (mg/L)	**MW-26**	**Yes**	**0.00432,0.00565,0.00179,0.002025,0.00186**	**8/31/2015,8/2/2017,9/24/2018,9/10/2020,8/17/2022**	**NP (nrm)/OH**	**NaN**	**16**	**0.002711**	**ShapiroWilk**
Lead (mg/L)	MW-26	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.000307	ShapiroWilk
Nickel (mg/L)	**MW-26**	**Yes**	**0.00825,0.005175**	**8/9/2023,3/2/2017**	**Dixon/OH**	**0.05**	**16**	**0.01791**	**ShapiroWilk**
Silver (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.0004864	n/a
Thallium (mg/L)	MW-26	No	n/a	n/a	OH	NaN	17	0.0005769	n/a
Vanadium (mg/L)	MW-26	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002179	ShapiroWilk
Zinc (mg/L)	MW-26	No	n/a	n/a	OH	NaN	16	0.009618	n/a

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

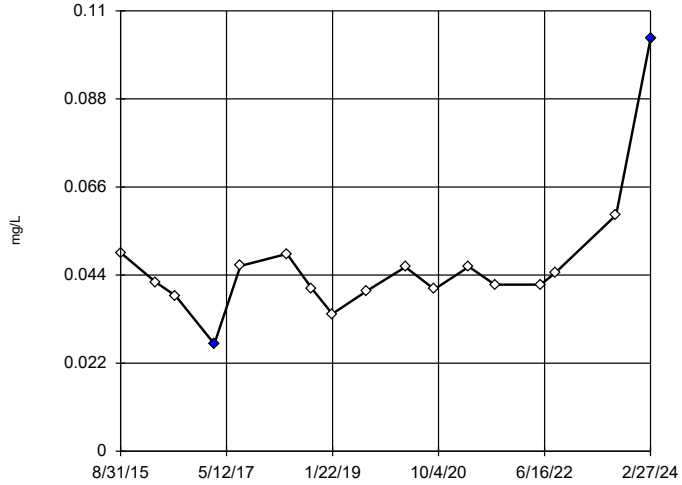
No statistical outliers.

Constituent: Arsenic Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 17

Statistical outliers are drawn as solid.
Testing for 1 high and 1 low outliers.
Mean = 0.04649.
Std. Dev. = 0.0161.
0.103: c = 0.8318
tabl = 0.49.
0.0268 (D): c = 0.5263
tabl = 0.49.
Alpha = 0.05.

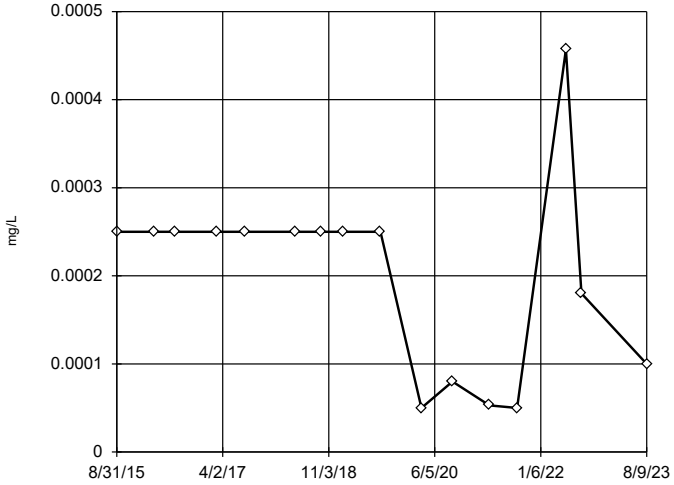
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9259
Critical = 0.901
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Barium Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

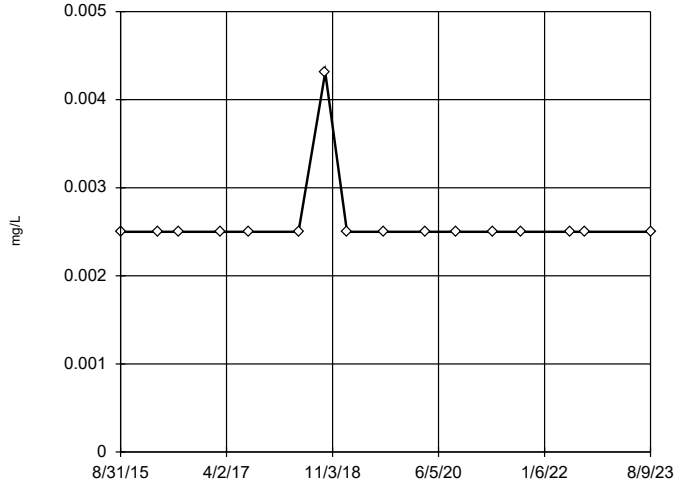
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9259
Critical = 0.901
The distribution was found to be normally distributed.

Constituent: Cadmium Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

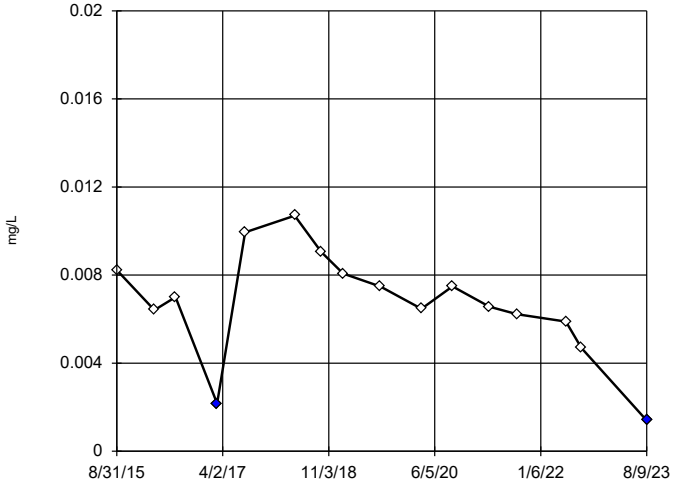
No statistical outliers.

Constituent: Chromium Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

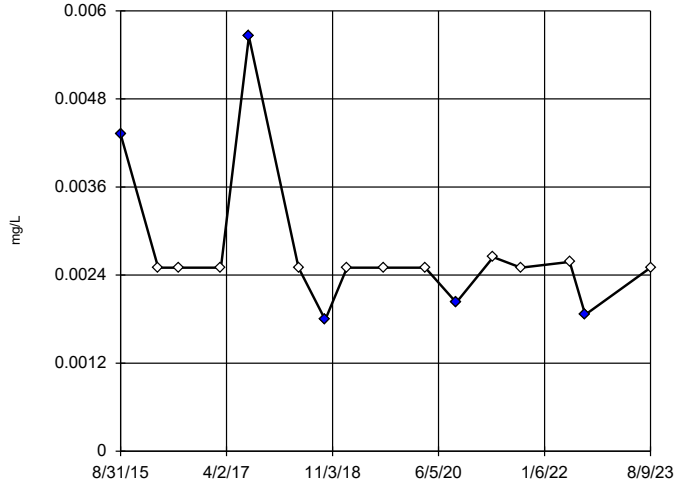
Statistical outliers are drawn as solid.
Testing for 2 low outliers.
Mean = 0.006735.
Std. Dev. = 0.002465.
0.00217 (D): c = 0.5415
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9639
Critical = 0.895
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Cobalt Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

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.

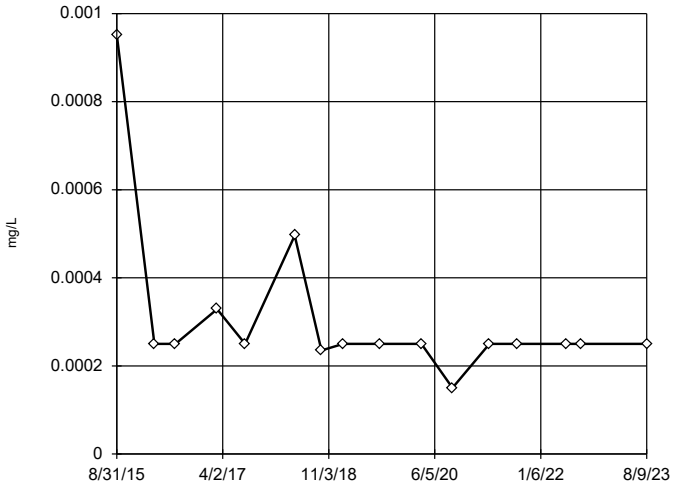
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.002663, low cutoff = 0.002385, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

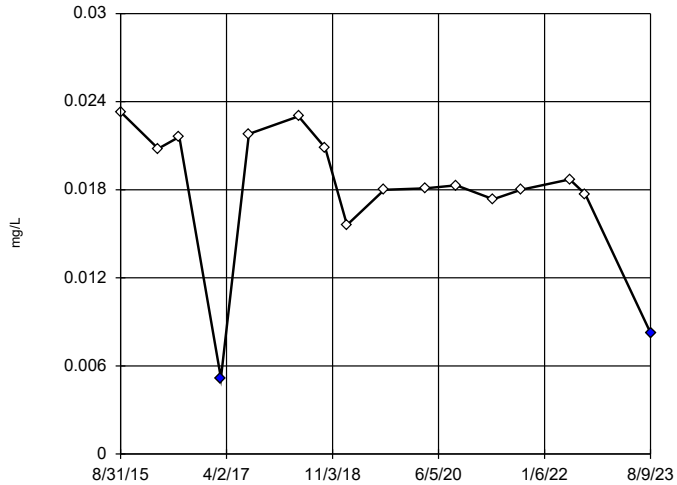
Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Lead Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

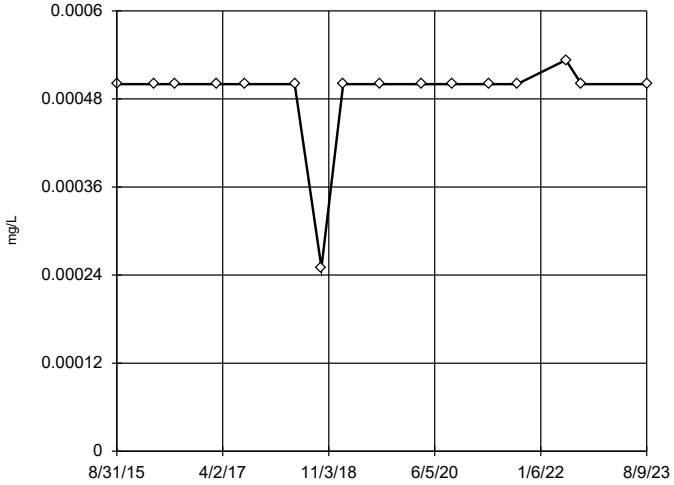
Statistical outliers are drawn as solid.
Testing for 2 low outliers.
Mean = 0.01791.
Std. Dev. = 0.004917.
0.00825: c = 0.6716
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9253
Critical = 0.895
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Nickel Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

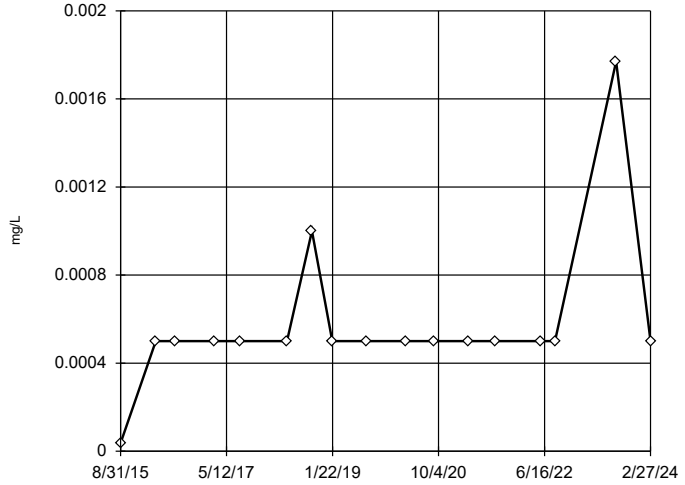
No statistical outliers.

Constituent: Silver Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 17

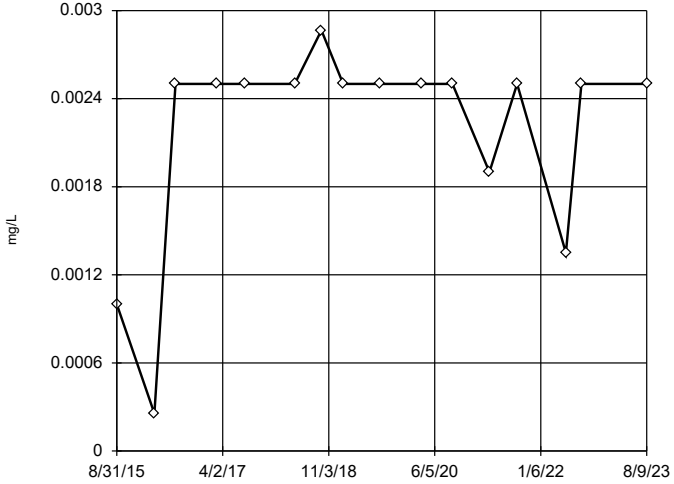
No statistical outliers.

Constituent: Thallium Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x^5 transformed to achieve best W statistic (graph shown in original units).

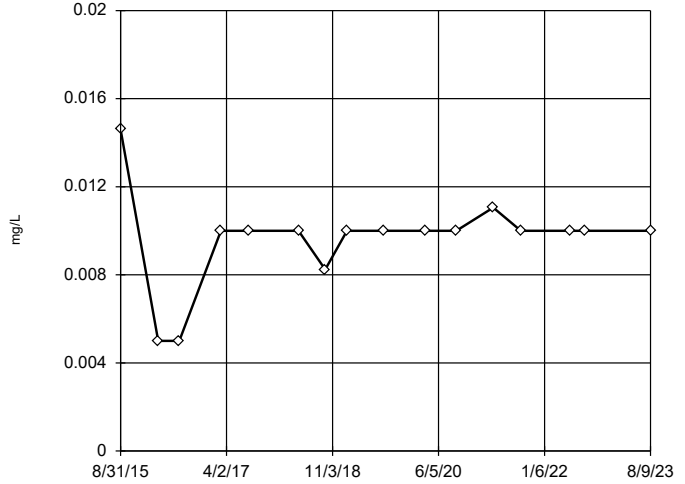
The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Vanadium Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-26



n = 16

No statistical outliers.

Constituent: Zinc Analysis Run 1/16/2025 10:04 AM View: 2023SSN - Outliers MW-26

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

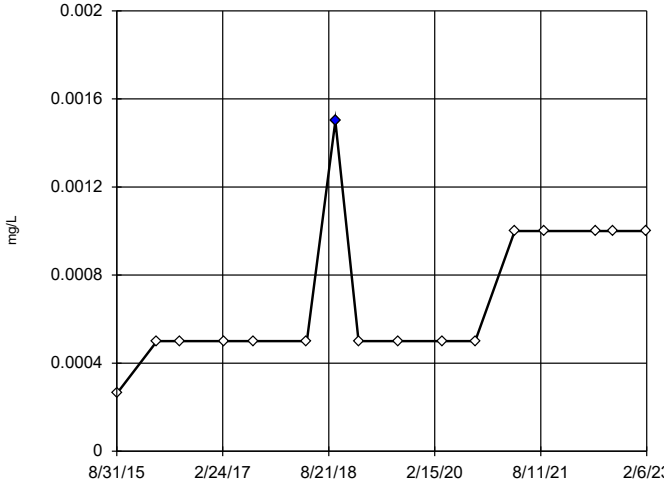
Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 1/16/2025, 11:21 AM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Normality Test
Antimony (mg/L)	**MW-28**	**Yes**	**0.0015**	**9/24/2018**	**OH**	**NaN**	**16**	**0.0007039**	**n/a**
Arsenic (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.001002	ShapiroWilk
Barium (mg/L)	MW-28	No	n/a	n/a	EPA/OH	0.05	17	0.01954	ShapiroWilk
Beryllium (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.0004734	n/a
Cadmium (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.0004586	ShapiroWilk
Chromium (mg/L)	MW-28	No	n/a	n/a	OH	NaN	17	0.002715	n/a
Cobalt (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.01163	ShapiroWilk
Copper (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002851	ShapiroWilk
Lead (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.0002548	n/a
Nickel (mg/L)	MW-28	No	n/a	n/a	Dixon/OH	0.05	16	0.03895	ShapiroWilk
Selenium (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.002413	n/a
Silver (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.0005088	n/a
Thallium (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.0004156	ShapiroWilk
Vanadium (mg/L)	MW-28	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002108	ShapiroWilk
Zinc (mg/L)	MW-28	No	n/a	n/a	OH	NaN	16	0.01046	n/a

Ohio EPA 0715 Outlier Algorithm

MW-28



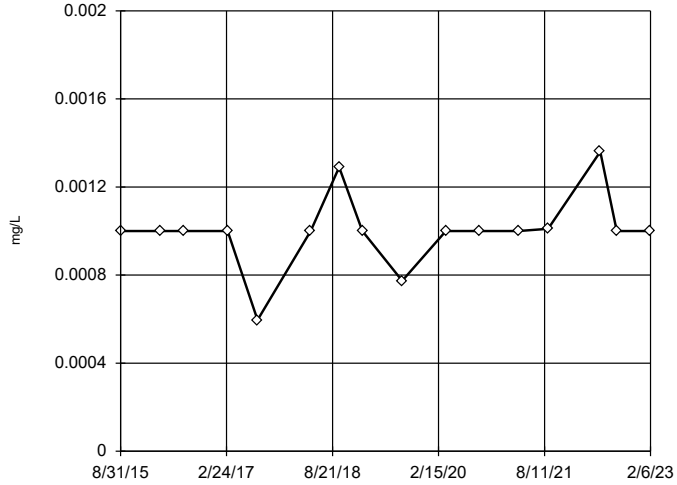
n = 16

Statistical outlier is drawn as solid.
Outlier per Ohio method.

Constituent: Antimony Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

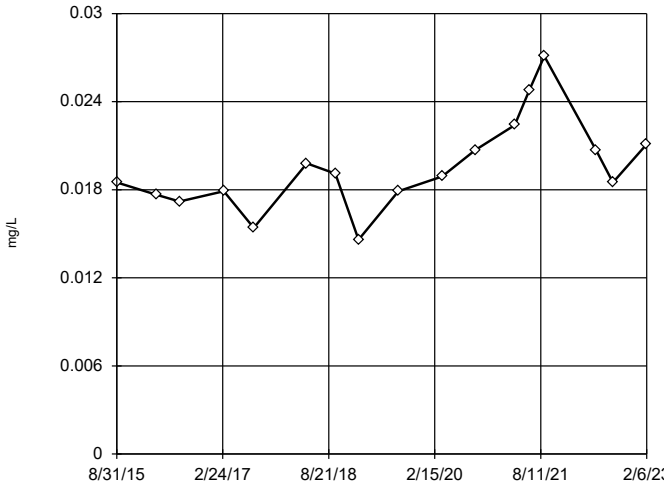
Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Arsenic Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

EPA Screening (suspected outliers for Dixon's Test)

MW-28



n = 17

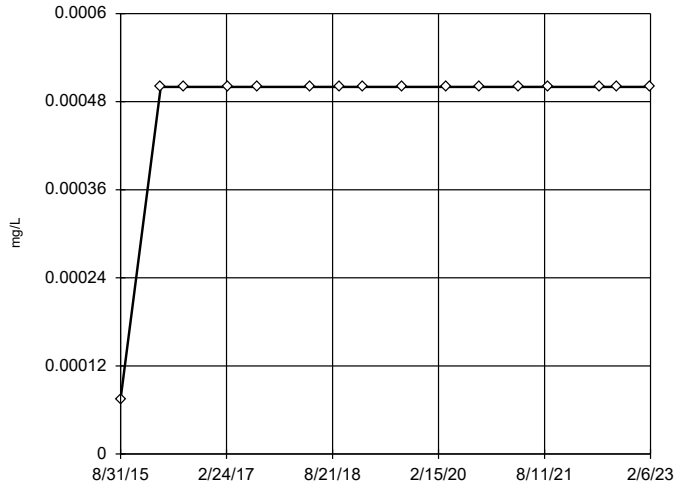
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.01954, std. dev. 0.003131, critical Tn 2.475

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9399
Critical = 0.91
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-28



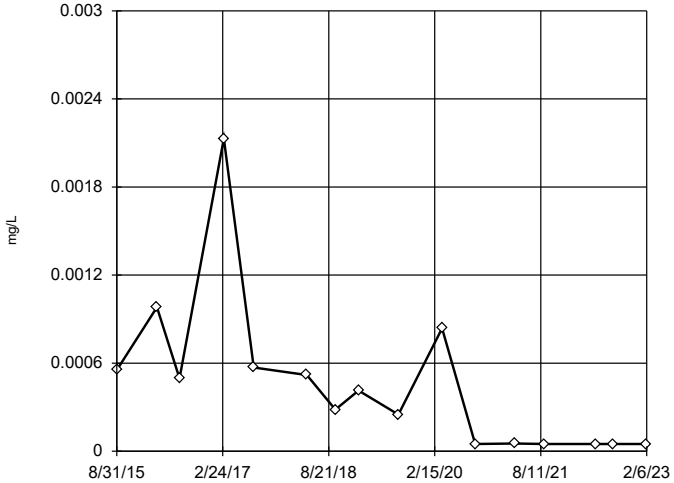
n = 16

No statistical outliers.

Constituent: Beryllium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found. 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).

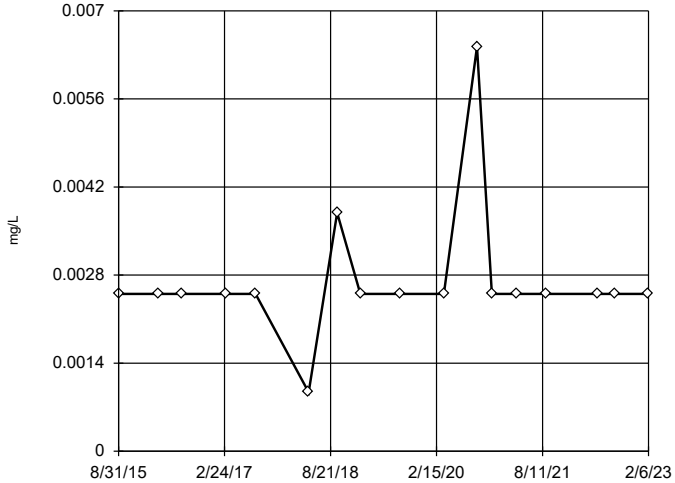
High cutoff = 0.01058, low cutoff = -0.001005, based on IQR multiplier of 3.

Constituent: Cadmium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 17

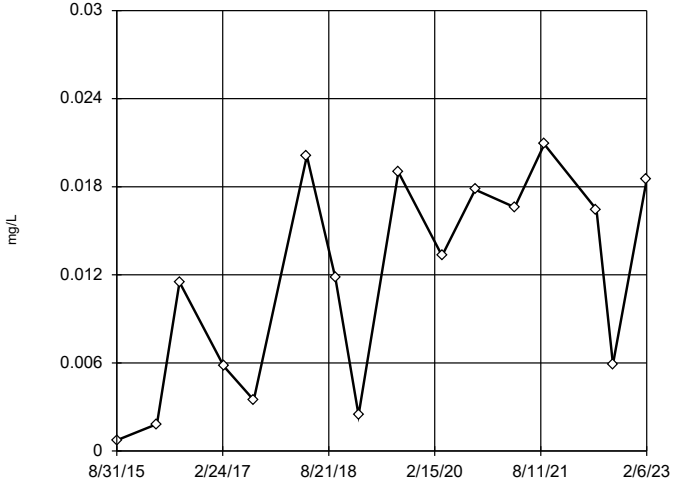
No statistical outliers.

Constituent: Chromium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

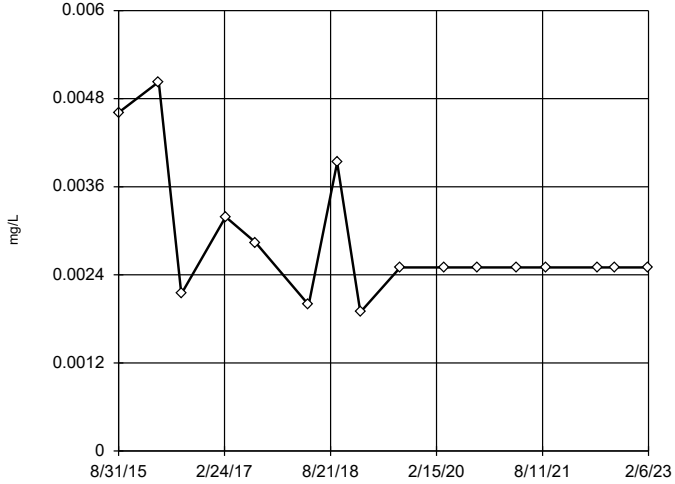
High cutoff = 0.05873, low cutoff = -0.03596, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

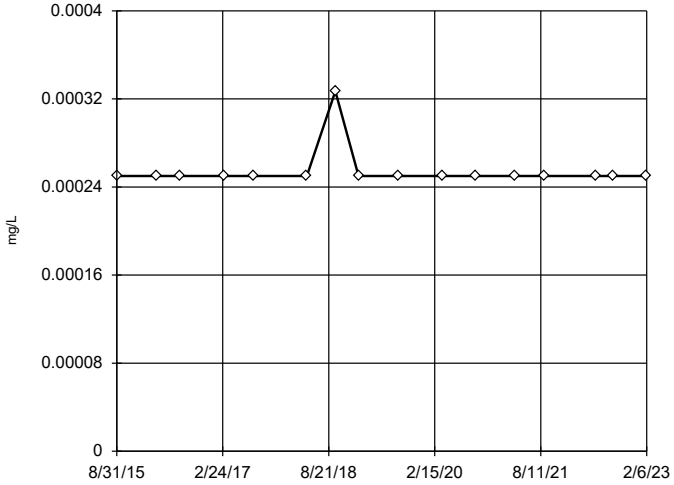
High cutoff = 0.005253, low cutoff = 0.001433, based on IQR multiplier of 3.

Constituent: Copper Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

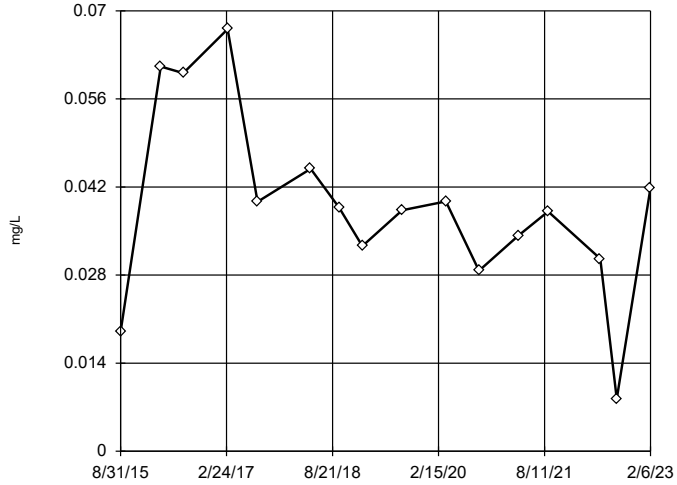
No statistical outliers.

Constituent: Lead Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No statistical outliers.
Testing for 1 low outlier.
Mean = 0.03895.
Std. Dev. = 0.01495.
0.00833: c = 0.3935
tabl = 0.507.
Alpha = 0.05.

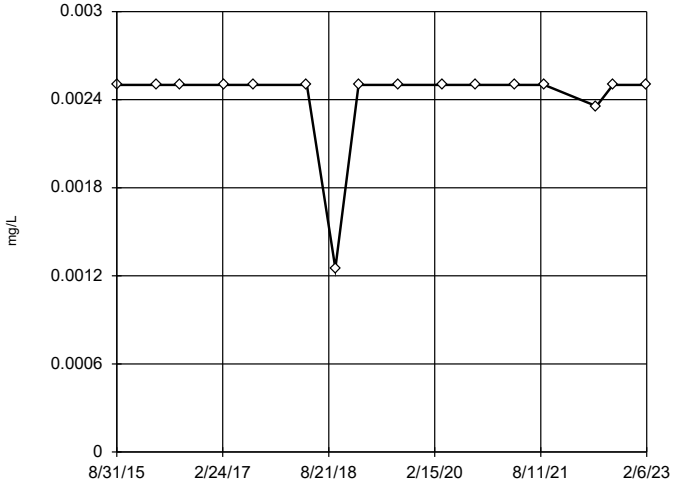
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9155
Critical = 0.901
The distribution was found to be normally distrib-uted.

Constituent: Nickel Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

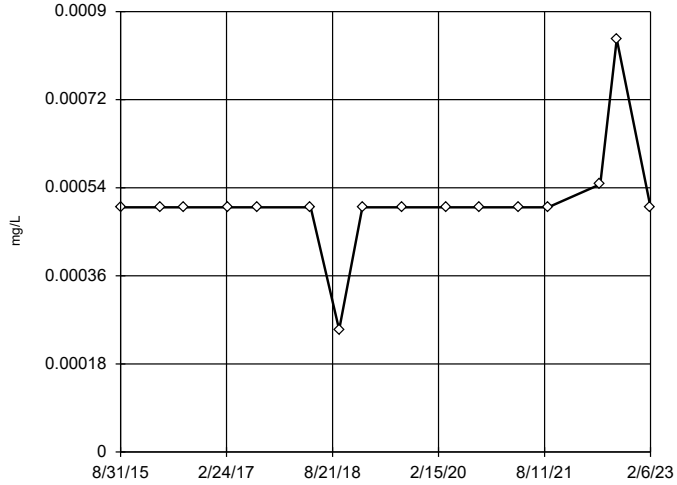
No statistical outliers.

Constituent: Selenium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

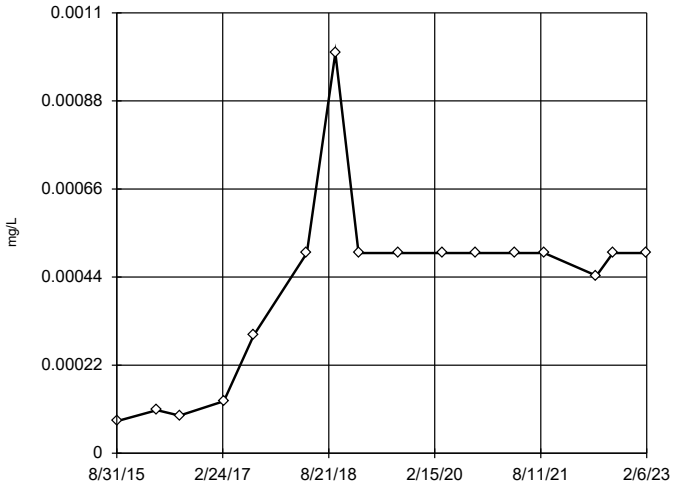
No statistical outliers.

Constituent: Silver Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.002171, low cutoff = -0.00009913, based on IQR multiplier of 3.

Constituent: Thallium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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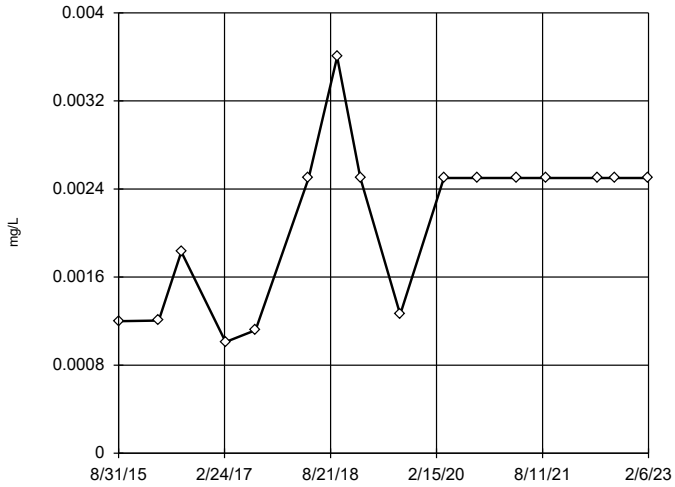
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.006302, low cutoff = -0.00257, based on IQR multiplier of 3.

Constituent: Vanadium Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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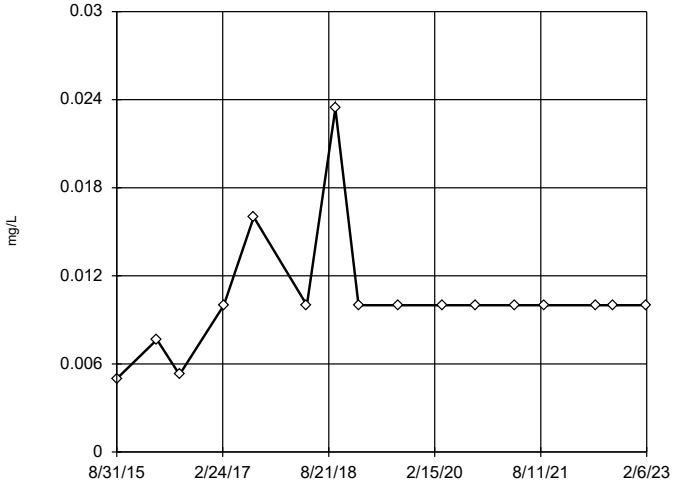
Ohio EPA 0715 Outlier Algorithm

MW-28



n = 16

No statistical outliers.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8148
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Zinc Analysis Run 1/16/2025 11:20 AM View: 2024 AWQR Outliers MW-28
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

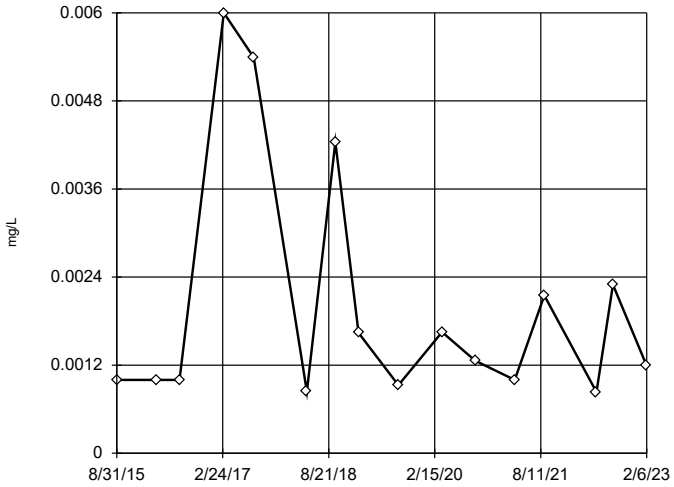
Outlier Analysis

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 1/16/2025, 12:00 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Normality Test
Arsenic (mg/L)	MW-29	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002026	ShapiroWilk
Barium (mg/L)	MW-29	No	n/a	n/a	EPA/OH	0.05	16	0.01602	ShapiroWilk
Cadmium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.0001339	n/a
Chromium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.002557	n/a
Cobalt (mg/L)	MW-29	No	n/a	n/a	EPA/OH	0.05	16	0.002521	ShapiroWilk
Copper (mg/L)	MW-29	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.002552	ShapiroWilk
Lead (mg/L)	MW-29	No	n/a	n/a	NP (nrm)/OH	NaN	16	0.0003605	ShapiroWilk
Nickel (mg/L)	**MW-29**	**Yes**	**0.00439**	**3/2/2017**	**Dixon/OH**	**0.05**	**16**	**0.01003**	**ShapiroWilk**
Selenium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.002336	n/a
Vanadium (mg/L)	MW-29	No	n/a	n/a	OH	NaN	16	0.002582	n/a
Zinc (mg/L)	**MW-29**	**Yes**	**0.0297,0.0232**	**3/24/2016,3/2/2017**	**NP (nrm)/OH**	**NaN**	**16**	**0.01259**	**ShapiroWilk**

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.02435, low cutoff = 0.00009124, based on IQR multiplier of 3.

Constituent: Arsenic Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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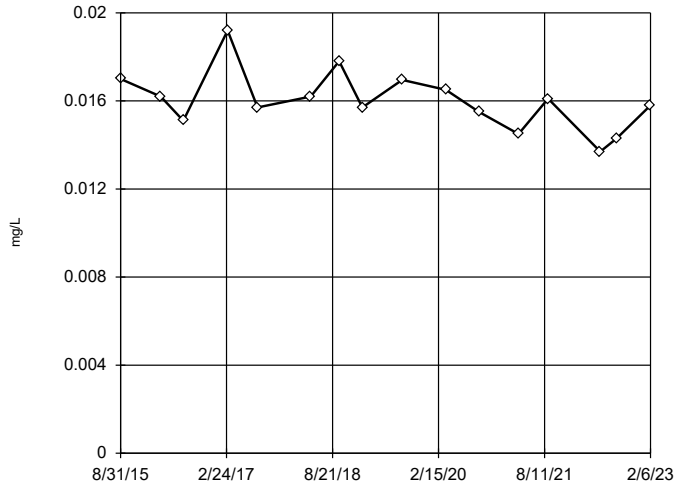
EPA Screening (suspected outliers for Dixon's Test)

MW-29



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.01602, std. dev. 0.001352, critical Tn 2.443

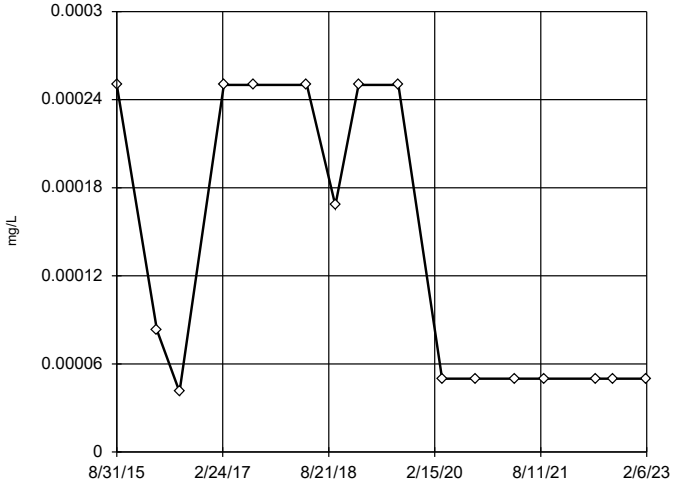
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9676
Critical = 0.906
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

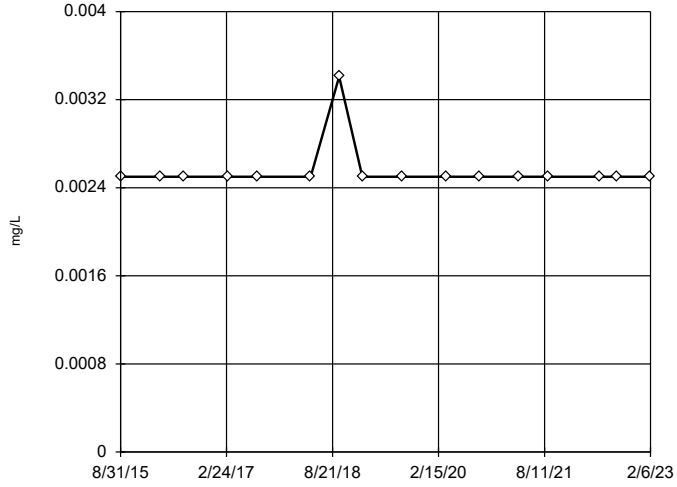
No statistical outliers.

Constituent: Cadmium Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Ohio EPA 0715 Outlier Algorithm

MW-29



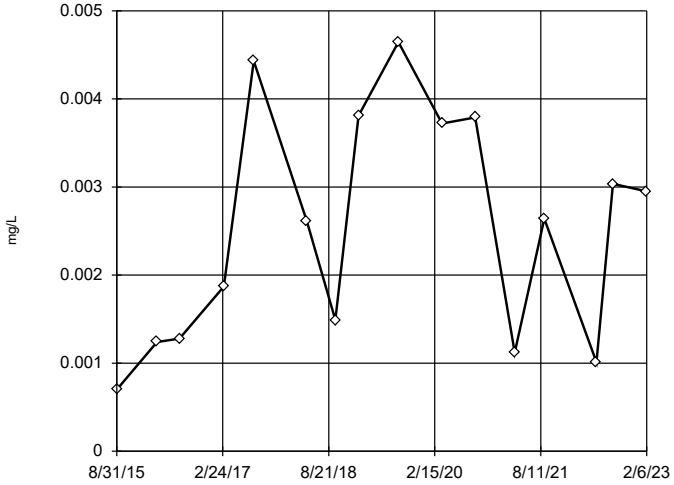
n = 16

No statistical outliers.

Constituent: Chromium Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

EPA Screening (suspected outliers for Dixon's Test)

MW-29



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Ohio method in use.
Mean 0.002521, std. dev. 0.001306, critical Tn 2.443

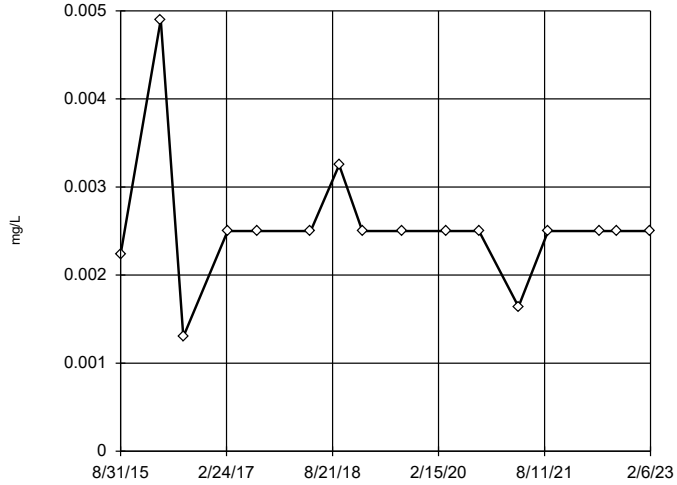
Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.926
Critical = 0.906
The distribution was found to be normally distributed.

Constituent: Cobalt Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Copper Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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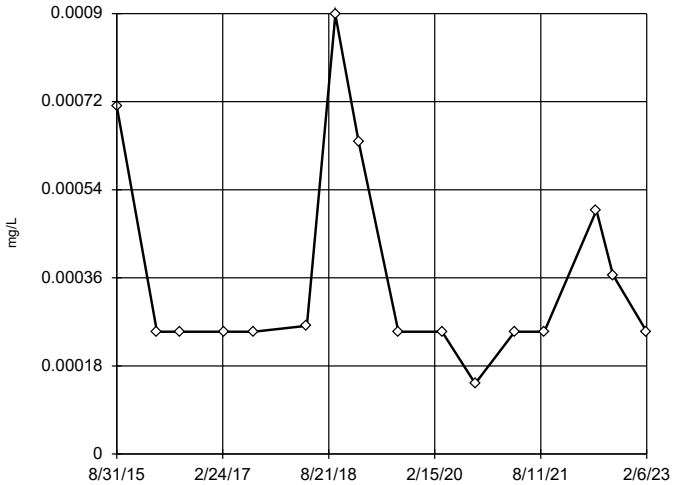
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

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

High cutoff = 0.002126, low cutoff = 0.0000502, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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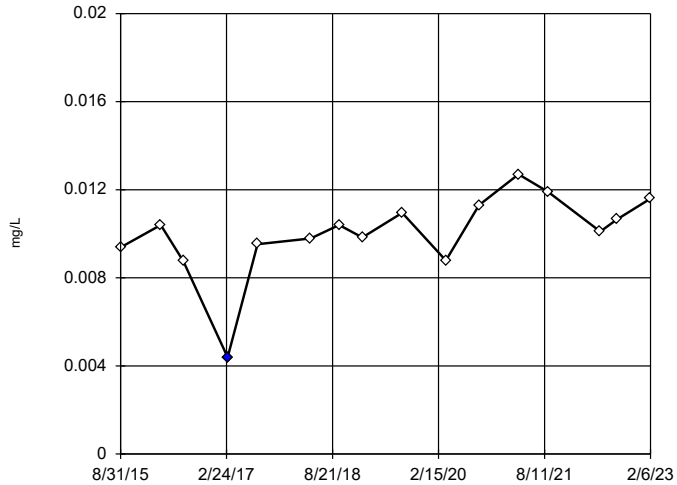
Dixon's Outlier Test / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

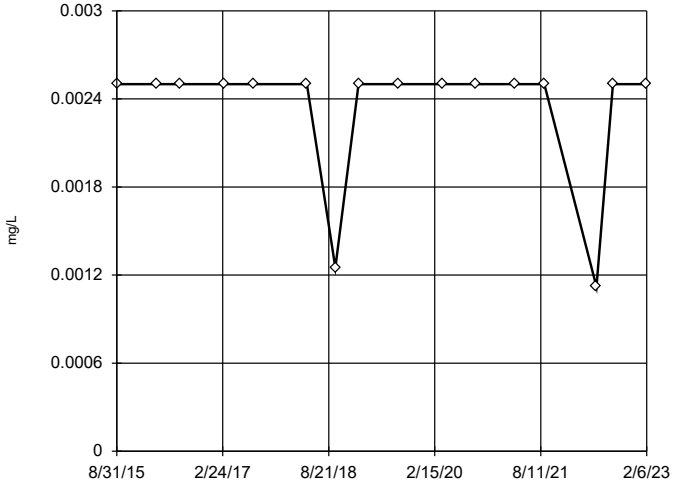
Statistical outlier is drawn as solid.
Testing for 1 low outlier.
Mean = 0.01003.
Std. Dev. = 0.001861.
0.00439 (J): c = 0.6103
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9722
Critical = 0.901
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Nickel Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No statistical outliers.

Constituent: Selenium Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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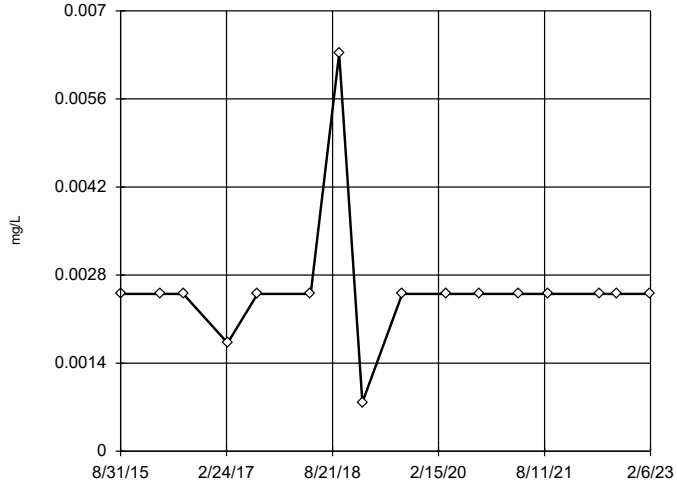
Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

No statistical outliers.

Constituent: Vanadium Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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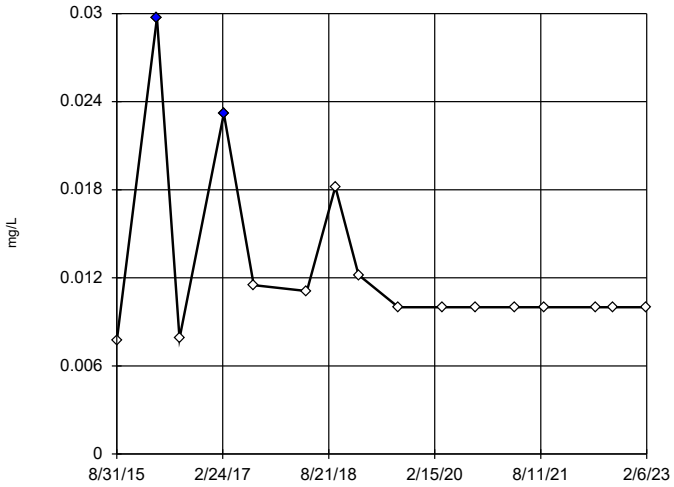
Tukey's Outlier Screening / Ohio EPA 0715 Outlier Algorithm

MW-29



n = 16

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 natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.01968, low cutoff = 0.006017, based on IQR multiplier of 3.

Constituent: Zinc Analysis Run 1/16/2025 11:58 AM View: 2024 AWQR Outliers MW-29

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Intrawell Prediction Limit Summary Tables and Graphs

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 1/16/2025, 10:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-26	0.001	n/a	11/12/2024	0.000868J	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Barium (mg/L)	MW-26	0.103	n/a	11/12/2024	0.0913	No	17	0	n/a	0.0009102	NP Intra (normality) ...
Cadmium (mg/L)	MW-26	0.000457	n/a	11/12/2024	0.0001ND	No	16	75	n/a	0.001026	NP Intra (NDs) 1 of 3
Chromium (mg/L)	MW-26	0.00431	n/a	11/12/2024	0.0025ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	MW-26	0.0108	n/a	11/12/2024	0.00164	No	16	0	No	0.0008776	Param Intra 1 of 3
Copper (mg/L)	MW-26	0.00565	n/a	11/12/2024	0.0025ND	No	16	56.25	n/a	0.001026	NP Intra (NDs) 1 of 3
Lead (mg/L)	MW-26	0.000952	n/a	11/12/2024	0.00025ND	No	16	68.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Nickel (mg/L)	MW-26	0.02411	n/a	11/12/2024	0.00627	No	16	0	x^2	0.0008776	Param Intra 1 of 3
Silver (mg/L)	MW-26	0.000533	n/a	11/12/2024	0.0005ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Thallium (mg/L)	MW-26	0.00177	n/a	11/12/2024	0.0005ND	No	17	88.24	n/a	0.0009102	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	MW-26	0.002865	n/a	11/12/2024	0.0025ND	No	16	68.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Zinc (mg/L)	MW-26	0.0146	n/a	11/12/2024	0.01ND	No	16	81.25	n/a	0.001026	NP Intra (NDs) 1 of 3

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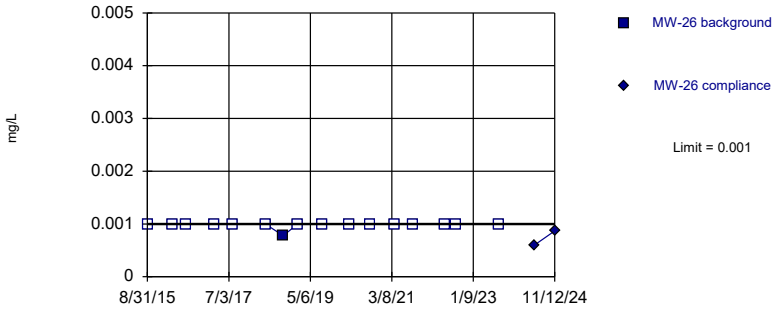
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Arsenic Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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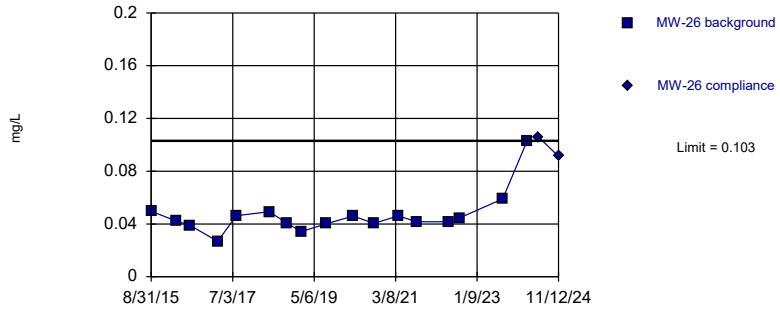
Within Limit

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 17 background values. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

Constituent: Barium Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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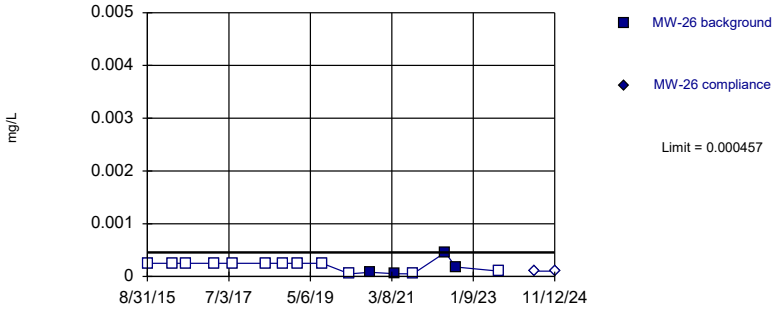
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

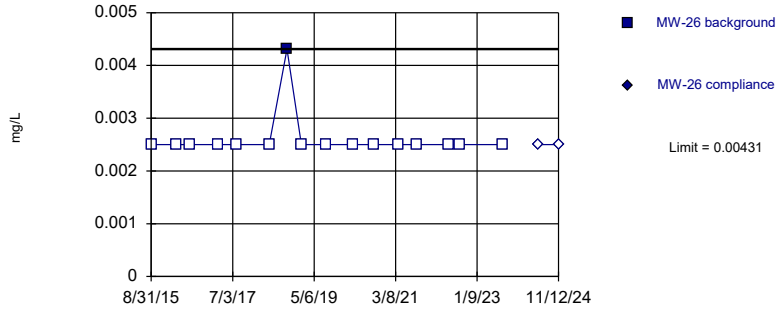
Constituent: Cadmium Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



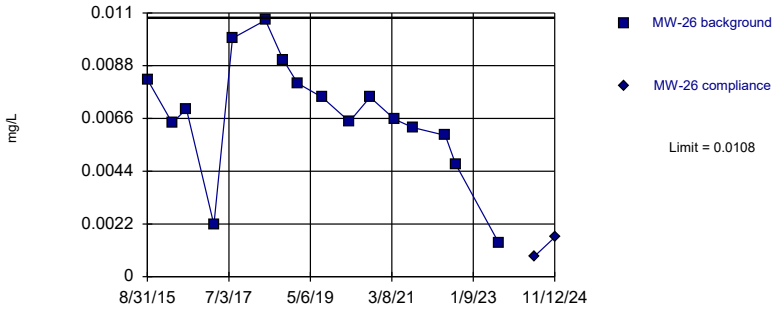
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Chromium Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.006735, Std. Dev.=0.002465, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.939, critical = 0.844. Kappa = 1.648 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

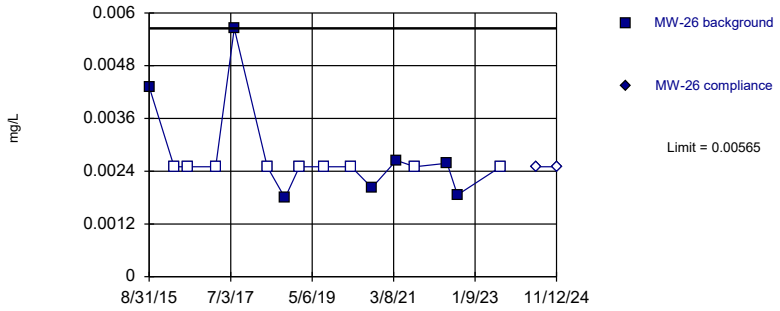
Constituent: Cobalt Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 56.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

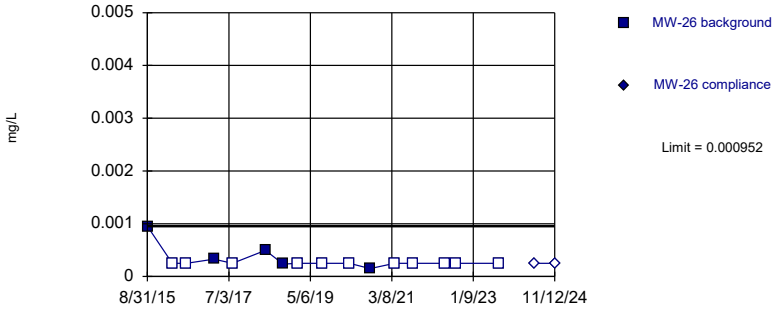
Constituent: Copper Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



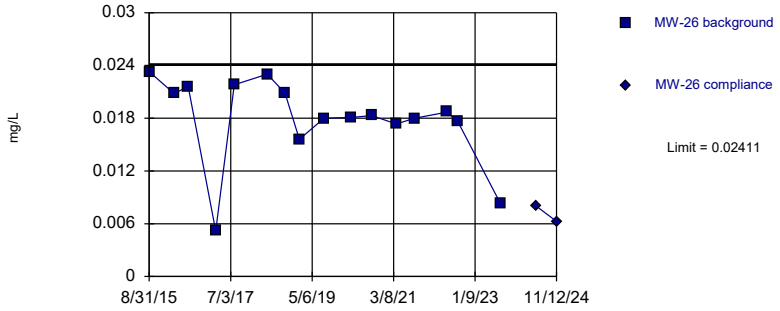
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Lead Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square transformation): Mean=0.0003434, Std. Dev.=0.0001444, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9087, critical = 0.844. Kappa = 1.648 (c=12, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0008776.

Constituent: Nickel Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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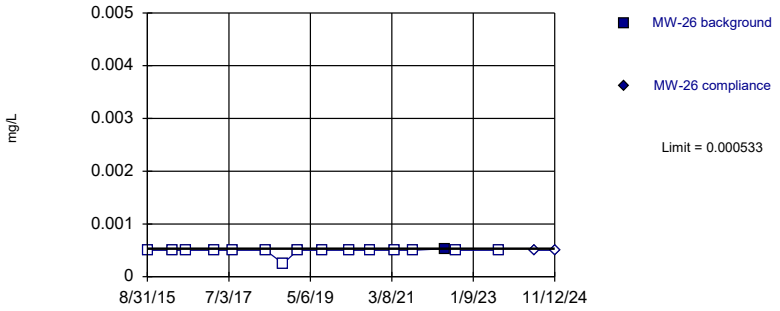
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Silver Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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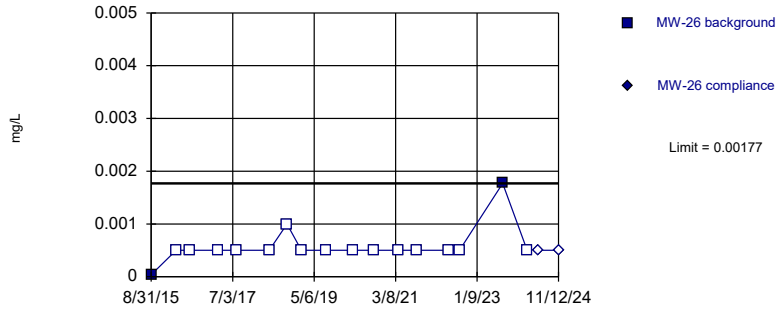
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 17 background values. 88.24% NDs. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

Constituent: Thallium Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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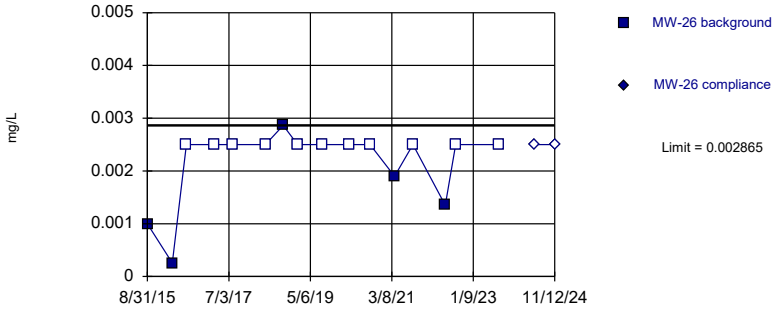
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

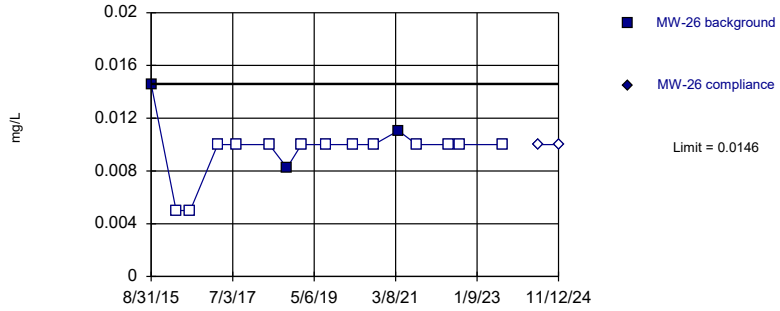
Constituent: Vanadium Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 81.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Zinc Analysis Run 1/16/2025 10:36 AM View: 2024 AWQR MW-26 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 1/16/2025, 11:40 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-28	0.0015	n/a	11/12/2024	0.001ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Arsenic (mg/L)	MW-28	0.00136	n/a	11/12/2024	0.000539J	No	16	68.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Barium (mg/L)	MW-28	0.02481	n/a	11/12/2024	0.0211	No	17	0	No	0.0007022	Param Intra 1 of 3
Beryllium (mg/L)	MW-28	0.0005	n/a	11/12/2024	0.0005ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Cadmium (mg/L)	MW-28	0.001378	n/a	11/12/2024	0.0001ND	No	16	37.5	sqrt(x)	0.0007022	Param Intra 1 of 3
Chromium (mg/L)	MW-28	0.00643	n/a	11/12/2024	0.0025ND	No	17	82.35	n/a	0.0009102	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	MW-28	0.02393	n/a	11/12/2024	0.0139	No	16	0	No	0.0007022	Param Intra 1 of 3
Copper (mg/L)	MW-28	0.00503	n/a	11/12/2024	0.0025ND	No	16	50	n/a	0.001026	NP Intra (normality) ...
Lead (mg/L)	MW-28	0.000327	n/a	11/12/2024	0.00025ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Nickel (mg/L)	MW-28	0.06443	n/a	11/12/2024	0.0231	No	16	0	No	0.0007022	Param Intra 1 of 3
Selenium (mg/L)	MW-28	0.0025	n/a	11/12/2024	0.0025ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Silver (mg/L)	MW-28	0.000844	n/a	11/12/2024	0.0005ND	No	16	87.5	n/a	0.001026	NP Intra (NDs) 1 of 3
Thallium (mg/L)	MW-28	0.001	n/a	11/12/2024	0.0005ND	No	16	62.5	n/a	0.001026	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	MW-28	0.0036	n/a	11/12/2024	0.0025ND	No	16	56.25	n/a	0.001026	NP Intra (NDs) 1 of 3
Zinc (mg/L)	MW-28	0.0234	n/a	11/12/2024	0.01ND	No	16	75	n/a	0.001026	NP Intra (NDs) 1 of 3

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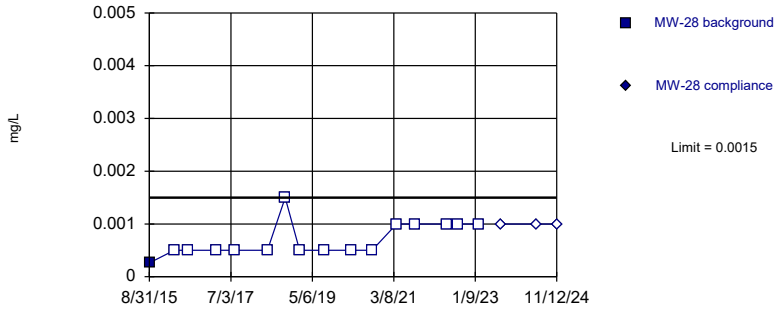
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

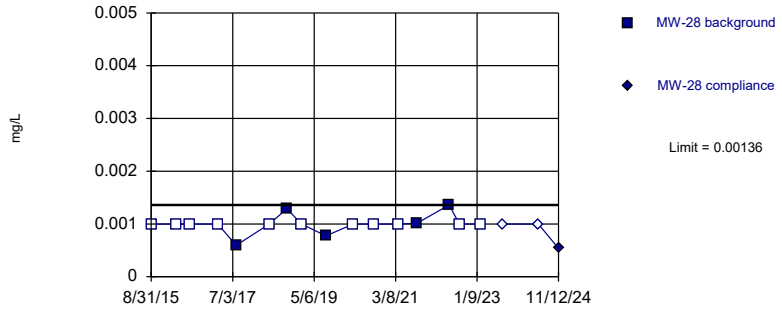
Constituent: Antimony Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

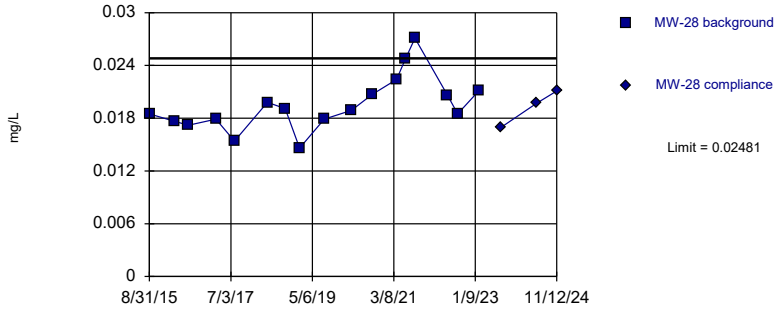
Constituent: Arsenic Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01954, Std. Dev.=0.003131, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.851. Kappa = 1.684 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

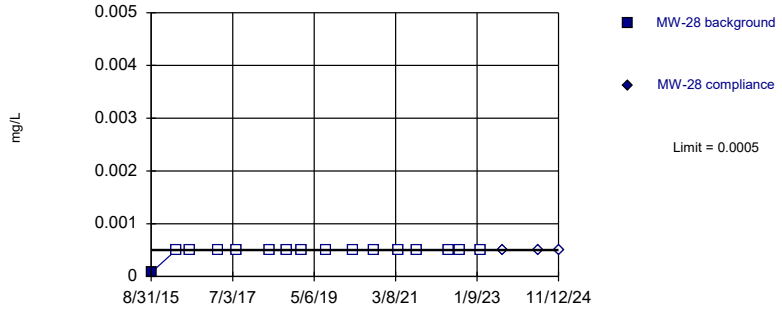
Constituent: Barium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

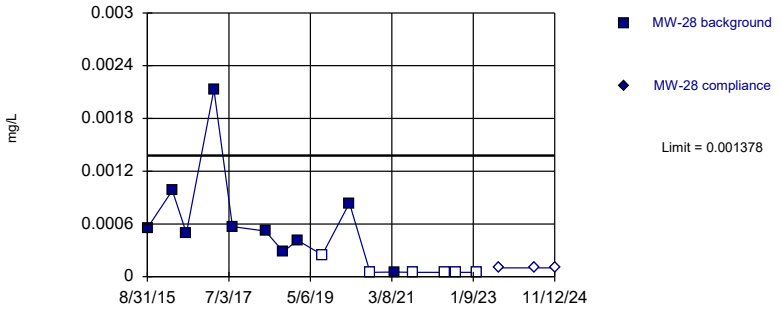
Constituent: Beryllium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.0182, Std. Dev.=0.0111, n=16, 37.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8727, critical = 0.844. Kappa = 1.705 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

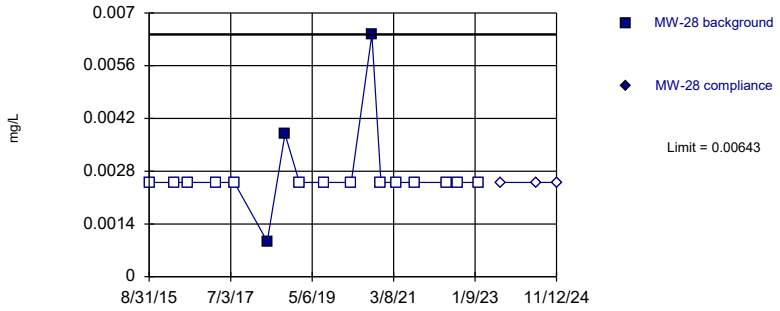
Constituent: Cadmium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 17 background values. 82.35% NDs. Well-constituent pair annual alpha = 0.00182. Individual comparison alpha = 0.0009102 (1 of 3).

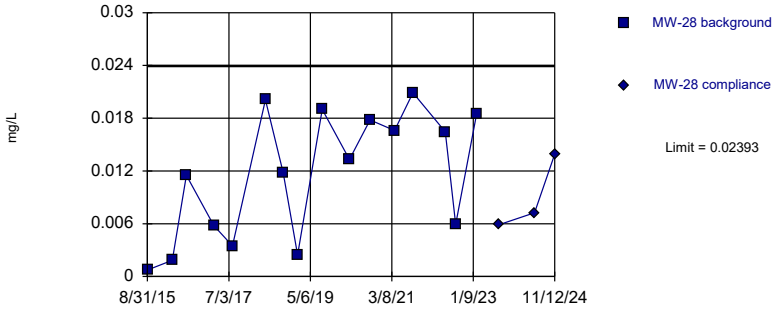
Constituent: Chromium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01163, Std. Dev.=0.007214, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8949, critical = 0.844. Kappa = 1.705 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

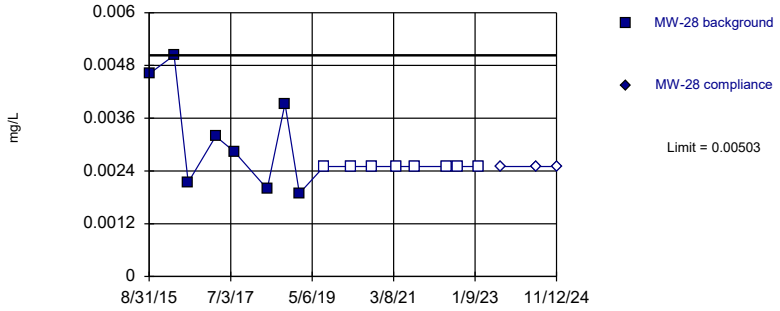
Constituent: Cobalt Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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 16 background values. 50% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

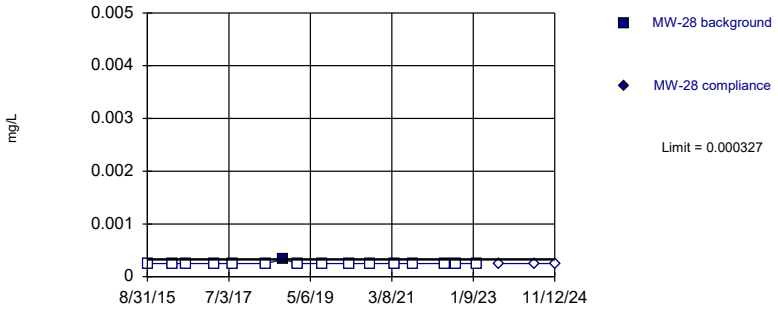
Constituent: Copper Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

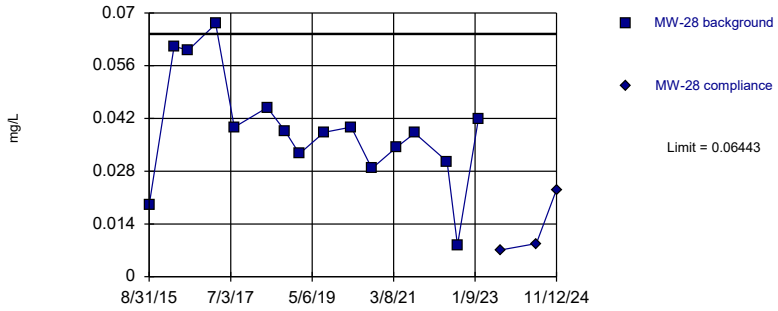
Constituent: Lead Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03895, Std. Dev.=0.01495, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9444, critical = 0.844. Kappa = 1.705 (c=15, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0007022.

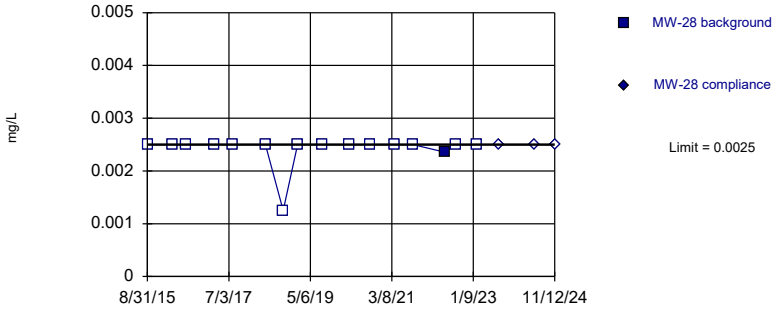
Constituent: Nickel Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

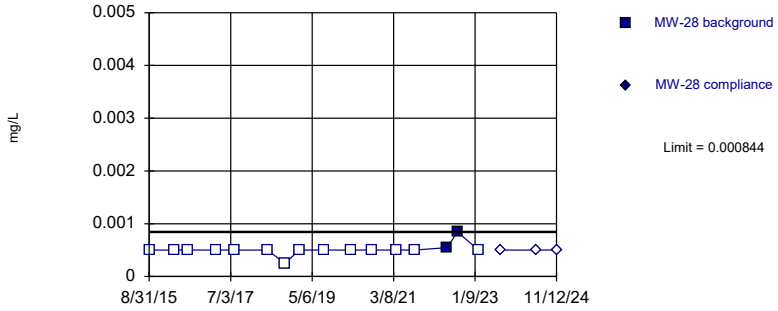
Constituent: Selenium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



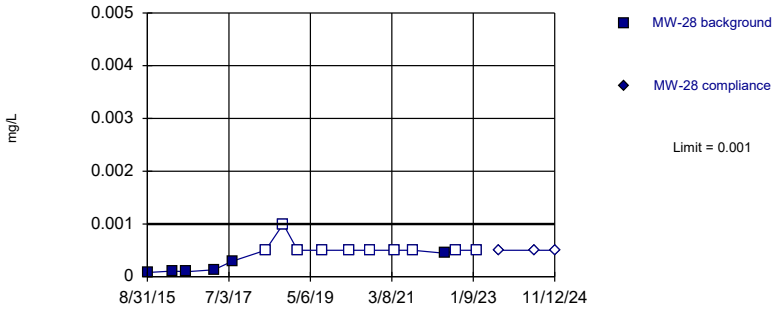
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 87.5% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Silver Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



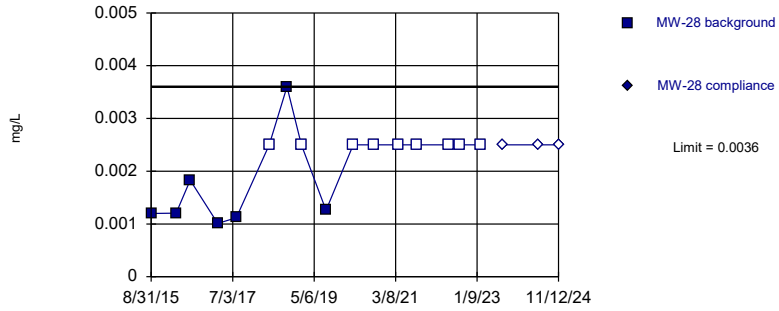
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 62.5% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Thallium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



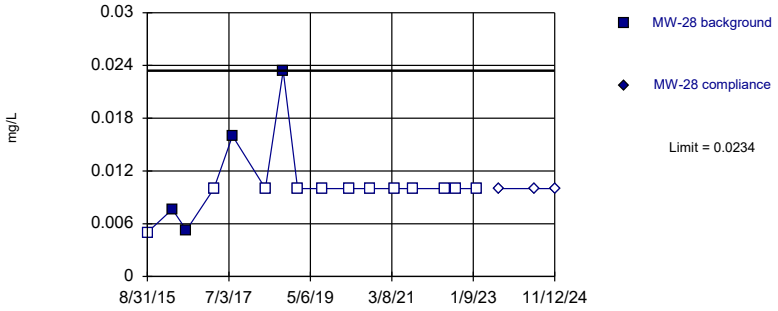
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 56.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Vanadium Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Zinc Analysis Run 1/16/2025 11:36 AM View: 2024 AWQR MW-28 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Prediction Limit

Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master Printed 1/16/2025, 12:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	MW-29	0.006	n/a	11/12/2024	0.002105J	No	16	25	n/a	0.001026	NP Intra (normality) ...
Barium (mg/L)	MW-29	0.01822	n/a	11/12/2024	0.0166	No	16	0	No	0.0009574	Param Intra 1 of 3
Cadmium (mg/L)	MW-29	0.00025	n/a	11/12/2024	0.0001ND	No	16	81.25	n/a	0.001026	NP Intra (NDs) 1 of 3
Chromium (mg/L)	MW-29	0.00341	n/a	11/12/2024	0.0025ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Cobalt (mg/L)	MW-29	0.004648	n/a	11/12/2024	0.003355	No	16	0	No	0.0009574	Param Intra 1 of 3
Copper (mg/L)	MW-29	0.0049	n/a	11/12/2024	0.0025ND	No	16	68.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Lead (mg/L)	MW-29	0.000898	n/a	11/12/2024	0.00025ND	No	16	56.25	n/a	0.001026	NP Intra (NDs) 1 of 3
Nickel (mg/L)	MW-29	0.01306	n/a	11/12/2024	0.01215	No	16	0	No	0.0009574	Param Intra 1 of 3
Selenium (mg/L)	MW-29	0.0025	n/a	11/12/2024	0.0025ND	No	16	93.75	n/a	0.001026	NP Intra (NDs) 1 of 3
Vanadium (mg/L)	MW-29	0.00632	n/a	11/12/2024	0.0025ND	No	16	81.25	n/a	0.001026	NP Intra (NDs) 1 of 3
Zinc (mg/L)	MW-29	0.0297	n/a	11/12/2024	0.01ND	No	16	50	n/a	0.001026	NP Intra (normality) ...

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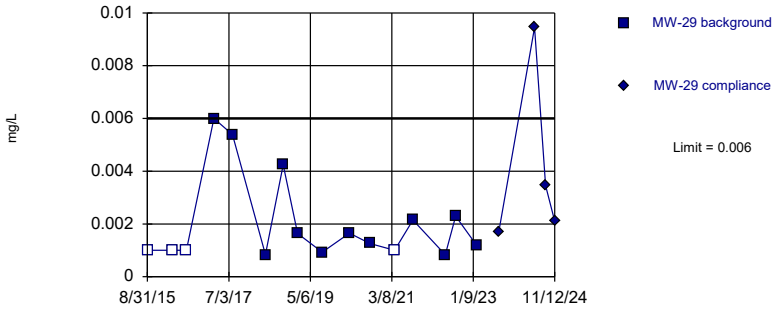
Hollow symbols indicate censored values.

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 16 background values. 25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Arsenic Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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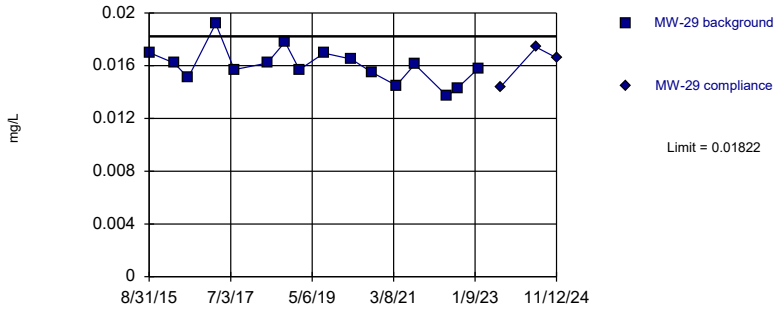
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01602, Std. Dev.=0.001352, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9676, critical = 0.844. Kappa = 1.629 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

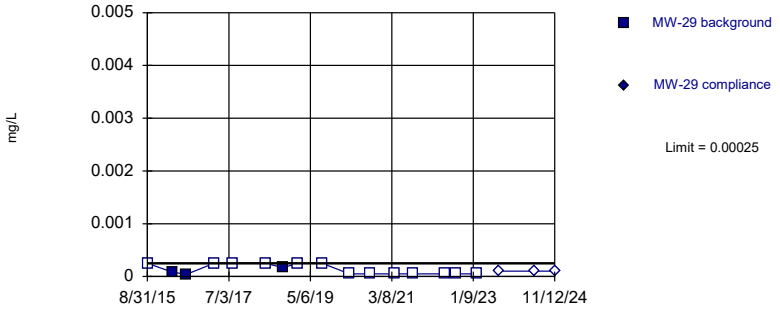
Constituent: Barium Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 81.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

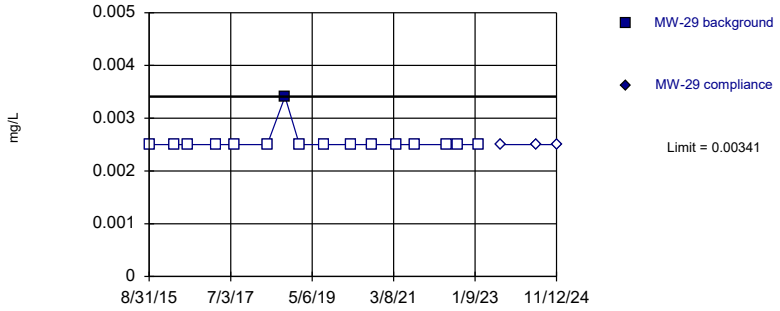
Constituent: Cadmium Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



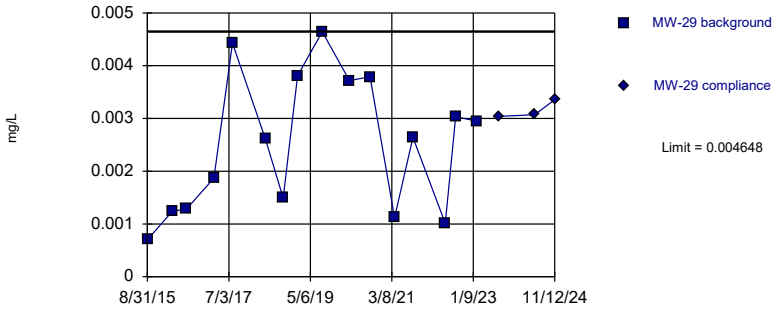
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Chromium Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.002521, Std. Dev.=0.001306, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.926, critical = 0.844. Kappa = 1.629 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

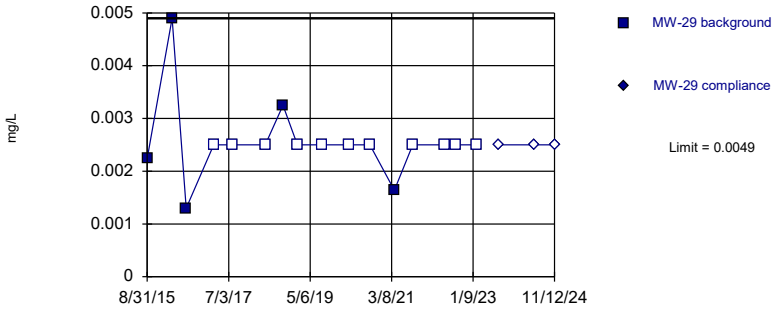
Constituent: Cobalt Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 68.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

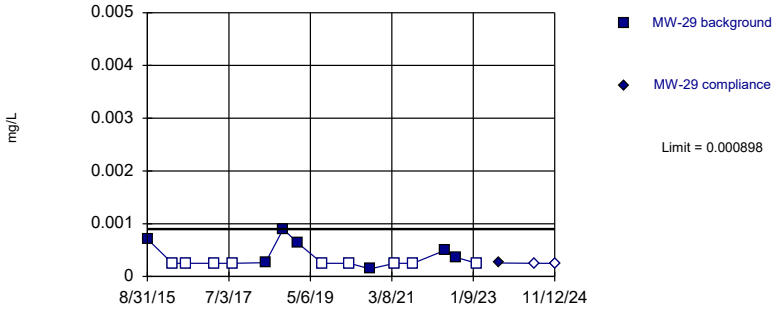
Constituent: Copper Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



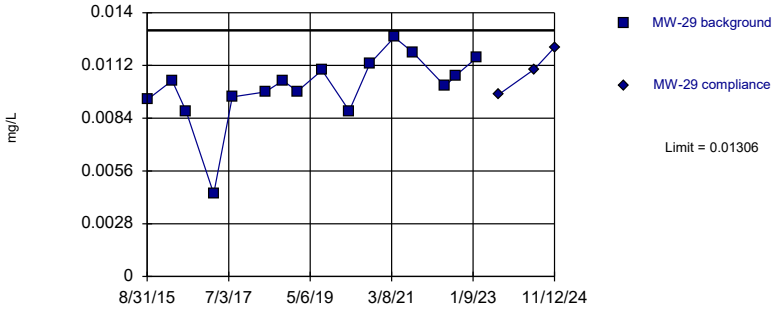
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 56.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Lead Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.01003, Std. Dev.=0.001861, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8506, critical = 0.844. Kappa = 1.629 (c=11, w=5, 1 of 3, event alpha = 0.05132). Report alpha = 0.0009574.

Constituent: Nickel Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

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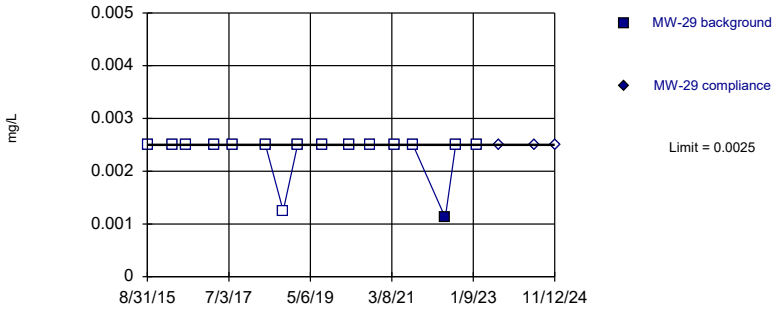
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

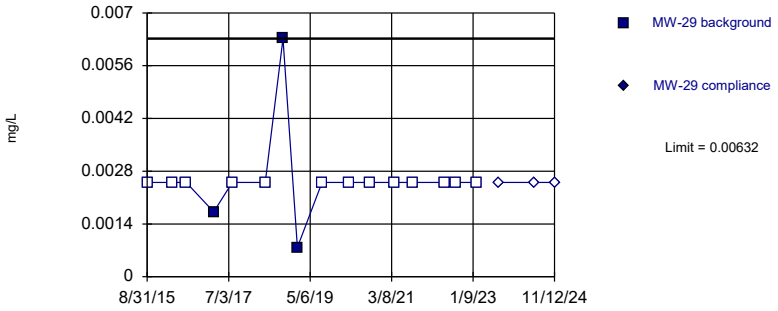
Constituent: Selenium Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 16 background values. 81.25% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

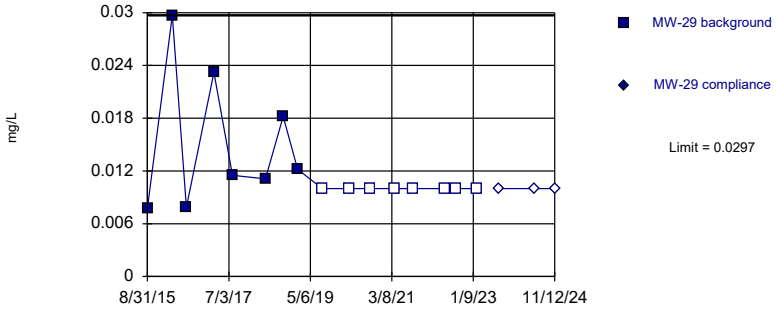
Constituent: Vanadium Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

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 16 background values. 50% NDs. Well-constituent pair annual alpha = 0.002051. Individual comparison alpha = 0.001026 (1 of 3).

Constituent: Zinc Analysis Run 1/16/2025 12:11 PM View: 2024 AWQR MW-29 IntraPL
Great River SLF Client: SCS Engineers Data: Sanitas GRRWA Ph2-master

Appendix E

2024 Leachate Control System Performance Evaluation Report

2024 LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION REPORT

FOR

GREAT RIVER REGIONAL WASTE AUTHORITY SANITARY LANDFILL

FORT MADISON, IOWA

SUBMITTAL DATE: JANUARY 2025

PREPARED FOR:

GREAT RIVER REGIONAL WASTE AUTHORITY

PREPARED BY:

SCS ENGINEERS

Table of Contents

Figures

Attachments

Section 1.0

Description of Existing Leachate Control System

SCS Engineers (SCS), on behalf of the Great River Regional Waste Authority (GRRWA), has prepared this Leachate Control System Performance Evaluation Report (LCSPER) for the closed Phase 1 (unlined) and active Phase 2 (lined) municipal solid waste landfill (MSWLF) units at the GRRWA Sanitary Landfill (Landfill). This LSCPER was prepared to comply with the requirements of the 2002 Iowa Administrative Code (IAC) 567-113.26(2)"l", current 567-113.7(5)"b"(14), and additional Iowa Department of Natural Resources (DNR) requirements specified in the operating permit, most recently revised on July 29, 2024 (Doc #110575). This LCSPER describes the leachate control system, discusses maintenance activities, provides an evaluation of the effectiveness of the system, and, if necessary, provides recommendations for additional control measures. The reporting period for this LCSPER is from October 2023 through December 2024.

1.1 Location of Control System

The leachate control system of the Landfill is depicted in Figure 1, Leachate Control System. The Landfill property consists of approximately 221 acres generally located within the NW ¼ and SW ¼ of Section 27 and the NW ¼ of Section 34, T68N, R4W in Lee County, Iowa.

Phase 1 MSWLF Unit

The monitoring system for the Phase 1 MSWLF unit consists of twelve piezometers (PZ-1, PZ-2, PZ-3, PZ-6R, PZ-7, PZ-7R, PZ-8, PZ-9, PZ-10, PZ-10R, PZ-11, and LW-5). The Phase 1 MSWLF unit leachate collection system consists of a toe drain on the south (downgradient) end of the MSWLF unit installed in the summer of 2019 (see Doc #95656).

Phase 2 MSWLF unit

The Phase 2 MSWLF unit, which is comprised of Regions 1, 2, and 3, began accepting waste on April 20, 1993 and has been actively receiving waste since that time. Leachate piezometers/extraction wells LEW-08-1, LPZ-5R, LPZ-6, LPZ-7, LW-6, LEW-7, LEW-8, LEW-9, LEW-10, and LEW-11 were installed to monitor and/or manage leachate head in Region 1. Leachate sumps are used to monitor leachate head in Region 2, which is comprised of cells R2-1, R2-2, and R2-3. Leachate levels in sumps, as well as the levels in lift station L-1 on the south side of Phase 2, Region 1, are monitored by transducers and the SCADA system. Leachate piezometer LPZ-R3-1, installed to monitor leachate head in Cell R3-1 of Region 3, is also monitored by a transducer and the SCADA system.

The leachate collection system in Region 1 of the Phase 2 MSWLF unit consists of a leachate collection layer and collection pipes located above the liner constructed in 1993. In addition, leachate extraction pumps were installed in extraction wells LW-6, LEW-08-1, LEW-7, LEW-8, LEW-9, LEW-10, and LEW-11. Leachate extraction wells LEW-7, LEW-8, LEW-9, LEW-10, and LEW-11, as well as leachate piezometers LPZ-6 and LPZ-7, were installed in Region 1 in June 2015. Extracted leachate from Region 1 is gravity-drained to lift station L-1. Leachate is then pumped to the storage lagoon from lift station L-1.

Segment A-1 of the Leachate Seep Tie-in Line (Doc #51682) was installed in the northwest corner of the Region 1 area in 2005. In March 2020, a toe drain was installed on the south side of the Phase 2 MSWLF unit Region 1 (Doc #97832).

Telemetry systems were installed in leachate extraction wells LEW-08-1, LEW-7, LEW-8, LEW-9, LEW-10, and LEW-11 as well as lift station L-1. In November 2020, extraction wells LEW-08-1, LEW-7, and

LW-6 were replaced with leachate extraction wells LEW-08-1R, LEW-7R, and LW-6R, respectively. Piping was installed from LEW-7R to LEW-08-1R to LW-6R and attached to the existing conveyance line to lift station L-1.

The leachate collection system in Region 2 of the Phase 2 MSWLF unit consists of a leachate collection layer and collection pipes located above the liners in Cells R2-1 (constructed in 2007), R2-2 (constructed in 2010), and R2-3 (constructed in 2012). Extracted leachate from the Region 2 cells is collected in sumps located on the south end of Region 2 Cells R2-1 and R2-2, where leachate is pumped to lift station L-1.

The leachate collection system in Region 3 of the Phase 2 MSWLF unit consists of leachate collection layers and collection pipes located above the liners in Cell R3-1, constructed in 2021, and Cell R3-2, constructed in 2024. Extracted leachate from Cell R3-1 discharges to a lift station located east of Cell R3-1. Extracted leachate from Cell R3-2 is collected in a sump, which is pumped to the lift station located east of Cell R3-1. The leachate is then conveyed to a lift station located southeast of Cell R2-2, and finally to lift station L-1.

1.2 Effectiveness of the Leachate Control System

Phase 1 MSWLF Unit

Table 12 in Attachment A provides monthly leachate column thicknesses for the Phase 1 MSWLF unit for the reporting period. Table B-1 in Attachment B provides a summary of leachate column thicknesses for the period of record. Leachate extraction pumps were turned off on December 2, 2015 in accordance with Permit Amendment #3 dated December 1, 2015. Beginning in December 2015, hand measurements were recorded for each of the Phase 1 MSWLF unit leachate monitoring points. As shown in the graphs included in Attachment B, leachate thicknesses generally increased following the pumps being turned off, but have generally stabilized, in numerous cases near pre-pumping levels.

However, leachate piezometer PZ-11 had a steep drop in head levels beginning in July 2024. The landfill operator reported that some regrading and rock placement had been performed to correct some erosion on the cap and that work may have impacted the area near PZ-11.

Special Provision XI.5. requires monthly inspections of the Phase 1 MSWLF unit to check for the presence of leachate seeps. The inspections are performed in conjunction with the monthly leachate level measurement events. During this reporting period, no seeps were noted. Maintenance performed on the cap including regrading, rock placement, and seeding to mitigate an area of erosion.

Phase 2 MSWLF Unit, Region 1

Table 12 in Attachment A provides leachate level measurements and column thicknesses for the Region 1 portion of the Phase 2 MSWLF unit for this reporting period. Table B-2 in Attachment B provides a summary of leachate column thicknesses for the period of record. Leachate levels at the Phase 2 MSWLF unit were hand measured during this reporting period. Graphs in Attachment B show the trends in leachate column thickness.

The pump in lift station L-1 on the south side of Phase 2, Region 1 turns on automatically when the leachate level reaches a pre-determined elevation set to maintain free draining of the leachate collection pipes in the bottom of the cells. The SCADA system is capable of signaling an alarm if the pre-set elevations are exceeded. If alarms are signaled, GRRWA and SCS staff are notified so that the alarm condition can be evaluated and corrected. The table below summarizes leachate thickness measurements in each of the monitoring/extraction points.

Leachate Point	Actively Pumped (Y/N)	Comments
LEW-08-1R	Y	Generally stable levels throughout the reporting period.
LPZ-5R	N	Generally stable to slightly decreasing levels throughout the reporting period.
LPZ-6	N	Removed from the monitoring network due to damage (Doc #109235).
LW-6R	Y	Generally stable levels throughout the reporting period.
LPZ-7	N	Generally stable levels throughout the reporting period.
LEW-7R	N	Generally stable levels until a sharp increase in level in October – December 2024 (see explanation below).
LEW-8	Y	Generally stable levels throughout the reporting period, with a decrease beginning in October 2024.
LEW-9	Y	Generally stable levels throughout the reporting period, with an increase beginning in October 2024.
LEW-10	Y	Generally stable to slightly decreasing levels throughout the reporting period with a spike noted in December 2024.
LEW-11	Y	Generally stable levels throughout the reporting period.

The table above indicates generally stable leachate levels in Phase 2, Region 1 with the noted exceptions. It should be noted that the leachate levels in leachate extraction wells LEW-8, LEW-9, LEW-10, and LEW-11 remain below the pre-pumping levels as illustrated by the significant reduction in leachate thicknesses since the beginning of leachate extraction in the Phase 2 MSWLF unit Region 1 based on a comparison to the levels on the far left side of the graphs. Pumps are set above the bottom of the well and are turned on automatically when head levels reach a preset level in each well. To decrease the risk of damaging the liner, wells were installed approximately 10 feet above the recorded liner elevations.

The significant increase in leachate extraction well LEW-7R during this reporting period was caused by unknown damage to the well, so the pump was turned off. It is apparent the damage is too deep to repair without excavating the well. The landfill operator is anticipating a drilling contractor on-site in the coming months for an unrelated project who may have the ability to help repair the well. The levels in leachate extraction well LEW-9 may have been influenced by the replacement of the pump.

Leachate sump L-1 for the Phase 2 MSWLF unit Region 1 remained below the compliance elevation of 21 feet during this reporting period with the exceptions of 3 days in early November and much of late December. The landfill operator stated that the new cell greatly increased leachate production. The increase in production, which also stirred up sediment in the sump, overtaxed and fouled the 5-gallon-per-minute pump in the manhole. A larger pump has been ordered and is scheduled for delivery in the first week of February 2025. A summary of leachate column thicknesses for the period of record is provided in Table B-3 in Attachment B.

Phase 2 MSWLF Unit, Region 2

Table 12 in Attachment A provides leachate level measurements and column thicknesses for the Region 2 portion of the Phase 2 MSWLF unit for the reporting period. Table B-3 in Attachment B provides a summary of leachate column thicknesses for the period of record.

The side slope riser pumps on the south side of Phase 2, Region 2 turn on automatically when the leachate levels reach a pre-determined elevation set to maintain less than 12 inches of head over the liner. The SCADA system is capable of signaling an alarm if the pre-determined elevations are

exceeded. If alarms are signaled, GRRWA and SCS staff are notified so that the alarm conditions can be evaluated and corrected.

The leachate level measurements for the Phase 2 MSWLF unit Region 2 leachate sumps are provided in Attachment B, Table B-3 and graphs included in Attachment B. The leachate sumps for the R2-1 Cell (R2-1) and the R2-2 Cell (R2-2) were below the compliance elevation of 4 feet during this reporting period.

Phase 2 MSWLF Unit, Region 3

Leachate head riser LPZ-R3-1 was installed during the construction of Cell R3-1 in 2021. Leachate thicknesses were below the compliance level through January 2024. However, it was determined that the telemetry signal from the transducer measuring the leachate level could not communicate with the base station due to the ground topography. Hand measurements will be used to measure LPZ-R3-1 beginning in 2025.

1.3 Approved Changes to System

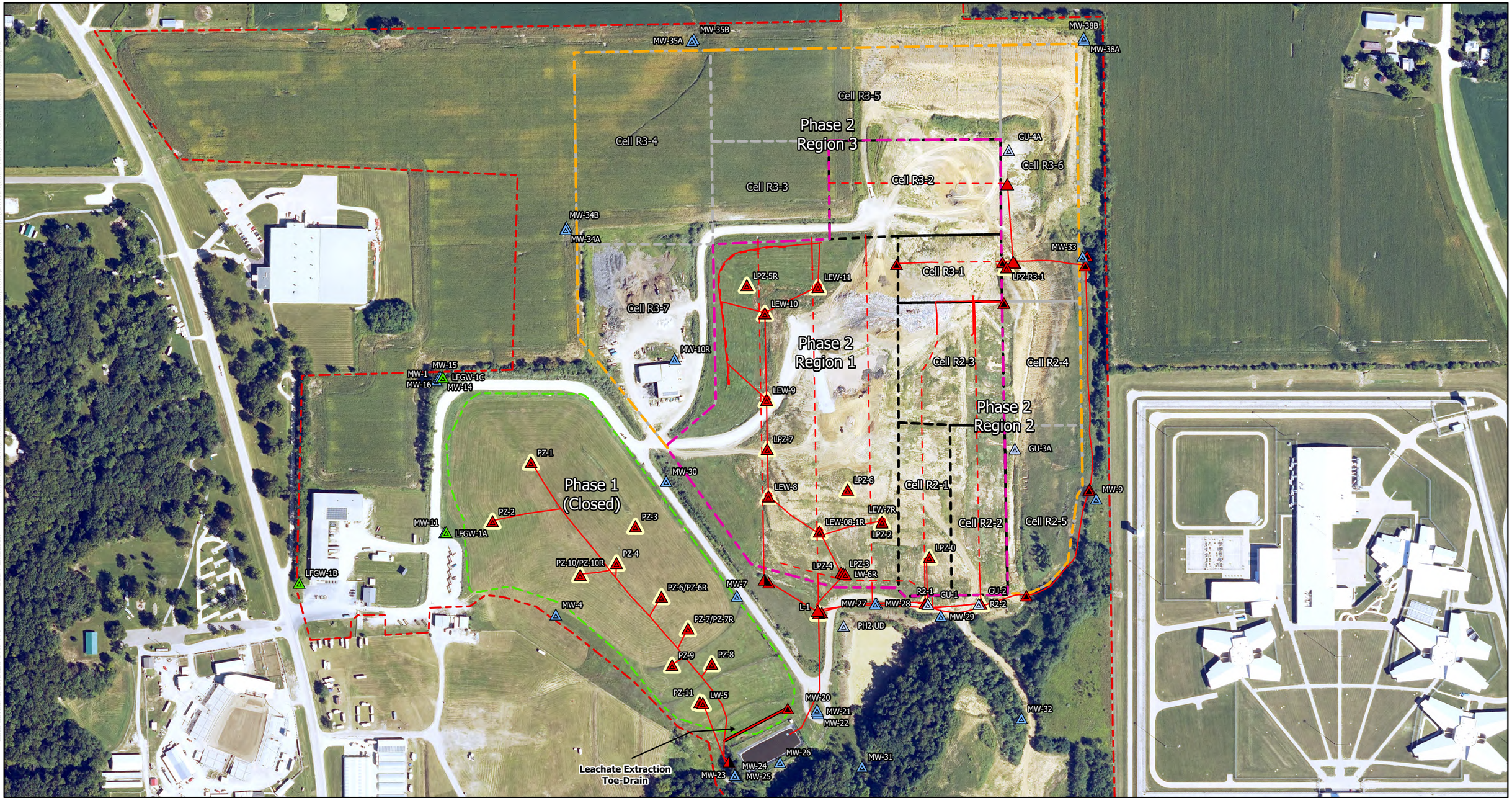
Approved changes to the Phase 2 MSWLF leachate control system during this reporting period are listed below.

- New pumps were installed in leachate extraction well LEW-9 and the lagoon loadout.
- Transducers were replaced in leachate extraction wells LEW-9 and LEW-10.
- A new flow meter was installed on the main discharge.
- A new panel and pump were installed for the new Cell R3-2.
- General maintenance was performed following a power outage/surge to get R3-2, LEW-10, and the main leachate well back online.

1.4 Proposed Changes to System

SCS recommends continuing to perform the following items to maintain the effectiveness of the leachate control system:

- Continue monthly monitoring of the leachate levels as required in the facility permit.
- Maintain good vegetation over the final cover and intermediate cover over the inactive areas.
- Continue operation and maintenance of the leachate control system in accordance with the approved Leachate Control System Plan. Leachate extraction pumps should be repaired/serviced as necessary.
- Continue recording the volume of leachate conveyed to and treated at the City of Fort Madison publicly-owned treatment works (POTW).
- Continue cleaning the leachate collection system once every three years, or more frequently if leachate head or the volume of leachate collected indicates cleaning is necessary. Cleaning occurred during this reporting period on October 30, 2023.



Leachate Control System

Legend

- Leachate Piezometer and/or Extraction Well Location
- Leachate Monitoring Point
- Lift Station
- Manhole
- Cleanout
- SolLeachatePipePh1
- Leachate Pipe - Solid
- Leachate Pipe - Perforated
- Monitoring Well
- Underdrain Monitoring Point
- Landfill Gas Well
- Approximate Future Waste Boundary - Phase 2
- Approximate Waste Boundary - Phase 2
- Located Waste Boundary
- Approximate GRRWA Property Boundary
- Approximate Location Of Existing Cell Boundaries
- Approximate Location of Future Cell Boundary

GRRWA Sanitary Landfill
Phase 2
Fort Madison, Iowa
Project No: 27224317.25
Drawing Date: January 2025

N
W
E
S

0 280 560 1,120 Feet

Figure 1

SCS ENGINEERS
environmental consultants and contractors

Attachment A

Leachate Management Summary Table

Table 12
Leachate Management Summary
2024 Leachate Control System Performance Evaluation Report
Great Regional Waste Authority Sanitary Landfill - Phase 1 and Phase 2 MSWLF Units
Permit No. 56-SDP-07-80P

	Phase 1 MSWLF Unit											
Month	**PZ-1**	**PZ-2**	**PZ-3**	**PZ-6R**	**PZ-7**	**PZ-7R**	**PZ-8**	**PZ-9**	**PZ-10**	**PZ-10R**	**PZ-11**	**LW-5**
October 2023	20.90	33.30	8.20	33.90	11.60	12.80	16.00	17.00	41.90	43.60	30.00	27.80
November 2023	19.50	33.10	6.90	31.70	11.10	13.00	16.20	17.30	42.90	43.00	29.60	27.10
December 2023	20.50	32.80	7.10	31.90	11.40	12.50	15.90	16.80	41.70	43.00	29.20	26.90
January 2024	20.70	33.30	8.10	31.70	11.80	12.50	16.10	17.50	42.00	43.50	29.90	27.60
February 2024	19.90	32.60	7.10	31.50	11.00	12.20	15.80	17.40	41.80	43.00	29.80	27.30
March 2024	19.80	32.80	6.80	32.00	11.50	12.20	16.50	18.30	41.20	42.50	28.80	26.70
April 2024	19.00	32.00	6.80	34.50	12.60	13.80	16.80	16.50	42.60	44.40	30.60	28.30
May 2024	19.20	31.80	6.50	33.40	12.20	13.20	16.20	17.60	41.80	43.80	28.00	27.80
June 2024	20.00	32.00	7.40	33.20	11.10	12.00	15.10	16.20	41.20	43.20	30.00	27.70
July 2024	19.90	32.90	5.90	31.80	12.10	13.00	17.00	15.10	42.10	44.10	0.80	24.80
August 2024	18.90	33.10	5.20	31.50	12.00	13.50	16.50	14.80	41.90	43.80	0.30	24.60
September 2024	19.00	33.00	5.00	31.40	11.20	13.20	16.30	14.30	41.60	43.00	0.30	23.90
October 2024	20.80	32.80	6.40	27.00	11.80	12.90	16.20	16.00	42.00	42.50	0.00	23.70
November 2024	20.50	32.50	6.30	26.60	11.20	10.80	16.40	15.80	41.80	41.90	0.50	23.50
December 2024	20.30	32.80	6.10	26.40	11.20	12.00	16.40	15.80	41.80	42.10	0.00	23.90

	Phase 2, Region 1											Phase 2, Region 2		Phase 2, Region 3		
Month	**LEW-08-1R**	**LPZ-5R**	**LPZ-6**	**LW-6R**	**LW-7**	**LEW-7R**	**LEW-8**	**LEW-9**	**LEW-10**	**LEW-11**	**L-1****	**R2-1***	**R2-2***	**LPZ-R3-1**	**Discharged to Ft. Madison POTW (gal)**	**Precipitation (in)**
October 2023	33.7	17.6		58.6	47.3	23.4	36.9	35.2	18.8	19.9	5.31	2.03	2.33	0.14		2.7
November 2023	33.5	18.1		58.3	47.9	23.2	34.2	33.3	19.2	19.5	5.21	2.09	2.33	0.13		0.38
December 2023	33.3	18.2		58.1	47.6	22.9	32.4	33.5	19.4	19.3	5.21	2.14	2.32	0.11		2.77
January 2024	34.00	18.60		58.90	48.20	23.50	34.90	35.40	19.20	20.30	5.21	3.03	3.10	0.62		1.92
February 2024	33.80	18.20		58.80	47.80	23.90	34.60	34.60	18.30	20.30	5.19	1.97	2.29	NA		0.01
March 2024	34.10	16.10		58.20	48.30	23.30	34.40	34.30	18.60	19.80	NA	2.11	2.28	NA		3.56
April 2024	33.50	18.60	Damaged	59.30	49.00	24.10	36.20	37.60	21.20	20.20	7.20	2.11	2.28	NA		4.73
May 2024	33.20	18.40		58.30	48.80	23.50	35.50	37.60	20.70	19.40	5.67	2.14	2.29	NA	2,431,662	2.76
June 2024	33.30	17.00		58.00	46.70	22.40	36.20	32.80	18.40	19.10	5.23	2.15	2.31	NA		1.98
July 2024	34.20	17.70		57.80	46.30	23.30	35.40	32.40	18.60	18.80	5.53	2.15	2.30	NA		5.72
August 2024	34.00	17.90		57.50	46.10	26.40	34.90	31.70	18.50	18.20	5.87	2.16	2.31	NA		1.52
September 2024	33.00	17.20		58.10	47.80	25.80	34.70	31.60	18.40	17.80	8.69	2.17	2.31	NA		0.37
October 2024	32.40	16.30		57.20	50.00	65.50	26.40	40.70	17.90	17.40	NA	2.15	2.32	NA		0.97
November 2024	32.20	16.20		56.70	49.30	67.40	25.90	40.50	17.90	17.30	17.88	2.13	2.32	NA		0.76
December 2024	32.10	16.50		56.30	49.60	64.90	26.60	41.50	32.80	16.30	27.54	2.05	2.34	NA		1.06
														Reporting Period Total	2,431,662	31.21

NA - Not available.

* - The compliance level of R2-1 and R2-2 is 4 feet.

** - The compliance level of L-1 is 21 feet.

Measurements performed by Landfill staff.

1) All measurements are thickness in feet: water column in Phase 1, head over liner in Phase 2.

2) Reporting Period: October 2023 - December 2024

3) Last Date of Cleaning and Inspection: October 2023.

7) Volume of Leachate Treated Off-Site: 2,431,662 gallons of leachate were discharged to the City of Ft. Madison POTW during this reporting period.

4) Date for Next Cleaning and Inspection: Leachate line cleaning and inspection will be performed in 2026.

5) Volume of Leachate Recirculated: Leachate is not recirculated.

6) Volume of Leachate Treated On-Site: Leachate is not treated on-site.

8) Leachate Quality Testing Results: Leachate testing is performed by the Ft. Madison POTW. Results are not provided to GRRWA.

9) Precipitation data from https://mesonet.agron.iastate.edu/ASOS/reports/mon_prec.php?year=2023/2024.

Attachment B

Historical Leachate Column Thickness Tables and Graphs

Attachment B
Phase 1 Leachate Level Measurements
Great River Regional Waste Authority Sanitary Landfill
Fort Madison, Iowa
Project No. 27224317.25

CONSTRUCTED WELL DEPTH (ft)	LEACHATE PIEZOMETER											
	PZ-1	PZ-2	PZ-3	PZ-6R	PZ-7	PZ-7R	PZ-8	PZ-9	PZ-10	PZ-10R	PZ-11	LW-5
	40.0	45.8	39.9	57.0	42.0	41.0	45.1	38.3	63.8	64.0	47.8	46.8
DATE	MEASURED LEACHATE COLUMN (ft)											
1/27/2000	17.27	24.99	3.94	NI	8.16	NI	11.45	9.69	40.84	NI	NI	NA
2/28/2000	15.48	25.34	4.07	NI	8.66	NI	11.71	9.34	40.31	NI	NI	NA
3/29/2000	15.42	9.26	3.90	NI	8.73	NI	7.29	10.09	39.53	NI	NI	NA
4/25/2000	10.48	21.24	3.39	NI	8.64	NI	6.56	9.66	39.58	NI	NI	NA
5/30/2000	10.55	15.26	3.73	NI	8.76	NI	11.52	10.55	40.68	NI	NI	NA
6/28/2000	14.14	17.04	3.77	NI	8.95	NI	11.72	6.55	40.62	NI	NI	NA
7/25/2000	12.58	17.09	3.75	NI	8.86	NI	12.12	7.25	40.82	NI	NI	NA
8/28/2000	15.55	10.49	3.55	NI	8.71	NI	12.09	6.85	40.65	NI	NI	NA
9/27/2000	10.99	16.99	2.75	NI	9.16	NI	12.14	6.90	40.59	NI	NI	NA
10/30/2000	14.09	15.25	3.05	NI	9.22	NI	12.18	6.92	39.55	NI	NI	NA
11/27/2000	15.40	19.80	3.75	NI	9.55	NI	12.85	8.30	41.10	NI	NI	NA
12/26/2000	15.38	20.29	2.75	NI	9.14	NI	12.77	8.85	39.99	NI	NI	NA
1/30/2001	17.25	21.47	4.79	NI	9.55	NI	10.52	9.39	41.05	NI	NI	NA
2/28/2001	17.20	21.38	2.92	NI	9.64	NI	11.71	9.39	40.28	NI	NI	NA
3/29/2001	15.46	23.70	2.72	NI	9.42	NI	10.62	9.15	40.41	NI	NI	NA
4/30/2001	10.50	21.31	3.63	NI	12.06	NI	9.41	9.85	40.28	NI	NI	NA
5/18/2001	16.25	26.75	3.80	NI	15.10	NI	13.65	11.00	40.50	NI	NI	NA
6/29/2001	16.90	26.44	3.92	NI	13.23	NI	13.73	10.05	40.68	NI	NI	NA
7/30/2001	16.35	26.30	3.90	NI	12.50	NI	14.08	11.11	40.75	NI	NI	NA
8/29/2001	16.40	26.05	3.90	NI	12.10	NI	14.32	11.20	40.68	NI	NI	NA
9/28/2001	16.32	25.80	3.87	NI	11.73	NI	14.43	11.04	40.53	NI	NI	NA
10/31/2001	16.46	26.35	3.70	NI	12.79	NI	14.90	11.40	40.65	NI	NI	NA
11/29/2001	16.55	25.80	3.52	NI	11.97	NI	15.09	11.39	40.60	NI	NI	NA
12/26/2001	16.70	25.82	3.59	NI	12.16	NI	15.27	11.77	40.89	NI	NI	NA
1/31/2002	20.02	22.09	3.37	NI	11.48	NI	14.46	11.05	40.35	NI	NI	NA
2/28/2002	16.45	26.03	3.78	NI	12.85	NI	15.30	11.80	40.78	NI	NI	NA
3/28/2002	16.76	26.35	3.72	NI	13.02	NI	15.40	12.06	40.86	NI	NI	NA
4/30/2002	16.75	26.51	4.06	NI	12.61	NI	15.33	11.92	40.62	NI	NI	NA
5/28/2002	16.80	26.63	3.98	NI	12.28	NI	15.45	12.12	40.70	NI	NI	NA
6/27/2002	14.81	26.25	4.04	NI	12.00	NI	15.34	12.06	40.61	NI	NI	NA
7/31/2002	16.85	26.25	4.65	NI	11.58	NI	15.37	12.06	41.45	NI	9.55	NA
8/30/2002	20.50	22.20	3.91	NI	11.96	NI	15.37	11.97	40.36	NI	9.75	NA
9/30/2002	16.80	26.60	3.91	NI	11.55	NI	15.52	12.19	40.40	NI	5.70	NA
10/28/2002	16.94	26.83	4.98	NI	11.46	NI	15.60	12.22	40.54	NI	2.89	NA
11/27/2002	16.84	26.48	4.00	NI	11.14	NI	15.36	11.91	40.20	NI	2.92	NA
12/30/2002	17.15	27.05	4.10	NI	10.70	NI	14.00	11.20	40.72	NI	1.15	NA
1/28/2003	16.90	26.69	4.03	NI	11.07	NI	15.43	12.06	40.27	NI	2.96	NA
2/27/2003	16.92	26.70	4.00	NI	11.44	NI	15.64	12.27	40.36	NI	5.47	NA
3/31/2003	16.90	26.60	3.97	NI	11.30	NI	15.69	12.32	40.22	NI	6.42	NA
4/30/2003	20.80	22.68	4.03	NI	11.27	NI	15.57	12.24	40.16	NI	7.36	NA
5/30/2003	20.90	18.88	4.06	NI	11.21	NI	15.85	12.64	40.53	NI	9.00	NA
6/30/2003	16.85	26.38	4.05	NI	10.97	NI	15.46	12.01	40.00	NI	9.36	NA
7/31/2003	16.98	26.41	4.05	NI	11.07	NI	15.66	12.37	40.18	NI	27.32	NA
8/28/2003	20.51	22.17	3.07	NI	10.95	NI	15.60	12.40	40.20	NI	28.50	NA
11/26/2003	20.89	22.88	4.10	NI	11.49	NI	15.60	12.51	40.30	NI	15.80	NA
12/23/2003	17.23	26.73	4.16	NI	14.15	NI	15.71	12.58	40.34	NI	8.44	NA
1/29/2004	20.77	22.90	4.02	NI	12.65	NI	15.85	12.65	40.16	NI	8.34	NA
2/27/2004	20.90	22.91	4.00	NI	13.80	NI	15.70	12.50	37.95	NI	8.00	NA
3/30/2004	17.33	27.00	4.11	NI	14.04	NI	15.85	12.66	40.17	NI	8.15	NA
4/29/2004	17.21	27.10	4.10	NI	12.85	NI	15.85	12.60	40.10	NI	7.57	NA
5/25/2004	17.23	26.73	4.16	NI	14.15	NI	15.71	12.58	40.34	NI	8.44	NA
6/29/2004	17.00	33.65	4.08	NI	11.00	NI	15.78	12.40	39.85	NI	5.30	NA
7/26/2004	17.08	26.75	3.99	NI	11.80	NI	15.74	12.48	39.86	NI	7.46	NA
8/31/2004	17.05	26.72	4.01	NI	13.16	NI	15.70	12.49	39.88	NI	NA	NA
9/30/2004	17.13	26.83	4.00	NI	12.66	NI	15.82	12.61	39.88	NI	7.90	NA
10/26/2004	17.10	27.05	4.05	NI	12.95	NI	15.71	12.57	39.90	NI	7.62	NA
11/30/2004	17.14	27.10	4.04	NI	13.99	NI	15.80	12.59	39.96	NI	8.06	NA
12/31/2004	17.35	27.45	4.20	NI	13.10	NI	15.90	12.60	39.90	NI	7.45	NA

Attachment B
Phase 1 Leachate Level Measurements
Great River Regional Waste Authority Sanitary Landfill
Fort Madison, Iowa
Project No. 27224317.25

CONSTRUCTED WELL DEPTH (ft)	LEACHATE PIEZOMETER											
	PZ-1	PZ-2	PZ-3	PZ-6R	PZ-7	PZ-7R	PZ-8	PZ-9	PZ-10	PZ-10R	PZ-11	LW-5
	40.0	45.8	39.9	57.0	42.0	41.0	45.1	38.3	63.8	64.0	47.8	46.8
DATE	MEASURED LEACHATE COLUMN (ft)											
1/31/2005	17.35	27.47	4.06	NI	13.20	NI	15.90	12.55	39.85	NI	7.70	NA
2/28/2005	17.55	27.79	4.11	NI	13.92	NI	16.24	12.99	40.22	NI	8.31	NA
3/29/2005	17.55	27.96	4.30	NI	13.25	NI	16.60	13.00	40.30	NI	7.45	NA
4/28/2005	17.36	27.91	4.18	NI	12.98	NI	16.03	12.65	39.85	NI	7.86	NA
5/31/2005	17.31	27.88	4.20	NI	12.36	NI	15.98	12.63	39.76	NI	7.44	NA
6/29/2005	17.28	27.80	4.20	NI	12.15	NI	16.05	12.65	38.85	NI	7.40	NA
7/25/2005	15.26	27.65	4.18	NI	12.00	NI	16.00	12.67	39.73	NI	7.21	NA
10/24/2005	17.19	27.38	4.09	NI	11.47	NI	15.86	12.60	39.50	NI	16.36	NA
1/23/2006	17.20	27.13	4.16	NI	11.25	NI	15.95	12.56	38.46	NI	17.58	NA
4/14/2006	17.63	27.83	4.20	NI	14.47	NI	16.25	13.09	39.90	NI	29.47	NA
7/27/2006	17.42	27.49	4.30	NI	12.43	NI	16.14	12.88	39.50	NI	27.20	NA
10/20/2006	1.51	19.30	NA	NI	3.48	NI	2.09	1.18	36.57	NI	7.80	NA
1/31/2007	0.02	19.60	0.02	NI	10.19	NI	0.10	1.10	0.25	NI	0.77	NA
4/27/2007	1.70	19.77	4.21	NI	12.58	NI	2.02	1.09	36.40	NI	7.90	NA
7/20/2007	0.86	19.61	4.14	NI	11.67	NI	2.10	0.99	36.44	NI	7.89	NA
10/26/2007	40.00	45.80	3.97	NI	11.27	NI	4.88	0.68	NA	NI	7.88	NA
1/31/2008	1.56	32.20	4.00	NI	11.25	NI	1.85	0.68	NA	NI	7.80	NA
4/29/2008	7.82	33.20	NA	NI	12.60	NI	1.83	0.82	NA	NI	8.12	NA
7/31/2008	13.98	30.99	NA	NI	10.72	NI	1.92	1.08	NA	NI	7.94	NA
10/13/2008	15.00	31.34	4.12	NI	10.90	NI	1.99	1.17	NA	NI	7.98	NA
1/19/2009	16.59	32.69	3.97	NI	11.91	NI	3.62	1.13	36.30	NI	7.99	NA
2/24/2009	16.78	32.68	4.12	NI	5.28	NI	2.05	6.28	13.18	NI	16.95	NA
3/25/2009	16.82	33.56	4.12	NI	5.58	NI	1.92	0.61	4.84	NI	47.80	NA
4/30/2009	16.92	33.79	4.20	NI	5.29	NI	1.98	2.79	4.47	NI	8.77	NA
6/25/2009	16.89	32.75	4.08	NI	12.00	NI	3.86	1.76	36.65	NI	8.10	NA
8/27/2009	16.83	32.57	4.22	NI	5.36	NI	2.10	8.76	3.58	NI	7.82	NA
9/29/2009	16.80	31.89	4.17	NI	5.26	NI	2.01	9.18	3.86	NI	7.97	NA
10/29/2009	17.10	33.40	4.21	NI	7.04	NI	2.12	10.07	10.35	NI	8.34	NA
11/30/2009	17.10	33.76	4.19	NI	5.48	NI	1.95	9.27	4.15	NI	8.35	NA
12/1/2009	17.15	33.50	4.02	NI	5.37	NI	1.96	10.30	3.84	NI	8.02	NA
1/29/2010	17.26	33.92	4.16	NI	5.67	NI	1.97	1.32	4.20	NI	7.99	NA
2/26/2010	17.31	33.15	4.10	31.70	5.58	4.48	1.66	1.63	3.65	5.17	8.03	NA
3/30/2010	17.10	33.67	4.20	33.58	5.97	4.45	8.35	NA	4.21	5.96	8.56	NA
4/22/2010	16.09	33.13	4.21	32.71	5.75	4.41	1.72	1.55	4.01	5.80	8.17	NA
5/27/2010	16.93	32.91	4.18	34.19	5.85	4.56	1.85	2.75	3.90	5.69	15.07	NA
6/27/2010	16.58	31.28	4.18	34.25	6.28	4.68	1.78	2.55	3.84	5.58	16.38	NA
7/21/2010	17.17	32.80	4.22	33.88	5.80	4.47	1.78	8.16	4.00	5.77	28.78	NA
8/23/2010	26.06	22.65	4.30	32.45	5.84	4.60	1.80	9.37	3.77	5.55	30.55	NA
9/28/2010	17.03	32.55	4.30	32.46	5.98	4.48	1.90	10.63	4.01	5.81	31.20	NA
10/26/2010	17.08	32.24	4.45	31.38	6.15	4.52	1.90	10.73	4.10	5.90	31.32	NA
11/30/2010	17.10	31.32	4.44	29.40	5.77	4.48	1.86	1.56	3.70	5.52	30.65	NA
12/22/2010	17.02	30.39	4.19	28.55	5.82	4.28	1.92	1.30	2.00	5.40	29.36	NA
1/27/2011	15.85	31.10	4.34	27.35	5.86	3.88	1.95	10.20	4.29	5.76	27.95	NA
2/23/2011	14.69	30.28	3.78	31.58	5.95	4.45	2.92	NA	3.49	4.85	30.37	NA
3/1/2011	11.15	31.68	3.29	31.32	5.90	4.28	7.18	6.72	3.70	4.16	29.22	NA
4/29/2011	17.86	31.72	3.90	34.19	5.85	4.56	1.85	2.75	3.90	5.69	15.07	NA
5/23/2011	16.69	32.78	4.48	31.25	7.09	5.02	1.95	10.80	4.15	5.85	31.28	NA
6/29/2011	17.92	31.62	3.80	32.38	5.68	4.86	2.00	0.00	4.33	5.86	31.35	NA
7/25/2011	16.88	32.08	3.75	30.59	4.62	3.92	1.86	9.50	3.49	5.38	29.35	NA
8/30/2011	16.79	32.02	3.66	30.60	4.72	3.90	1.89	9.55	3.45	5.47	29.38	NA
9/27/2011	12.82	30.40	3.22	28.19	3.97	3.51	1.88	9.27	3.51	5.28	30.72	NA
10/24/2011	11.95	27.95	2.96	27.96	3.75	3.18	1.90	9.21	3.56	4.99	29.75	NA
11/28/2011	16.86	28.91	4.34	27.86	3.68	3.11	2.12	9.12	3.32	5.02	29.60	NA
12/21/2011	1.59	31.68	3.06	28.35	4.78	3.26	1.92	7.26	3.49	5.06	29.79	NA
1/30/2012	1.48	31.00	4.05	27.96	4.10	3.20	1.89	6.32	3.42	5.24	29.56	NA
2/29/2012	1.52	31.02	4.18	27.92	3.99	3.55	2.00	6.41	3.40	5.30	29.60	NA
3/28/2012	1.60	31.12	4.10	27.82	3.86	3.44	1.97	6.40	3.39	5.28	29.58	NA
4/29/2012	1.60	31.90	4.66	28.77	NA	4.16	1.46	0.82	NA	5.40	20.72	NA
5/31/2012	7.02	11.84	4.12	22.57	5.02	3.90	1.90	8.56	3.56	5.27	10.38	NA
6/27/2012	7.04	10.85	4.12	27.55	4.55	3.88	3.90	8.56	3.56	5.27	12.38	NA
7/30/2012	7.05	10.85	4.28	26.48	4.42	3.90	3.95	8.60	3.60	5.30	12.22	NA
8/28/2012	7.01	10.86	4.25	19.86	4.75	3.00	1.89	0.00	4.82	5.06	17.18	NA
9/27/2012	6.84	10.86	4.38	19.91	4.80	2.58	2.10	9.40	4.88	5.09	17.29	NA
10/23/2012	6.63	10.85	4.18	19.80	4.80	2.18	1.89	0.96	5.06	5.32	17.22	NA
11/27/2012	6.56	10.87	3.86	19.80	4.85	2.10	1.90	0.98	5.07	5.36	17.20	NA
12/18/2012	7.36	10.84	3.82	19.72	4.88	2.15	1.90	1.00	5.05	5.31	17.19	NA

Attachment B
Phase 1 Leachate Level Measurements
Great River Regional Waste Authority Sanitary Landfill
Fort Madison, Iowa
Project No. 27224317.25

CONSTRUCTED WELL DEPTH (ft)	LEACHATE PIEZOMETER											
	PZ-1	PZ-2	PZ-3	PZ-6R	PZ-7	PZ-7R	PZ-8	PZ-9	PZ-10	PZ-10R	PZ-11	LW-5
	40.0	45.8	39.9	57.0	42.0	41.0	45.1	38.3	63.8	64.0	47.8	46.8
DATE	MEASURED LEACHATE COLUMN (ft)											
1/28/2013	7.50	10.83	3.85	19.70	4.85	2.17	1.90	0.98	5.00	5.32	17.22	NA
2/28/2013	7.47	10.85	4.65	19.69	5.58	2.19	1.09	0.41	5.02	5.49	11.38	NA
3/25/2013	7.51	11.16	3.90	31.75	5.11	4.38	4.02	2.87	5.88	6.15	11.40	NA
4/23/2013	7.49	NA	3.75	32.86	5.10	4.60	4.05	2.90	5.98	6.16	10.91	NA
5/29/2013	7.52	80.69	4.10	34.40	4.60	3.85	4.05	8.60	3.60	6.61	12.30	NA
6/25/2013	7.49	80.70	4.16	33.55	4.52	3.82	6.65	8.00	3.59	6.00	21.95	NA
7/23/2013	7.36	26.71	4.12	30.90	4.50	3.90	11.95	9.25	11.50	13.58	22.00	NA
8/27/2013	7.31	7.50	4.34	29.55	4.15	3.80	10.65	8.40	18.76	20.06	25.89	NA
9/25/2013	7.11	9.42	3.89	28.89	5.05	4.28	12.72	11.90	3.55	5.30	15.85	NA
10/28/2013	6.79	10.80	4.09	28.05	5.00	4.11	11.70	11.40	3.48	5.00	14.75	NA
11/24/2013	6.77	10.65	4.10	28.06	4.99	4.18	11.10	12.36	3.42	5.00	14.70	NA
12/16/2013	6.92	10.86	4.20	26.55	5.00	4.10	9.96	12.40	3.60	5.06	14.30	NA
1/24/2014	44.33	10.88	4.10	28.10	5.00	4.15	11.10	12.34	3.40	5.00	14.66	NA
2/24/2014	35.89	10.83	0.99	18.28	5.40	4.32	4.00	11.41	3.80	6.25	14.75	NA
3/27/2014	7.39	10.85	4.48	18.20	4.99	4.35	NM	10.85	3.56	5.04	14.62	NA
4/26/2014	7.44	10.87	0.99	18.28	5.40	4.32	4.00	11.41	3.80	6.25	14.75	NA
5/29/2014	8.97	10.84	1.06	18.30	5.40	4.30	3.96	11.30	3.80	6.40	14.70	NA
6/30/2014	6.92	10.87	4.36	14.86	5.88	4.19	3.70	11.32	3.85	6.46	14.80	NA
7/28/2014	8.64	10.85	4.28	18.30	5.32	4.28	3.10	11.48	3.75	6.60	11.20	NA
8/27/2014	7.66	10.86	4.30	17.99	5.41	4.30	3.95	11.50	3.79	6.22	14.70	NA
9/29/2014	7.53	10.88	4.20	16.28	5.72	4.26	14.50	Dry	3.80	6.32	13.91	NA
10/22/2014	7.59	10.85	4.26	16.29	5.70	4.25	14.36	Dry	3.82	6.28	13.89	NA
11/26/2014	7.58	10.80	4.16	16.22	5.62	4.25	12.52	Dry	3.86	6.80	13.90	NA
12/17/2014	7.58	10.78	4.06	16.20	4.58	4.30	12.67	Dry	3.84	6.30	9.80	NA
1/26/2015	7.62	10.71	3.98	16.18	4.60	4.40	12.95	Dry	3.85	6.25	13.40	NA
2/28/2015	7.51	10.75	4.30	16.15	5.52	4.30	14.28	Dry	3.80	6.09	7.79	NA
3/30/2015	7.61	11.60	4.42	16.38	5.68	4.18	14.30	5.95	3.80	6.10	7.67	NA
4/27/2015	7.60	11.32	4.50	16.42	4.40	4.20	3.90	11.50	3.79	6.22	14.70	NA
5/27/2015	7.61	11.36	4.40	18.02	4.12	4.52	9.10	11.15	3.83	6.37	14.65	NA
6/24/2015	7.53	11.32	3.18	18.06	4.08	4.50	9.10	11.15	3.95	6.30	13.71	NA
7/27/2015	7.54	11.30	4.30	18.55	4.10	4.55	9.10	11.50	4.00	6.22	14.62	NA
8/27/2015	7.48	NA	3.82	28.96	5.98	4.28	2.69	2.43	10.99	7.18	22.09	NA
9/24/2015	1.92	22.29	3.45	29.58	4.85	4.28	10.95	8.01	11.37	5.28	13.26	NA
10/26/2015	1.96	24.52	4.36	27.42	4.35	4.58	1.69	0.89	9.29	4.18	27.89	NA
11/20/2015	2.00	25.62	4.42	26.96	4.31	4.60	2.09	0.90	9.40	4.52	28.60	NA
12/18/2015	6.99	29.84	4.40	27.00	4.58	4.86	2.95	1.82	9.43	6.08	29.31	29.79
1/28/2016	14.20	32.65	4.70	31.39	6.88	6.85	4.95	3.41	18.79	21.16	32.62	NA
2/29/2016	14.20	32.65	4.40	31.39	8.29	8.59	5.52	9.30	27.10	28.90	32.62	30.65
3/29/2016	13.18	34.15	4.75	31.48	7.00	8.85	5.15	4.25	18.72	31.15	32.66	30.70
4/28/2016	13.20	34.20	4.60	32.00	6.42	9.02	4.95	3.65	18.82	30.10	32.79	30.80
5/28/2016	13.50	33.98	4.60	28.70	6.40	9.29	5.10	11.42	19.95	30.13	32.55	30.80
6/28/2016	12.92	34.30	4.42	28.60	6.20	9.52	6.20	11.50	18.80	31.15	32.55	30.85
7/27/2016	15.39	32.26	3.95	26.80	8.69	9.22	8.76	11.49	19.98	30.26	32.08	30.50
8/24/2016	15.42	32.30	3.89	26.82	8.72	9.91	8.28	11.55	34.64	36.57	32.10	30.88
9/28/2016	7.80	32.24	4.45	25.76	9.80	10.13	19.75	11.29	34.64	36.38	31.35	30.00
10/20/2016	8.42	32.30	4.34	25.42	9.95	10.25	19.80	11.30	34.91	37.28	31.40	31.05
11/29/2016	8.33	32.45	4.18	25.32	9.85	10.44	19.70	11.25	34.79	37.42	31.35	30.91
12/21/2016	7.80	32.30	4.45	25.76	9.75	10.20	19.80	11.20	34.60	36.38	31.40	30.80
1/23/2017	13.90	32.20	4.50	28.92	10.39	10.50	8.68	10.30	36.69	38.62	30.90	29.15
2/23/2017	13.95	32.35	4.49	29.10	10.36	10.72	12.38	14.04	36.75	38.40	30.90	29.20
3/21/2017	14.40	32.75	4.58	28.76	9.95	10.50	9.20	8.85	36.80	37.99	30.90	29.20
4/19/2017	14.18	34.42	4.50	28.99	10.00	11.10	12.68	9.40	39.40	41.30	31.35	39.26
5/22/2017	14.20	34.60	4.71	29.05	9.90	11.15	12.62	9.29	39.00	41.15	31.72	39.35
6/27/2017	15.08	33.35	4.39	29.60	10.18	10.48	12.85	9.06	38.29	40.08	32.36	31.00
7/13/2017	15.99	32.40	3.89	26.70	10.55	10.20	13.60	8.90	38.16	39.99	32.59	31.79
8/17/2017	15.55	32.62	3.90	26.82	10.60	10.25	13.30	8.82	38.20	39.99	32.60	31.70
9/19/2017	15.39	32.79	4.19	27.59	10.28	10.65	14.02	14.02	37.19	39.03	31.62	29.75
10/19/2017	15.46	32.65	3.89	27.72	10.30	9.60	14.06	14.15	37.30	39.15	31.75	29.80
11/15/2017	15.36	31.79	4.62	27.70	10.60	9.75	15.09	14.05	37.91	39.30	30.65	29.70
12/18/2017	15.70	32.40	4.70	26.99	10.55	9.72	13.60	13.65	38.16	39.37	30.79	29.95

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Phase 1 Leachate Level Measurements
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Fort Madison, Iowa
Project No. 27224317.25

CONSTRUCTED WELL DEPTH (ft)	LEACHATE PIEZOMETER											
	PZ-1	PZ-2	PZ-3	PZ-6R	PZ-7	PZ-7R	PZ-8	PZ-9	PZ-10	PZ-10R	PZ-11	LW-5
	40.0	45.8	39.9	57.0	42.0	41.0	45.1	38.3	63.8	64.0	47.8	46.8
DATE	MEASURED LEACHATE COLUMN (ft)											
1/23/2018	15.10	31.35	4.44	26.90	10.28	9.92	13.20	13.29	38.10	39.22	29.96	28.18
2/21/2018	14.99	31.05	4.45	26.80	9.96	9.88	13.26	13.20	38.10	39.00	29.79	28.10
3/26/2018	15.40	34.71	4.39	26.94	10.15	10.10	14.12	14.07	41.55	43.66	32.22	30.39
4/24/2018	15.50	34.70	4.40	27.00	10.42	9.85	14.10	13.65	41.45	43.60	31.79	29.79
5/30/2018	15.10	31.40	4.44	26.90	10.25	10.02	13.26	13.80	41.34	43.60	31.90	29.80
6/27/2018	15.20	33.30	3.90	23.90	9.60	7.95	13.40	13.29	39.20	41.47	31.70	29.71
7/28/2018	15.25	32.72	3.89	28.90	9.80	11.42	15.32	14.08	38.79	40.88	31.71	29.89
8/15/2018	15.45	31.75	4.60	28.12	11.90	11.20	19.41	13.90	38.72	40.95	31.50	29.55
9/11/2018	16.02	25.29	4.50	28.20	10.64	11.14	15.28	13.95	38.69	41.05	31.40	29.72
10/15/2018	15.60	25.85	4.18	32.60	11.02	11.92	15.68	14.40	41.82	43.79	NA	29.80
11/14/2018	15.75	25.75	4.30	31.55	11.15	11.82	15.42	14.90	41.75	43.94	31.00	29.82
12/12/2018	15.80	25.80	4.10	31.58	11.20	11.99	15.10	14.80	41.65	44.00	31.10	29.85
1/7/2019	15.80	25.80	5.10	31.60	11.95	11.15	15.05	14.85	41.72	44.00	30.80	30.00
2/18/2019	16.39	34.57	6.20	30.99	11.90	11.00	15.22	15.40	41.40	43.82	30.79	30.62
3/19/2019	16.50	34.75	6.40	31.00	11.99	11.15	15.09	15.35	41.37	43.80	30.70	30.60
4/17/2019	15.95	34.80	5.82	30.75	12.00	12.10	15.20	15.29	41.60	43.85	30.82	NA
5/14/2019	15.15	34.20	5.62	31.30	11.90	12.20	15.09	15.21	41.32	43.55	31.40	30.80
6/12/2019	15.40	34.72	5.55	31.60	11.79	12.19	15.20	15.20	41.53	43.90	30.79	30.72
7/22/2019	15.86	34.72	5.85	32.20	9.25	12.60	19.60	14.78	41.40	43.20	31.48	29.80
8/21/2019	17.40	29.88	4.79	30.50	8.80	12.46	15.78	12.50	41.75	43.79	31.10	29.79
9/19/2019	16.15	31.30	5.00	29.68	12.33	12.89	15.40	14.70	41.32	43.82	30.79	29.10
10/28/2019	16.25	31.00	5.15	29.65	12.40	12.81	15.39	14.76	39.23	43.79	30.85	28.96
11/19/2019	17.25	31.35	5.10	30.50	13.85	12.46	15.40	14.41	39.79	43.79	31.05	29.68
12/17/2019	17.57	31.38	5.00	30.52	13.90	13.02	15.48	14.45	NA	NA	31.95	29.72
1/8/2020	17.22	31.42	5.15	30.50	13.90	12.59	15.39	14.55	39.85	43.76	31.90	29.71
2/18/2020	17.60	31.30	5.00	29.99	12.40	12.89	16.10	14.55	41.32	43.82	31.72	29.66
3/17/2020	17.92	33.00	5.40	30.52	13.85	13.10	16.65	14.55	40.08	43.52	31.65	29.68
4/15/2020	16.99	32.70	5.20	30.50	12.90	12.88	16.35	14.45	40.85	43.85	31.85	29.82
5/6/2020	16.79	35.65	9.57	30.82	12.60	12.65	16.40	14.95	42.62	44.77	31.95	29.90
6/15/2020	17.75	37.65	5.09	30.80	10.10	12.86	15.60	14.80	42.56	44.84	31.62	30.05
7/14/2020	17.70	37.55	5.58	30.65	11.02	12.79	15.65	14.88	42.52	44.90	31.40	30.08
8/12/2020	17.74	34.20	5.50	30.55	13.75	11.55	15.70	14.38	41.80	45.15	31.40	30.05
9/15/2020	17.70	34.16	5.20	30.55	13.79	12.20	15.70	14.55	41.75	44.20	31.40	30.35
10/20/2020	17.20	34.00	4.81	30.76	13.20	12.55	15.68	14.20	41.65	43.90	30.95	29.79
11/18/2020	17.25	33.95	4.80	30.80	13.10	12.35	15.52	14.10	41.55	44.00	30.88	29.89
12/14/2020	17.50	32.50	5.18	36.79	12.26	12.65	15.60	13.79	40.20	42.60	29.48	28.05
1/11/2021	17.35	32.60	5.05	36.76	12.32	12.55	15.62	14.10	40.28	43.02	29.85	28.65
2/23/2021	17.52	32.75	5.08	36.76	12.25	12.60	15.60	14.15	40.32	43.15	29.82	28.68
3/19/2021	16.90	37.95	4.57	33.20	16.28	12.53	16.23	15.49	42.95	46.60	31.45	28.95
4/13/2021	17.10	36.20	4.75	33.58	13.90	13.10	16.12	15.46	43.82	47.02	31.75	29.79
5/13/2021	17.28	36.35	4.80	33.06	12.95	12.66	16.80	15.55	43.95	46.95	32.48	30.79
6/21/2021	17.99	35.80	4.95	33.40	13.25	12.00	16.85	15.50	43.85	46.42	32.40	30.85
7/13/2021	17.85	37.05	5.65	33.15	16.20	12.60	16.30	16.40	43.65	46.60	32.05	30.65
8/17/2021	19.30	35.01	5.70	31.40	16.08	12.50	16.89	14.71	44.00	45.70	32.60	30.72
9/16/2021	19.40	35.10	5.10	31.40	15.99	12.22	16.90	14.68	44.05	45.65	32.80	30.70
10/14/2021	19.20	34.75	5.30	31.30	15.22	12.35	16.68	14.10	44.10	45.60	32.76	29.89
11/18/2021	19.25	34.80	5.25	31.35	14.85	12.40	16.85	14.30	43.95	45.70	32.66	29.90
12/19/2021	18.96	34.72	5.25	31.30	14.82	12.30	16.70	14.22	43.79	44.95	31.76	29.70

Attachment B
Phase 1 Leachate Level Measurements
Great River Regional Waste Authority Sanitary Landfill
Fort Madison, Iowa
Project No. 27224317.25

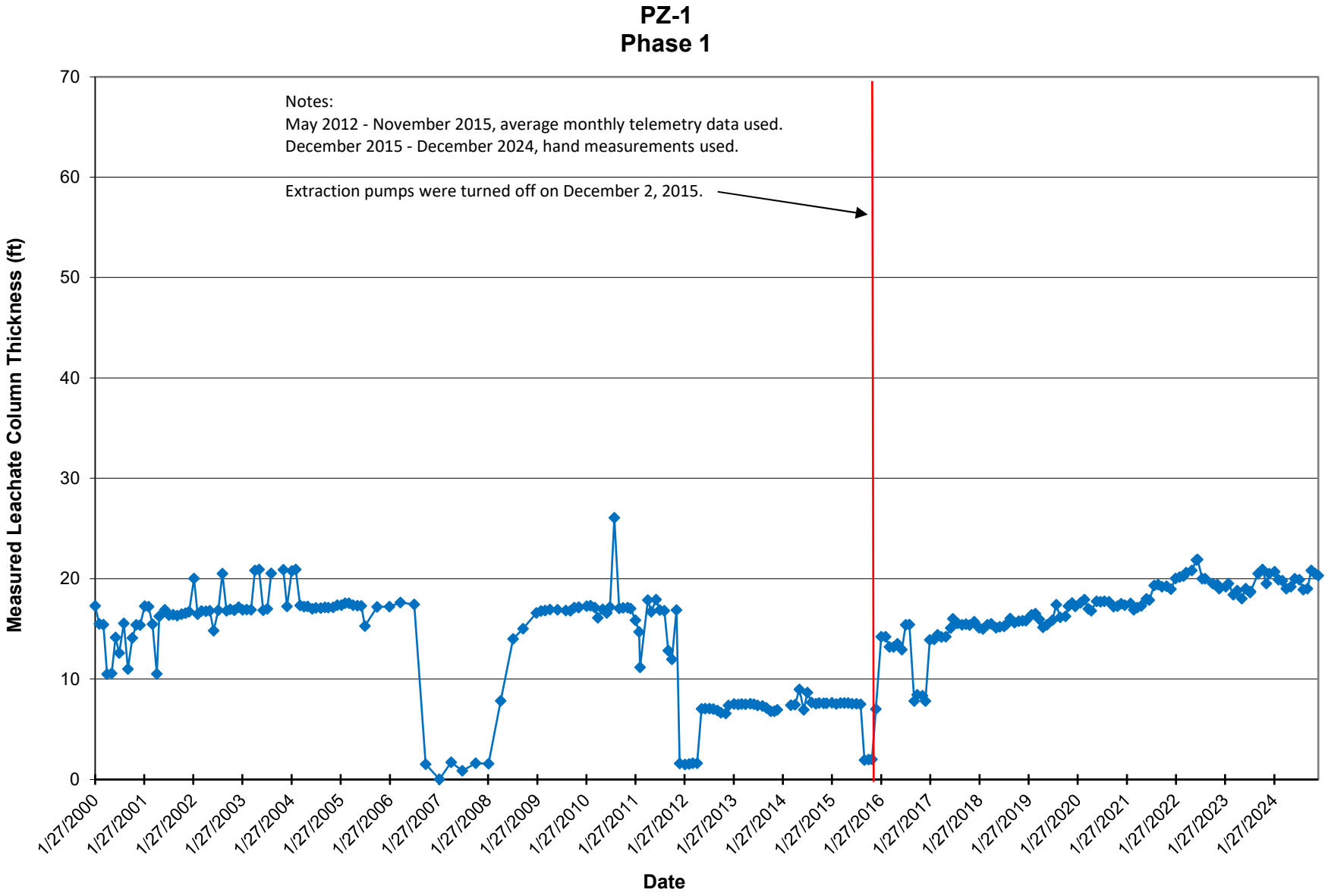
CONSTRUCTED WELL DEPTH (ft)	LEACHATE PIEZOMETER											
	PZ-1	PZ-2	PZ-3	PZ-6R	PZ-7	PZ-7R	PZ-8	PZ-9	PZ-10	PZ-10R	PZ-11	LW-5
	40.0	45.8	39.9	57.0	42.0	41.0	45.1	38.3	63.8	64.0	47.8	46.8
DATE	MEASURED LEACHATE COLUMN (ft)											
1/24/2022	20.02	34.79	6.00	33.20	14.90	12.15	17.20	14.29	43.80	45.05	31.80	29.75
2/22/2022	20.16	34.80	6.80	34.86	15.02	12.52	17.23	14.15	43.70	44.80	31.62	29.69
3/23/2022	20.26	34.90	7.06	33.80	15.05	12.88	17.76	14.40	43.65	45.12	31.85	29.80
4/12/2022	20.60	35.62	7.15	33.55	15.86	13.86	18.20	15.29	43.82	45.55	31.90	29.90
5/24/2022	20.82	35.75	7.89	33.66	16.06	13.35	18.09	15.32	43.86	45.60	31.98	29.79
6/28/2022	21.85	36.00	5.12	30.60	12.50	12.63	16.28	16.45	44.35	45.50	31.86	29.90
7/7/2022	21.90	36.05	5.18	30.59	12.50	12.68	16.30	16.50	44.30	45.48	31.79	29.80
8/10/2022	20.00	28.20	NA	30.00	13.10	11.10	16.90	16.80	42.70	44.90	31.80	30.00
9/1/2022	20.00	33.80	5.40	29.00	14.50	11.50	16.60	16.80	42.80	45.00	31.40	29.80
10/27/2022	19.50	33.00	6.60	35.50	12.40	13.50	16.60	17.70	41.90	44.20	30.60	28.30
11/29/2022	19.40	32.80	6.40	35.30	12.20	13.20	16.20	17.60	42.30	44.50	30.30	27.90
12/14/2022	19.00	30.80	6.30	35.00	11.90	13.40	16.10	17.50	41.80	44.50	30.00	27.70
1/31/2023	19.20	30.90	6.60	34.80	12.00	13.70	17.00	16.70	42.30	44.40	30.50	28.10
2/21/2023	19.50	31.20	6.80	35.00	13.20	13.70	17.10	16.90	42.60	44.70	30.80	28.60
3/28/2023	18.40	30.30	5.70	34.30	13.00	12.90	16.80	16.60	42.30	44.20	30.50	28.20
4/27/2023	18.80	30.70	6.60	34.80	13.00	13.50	17.10	16.70	42.40	44.70	30.80	28.50
5/31/2023	18.00	29.70	4.90	34.10	12.50	12.50	16.50	16.30	42.00	43.90	30.30	27.80
6/28/2023	19.00	31.30	5.90	34.00	12.40	12.30	16.10	16.10	42.20	43.00	30.00	27.60
7/31/2023	18.60	31.10	5.80	33.80	12.00	12.10	16.10	15.80	42.40	42.50	29.80	27.40
8/4/2023	18.70	31.00	8.60	33.70	11.90	12.00	15.90	16.00	42.50	42.90	29.60	27.60
9/29/2023	20.50	32.60	7.90	33.50	11.50	12.40	15.60	16.60	41.70	43.50	29.80	27.80
10/31/2023	20.90	33.30	8.20	33.90	11.60	12.80	16.00	17.00	41.90	43.60	30.00	27.80
11/30/2023	19.50	33.10	6.90	31.70	11.10	13.00	16.20	17.30	42.90	43.00	29.60	27.10
12/21/2023	20.50	32.80	7.10	31.90	11.40	12.50	15.90	16.80	41.70	43.00	29.20	26.90
1/30/2024	20.70	33.30	8.10	31.70	11.80	12.50	16.10	17.50	42.00	43.50	29.90	27.60
2/28/2024	19.90	32.60	7.10	31.50	11.00	12.20	15.80	17.40	41.80	43.00	29.80	27.30
3/28/2024	19.80	32.80	6.80	32.00	11.50	12.20	16.50	18.30	41.20	42.50	28.80	26.70
4/26/2024	19.00	32.00	6.80	34.50	12.60	13.80	16.80	16.50	42.60	44.40	30.60	28.30
5/30/2024	19.20	31.80	6.50	33.40	12.20	13.20	16.20	17.60	41.80	43.80	28.00	27.80
6/28/2024	20.00	32.00	7.40	33.20	11.10	12.00	15.10	16.20	41.20	43.20	0.00	27.70
7/31/2024	19.90	32.90	5.90	31.80	12.10	13.00	17.00	15.10	42.10	44.10	0.80	24.80
8/29/2024	18.90	33.10	5.20	31.50	12.00	13.50	16.50	14.80	41.90	43.80	0.30	24.60
9/30/2024	19.00	33.00	5.00	31.40	11.20	13.20	16.30	14.30	41.60	43.00	0.30	23.90
10/29/2024	20.80	32.80	6.40	27.00	11.80	12.90	16.20	16.00	42.00	42.50	0.00	23.70
11/27/2024	20.50	32.50	6.30	26.60	11.20	10.80	16.40	15.80	41.80	41.90	0.50	23.50
12/19/2024	20.30	32.80	6.10	26.40	11.20	12.00	16.40	15.80	41.80	42.10	-0.20	23.90

1) Monthly leachate level data provided by landfill personnel.

2) NI = Not Installed

3) NA = Not Available

4) From May 2012 - November 2015, monthly averages from data collected by telemetry systems used.


PZ-1
Phase 1
Notes:
May 2012 - November 2015, average monthly telemetry data used.
December 2015 - December 2024, hand measurements used.
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
1/27/2008
1/27/2009
1/27/2010
1/27/2011
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1/27/2015
1/27/2016
1/27/2017
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1/27/2019
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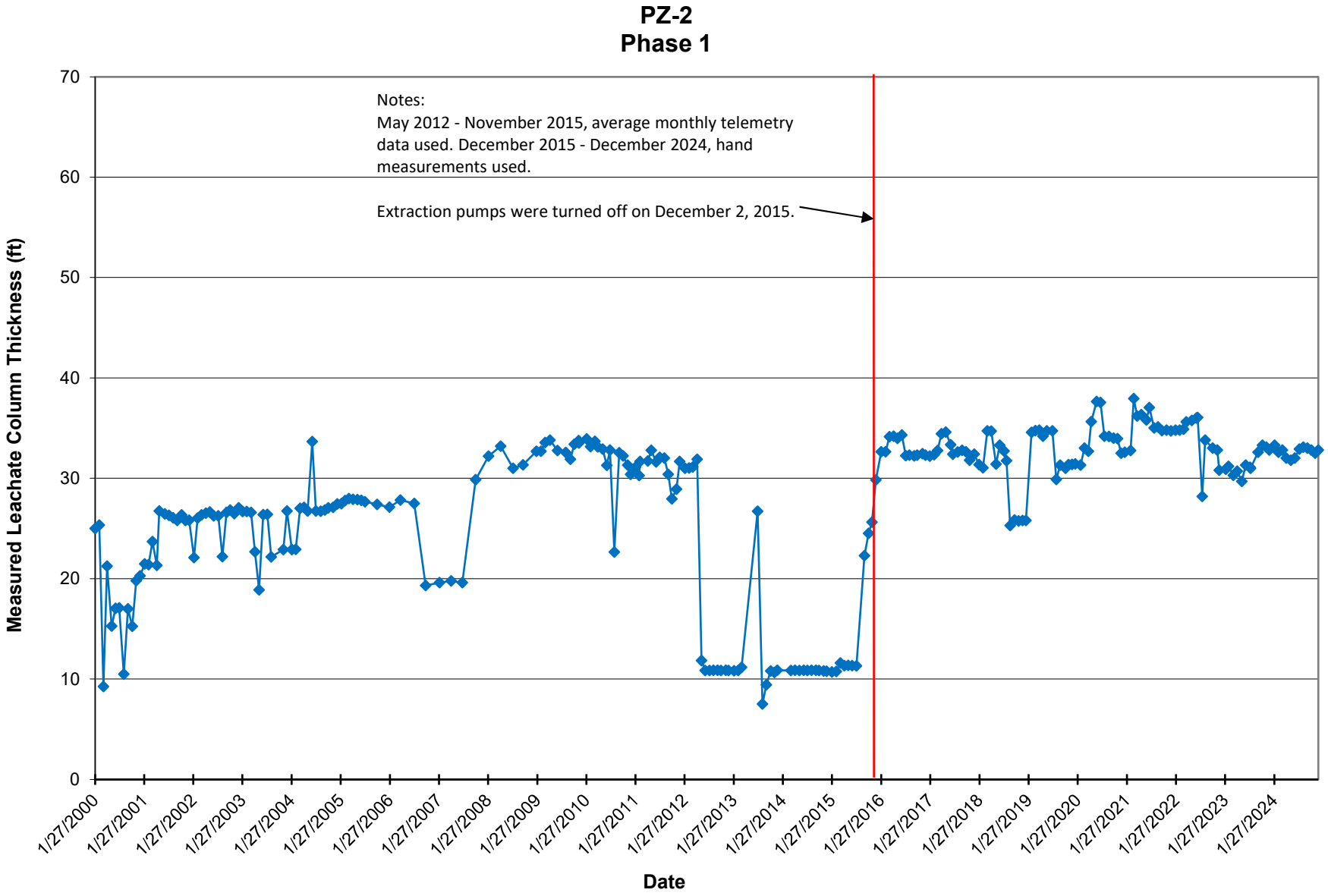
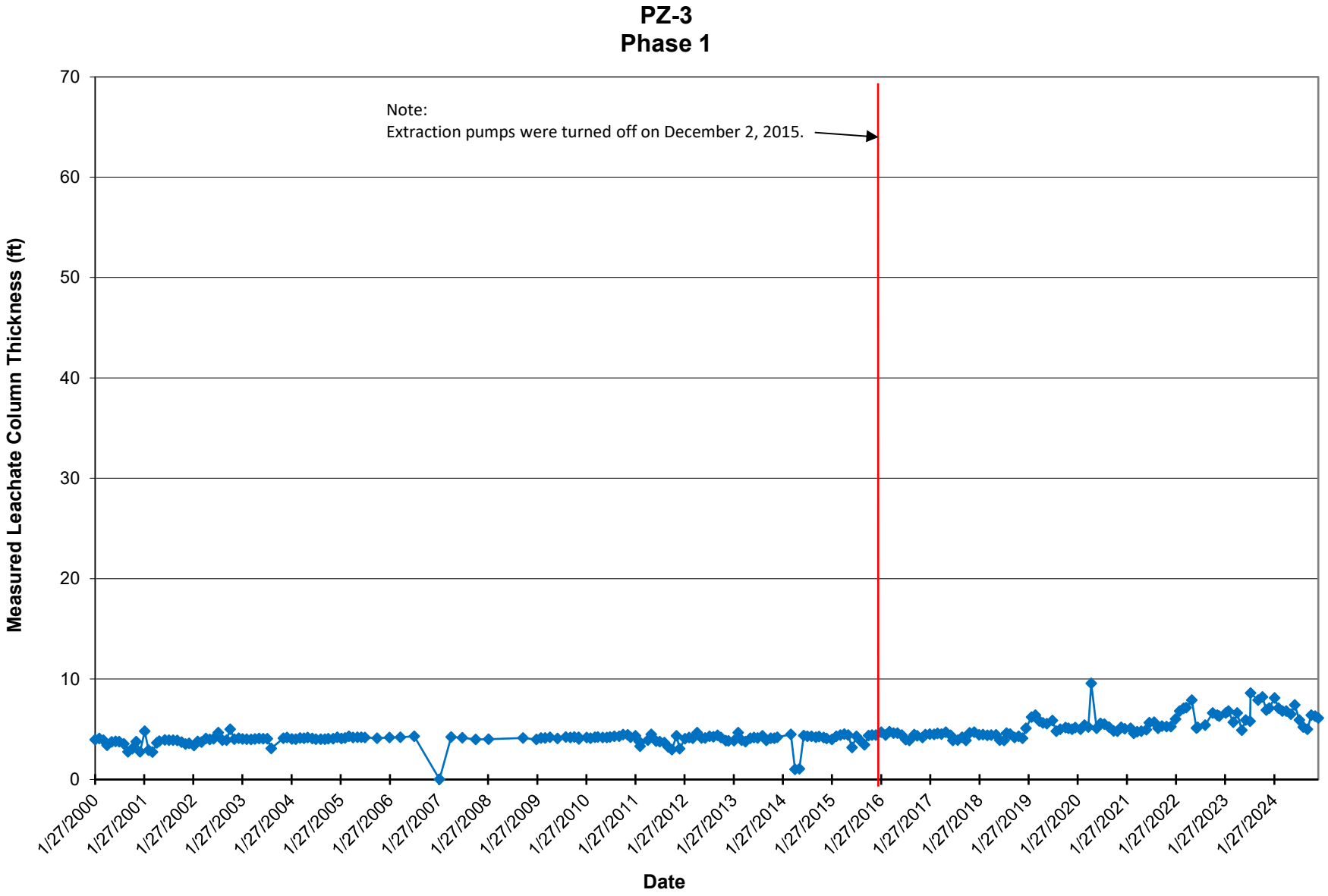
1/27/2023
1/27/2024
Date


PZ-2
Phase 1
Notes:
May 2012 - November 2015, average monthly telemetry data used. December 2015 - December 2024, hand measurements used.
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
1/27/2008
1/27/2009
1/27/2010
1/27/2011
1/27/2012
1/27/2013
1/27/2014
1/27/2015
1/27/2016
1/27/2017
1/27/2018
1/27/2019
1/27/2020
1/27/2021
1/27/2022
1/27/2023
1/27/2024
Date


PZ-3
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
1/27/2008
1/27/2009
1/27/2010
1/27/2011
1/27/2012
1/27/2013
1/27/2014
1/27/2015
1/27/2016
1/27/2017
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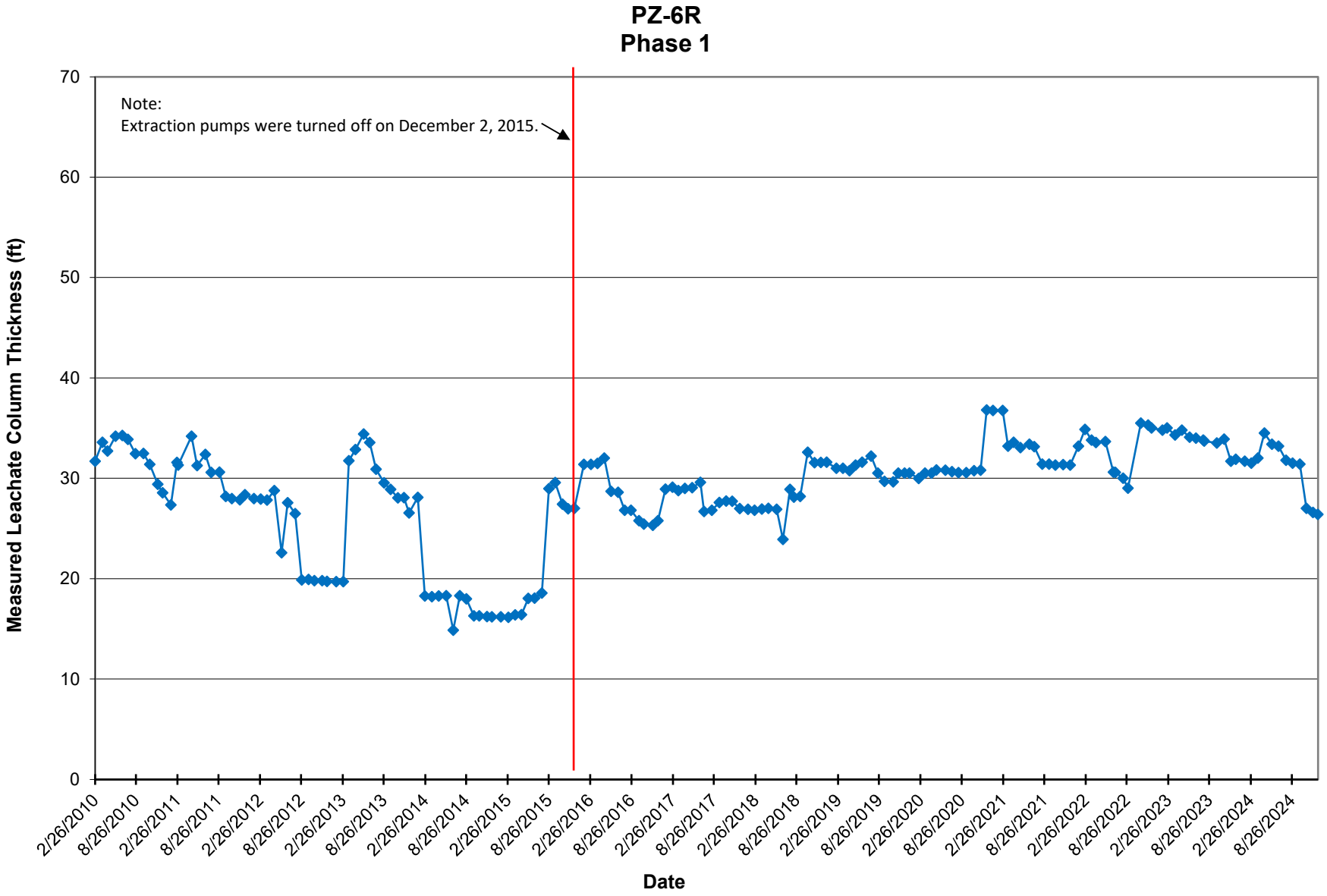
1/27/2020
1/27/2021
1/27/2022
1/27/2023
1/27/2024
Date


PZ-6R
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
2/26/2010
8/26/2010
2/26/2011
8/26/2011
2/26/2012
8/26/2012
2/26/2013
8/26/2013
2/26/2014
8/26/2014
2/26/2015
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2/26/2020
8/26/2020
2/26/2021
8/26/2021
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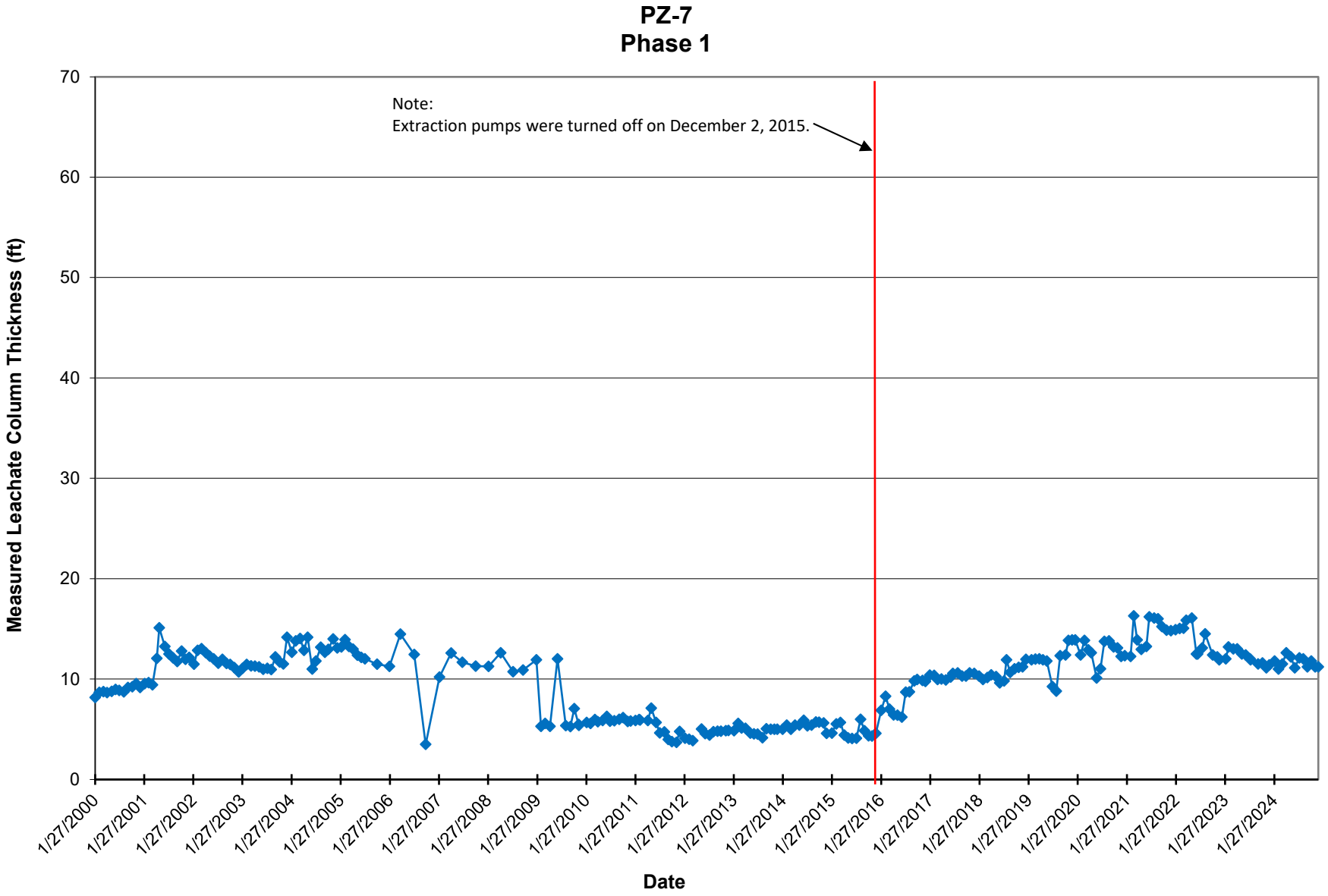
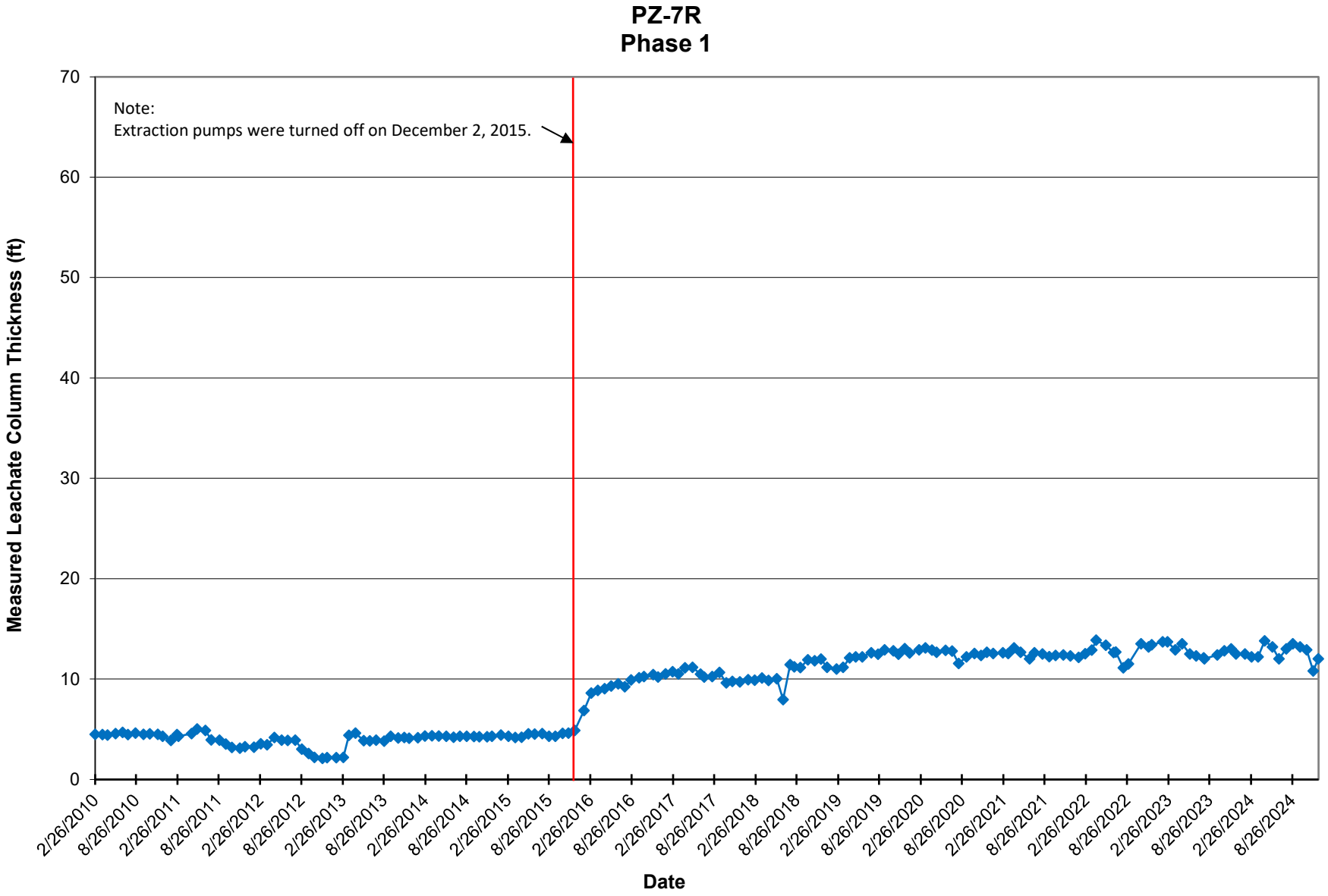
2/26/2023
8/26/2023
2/26/2024
8/26/2024
Date


PZ-7
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
1/27/2008
1/27/2009
1/27/2010
1/27/2011
1/27/2012
1/27/2013
1/27/2014
1/27/2015
1/27/2016
1/27/2017
1/27/2018
1/27/2019
1/27/2020
1/27/2021
1/27/2022
1/27/2023
1/27/2024
Date


PZ-7R
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
2/26/2010
8/26/2010
2/26/2011
8/26/2011
2/26/2012
8/26/2012
2/26/2013
8/26/2013
2/26/2014
8/26/2014
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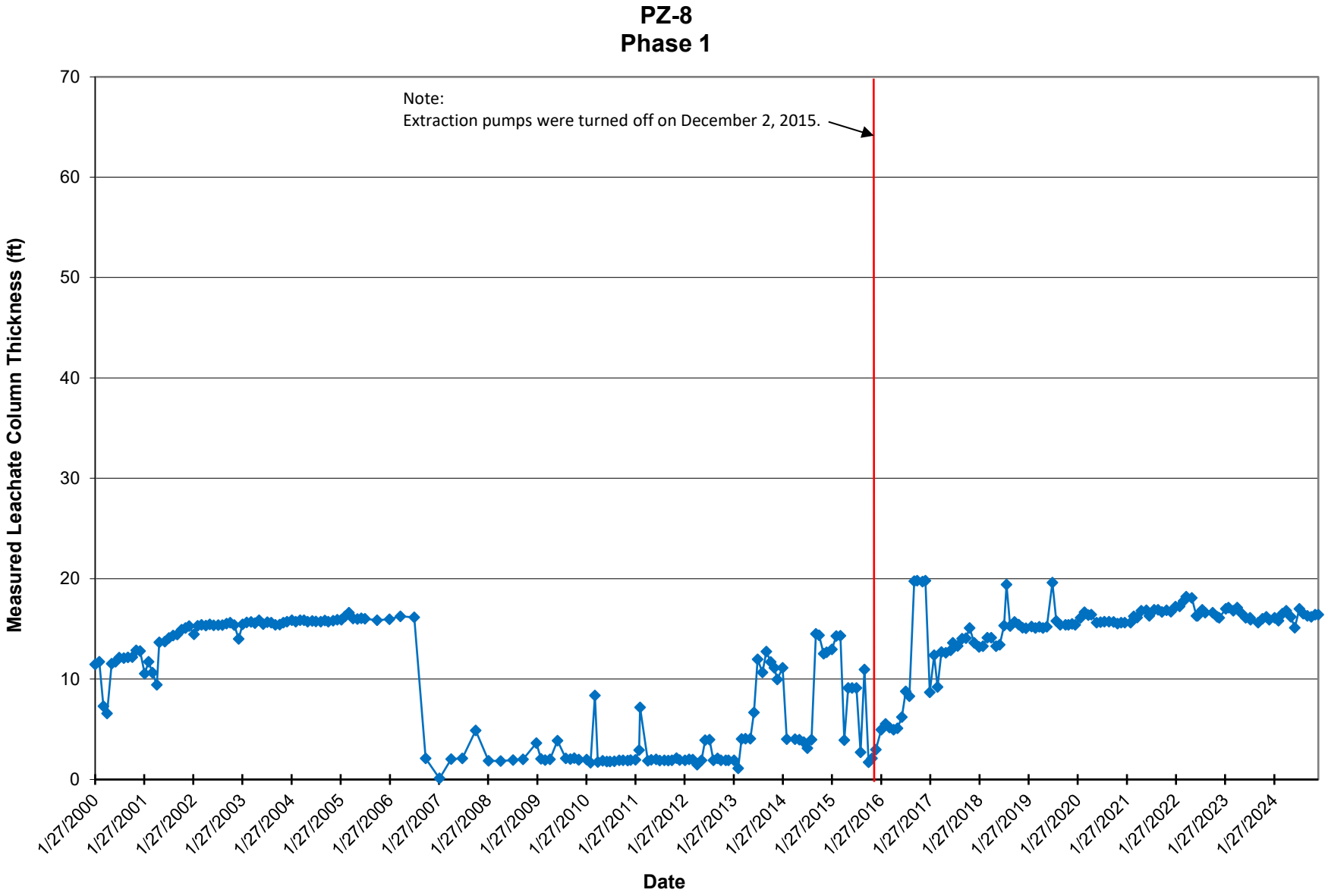
2/26/2023
8/26/2023
2/26/2024
8/26/2024
Date


PZ-8
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
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1/27/2009
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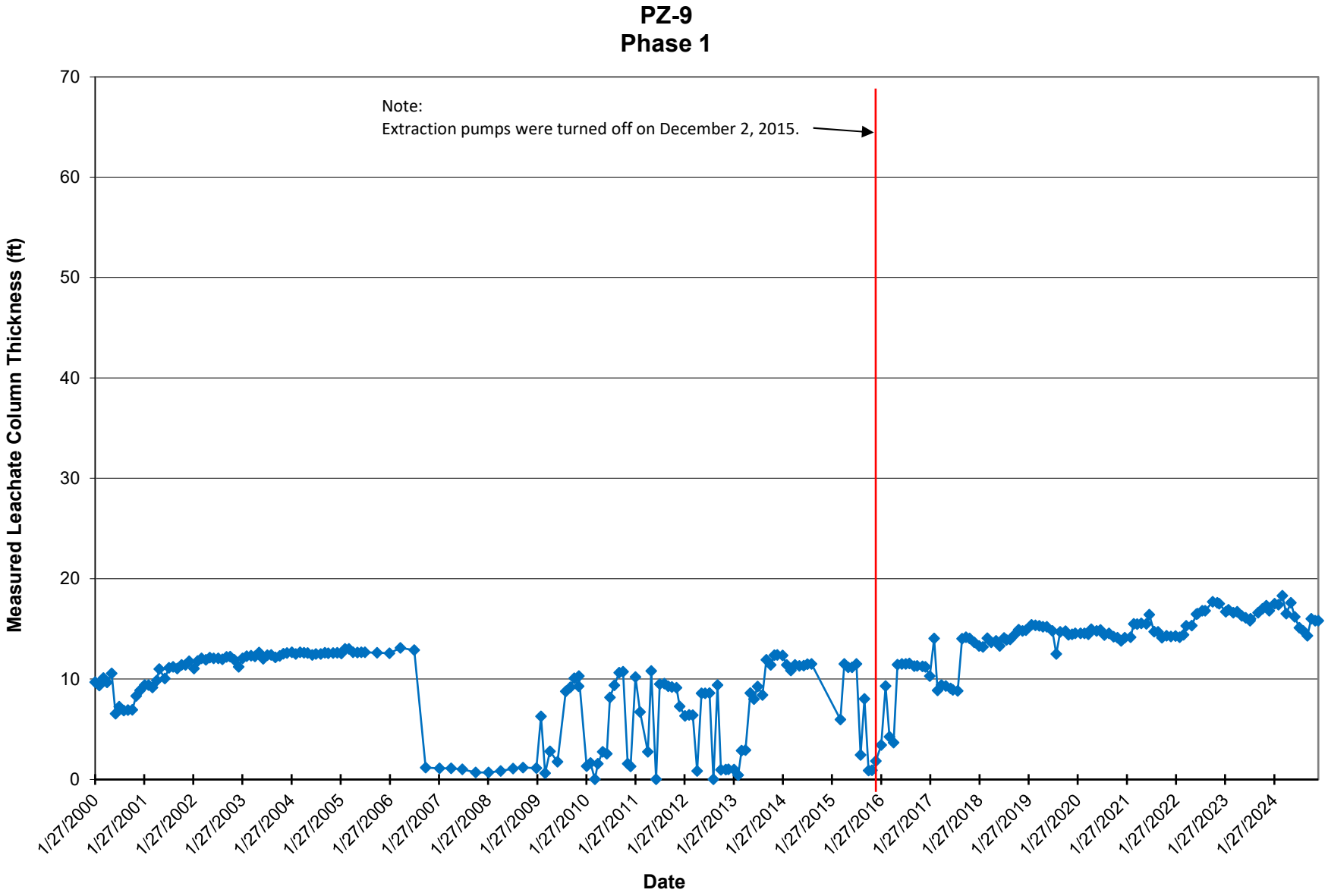
1/27/2024
Date


PZ-9
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
1/27/2008
1/27/2009
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1/27/2011
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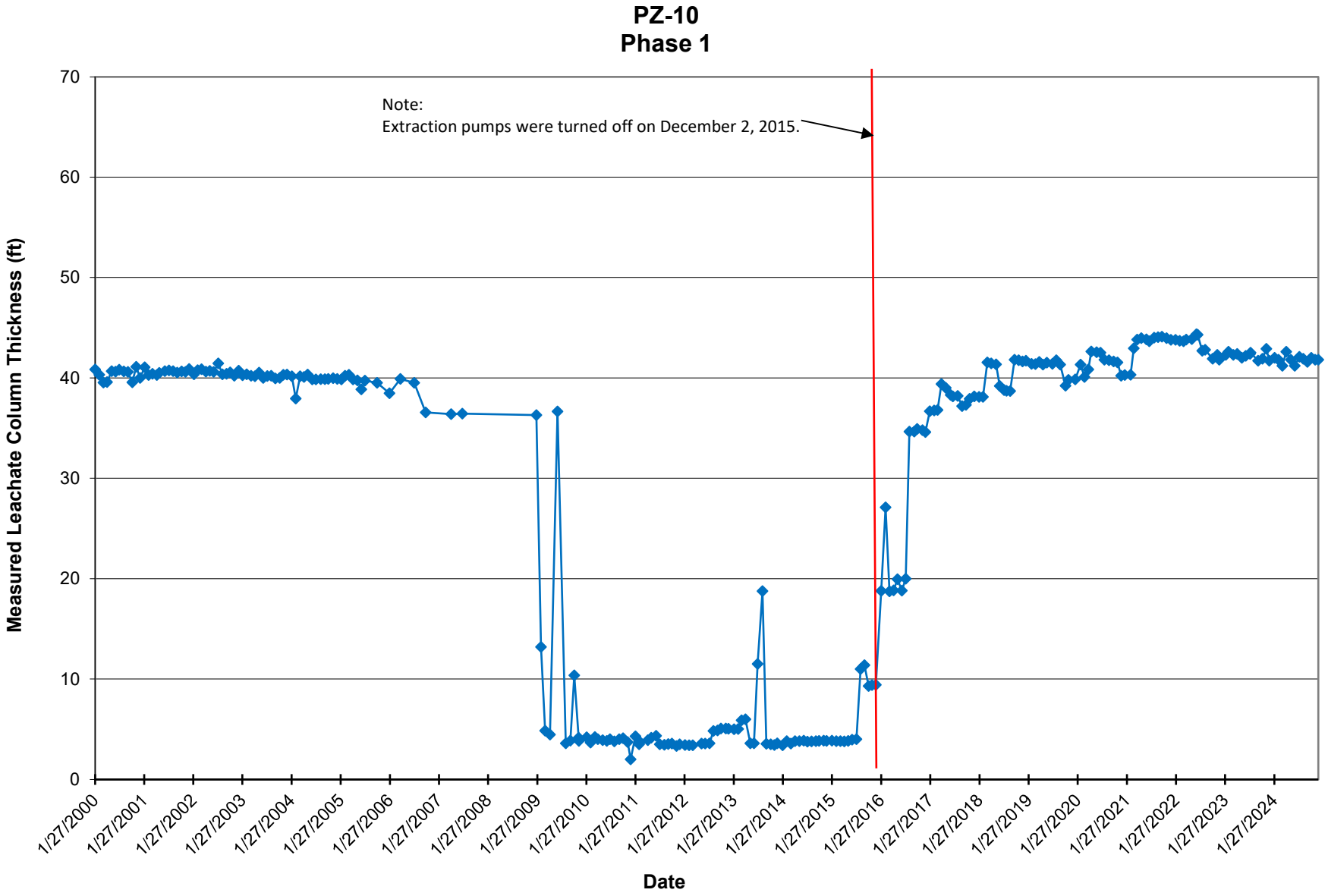
1/27/2023
1/27/2024
Date


PZ-10
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
1/27/2000
1/27/2001
1/27/2002
1/27/2003
1/27/2004
1/27/2005
1/27/2006
1/27/2007
1/27/2008
1/27/2009
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1/27/2021
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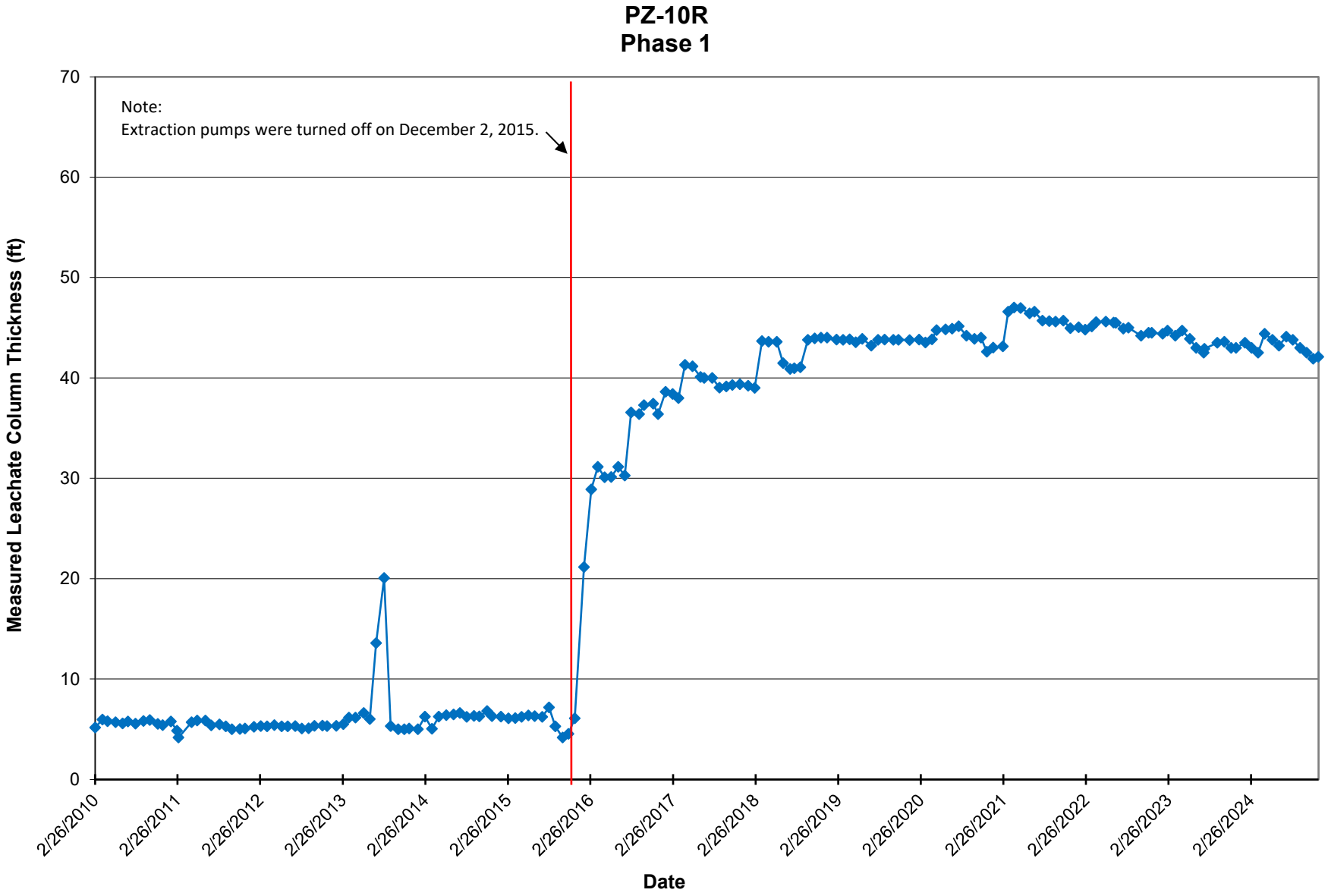
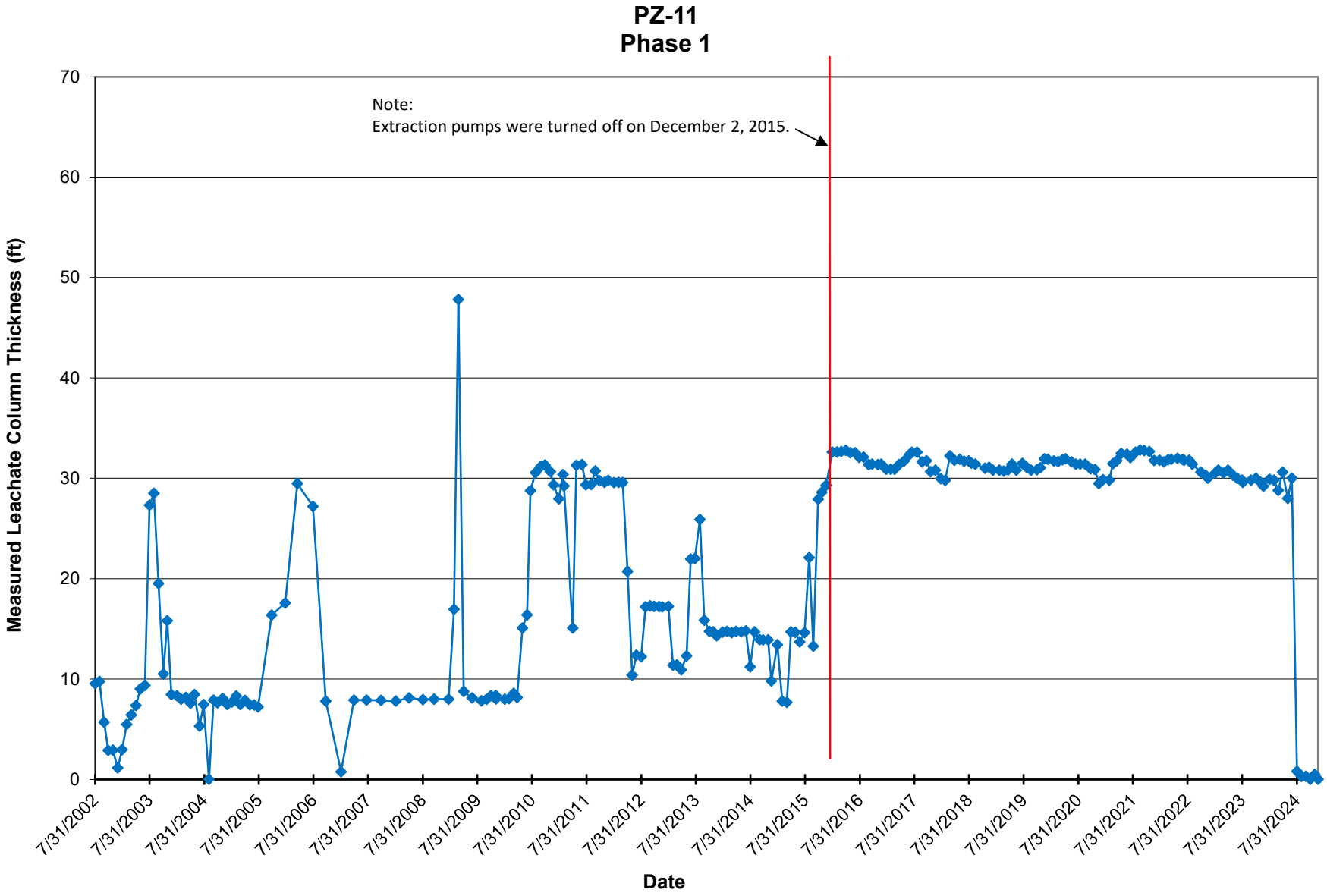
1/27/2024
Date


PZ-10R
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
2/26/2010
2/26/2011
2/26/2012
2/26/2013
2/26/2014
2/26/2015
2/26/2016
2/26/2017
2/26/2018
2/26/2019
2/26/2020
2/26/2021
2/26/2022
2/26/2023
2/26/2024
Date


PZ-11
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
7/31/2002
7/31/2003
7/31/2004
7/31/2005
7/31/2006
7/31/2007
7/31/2008
7/31/2009
7/31/2010
7/31/2011
7/31/2012
7/31/2013
7/31/2014
7/31/2015
7/31/2016
7/31/2017
7/31/2018
7/31/2019
7/31/2020
7/31/2021
7/31/2022
7/31/2023
7/31/2024
Date

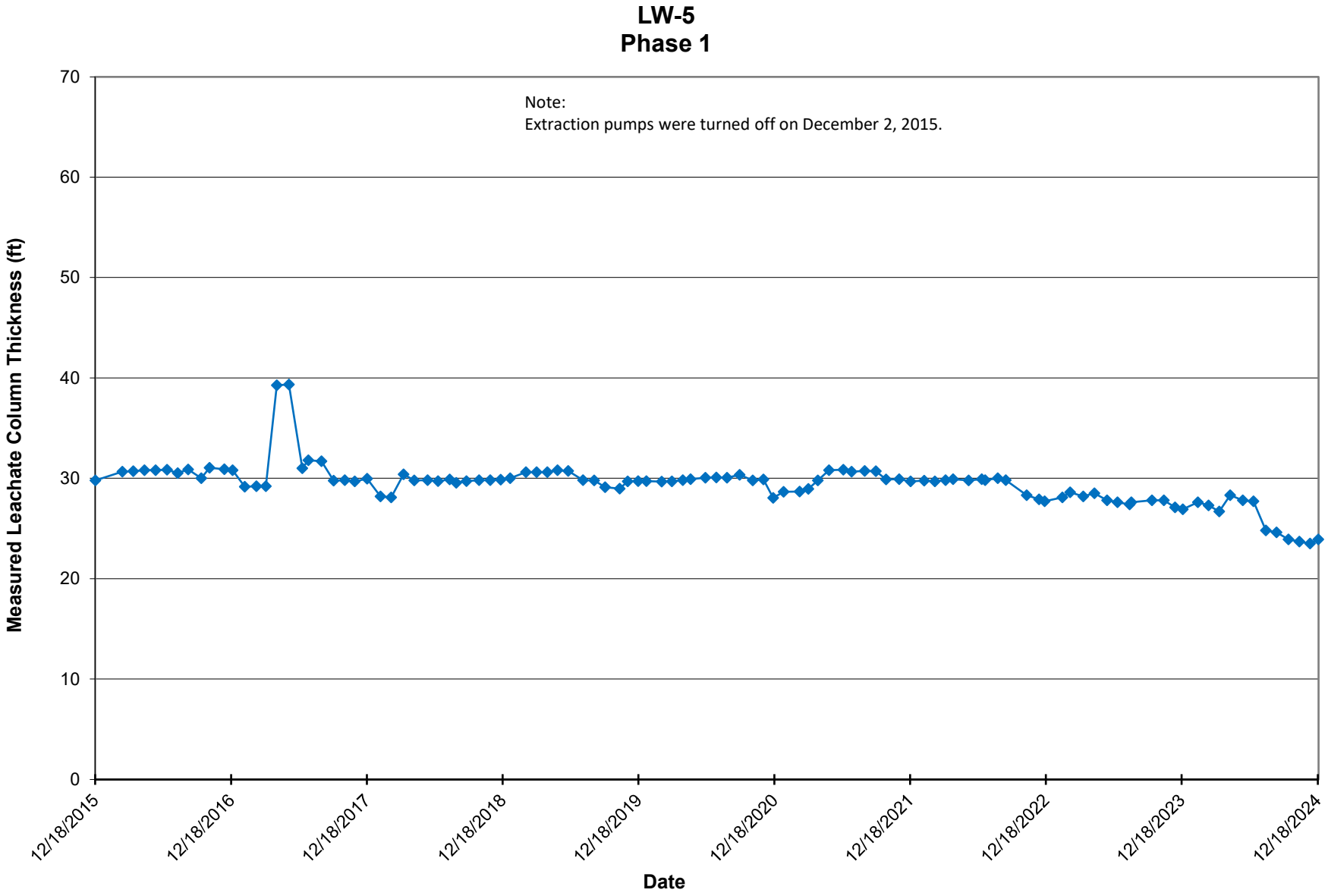

LW-5
Phase 1
Note:
Extraction pumps were turned off on December 2, 2015.
Measured Leachate Column Thickness (ft)
70
60
50
40
30
20
10
0
12/18/2015
12/18/2016
12/18/2017
12/18/2018
12/18/2019
12/18/2020
12/18/2021
12/18/2022
12/18/2023
12/18/2024
Date

TABLE B-2
Phase 2 Region 1 Leachate Level Measurements
Great River Regional Waste Authority
Fort Madison, Iowa
Project No. 27224317.25

	LEW-08-1R		LPZ-5R		LPZ-6 [14]		LW-6R		LPZ-7		LEW-7R		LEW-8		LEW-9		LEW-10		LEW-11	
CONSTRUCTED WELL DEPTH (ft)	78.0		45.8		79.8		38.0		72.9		90.0		81.0		77.0		60.0		54.0	
Date	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A(1) (ft)	B(1) (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)
7/5/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/18/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/23/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/31/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/15/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/23/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/16/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/20/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/30/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/16/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/28/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/12/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/20/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/27/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/30/2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/13/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/20/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/28/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/6/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/27/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/31/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/30/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/30/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/30/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/31/2003	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/28/2003	NI	NI	26.74	8.36	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/29/2003	NI	NI	26.00	9.10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/3/2003	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/7/2003	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/27/2003	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/26/2003	NI	NI	26.55	8.55	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/23/2003	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/29/2004	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/27/2004	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/30/2004	NI	NI	26.83	8.27	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/29/2004	NI	NI	32.50	2.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/25/2004	NI	NI	32.45	2.65	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/29/2004	NI	NI	32.50	2.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/26/2004	NI	NI	42.16	Dry	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/31/2004	NI	NI	32.59	2.51	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/30/2004	NI	NI	32.62	2.48	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/26/2004	NI	NI	32.60	2.50	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/30/2004	NI	NI	28.56	6.54	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/31/2004	NI	NI	32.65	2.45	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/31/2005	NI	NI	32.58	2.52	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/28/2005	NI	NI	32.60	2.50	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/29/2005	NI	NI	32.50	2.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/28/2005	NI	NI	32.05	3.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/31/2005	NI	NI	32.05	3.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/29/2005	NI	NI	32.35	2.75	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/25/2005	NI	NI	32.41	2.69	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/24/2005	NI	NI	32.32	2.78	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/23/2006	NI	NI	39.43	Dry	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/14/2006	NI	NI	39.18	Dry	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/27/2006	NI	NI	36.68	Dry	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/20/2006	NI	NI	32.60	2.50	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/23/2007	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/14/2007	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/27/2007 [8]	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/26/2007	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/31/2008	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/29/2008	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/31/2008	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/13/2008	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/19/2009	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/24/2009	NI	NI	30.34	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/25/2009	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/30/2009	NI	NI	40.44	Dry	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/25/2009	NI	NI	32.10	24.10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/27/2009	NI	NI	32.42	23.78	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/29/2009 [11]	NI	NI	32.36	23.84	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/29/2009	NI	NI	32.68	23.52	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/30/2009	NI	NI	32.68	23.52	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/1/2009	NI	NI	13.00	43.20	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/29/2010	NI	NI	35.54	20.66	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/26/2010	NI	NI	32.90	23.30	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/30/2010	NI	NI	33.55	22.65	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/22/2010	NI	NI	33.55	22.65	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/27/2010	NI	NI	33.76	22.44	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/27/2010	NI	NI	34.54	21.66	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/21/2010	NI	NI	35.60	20.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/23/2010	NI	NI	35.78	20.42	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/28/2010	NI	NI	35.81	20.39	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/26/2010	NI	NI	35.75	20.45	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/30/2010	NI	NI	36.20	20.00	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/22/2010	NI	NI	36.62	19.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

TABLE B-2
Phase 2 Region 1 Leachate Level Measurements
Great River Regional Waste Authority
Fort Madison, Iowa
Project No. 27224317.25

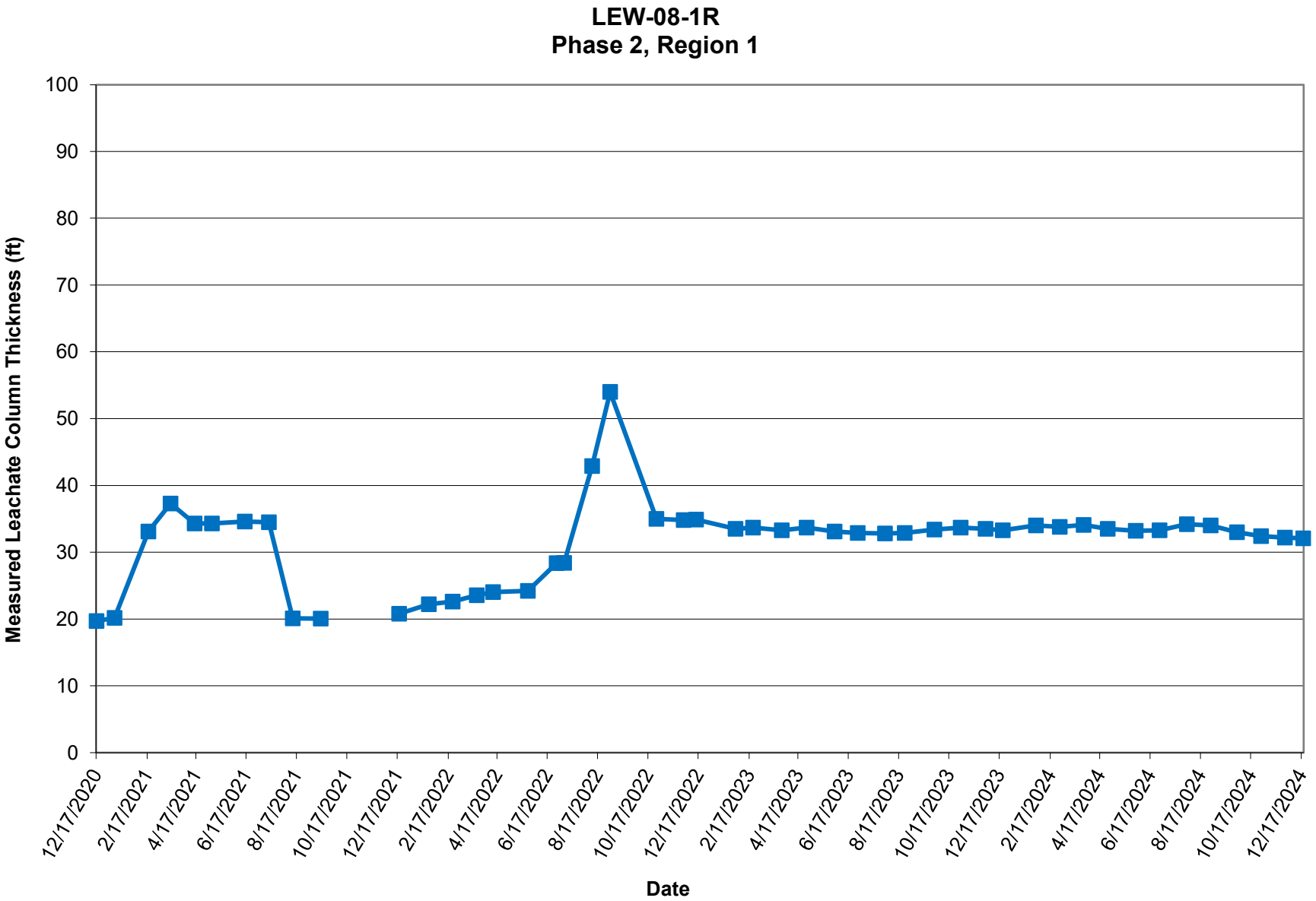
	LEW-08-1R		LPZ-5R		LPZ-6 [14]		LW-6R		LPZ-7		LEW-7R		LEW-8		LEW-9		LEW-10		LEW-11	
CONSTRUCTED WELL DEPTH (ft)	78.0		45.8		79.8		38.0		72.9		90.0		81.0		77.0		60.0		54.0	
Date	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A(1) (ft)	B(1) (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)
1/27/2011	NI	NI	36.15	20.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/23/2011	NI	NI	33.55	22.65	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/1/2011	NI	NI	35.84	20.36	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/29/2011	NI	NI	35.65	20.55	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/23/2011	NI	NI	35.82	20.38	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/29/2011	NI	NI	35.62	20.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/25/2011	NI	NI	35.90	20.30	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/30/2011	NI	NI	36.08	20.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/27/2011	NI	NI	36.02	20.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/24/2011	NI	NI	36.45	19.75	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/28/2011	NI	NI	36.48	19.72	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/21/2011	NI	NI	36.58	19.62	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/30/2012	NI	NI	36.67	19.53	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/29/2012	NI	NI	36.54	19.66	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/28/2012	NI	NI	36.54	19.66	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/29/2012	NI	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/31/2012	NI	NI	36.12	20.08	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/27/2012	NI	NI	36.12	20.08	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/30/2012	NI	NI	36.45	19.75	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/28/2012	NI	NI	36.72	19.48	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/27/2012	NI	NI	36.42	19.78	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/23/2012	NI	NI	36.50	19.70	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/27/2012	NI	NI	36.49	19.71	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/18/2012	NI	NI	36.45	19.75	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/28/2013	NI	NI	35.98	20.22	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/28/2013	NI	NI	36.02	20.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/25/2013	NI	NI	36.02	20.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/23/2013	NI	NI	36.00	20.20	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/29/2013	NI	NI	36.18	20.02	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/25/2013	NI	NI	35.95	20.25	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/23/2013	NI	NI	35.98	20.22	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/27/2013	NI	NI	36.04	20.16	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/25/2013	NI	NI	35.59	20.61	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/28/2013	NI	NI	36.00	20.20	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/24/2013	NI	NI	36.15	20.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/16/2013	NI	NI	35.54	20.66	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/24/2014	NI	NI	36.10	20.10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/24/2014	NI	NI	37.14	19.06	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/27/2014	NI	NI	37.15	19.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/26/2014	NI	NI	37.14	19.06	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/29/2014	NI	NI	37.10	19.10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/30/2014	NI	NI	37.15	19.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/28/2014	NI	NI	37.20	19.00	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8/27/2014	NI	NI	37.20	19.00	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9/29/2014	NI	NI	35.21	20.99	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/22/2014	NI	NI	35.41	20.79	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11/26/2014	NI	NI	35.49	20.71	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/17/2014	NI	NI	36.01	20.19	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/26/2015	NI	NI	36.25	19.95	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/28/2015	NI	NI	35.40	20.80	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/30/2015	NI	NI	35.38	20.82	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/27/2015	NI	NI	36.04	20.16	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/27/2015	NI	NI	36.10	20.10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/24/2015	NI	NI	36.05	20.15	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/10/2015	NI	NI	NA	NA	NA	NA	NI	NI	NA	NA	NI	NI	26.90	64.50	34.10	53.30	6.60	63.80	4.90	59.50
7/27/2015	NI	NI	36.07	20.13	NA	NA	NI	NI	NA	NA	NI	NI	NA	NA	NA	NA	NA	NA	NA	NA
8/27/2015	NI	NI	36.08	20.12	NI	NI	NI	NI	NI	NI	NI	NI	NA	NA	NA	NA	NA	NA	NA	NA
9/24/2015	NI	NI	36.08	20.12	37.54	52.66	NI	NI	36.96	46.34	NI	NI	76.52	14.88	69.76	17.64	54.94	15.46	48.52	15.88
10/26/2015	NI	NI	36.08	20.12	36.05	54.15	NI	NI	37.26	46.04	NI	NI	76.62	14.78	69.74	17.66	55.08	15.32	48.50	15.90
11/20/2015	NI	NI	36.08	20.12	43.15	47.05	NI	NI	37.10	46.20	NI	NI	75.92	15.48	70.04	17.36	55.10	15.30	48.60	15.80
12/18/2015	NI	NI	37.00	19.20	44.15	46.05	NI	NI	38.91	44.39	NI	NI	74.96	16.44	70.14	17.26	55.28	15.12	48.85	15.55
1/28/2016	NI	NI	37.89	18.31	44.21	45.99	NI	NI	37.89	45.41	NI	NI	75.01	16.39	69.97	17.43	54.89	15.51	49.05	15.35
2/29/2016	NI	NI	35.89	20.31	44.21	45.99	NI	NI	38.01	45.29	NI	NI	74.95	16.45	69.72	17.68	47.68	22.72	46.74	17.66
3/29/2016	NI	NI	38.01	18.19	45.01	45.19	NI	NI	37.94	45.36	NI	NI	74.92	16.48	69.42	17.98	54.28	16.12	48.62	15.78
4/28/2016	NI	NI	38.45	17.75	44.90	45.30	NI	NI	40.00	43.30	NI	NI	73.91	17.49	70.14	17.26	54.20	16.20	48.70	15.70
5/28/2016	NI	NI	38.50	17.70	45.98	44.22	NI	NI	36.12	47.18	NI	NI	74.05	17.35	69.91	17.49	46.45	23.95	47.84	16.56
6/28/2016	NI	NI	38.01	18.19	43.01	47.19	NI	NI	36.00	47.30	NI	NI	74.00	17.40	69.90	17.50	46.28	24.12	46.28	18.12
7/27/2016	NI	NI	38.21	17.99	45.18	45.02	NI	NI	41.02	42.28	NI	NI	74.00	17.40	70.00	17.40	59.38	11.02	46.42	17.98
8/24/2016	NI	NI	39.54	16.66	45.72	44.48	NI	NI	36.54	46.76	NI	NI	73.94	17.46	69.84	17.56	51.71	18.69	44.64	19.76
9/28/2016	NI	NI	39.42	16.78	46.04	44.16	NI	NI	36.54	46.76	NI	NI	75.68	15.72	71.13	16.27	56.00	14.40	47.00	17.40
10/20/2016	NI	NI	38.75	17.45	46.00	44.20	NI	NI	36.48	46.82	NI	NI	75.70	15.70	70.15	17.25	55.42	14.98	46.75	17.65
11/29/2016	NI	NI	38.40	17.80	46.00	44.20	NI	NI	36.50	46.80	NI	NI	75.80	15.60	70.20	17.20	50.40	20.00	43.40	21.00
12/21/2016	NI	NI	38.40	17.80	45.95	44.25	NI	NI	36.48	46.82	NI	NI	75.68	15.72	70.00	17.40	50.42	19.98	43.35	21.05
1/23/2017	NI	NI	38.85	17.35	44.15	46.05	NI	NI	37.01	46.29	NI	NI	75.00	16.40	70.15	17.25	55.28	15.12	49.52	14.88
2/23/2017	NI	NI	35.65	20.55	43.90	46.30	NI	NI	36.82	46.48	NI	NI	74.80	16.60	55.50	31.90	51.00	19.40	44.62	19.78
3/21/2017	NI	NI	38.60	17.60	38.14	52.06	NI	NI	36.90	46.40	NI	NI	75.30	16.10	52.75	34.65	55.20	15.20	49.40	15.00
4/19/2017	NI	NI	38.42	17.78	38.10	52.10	NI	NI	35.92	47.38	NI	NI	75.32	16.08	52.70	34.70	55.28	15.12	48.80	15.60
5/22/2017	NI	NI	38.65	17.55	38.00	52.20	NI	NI	36.01	47.29	NI	NI	75.52	15.88	52.80	34.60	54.94	15.46	48.52	15.88
6/27/2017	NI	NI	38.40	17.80	37.82	52.38	NI	NI	36.00	47.30	NI	NI	75.49	15.91	52.15	35.25	53.96	16.44	48.05	16.35
7/13/2017	NI	NI	35.81	20.39	35.01	55.19	NI	NI	36.98	46.32	NI	NI	74.08	17.32	46.81	40.59	51.51	18.89	44.81	19.59
8/17/2017	NI	NI	35.80	20.40	35.14	55.06	NI	NI	36.95	46.35	NI	NI	76.98	14.42	46.75	40.65	51.42	18.98	44.71	19.69
9/19/2017	NI	NI	35.14	21.06	44.24	45.96	NI	NI	37.01	46.29	NI	NI	73.32	18.08	45.64	41.76	51.15	19.25	44.72	19.68
10/19/2017	NI	NI	35.19	21.01	35.70	54.50	NI	NI	36.92	46.38	NI	NI	76.85	14.55	45.90	41.50	51.30	19.10	44.89	19.51
11/15/2017	NI	NI	35.20	21.00	35.59	54.61	NI	NI	36.20	47.10	NI	NI	77.01	14.39	45.42	41.98	51.10	19.30	44.70	19.70
12/18/2017	NI	NI	35.15	21.05	34.85	55.35	NI	NI	35.90	47.40	NI	NI	75.62	15.78	46.25	41.15	50.90	19.50	44.72	19.68

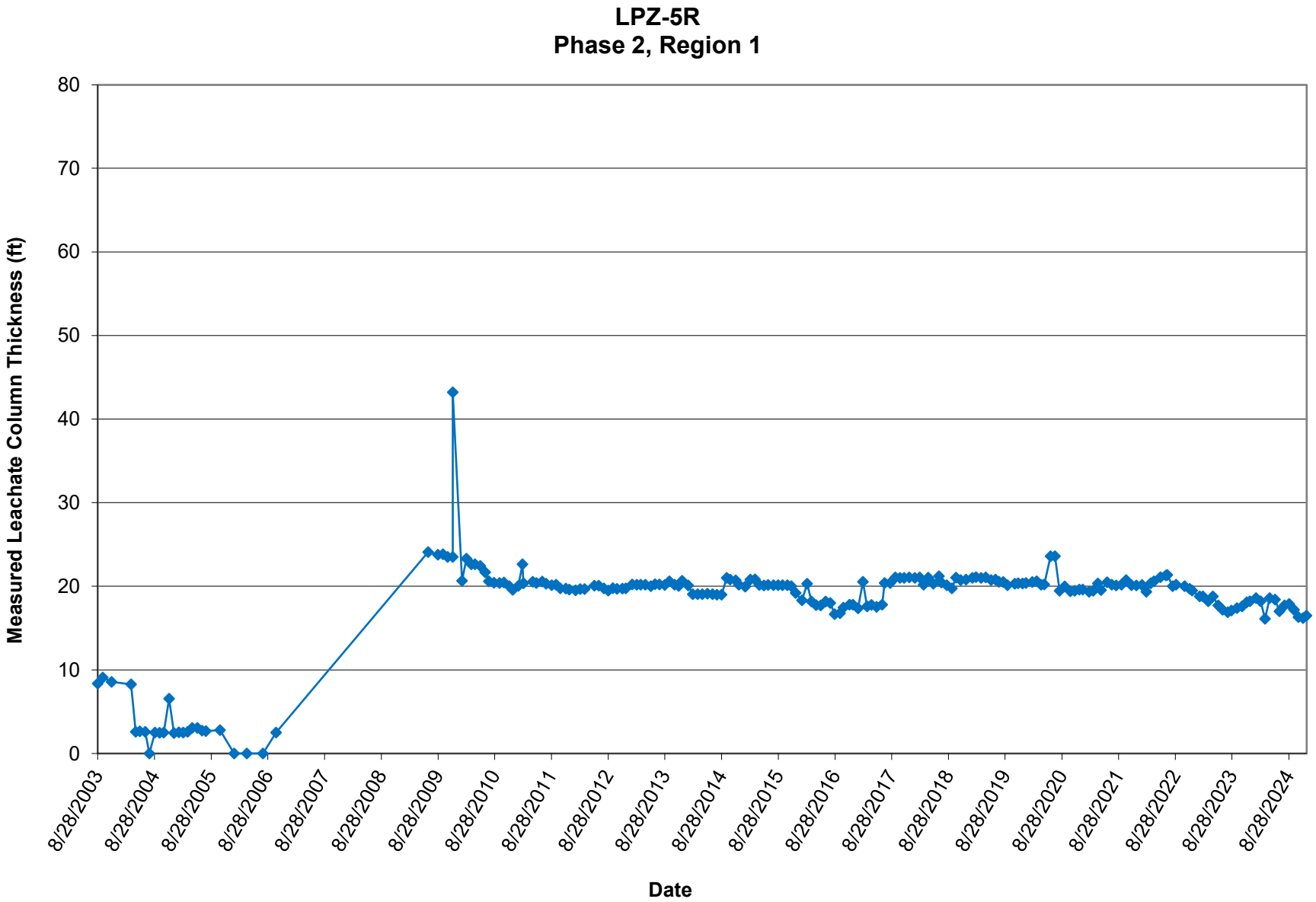
TABLE B-2
Phase 2 Region 1 Leachate Level Measurements
Great River Regional Waste Authority
Fort Madison, Iowa
Project No. 27224317.25

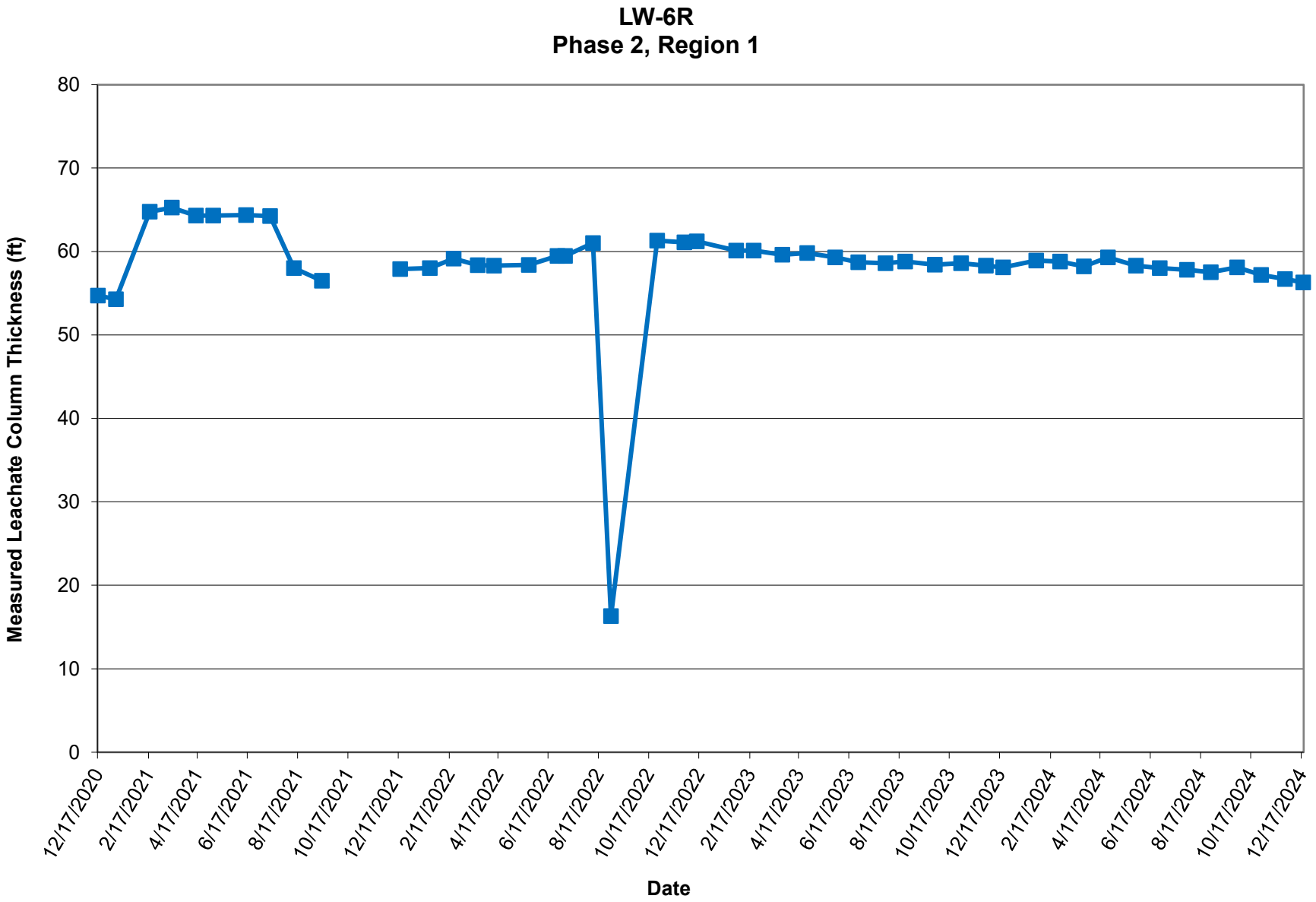
	LEW-08-1R		LPZ-5R		LPZ-6 [14]		LW-6R		LPZ-7		LEW-7R		LEW-8		LEW-9		LEW-10		LEW-11	
CONSTRUCTED WELL DEPTH (ft)	78.0		45.8		79.8		38.0		72.9		90.0		81.0		77.0		60.0		54.0	
Date	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A(1) (ft)	B(1) (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)	A[1] (ft)	B[1] (ft)
1/29/2018	NI	NI	35.20	21.00	34.40	55.80	NI	NI	35.45	47.85	NI	NI	62.80	28.60	45.95	41.45	50.10	20.30	44.20	20.20
2/21/2018	NI	NI	35.15	21.05	34.42	55.78	NI	NI	35.50	47.80	NI	NI	67.84	23.56	46.01	41.39	50.18	20.22	44.22	20.18
3/26/2018	NI	NI	36.01	20.19	43.58	46.62	NI	NI	40.80	42.50	NI	NI	55.20	36.20	43.46	43.94	46.09	24.31	42.42	21.98
4/24/2018	NI	NI	35.18	21.02	43.25	46.95	NI	NI	39.90	43.40	NI	NI	70.10	21.30	46.80	40.60	50.12	20.28	43.08	21.32
5/30/2018	NI	NI	35.90	20.30	43.20	47.00	NI	NI	37.45	45.85	NI	NI	70.05	21.35	63.40	24.00	50.01	20.39	43.00	21.40
6/27/2018	NI	NI	35.00	21.20	44.00	46.20	NI	NI	60.00	23.30	NI	NI	70.00	21.40	46.70	40.70	50.00	20.40	42.90	21.50
7/18/2018	NI	NI	35.74	20.46	40.45	49.75	NI	NI	41.00	42.30	NI	NI	71.31	20.09	54.80	32.60	51.18	19.22	42.90	21.50
8/15/2018	NI	NI	36.08	20.12	45.42	54.78	NI	NI	41.02	42.28	NI	NI	71.45	19.95	51.50	35.90	49.90	20.50	42.95	21.45
9/11/2018	NI	NI	36.45	19.75	45.40	54.80	NI	NI	37.05	46.25	NI	NI	67.10	24.30	49.80	37.60	48.70	21.70	43.20	21.20
10/15/2018	NI	NI	35.18	21.02	43.20	57.00	NI	NI	37.09	46.21	NI	NI	66.92	24.48	46.80	40.60	45.30	25.10	42.51	21.89
11/14/2018	NI	NI	35.45	20.75	44.80	55.40	NI	NI	37.09	46.21	NI	NI	67.10	24.30	47.15	40.25	45.40	25.00	42.50	21.90
12/18/2018	NI	NI	35.40	20.80	44.70	45.50	NI	NI	36.89	46.41	NI	NI	67.00	24.40	47.00	40.40	51.10	19.30	42.11	22.29
1/29/2019	NI	NI	35.20	21.00	40.80	49.40	NI	NI	36.80	46.50	NI	NI	67.80	23.60	45.95	41.45	47.80	22.60	43.90	20.50
2/21/2019	NI	NI	35.10	21.10	41.90	48.30	NI	NI	35.42	47.88	NI	NI	67.50	23.90	45.80	41.60	47.65	22.75	43.25	21.15
3/26/2019	NI	NI	35.20	21.00	41.80	48.40	NI	NI	35.42	47.88	NI	NI	67.50	23.90	53.92	33.48	45.70	24.70	43.20	21.20
4/24/2019	NI	NI	35.15	21.05	41.20	49.00	NI	NI	35.65	47.65	NI	NI	67.30	24.10	53.49	33.91	45.60	24.80	42.90	21.50
5/30/2019	NI	NI	35.45	20.75	41.40	48.80	NI	NI	36.89	46.41	NI	NI	67.05	24.35	53.09	34.31	46.78	23.62	42.11	22.29
6/27/2019	NI	NI	35.40	20.80	41.25	48.95	NI	NI	36.24	47.06	NI	NI	67.28	24.12	53.40	34.00	46.00	24.40	42.10	22.30
7/18/2019	NI	NI	35.65	20.55	43.10	47.10	NI	NI	35.28	48.02	NI	NI	68.70	22.70	59.11	28.29	48.00	22.40	45.05	19.35
8/15/2019	NI	NI	35.70	20.50	43.10	57.10	NI	NI	35.96	47.34	NI	NI	73.95	17.45	67.30	20.10	51.20	19.20	45.42	18.98
9/11/2019	NI	NI	36.08	20.12	41.45	58.75	NI	NI	35.80	47.50	NI	NI	67.32	24.08	48.10	39.30	51.70	18.70	46.20	18.20
10/28/2019	NI	NI	35.90	20.30	42.10	58.10	NI	NI	36.10	47.20	NI	NI	65.95	25.45	61.05	26.35	48.40	22.00	46.01	18.39
11/19/2019	NI	NI	35.85	20.35	41.48	58.72	NI	NI	36.12	47.18	NI	NI	65.80	25.60	59.80	27.60	51.43	18.97	45.42	18.98
12/17/2019	NI	NI	35.86	20.34	41.10	59.10	NI	NI	35.85	47.45	NI	NI	63.75	27.65	67.53	19.87	51.30	19.10	45.48	18.92
1/8/2020	NI	NI	35.82	20.38	41.01	59.19	NI	NI	35.80	47.50	NI	NI	63.70	27.70	67.50	19.90	51.08	19.32	45.38	19.02
2/18/2020	NI	NI	35.70	20.50	41.10	59.10	NI	NI	36.01	47.29	NI	NI	63.75	27.65	62.50	24.90	51.00	19.40	45.15	19.25
3/17/2020	NI	NI	35.61	20.59	41.20	59.00	NI	NI	36.10	47.20	NI	NI	63.80	27.60	59.82	27.58	51.01	19.39	44.90	19.50
4/15/2020	NI	NI	36.01	20.19	41.15	59.05	NI	NI	35.80	47.50	NI	NI	64.01	27.39	59.80	27.60	51.30	19.10	43.98	20.42
5/6/2020	NI	NI	35.98	20.22	41.10	59.10	NI	NI	35.60	47.70	NI	NI	63.95	27.45	59.70	27.70	51.61	18.79	44.01	20.39
6/15/2020	NI	NI	32.60	23.60	41.15	59.05	NI	NI	35.78	47.52	NI	NI	63.80	27.60	59.62	27.78	51.40	19.00	45.54	18.86
7/14/2020	NI	NI	32.60	23.60	41.12	59.08	NI	NI	35.62	47.68	NI	NI	63.75	27.65	39.70	47.70	51.48	18.92	45.48	18.92
8/12/2020	NI	NI	36.73	19.47	NA	NM	NI	NI	35.87	47.43	NI	NI	65.90	25.50	33.10	54.30	51.85	18.55	45.28	19.12
9/15/2020	NI	NI	36.22	19.98	NA	NM	NI	NI	35.87	47.43	NI	NI	65.85	25.55	33.10	54.30	51.80	18.60	45.25	19.15
10/20/2020	NI	NI	36.80	19.40	NA	NM	NI	NI	36.10	47.20	NI	NI	70.95	20.45	68.90	18.50	51.60	18.80	42.80	21.60
11/18/2020	NI	NI	36.75	19.45	NA	NM	NI	NI	36.05	47.25	NI	NI	71.00	20.40	68.85	18.55	42.92	27.48	42.54	21.86
12/14/2020	68.30	19.70	36.58	19.62	33.82	66.38	28.58	54.72	36.55	46.75	67.50	23.90	70.95	20.45	68.89	18.51	51.61	18.79	46.12	18.28
1/11/2021	67.82	20.18	36.60	19.60	33.80	66.40	29.01	54.29	36.20	47.10	67.42	23.98	70.85	20.55	68.90	18.50	51.60	18.80	46.00	18.40
2/23/2021	54.90	33.10	36.85	19.35	33.82	66.38	18.54	64.76	36.80	46.50	45.90	45.50	70.80	20.60	68.85	18.55	51.64	18.76	46.08	18.32
3/19/2021	50.70	37.30	36.75	19.45	32.92	67.28	18.05	65.25	35.95	47.35	42.70	48.70	70.65	20.75	71.70	15.70	51.55	18.85	44.80	19.60
4/13/2021	53.70	34.30	35.86	20.34	33.00	67.20	19.01	64.29	35.82	47.48	45.18	46.22	70.59	20.81	69.95	17.45	51.40	19.00	44.72	19.68
5/13/2021	53.68	34.32	36.65	19.55	33.10	67.10	19.00	64.30	36.00	47.30	45.08	46.32	70.75	20.65	71.80	15.60	51.60	18.80	44.65	19.75
6/21/2021	53.42	34.58	35.72	20.48	32.89	67.31	18.95	64.35	35.91	47.39	45.15	46.25	69.98	21.42	71.72	15.68	51.68	18.72	44.70	19.70
7/13/2021	53.50	34.50	36.01	20.19	32.45	67.75	19.05	64.25	35.01	48.29	45.10	46.30	70.65	20.75	71.75	15.65	51.55	18.85	44.50	19.90
8/17/2021	67.91	20.09	36.10	20.10	35.82	64.38	25.30	58.00	38.40	44.90	67.61	23.79	69.89	21.51	49.70	37.70	44.70	25.70	45.10	19.30
9/16/2021	67.95	20.05	36.01	20.19	35.82	64.38	26.82	56.48	39.10	44.20	67.80	23.60	69.85	21.55	49.86	37.54	45.60	24.80	46.01	18.39
10/14/2021	NM	NA	35.45	20.75	35.82	64.38	NA	NA	39.45	43.85	NM	NA	70.10	21.30	49.71	37.69	46.01	24.39	45.42	18.98
11/18/2021	NA	NA	36.08	20.12	35.84	64.36	NA	NA	39.15	44.15	NA	NA	70.05	21.35	49.80	37.60	45.90	24.50	46.10	18.30
12/19/2021	67.20	20.80	36.10	20.10	35.84	64.36	25.40	57.90	40.15	43.15	49.15	42.25	70.00	21.40	49.40	38.00	45.80	24.60	46.75	17.65
1/24/2022	65.80	22.20	36.05	20.15	34.70	65.50	25.30	58.00	40.01	43.29	49.10	42.30	70.00	21.40	49.20	38.20	45.70	24.70	46.65	17.75
2/22/2022	65.40	22.60	36.85	19.35	33.82	66.38	24.15	59.15	39.75	43.55	49.75	41.65	70.15	21.25	49.75	37.65	45.90	24.50	46.82	17.58
3/23/2022	64.45	23.55	35.85	20.35	34.50	65.70	24.95	58.35	39.42	43.88	49.95	41.45	69.82	21.58	48.90	38.50	45.01	25.39	46.01	18.39
4/12/2022	63.95	24.05	35.60	20.60	34.38	65.82	25.01	58.29	39.40	43.90	50.01	41.39	68.90	22.50	48.10	39.30	44.42	25.98	45.10	19.30
5/24/2022	63.80	24.20	35.10	21.10	34.05	66.15	24.92	58.38	38.95	44.35	49.80	41.60	67.82	23.58	47.95	39.45	44.38	26.02	45.01	19.39
6/28/2022	59.62	28.38	34.90	21.30	34.10	66.10	23.85	59.45	32.00	51.30	68.45	22.95	57.22	34.18	54.80	32.60	42.80	27.60	43.70	20.70
7/7/2022	59.60	28.40	34.85	21.35	34.08	66.12	23.85	59.45	32.02	51.28	67.24	24.16	57.30	34.10	54.71	32.69	42.79	27.61	43.70	20.70
8/10/2022	45.10	42.90	36.20	20.00	21.00	79.20	22.30	61.00	35.50	47.80	24.40	67.00	54.00	37.40	69.20	18.20	46.10	24.30	43.50	20.90
9/1/2022	34.00	54.00	36.00	20.20	21.50	78.70	67.00	16.30	33.00	50.30	67.00	24.40	NM	NA	65.00	22.40	51.00	19.40	42.00	22.40
10/27/2022	53.00	35.00	36.20	20.00	Damaged	NA	22.00	61.30	32.50	50.80	66.00	25.40	54.20	37.20	53.00	34.40	48.50	21.90	44.30	20.10
11/29/2022	53.20	34.80	36.50	19.70	Damaged	NA	22.20	61.10	33.50	49.80	66.10	25.30	54.30	37.10	53.30	34.10	49.00	21.40	44.10	20.30
12/14/2022	53.10	34.90	36.70	19.50	Damaged	NA	22.10	61.20	34.00	49.30	65.90	25.50	54.50	36.90	53.40	34.00	49.60	20.80	44.50	19.90
1/31/2023	54.50	33.50	37.40	18.80	Damaged	NA	23.20	60.10	34.70	48.60	67.10	24.30	55.10	36.30	54.00	33.40	50.10	20.30	44.50	19.90
2/21/2023	54.30	33.70	37.40	18.80	Damaged	NA	23.20	60.10	34.50	48.80	67.00	24.40	54.80	36.60	53.60	33.80	49.80	20.60	44.10	20.30
3/28/2023	54.70	33.30	38.00	18.20	Damaged	NA	23.70	59.60	35.10	48.20	67.70	23.70	55.10	36.30	54.00	33.40	51.10	19.30	44.70	19.70
4/27/2023	54.30	33.70	37.40	18.80	Damaged	NA	23.50	59.80	34.60	48.70	67.20	24.20	55.00	36.40	49.70	37.70	49.00	21.40	44.00	20.40
5/31/2023	54.90	33.10	38.50	17.70	Damaged	NA	24.00	59.30	35.30	48.00	68.00	23.40	55.30	36.10	54.50	32.90	51.50	18.90	44.80	19.60
6/28/2023	55.10	32.90	39.00	17.20	Damaged	NA	24.60	58.70	35.60	47.70	68.20	23.20	55.30	36.10	54.60	32.80	51.50	18.90	44.80	19.60
7/31/2023	55.20	32.80	39.30	16.90	Damaged	NA	24.70	58.60	35.80	47.50	68.80	22.60	55.50	35.90	54.80	32.60	51.50	18.90	44.90	19.50
8/24/2023	55.10	32.90	39.10	17.10	Damaged	NA	24.50	58.80	35.60	47.70	68.60	22.80	55.50	35.90	54.70	32.70	51.60	18.80	44.80	19.60
9/29/2023	54.60	33.40	38.80	17.40	Damaged	NA	24.90	58.40	36.20	47.10	68.10	23.30	54.90	36.50	54.30	33.10	51.80	18.60	44.90	19.50
10/31/2023	54.30	33.70	38.60	17.60	Damaged	NA	24.70	58.60	36.00	47.30	68.00	23.40	54.50	36.90	52.20	35.20	51.60	18.80	44.50	19.90
11/30/2023	54.50	33.50	38.10	18.10	Damaged	NA	25.00	58.30	35.40	47.90	68.20	23.20	57.20	34.20	54.10	33.30	51.20	19.20	44.90	19.50
12/21/2023	54.70	33.30	38.00	18.20	Damaged	NA	25.20	58.10	35.70	47.60	68.50	22.90	59.00	32.40	53.90	33.50	51.00	19.40	45.10	19.30
1/30/2024	54.00	34.00	37.60	18.60	Damaged	NA	24.40	58.90	35.10	48.20	67.90	23.50	56.50	34.90	52.00	35.40	51.20	19.20	44.10	20.30
2/28/2024	54.20	33.80	38.00	18.20	Damaged	NA	24.50	58.80	35.50	47.80	67.50	23.90	56.80	34.60	52.80	34.60	52.10	18.30	44.10	20.30
3/28/2024	53.90	34.10	40.10	16.10	Damaged	NA	25.10	58.20	35.00	48.30	68.10	23.30	57.00	34.40	53.10	34.30	51.80	18.60	44.60	19.80
4/26/2024	54.50	33.50	37.60	18.60	Damaged	NA	24.00	59.30	34.30	49.00	67.30	24.10	55.20	36.20	49.80	37.60	49.20	21.20	44.20	20.20
5/30/2024	54.80	33.20	37.80	18.40	Damaged	NA	25.00	58.30	34.50	48.80	67.90	23.50	55.90	35.50	49.80	37.60	49.70	20.70	45.00	19.40
6/28/2024	54.70	33.30	39.20	17.00	Damaged	NA	25.30	58.00	36.60	46.70	69.00	22.40	55.20	36.20	54.60	32.80	52.00	18.40	45.30	19.10
7/31/2024	53.80	34.20	38.50	17.70	Damaged	NA	25.50	57.80	37.00	46.30	68.10	23.30	56.00	35.40	55.00	32.40	51.80	18.60	45.60	18.80
8/29/2024	54.00	34.00	38.30	17.90	Damaged	NA	25.80	57.50	37.20	46.10	65.00	26.40	56.50	34.90	55.70	31.70	51.90	18.50	46.20	18.20
9/30/2024	55.00	33.00	39.00	17.20	Damaged	NA	25.20	58.10	35.50	47.80	65.60	25.80	56.70	34.70	55.80	31.60	52.00	18.40	46.60	17.80
10/29/2024	55.60	32.40	39.90	16.30	Damaged	NA	26.10	57.20	33.30	50.00	25.90	65.50	65.00	26.40	46.70	40.70	52.50	17.90	47.00	17.40
11/27/2024	55.80	32.20	40.00	16.20	Damaged	NA	26.60	56.70	34.00	49.30	24.00	67.40	65.50	25.90	46.90	40.50	52.50	17.90	47.10	17.30
12/19/2024	55.90	32.10	39.70	16.50	Damaged	NA	27.00	56.30	33.70	49.60	26.50	64.90	64.80	26.60	45.90	41.50	37.60	32.80	48.10	16.30

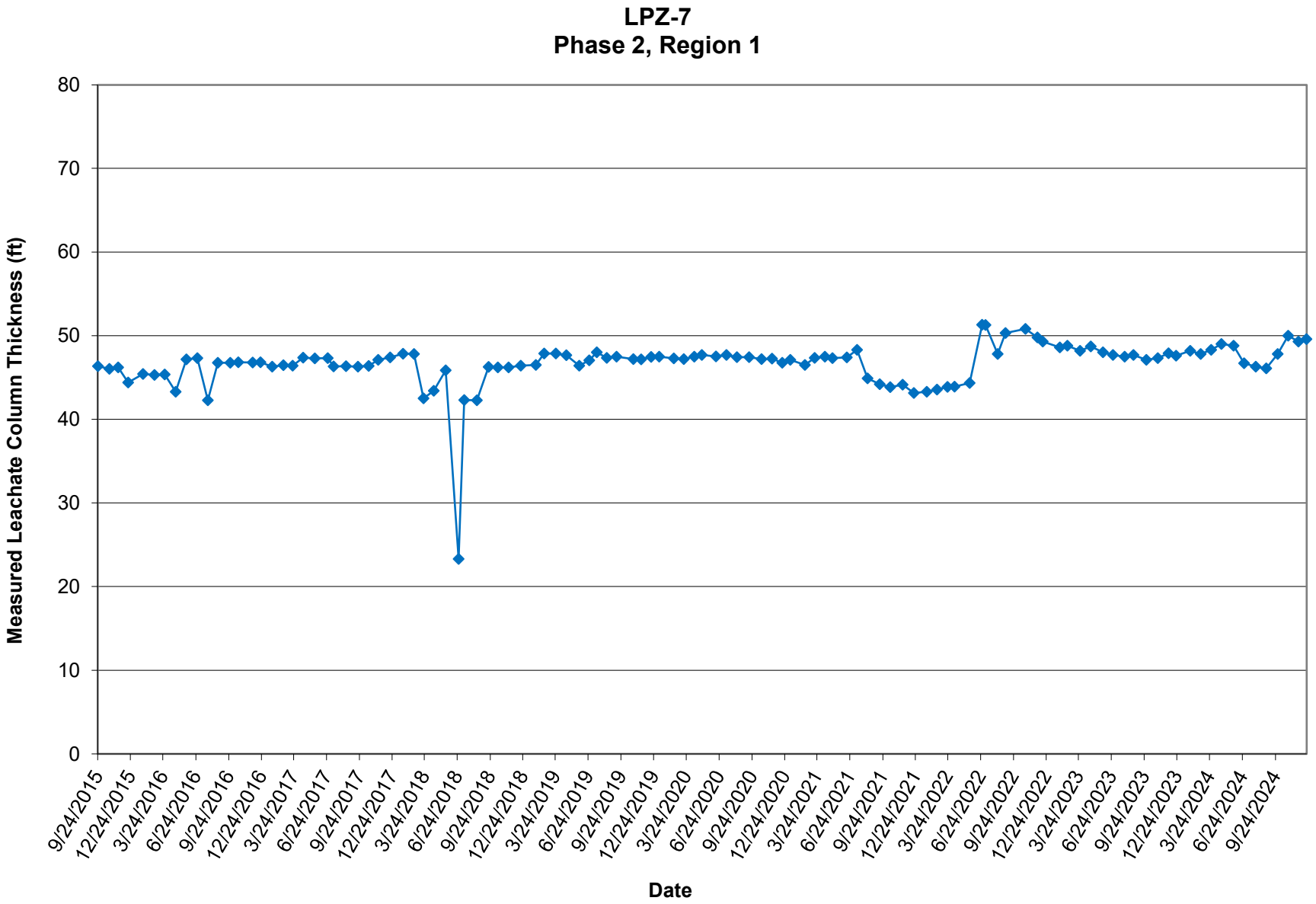
Notes:

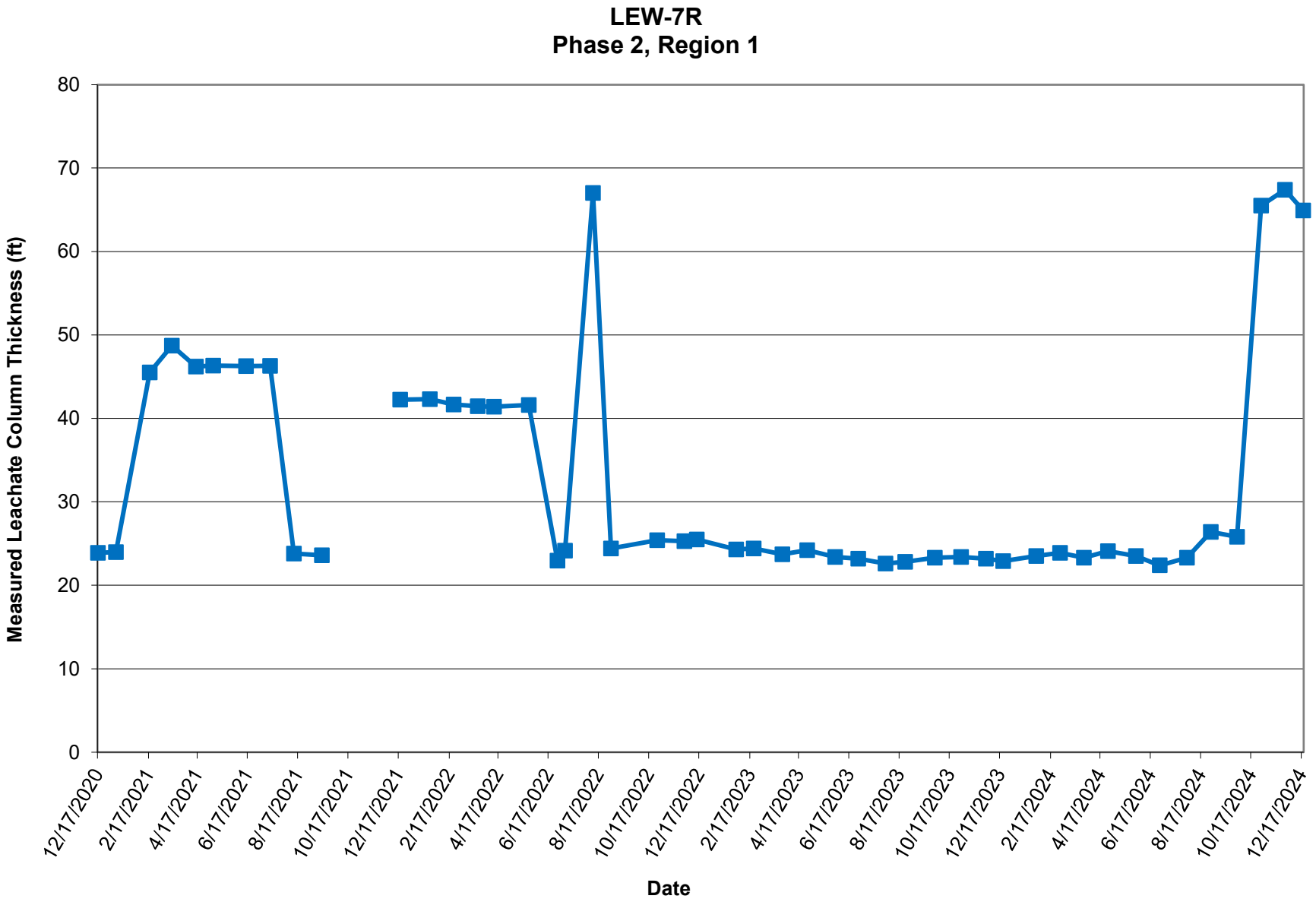
1) A = Distance from top of casing to leachate level. B = Leachate column thickness plus distance from bottom of well to liner.
2) NM = Not measured; NA = Not available; NI = Not Installed.
3) Leachate level data provided by landfill personnel.

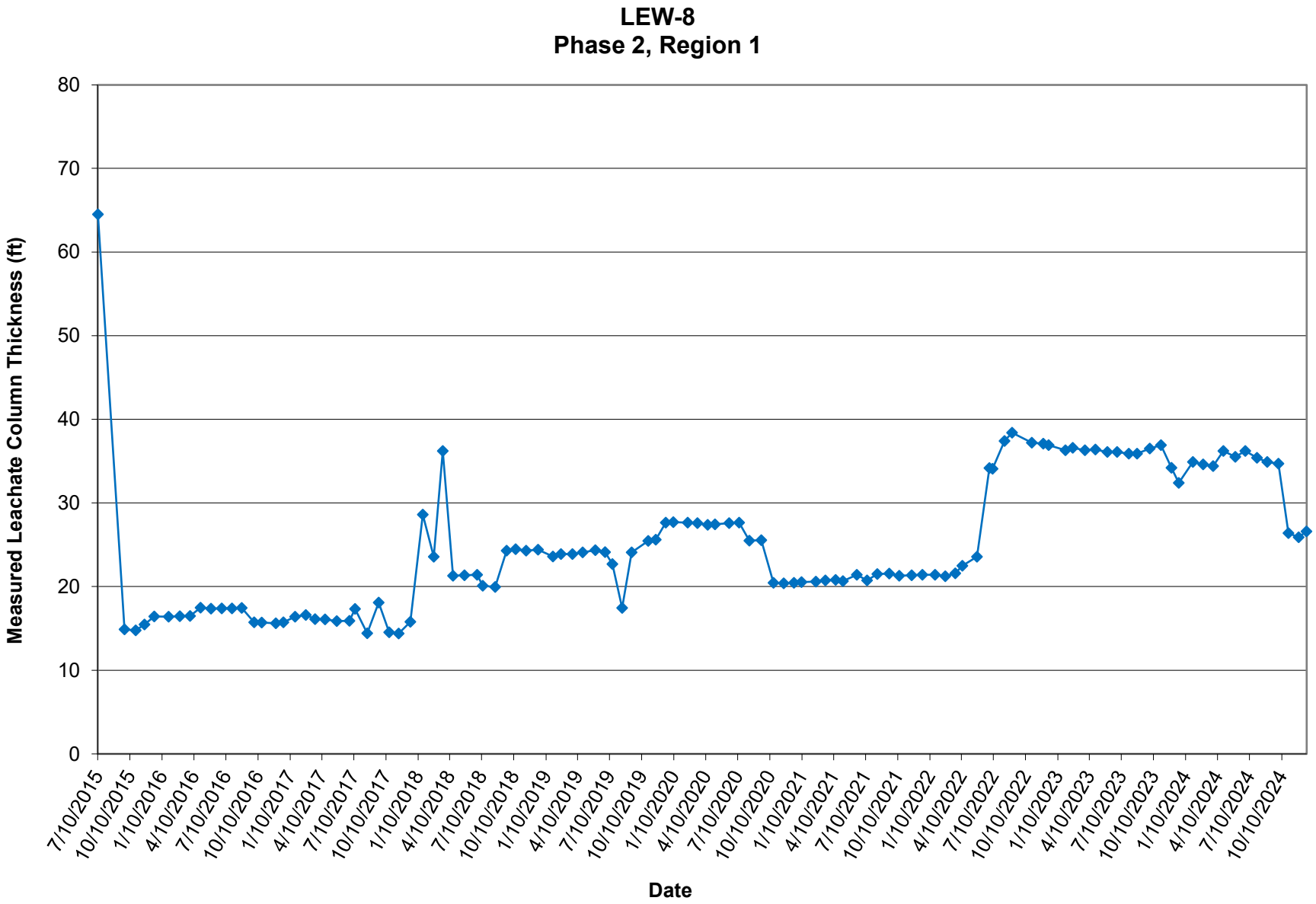

LEW-08-1R
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
100
90
80
70
60
50
40
30
20
10
0
12/17/2020
2/17/2021
4/17/2021
6/17/2021
8/17/2021
10/17/2021
12/17/2021
2/17/2022
4/17/2022
6/17/2022
8/17/2022
10/17/2022
12/17/2022
2/17/2023
4/17/2023
6/17/2023
8/17/2023
10/17/2023
12/17/2023
2/17/2024
4/17/2024
6/17/2024
8/17/2024
10/17/2024
12/17/2024
Date

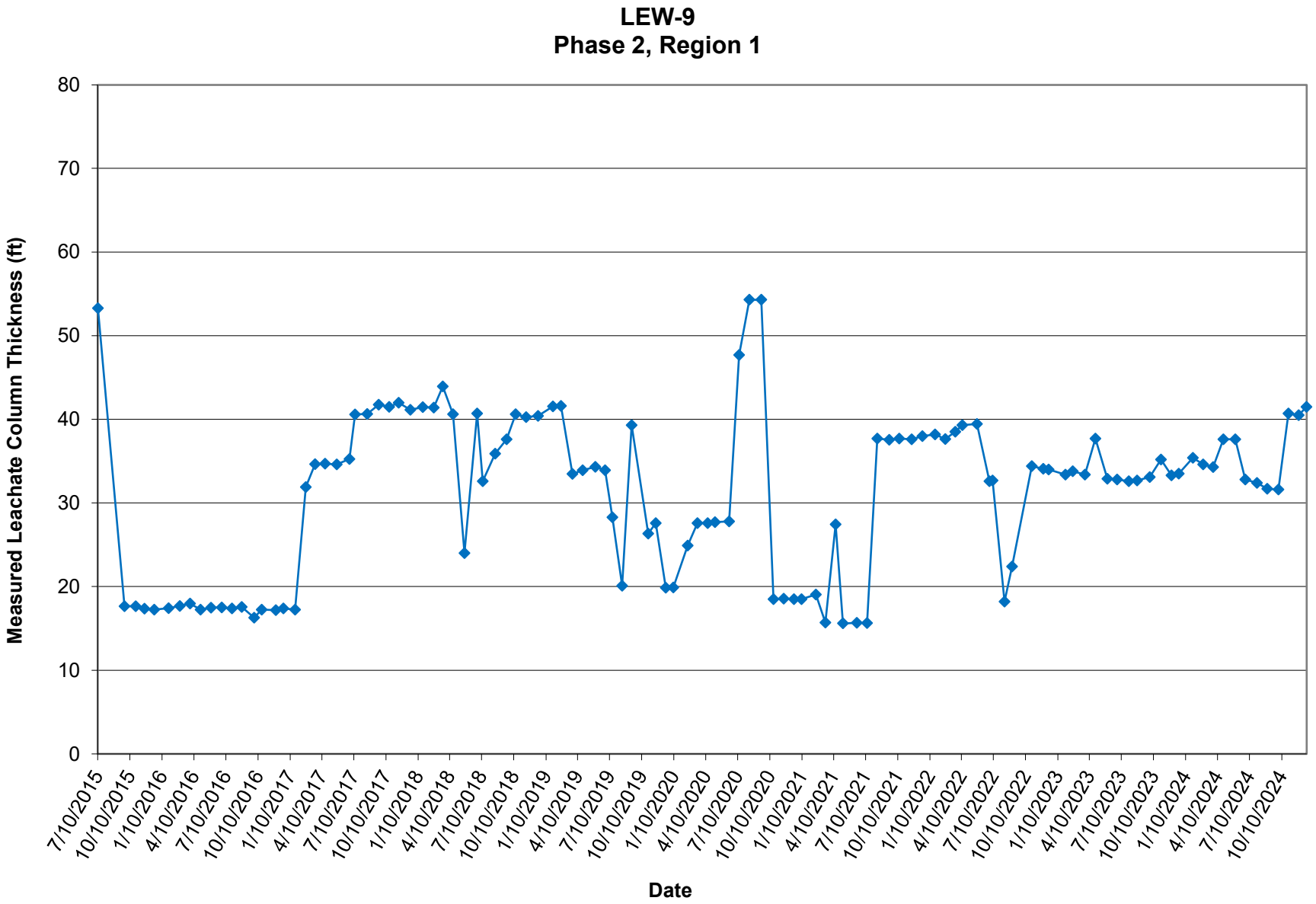

LPZ-5R
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
80
70
60
50
40
30
20
10
0
8/28/2003
8/28/2004
8/28/2005
8/28/2006
8/28/2007
8/28/2008
8/28/2009
8/28/2010
8/28/2011
8/28/2012
8/28/2013
8/28/2014
8/28/2015
8/28/2016
8/28/2017
8/28/2018
8/28/2019
8/28/2020
8/28/2021
8/28/2022
8/28/2023
8/28/2024
Date


LW-6R
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
80
70
60
50
40
30
20
10
0
12/17/2020
2/17/2021
4/17/2021
6/17/2021
8/17/2021
10/17/2021
12/17/2021
2/17/2022
4/17/2022
6/17/2022
8/17/2022
10/17/2022
12/17/2022
2/17/2023
4/17/2023
6/17/2023
8/17/2023
10/17/2023
12/17/2023
2/17/2024
4/17/2024
6/17/2024
8/17/2024
10/17/2024
12/17/2024
Date


LPZ-7
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
80
70
60
50
40
30
20
10
0
9/24/2015
12/24/2015
3/24/2016
6/24/2016
9/24/2016
12/24/2016
3/24/2017
6/24/2017
9/24/2017
12/24/2017
3/24/2018
6/24/2018
9/24/2018
12/24/2018
3/24/2019
6/24/2019
9/24/2019
12/24/2019
3/24/2020
6/24/2020
9/24/2020
12/24/2020
3/24/2021
6/24/2021
9/24/2021
12/24/2021
3/24/2022
6/24/2022
9/24/2022
12/24/2022
3/24/2023
6/24/2023
9/24/2023
12/24/2023
3/24/2024
6/24/2024
9/24/2024
Date


LEW-7R
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
80
70
60
50
40
30
20
10
0
12/17/2020
2/17/2021
4/17/2021
6/17/2021
8/17/2021
10/17/2021
12/17/2021
2/17/2022
4/17/2022
6/17/2022
8/17/2022
10/17/2022
12/17/2022
2/17/2023
4/17/2023
6/17/2023
8/17/2023
10/17/2023
12/17/2023
2/17/2024
4/17/2024
6/17/2024
8/17/2024
10/17/2024
12/17/2024
Date


LEW-8
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
0
10
20
30
40
50
60
70
80
7/10/2015
10/10/2015
1/10/2016
4/10/2016
7/10/2016
10/10/2016
1/10/2017
4/10/2017
7/10/2017
10/10/2017
1/10/2018
4/10/2018
7/10/2018
10/10/2018
1/10/2019
4/10/2019
7/10/2019
10/10/2019
1/10/2020
4/10/2020
7/10/2020
10/10/2020
1/10/2021
4/10/2021
7/10/2021
10/10/2021
1/10/2022
4/10/2022
7/10/2022
10/10/2022
1/10/2023
4/10/2023
7/10/2023
10/10/2023
1/10/2024
4/10/2024
7/10/2024
10/10/2024
Date


LEW-9
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
0
10
20
30
40
50
60
70
80
7/10/2015
10/10/2015
1/10/2016
4/10/2016
7/10/2016
10/10/2016
1/10/2017
4/10/2017
7/10/2017
10/10/2017
1/10/2018
4/10/2018
7/10/2018
10/10/2018
1/10/2019
4/10/2019
7/10/2019
10/10/2019
1/10/2020
4/10/2020
7/10/2020
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4/10/2021
7/10/2021
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4/10/2022
7/10/2022
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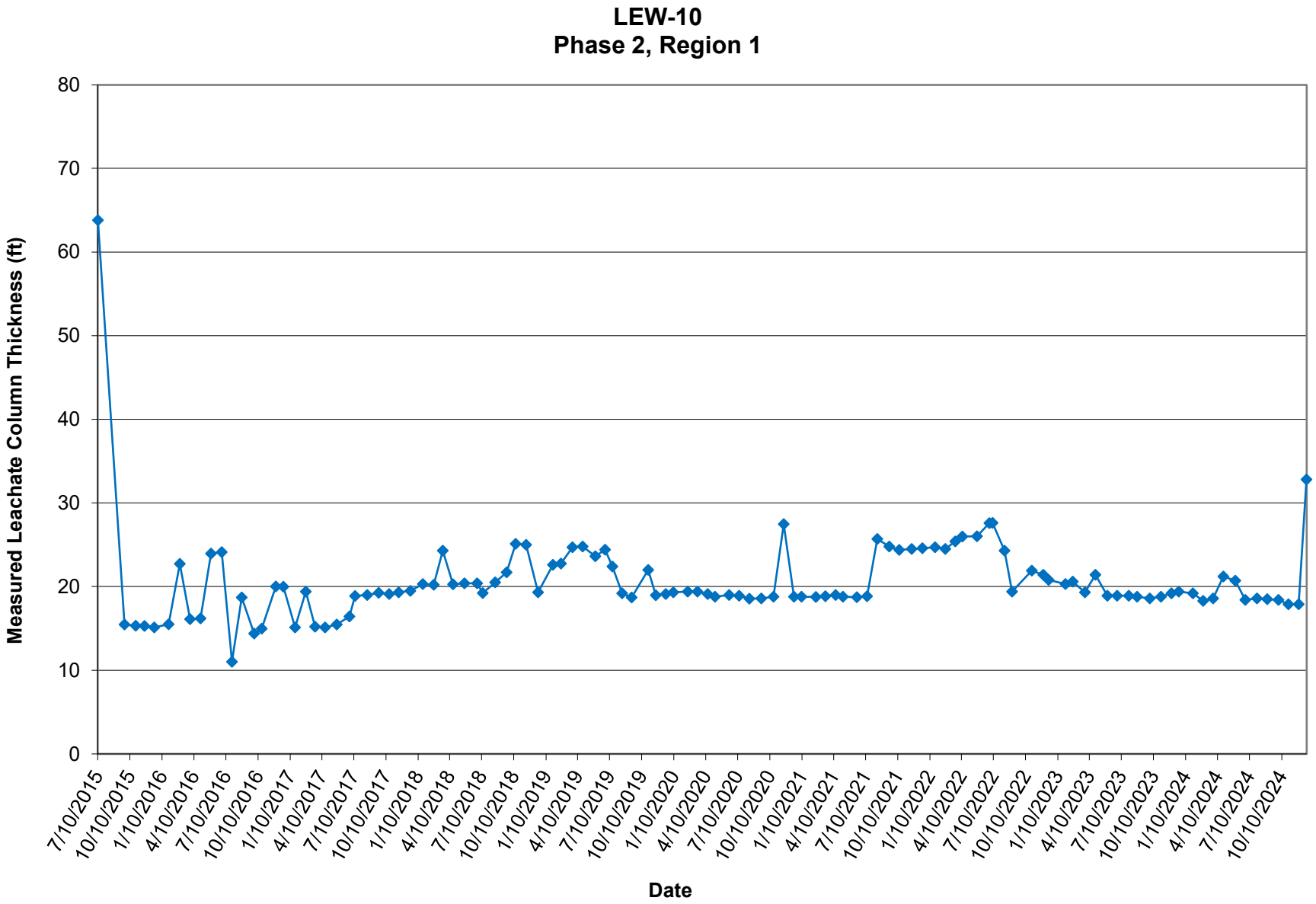
1/10/2023
4/10/2023
7/10/2023
10/10/2023
1/10/2024
4/10/2024
7/10/2024
10/10/2024
Date


LEW-10
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
80
70
60
50
40
30
20
10
0
7/10/2015
10/10/2015
1/10/2016
4/10/2016
7/10/2016
10/10/2016
1/10/2017
4/10/2017
7/10/2017
10/10/2017
1/10/2018
4/10/2018
7/10/2018
10/10/2018
1/10/2019
4/10/2019
7/10/2019
10/10/2019
1/10/2020
4/10/2020
7/10/2020
10/10/2020
1/10/2021
4/10/2021
7/10/2021
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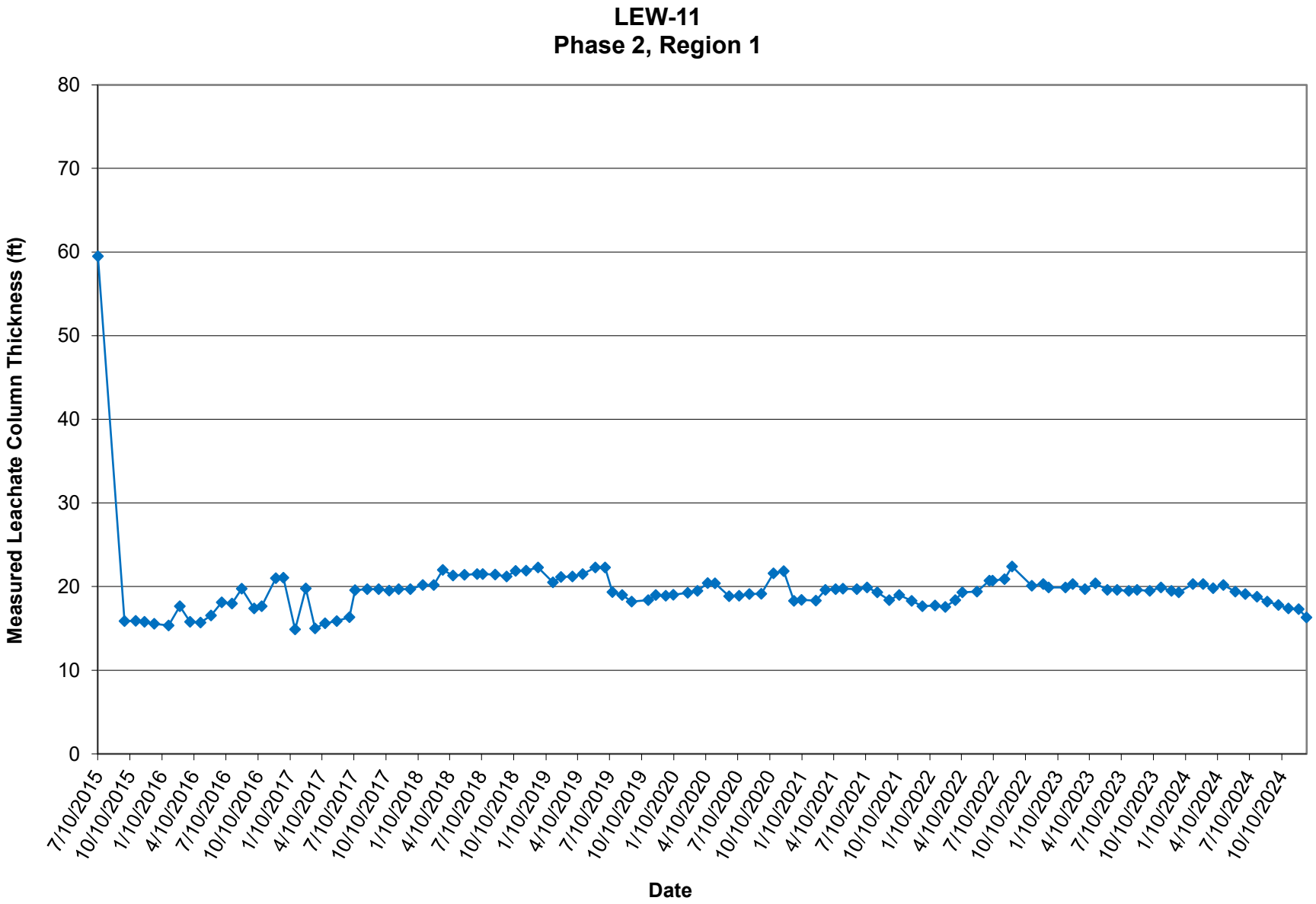
1/10/2023
4/10/2023
7/10/2023
10/10/2023
1/10/2024
4/10/2024
7/10/2024
10/10/2024
Date


LEW-11
Phase 2, Region 1
Measured Leachate Column Thickness (ft)
80
70
60
50
40
30
20
10
0
7/10/2015
10/10/2015
1/10/2016
4/10/2016
7/10/2016
10/10/2016
1/10/2017
4/10/2017
7/10/2017
10/10/2017
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4/10/2018
7/10/2018
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1/10/2023
4/10/2023
7/10/2023
10/10/2023
1/10/2024
4/10/2024
7/10/2024
10/10/2024
Date

TABLE B-3
PHASE 2 LEACHATE LEVEL MEASUREMENTS
Great River Regional Waste Authority
Fort Madison, Iowa
Project No. 27224317.25

DATE	LEACHATE PIEZOMETER	LEACHATE SUMP		
	LPZ-R3-1	R2-1	R2-2	L-1
1/1/2015	NI	NR	NR	8.29
2/1/2015	NI	1.21	0.94	7.09
3/1/2015	NI	1.21	1.69	6.90
4/1/2015	NI	1.22	2.11	9.40
5/1/2015	NI	1.23	2.06	17.67
6/1/2015	NI	1.22	2.20	8.82
7/1/2015	NI	1.22	3.04	14.42
8/1/2015	NI	1.21	2.09	6.31
9/1/2015	NI	1.21	2.09	6.38
10/1/2015	NI	1.80	2.12	6.41
11/1/2015	NI	1.88	2.33	6.33
12/1/2015	NI	1.93	6.23	6.22
1/1/2016	NI	1.92	2.89	6.25
2/1/2016	NI	2.03	1.72	6.21
3/1/2016	NI	1.96	2.89	6.29
4/1/2016	NI	2.01	6.32	6.58
5/1/2016	NI	1.95	9.24	6.35
6/1/2016	NI	2.04	2.28	6.26
7/1/2016	NI	2.02	2.25	6.27
8/1/2016	NI	2.02	2.26	6.14
9/1/2016	NI	4.16	2.26	6.26
10/1/2016	NI	2.47	2.26	20.99
11/1/2016	NI	1.96	2.43	7.13
12/1/2016	NI	2.03	2.32	6.20
1/1/2017	NI	2.03	2.25	6.21
2/1/2017	NI	2.02	2.26	6.20
3/1/2017	NI	2.01	2.25	6.17
4/1/2017	NI	2.01	2.25	6.22
5/1/2017	NI	2.01	2.26	6.25
6/1/2017	NI	2.01	2.27	6.25
7/1/2017	NI	2.03	2.27	6.30
8/1/2017	NI	2.05	2.27	6.28
9/1/2017	NI	2.05	2.27	6.20
10/1/2017	NI	2.06	2.26	6.21
11/1/2017	NI	3.10	2.87	6.25
12/1/2017	NI	2.01	2.65	13.20
1/1/2018	NI	2.01	2.65	11.03
2/1/2018	NI	2.31	2.58	7.32
3/1/2018	NI	4.05	3.41	24.96
4/1/2018	NI	2.13	2.26	6.67
5/1/2018	NI	2.53	2.27	6.38
6/1/2018	NI	2.07	2.26	6.33
7/1/2018	NI	2.12	2.27	6.08
8/1/2018	NI	2.14	2.27	6.27
9/1/2018	NI	2.72	2.70	13.00
10/1/2018	NI	2.09	2.26	6.15
11/1/2018	NI	2.10	2.26	6.22
12/1/2018	NI	2.08	2.27	6.29
1/1/2019	NI	2.07	2.43	6.32
2/1/2019	NI	2.02	2.43	6.23
3/1/2019	NI	2.03	2.31	6.31
4/1/2019	NI	2.01	2.25	6.58
5/1/2019	NI	NA	NA	30.99
6/1/2019	NI	6.07	2.28	6.30
7/1/2019	NI	3.30	2.35	7.02
8/1/2019	NI	8.18	NA	6.56
9/1/2019	NI	9.34	2.00	6.29
10/1/2019	NI	7.27	2.79	12.23
11/1/2019	NI	2.49	2.49	12.94
12/1/2019	NI	2.08	2.32	6.42

TABLE B-3
PHASE 2 LEACHATE LEVEL MEASUREMENTS
Great River Regional Waste Authority
Fort Madison, Iowa
Project No. 27224317.25

DATE	LEACHATE PIEZOMETER	LEACHATE SUMP		
	LPZ-R3-1	R2-1	R2-2	L-1
1/1/2020	NI	2.14	2.40	6.27
2/1/2020	NI	2.14	2.28	6.30
3/1/2020	NI	2.03	2.28	15.91
4/1/2020	NI	1.87	2.27	NA
5/1/2020	NI	1.84	2.28	NA
6/1/2020	NI	1.83	2.28	14.66
7/1/2020	NI	1.84	2.29	8.11
8/1/2020	NI	1.87	2.29	6.29
9/1/2020	NI	1.89	2.29	7.18
10/1/2020	NI	1.95	2.29	6.51
11/1/2020	NI	1.92	2.29	6.22
12/1/2020	NI	2.01	2.32	6.52
1/1/2021	NI	2.17	2.34	11.32
2/1/2021	NI	1.91	2.74	14.75
3/1/2021	NI	1.85	2.25	NA
4/1/2021	NI	1.80	2.25	NA
5/1/2021	NI	3.00	2.64	7.49
6/1/2021	NI	1.78	2.25	6.10
7/1/2021	NA	1.81	2.26	6.06
8/1/2021	NA	2.24	2.40	6.41
9/1/2021	NA	1.79	2.26	6.15
10/1/2021	NA	NA	NA	9.87
11/1/2021	NA	1.46	2.09	27.50
12/1/2021	Dry	NA	NA	NA
1/1/2022	Dry	NA	NA	5.98
2/1/2022	0.10	NA	NA	NA
3/1/2022	0.09	NA	NA	NA
4/1/2022	0.09	NA	NA	NA
5/1/2022	0.52	NA	NA	NA
6/1/2022	3.30	NA	NA	NA
7/1/2022	3.67	NA	NA	NA
8/1/2022	0.71	4.43	NA	16.94
9/1/2022	0.06	6.52	2.46	5.63
10/1/2022	0.06	3.56	3.66	7.57
11/1/2022	0.06	1.99	2.64	6.42
12/1/2022	0.05	2.01	2.40	5.32
1/1/2023	0.05	2.03	2.29	5.34
2/1/2023	0.05	2.05	2.27	5.22
3/1/2023	0.19	2.05	2.25	5.81
4/1/2023	0.05	2.02	2.26	5.77
5/1/2023	0.05	1.93	NA	5.90
6/1/2023	0.05	2.52	NA	5.29
7/1/2023	0.05	5.93	3.44	5.36
8/1/2023	0.06	7.28	2.27	5.90
9/1/2023	0.08	1.87	2.29	5.29
10/1/2023	0.14	2.03	2.33	5.31
11/1/2023	0.13	2.09	2.33	5.21
12/1/2023	0.11	2.14	2.32	5.21
1/1/2024	0.62	3.03	3.10	5.21
2/1/2024	NA	1.97	2.29	5.19
3/1/2024	NA	2.11	2.28	NA
4/1/2024	NA	2.11	2.28	7.20
5/1/2024	NA	2.14	2.29	5.67
6/1/2024	NA	2.15	2.31	5.23
7/1/2024	NA	2.15	2.30	5.53
8/1/2024	NA	2.16	2.31	5.87
9/1/2024	NA	2.17	2.31	8.69
10/1/2024	NA	2.15	2.32	NA
11/1/2024	NA	2.13	2.32	17.88
12/1/2024	NA	2.05	2.34	27.54

Notes:

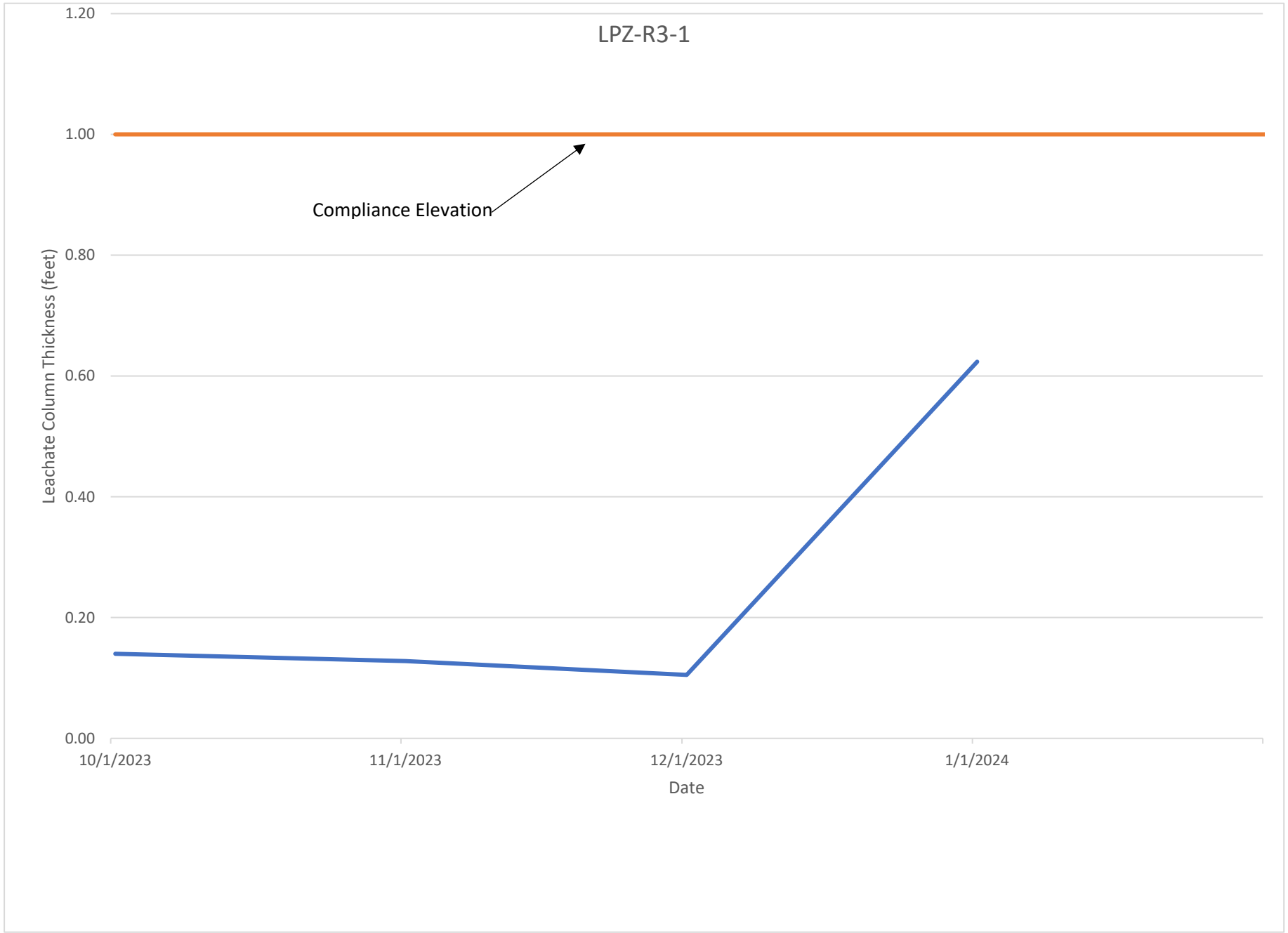
1) Leachate column thickness in feet.

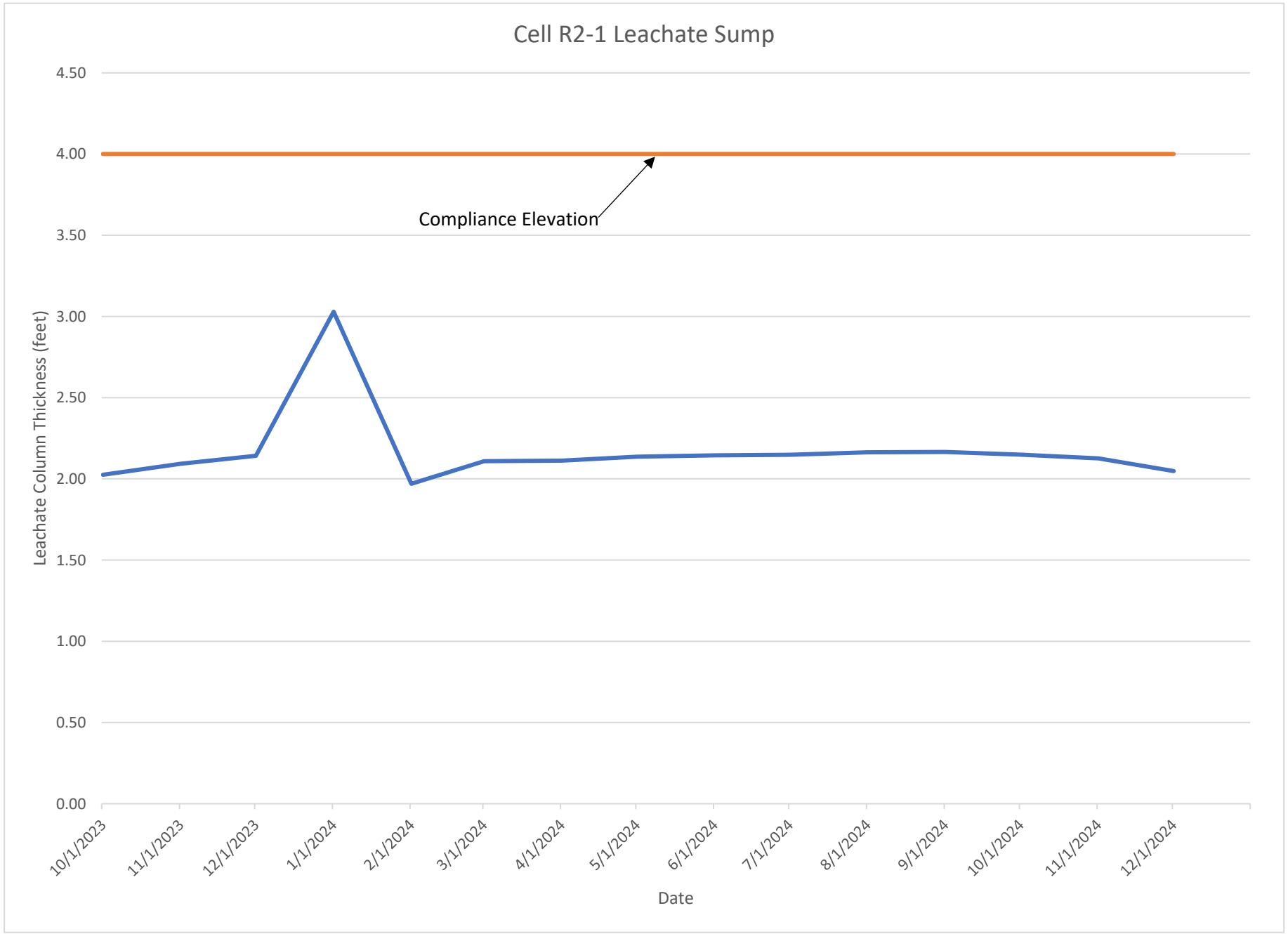
2) NR = Not recorded; NA = Not available; NI = Not installed.

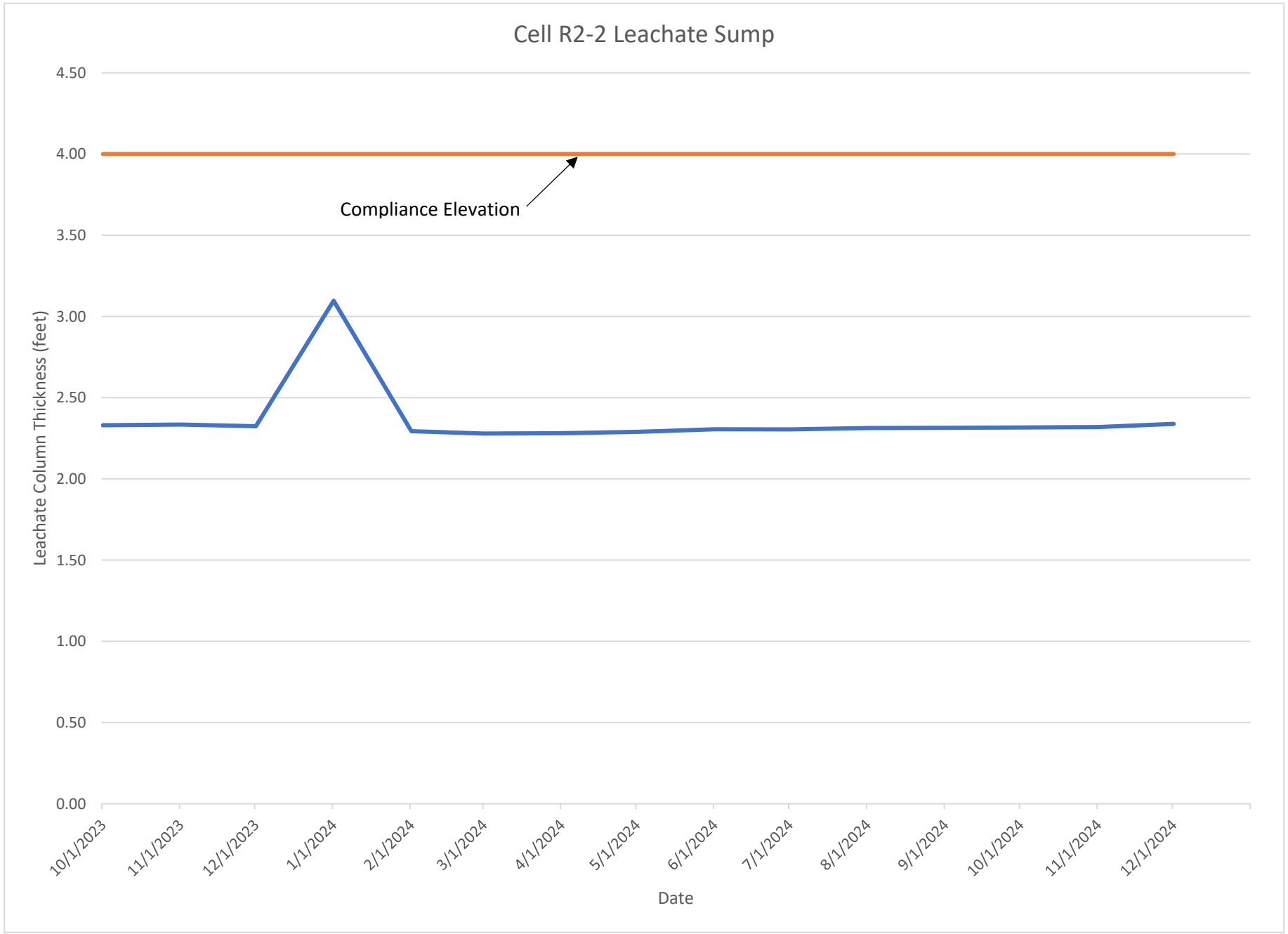
3) Beginning in March 2013, monthly averages from data collected by telemetry systems used.

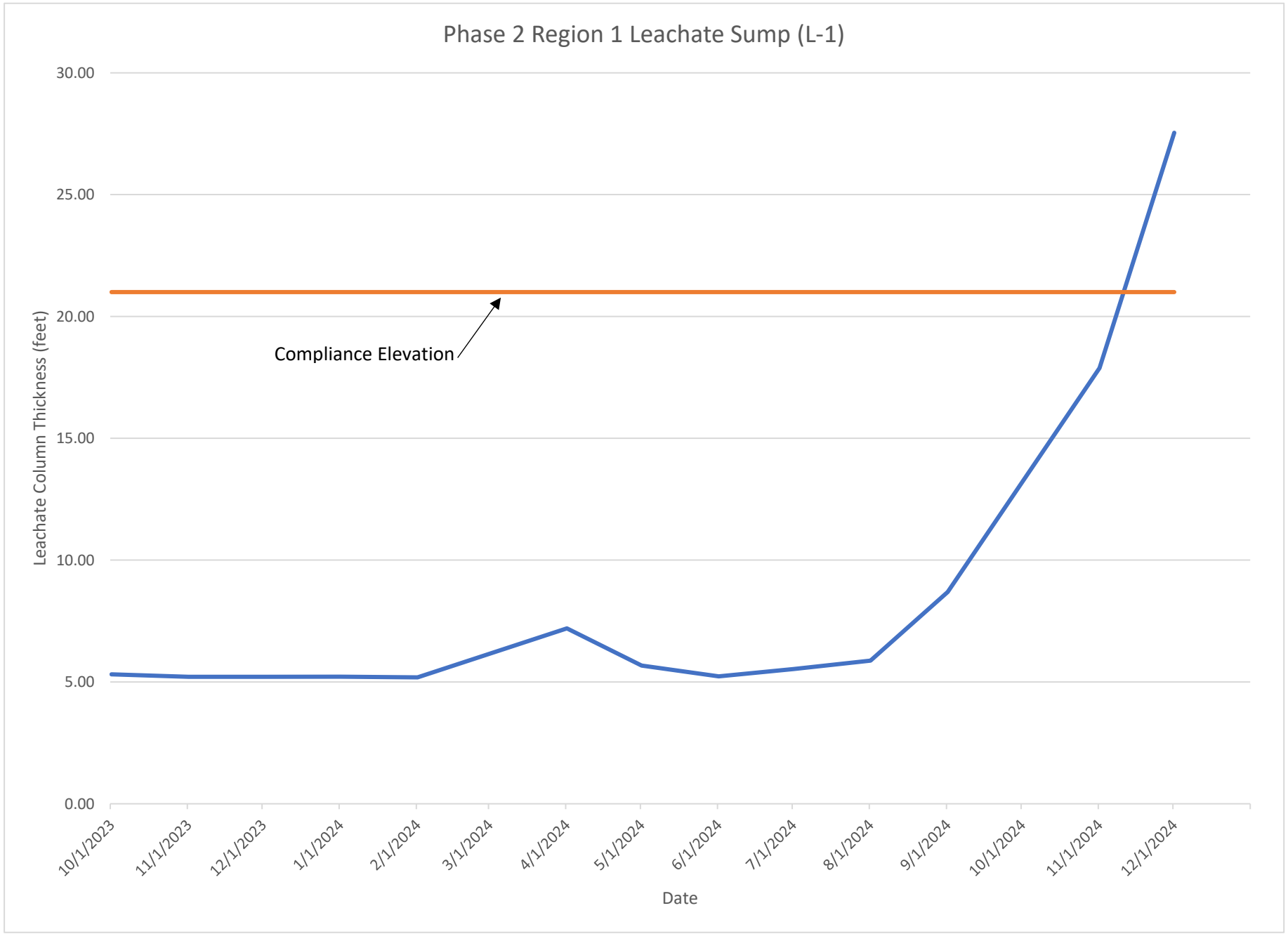
4) L-1 is the leachate sump for Phase 2 Region 1. It is indicated on the figure as "Lift Station."

5) Leachate sumps L-1, R2-1, and R2-2 are configured to trigger an alarm if pre-set levels are reached.


LPZ-R3-1
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Compliance Elevation
Leachate Column Thickness (feet)
10/1/2023
11/1/2023
12/1/2023
1/1/2024
Date


Cell R2-1 Leachate Sump
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Leachate Column Thickness (feet)
Compliance Elevation
10/1/2023
11/1/2023
12/1/2023
1/1/2024
2/1/2024
3/1/2024
4/1/2024
5/1/2024
6/1/2024
7/1/2024
8/1/2024
9/1/2024
10/1/2024
11/1/2024
12/1/2024
Date


Cell R2-2 Leachate Sump
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Leachate Column Thickness (feet)
Compliance Elevation
10/1/2023
11/1/2023
12/1/2023
1/1/2024
2/1/2024
3/1/2024
4/1/2024
5/1/2024
6/1/2024
7/1/2024
8/1/2024
9/1/2024
10/1/2024
11/1/2024
12/1/2024
Date


Phase 2 Region 1 Leachate Sump (L-1)
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Leachate Column Thickness (feet)
Compliance Elevation
10/1/2023
11/1/2023
12/1/2023
1/1/2024
2/1/2024
3/1/2024
4/1/2024
5/1/2024
6/1/2024
7/1/2024
8/1/2024
9/1/2024
10/1/2024
11/1/2024
12/1/2024
Date

Appendix F

2024 Landfill Gas Annual Report

Table 13
Gas Monitoring Summary
2024 Gas Monitoring Report
Great Regional Waste Authority Sanitary Landfill
Phase 2 MSWLF Unit
Permit No. 56-SDP-07-80P

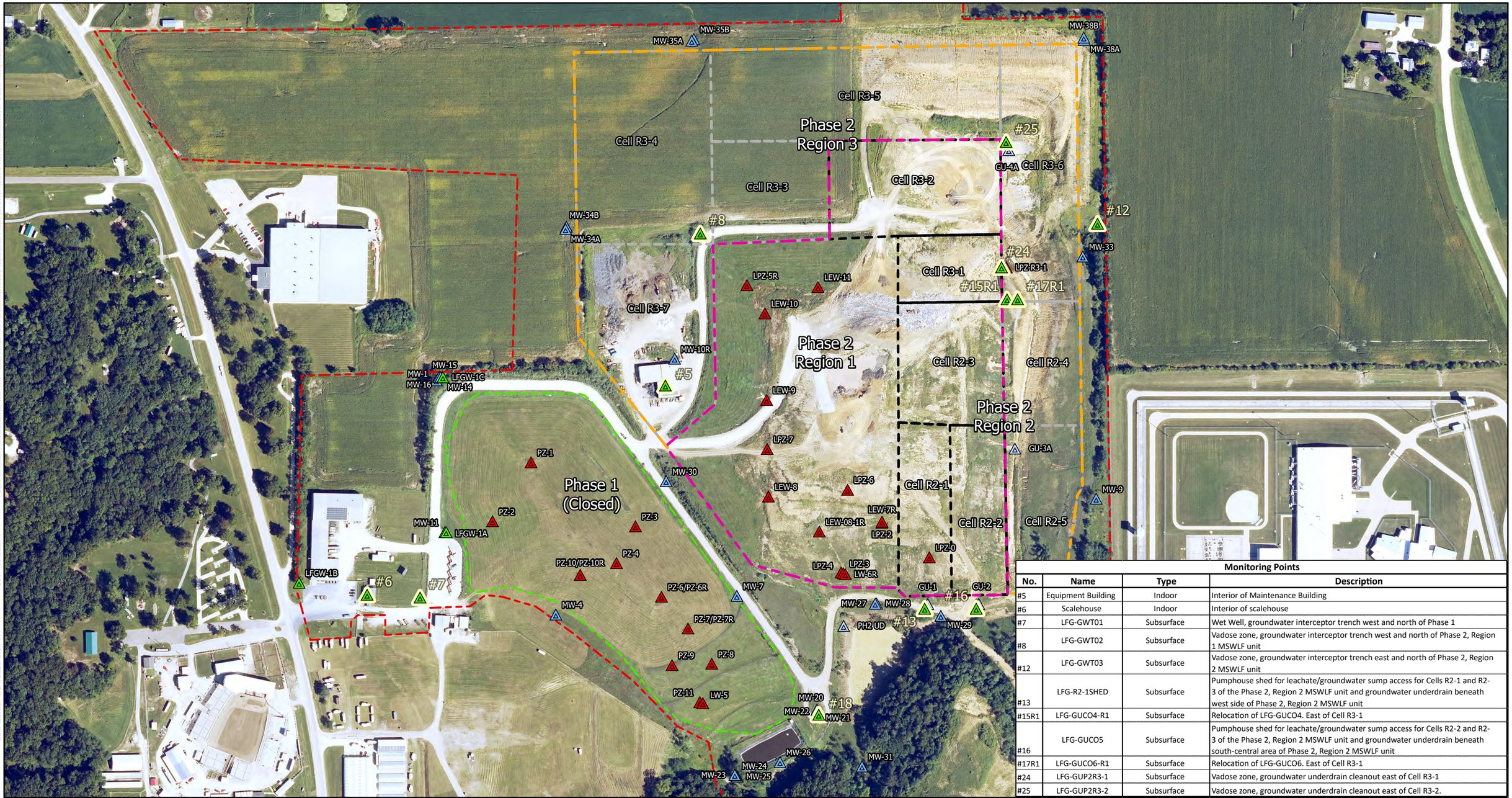
Monitoring Points				Methane Results (% LEL)									
Point ID	Name	Type	Description	12/21/2023	S (Y/N)	3/28/2024	S (Y/N)	6/28/2024	S (Y/N)	9/27/2024	S (Y/N)	12/23/2024	S (Y/N)
5	Equipment Building	Indoor	Interior of Maintenance Building	0		0		0		0		0	
6	Scalehouse	Indoor	Interior of scalehouse	0		0		0		0		0	
7	LFG-GWT01	Subsurface	Wet Well, groundwater interceptor trench west and north of Phase 1	0		0		0		0		0	
9	LFG-GUCO1	Subsurface	Vadose zone, groundwater underdrain beneath west side of Phase 2, Region 1 MSWLF unit	3%		4%		0		Abandoned		Abandoned	
10	LFG-GUCO2	Subsurface	Vadose zone, groundwater underdrain beneath central portion of Phase 2, Region 1 MSWLF unit	11%		10%		0		Abandoned		Abandoned	
11	LFG-GUCO3	Subsurface	Vadose zone, groundwater underdrain beneath east side of Phase 2, Region 1 MSWLF unit	0		7%		4%		Abandoned		Abandoned	
12	LFG-GWT03	Subsurface	Vadose zone, groundwater interceptor trench east and north of Phase 2, Region 2 MSWLF unit	0		0		0		0		0	
13	LFG-R2-1SHED	Subsurface	Pumphouse shed for leachate/groundwater sump access for Cells R2-1 and R2-3 of the Phase 2, Region 2 MSWLF unit and groundwater underdrain beneath west side of Phase 2, Region 2 MSWLF unit	0		0		0		0		0	
15R1	LFG-GUCO4-R1	Subsurface	Relocation of LFG-GUCO4. east of Cell R3-1.	0		0		0		0		0	
16	LFG-GUCO5	Subsurface	Pumphouse shed for leachate/groundwater sump access for Cells R2-2 and R2-3 of the Phase 2, Region 2 MSWLF unit and groundwater underdrain beneath south-central area of Phase 2, Region 2 MSWLF unit	0		0		0		0		0	
17R1	LFG-GUCO6-R1	Subsurface	Relocation of LFG-GUCO6. east of Cell R3-1.	0		0		0		0		0	
18	MW-22	Monitoring Well	Vadose zone, groundwater monitoring point between the leachate lagoon and sediment pond	0	N	0	N	0	N	0	N	0	N
24	LFG-GUP2R3-1	Subsurface	Groundwater underdrain cleanout on the east side of Cell R3-1.	0		0		0		0		0	

S(Y/N) - Was screen submerged, yes or no or blank is non-applicable

Methane monitoring is performed by Landfill staff.

There were no action level exceedances during this reporting period.

Methane measurements for the 4th quarter of 2023 were collected after the purchase of a new methane meter.



Monitoring Points			
No.	**Name**	**Type**	**Description**
#5	Equipment Building	Indoor	Interior of Maintenance Building
#6	Scalehouse	Indoor	Interior of scalehouse
#7	LFG-GWT01	Subsurface	Wet Well, groundwater interceptor trench west and north of Phase 1
#8	LFG-GWT02	Subsurface	Vadose zone, groundwater interceptor trench west and north of Phase 2, Region 1 MSWLF unit
#12	LFG-GWT03	Subsurface	Vadose zone, groundwater interceptor trench east and north of Phase 2, Region 2 MSWLF unit
#13	LFG-R2-1SHED	Subsurface	Pumphouse shed for leachate/groundwater sump access for Cells R2-1 and R2-3 of the Phase 2, Region 2 MSWLF unit and groundwater underdrain beneath west side of Phase 2, Region 2 MSWLF unit
#15R1	LFG-GUCO4-R1	Subsurface	Relocation of LFG-GUCO4. East of Cell R3-1
#16	LFG-GUCO5	Subsurface	Pumphouse shed for leachate/groundwater sump access for Cells R2-2 and R2-3 of the Phase 2, Region 2 MSWLF unit and groundwater underdrain beneath south-central area of Phase 2, Region 2 MSWLF unit
#17R1	LFG-GUCO6-R1	Subsurface	Relocation of LFG-GUCO6. East of Cell R3-1
#24	LFG-GUP2R3-1	Subsurface	Vadose zone, groundwater underdrain cleanout east of Cell R3-1
#25	LFG-GUP2R3-2	Subsurface	Vadose zone, groundwater underdrain cleanout east of Cell R3-2.

Methane Monitoring Network

SCS ENGINEERS
environmental consultants and contractors

Legend

- Methane Monitoring Point
- Monitoring Well
- Underdrain Monitoring Point
- Landfill Gas Well
- Leachate Monitoring Point
- Approximate Future Waste Boundary - Phase 2
- Approximate Waste Boundary - Phase 2
- Located Waste Boundary
- Approximate GRRWA Property Boundary
- Approximate Location Of Existing Cell Boundaries
- Approximate Location of Future Cell Boundary

GRRWA Sanitary Landfill
Phase 2
Fort Madison, Iowa
Project No: 27224317.25
Drawing Date: January 2025

N W E S

0 280 560 1,120 Feet

Figure 1