



## **Department of Energy**

Portsmouth/Paducah Project Office 1017 Majestic Drive, Suite 200 Lexington, Kentucky 40513 (859) 219-4000 May 29, 2024

Mr. Todd Hendricks Division of Waste Management Kentucky Department for Environmental Protection 300 Sower Boulevard, 2nd Floor Frankfort, Kentucky 40601

Ms. Jamie Nielsen Division of Waste Management Kentucky Department for Environmental Protection 300 Sower Boulevard, 2nd Floor Frankfort, Kentucky 40601

Dear Mr. Hendricks and Ms. Nielsen:

C-746-U CONTAINED LANDFILL FIRST QUARTER CALENDAR YEAR 2024 (JANUARY–MARCH) COMPLIANCE MONITORING REPORT, PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, FRNP-RPT-0350/V1, PERMIT NUMBER SW07300014, SW07300015, SW07300045, AGENCY INTEREST ID NO. 3059

The subject report for the first quarter calendar year (CY) 2024 has been uploaded to the Kentucky eForms portal via the Kentucky Online Gateway. Other recipients outside the Solid Waste Branch are receiving this document via email distribution (see distribution list). This report is required in accordance with Permit Condition ACTV0006, Special Condition Number 3, of Solid Waste Landfill Permit Number SW07300014, SW07300015, SW07300045 (Permit). This report includes groundwater analytical data, a validation summary, groundwater flow rate and direction determination, figures depicting well locations, and methane monitoring results.

The statistical analyses on the first quarter CY 2024 monitoring well data collected from the C-746-U Landfill were performed in accordance with Monitoring Condition GSTR0001, Standard Requirement 3, using the U.S. Environmental Protection Agency guidance document, Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance (1989). This report also serves as the statistical exceedance notification for the first quarter CY 2024, in accordance with Monitoring Condition GSTR0001, Standard Requirement 5, of the Permit.

PPPO-02-10027697-24B

If you have any questions or require additional information, please contact Tom Reed at (859) 397-7003.

Sincerely,

APRIL LADD Digitally signed by APRIL LADD Date: 2024.05.29 10:31:39 -05'00'

April Ladd
Paducah Site Lead
Portsmouth/Paducah Project Office

#### Enclosure:

C-746-U Contained Landfill First Quarter Calendar Year 2024 (January–March) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, FRNP-RPT-0350/V1

#### cc w/enclosure:

abigail.parish@pppo.gov, PPPO angus.mackelvey@pppo.gov, PPPO april.ladd@pppo.gov, PPPO april.webb@ky.gov, KDEP bruce.ford@pad.pppo.gov, FRNP bryan.smith@pad.pppo.gov, FRNP dennis.greene@pad.pppo.gov, FRNP frnpcorrespondence@pad.pppo.gov, FRNP jaime.morrow@pad.pppo.gov, FRNP ken.davis@pad.pppo.gov, FRNP leo.williamson@ky.gov, KDEP mary.evans@ky.gov, KDEP myrna.redfield@pad.pppo.gov, FRNP pad.rmc@pad.pppo.gov ryan.callihan@pppo.gov, PPPO sonja.smiley@ky.gov stephaniec.brock@ky.gov, KYRHB tom.reed@pppo.gov, PPPO

e-copy via KY eForms portal: jamie.nielsen@ky.gov, KDEP lauren.linehan@ky.gov, KDEP teresa.osborne@ky.gov, KDEP todd.hendricks@ky.gov, KDEP C-746-U Contained Landfill
First Quarter Calendar Year 2024
(January–March)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky



**CLEARED FOR PUBLIC RELEASE** 

C-746-U Contained Landfill
First Quarter Calendar Year 2024
(January–March)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky

Date Issued—May 2024

U.S. DEPARTMENT OF ENERGY Office of Environmental Management

Prepared by
FOUR RIVERS NUCLEAR PARTNERSHIP, LLC,
managing the
Deactivation and Remediation Project at the
Paducah Gaseous Diffusion Plant
under Contract DE-EM0004895

# **CLEARED FOR PUBLIC RELEASE**



# **CONTENTS**

FI	GURE	S		v
TA	BLES			v
ΑC	CRON	YMS		vii
1.	1.1 1.2	BACK MONI 1.2.1 1.2.2 1.2.3	TIONGROUNDTORING PERIOD ACTIVITIESGroundwater MonitoringMethane Monitoring	
	1.3		ESULTS	
2.	DAT 2.1	STATI 2.1.1 2.1.2 2.1.3	LUATION/STATISTICAL SYNOPSISSTICAL ANALYSIS OF GROUNDWATER DATAUpper Continental Recharge SystemUpper Regional Gravel AquiferLower Regional Gravel Aquifer	10 10 10
	2.2	DATA	VERIFICATION AND VALIDATION	11
3.	PRO	FESSIO	NAL GEOLOGIST AUTHORIZATION	13
4.	REFI	ERENCI	ES	15
AF	PEND	OIX A:	GROUNDWATER, SURFACE WATER, LEACHATE, AND METHANE MONITORING SAMPLE DATA REPORTING FORM	A-1
ΑF	PEND	OIX B:	FACILITY INFORMATION SHEET	B-1
ΑF	PEND	OIX C:	GROUNDWATER SAMPLE ANALYSES AND LABORATORY REPORTS	C-1
ΑF	PEND	OIX D:	STATISTICAL ANALYSES AND QUALIFICATION STATEMENT	D-1
AF	PEND	OIX E:	GROUNDWATER FLOW RATE AND DIRECTION	E-1
AF	PEND	OIX F:	NOTIFICATIONS	F-1
ΑF	PEND	OIX G:	CHART OF MCL AND UTL EXCEEDANCES	G-1
ΑF	PEND	OIX H:	METHANE MONITORING DATA	H-1
ΑF	PEND	OIX I:	SURFACE WATER ANALYSES AND LABORATORY REPORTS	I-1
ΑF	PEND	OIX J:	ANALYTICAL LABORATORY CERTIFICATION	J-1

APPENDIX K:	LABORATORY ANALYTICAL METHODS	. K-1
APPENDIX L:	MICRO-PURGING STABILITY PARAMETERS	. L-1

# **FIGURES**

1.	C-746-U Landfill Groundwater Monitoring Well Network	2
2.	C-746-U Landfill Surface Water Monitoring Locations	5
	TABLES	
1.	Summary of MCL Exceedances	4
2.	Exceedances of Statistically Derived Historical Background Concentrations	6
3.	Exceedances of Current Background UTL in Downgradient RGA Wells	6
4.	C-746-U Landfills Downgradient Wells Trend Summary Utilizing the Previous Eight Quarters	7
5.	Monitoring Wells Included in Statistical Analysis	



#### **ACRONYMS**

CFR Code of Federal Regulations

CY calendar year

KAR Kentucky Administrative RegulationsKDWM Kentucky Division of Waste Management

KRS Kentucky Revised Statutes
LEL lower explosive limit

LRGA Lower Regional Gravel Aquifer

LTL lower tolerance limit

MCL maximum contaminant level

MW monitoring well

RGA Regional Gravel Aquifer

UCRS Upper Continental Recharge System URGA Upper Regional Gravel Aquifer

UTL upper tolerance limit



#### 1. INTRODUCTION

This report, C-746-U Contained Landfill First Quarter Calendar Year 2024 (January–March) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, is being submitted in accordance with Solid Waste Permit No. SW07300014, SW07300015, SW07300045.

The Groundwater, Surface Water, Leachate, and Methane Monitoring Sample Data Reporting Form is provided in Appendix A. The facility information sheet is provided in Appendix B. Groundwater analytical results are presented in groundwater sample analyses tables and laboratory reports, which are presented in Appendix C. The statistical analyses and qualification statement are provided in Appendix D. The groundwater flow rate and direction determinations are provided in Appendix E. Appendix F contains the notifications for all permit required parameters whose concentrations exceed the maximum contaminant level (MCL) for Kentucky solid waste facilities provided in 401 KAR 47:030 § 6, Maximum Groundwater Contaminant Levels, and for all permit required parameters listed in 40 CFR § 302.4, Appendix A, Sequential CAS Registry Number List of CERCLA Hazardous Substances, that do not have an MCL and whose concentrations exceed the historical background concentrations [upper tolerance limit (UTL), or both UTL and lower tolerance limit (LTL) for pH, as established at a 95% confidence]. Appendix G provides a chart of MCL and historical background UTL exceedances that have occurred, beginning in the third quarter, calendar year 2002. Methane monitoring results are documented on the approved C-746-U Landfill Methane Monitoring Report form provided in Appendix H. The form includes pertinent remarks/observations as required by 401 KAR 48:090 § 5, Explosive Gases Control. Surface water analyses are provided in Appendix I. Analytical laboratory certification is provided in Appendix J. Laboratory analytical methods used to analyze the included data set are provided in Appendix K. Micro-purging stability parameter results are provided in Appendix L.

#### 1.1 BACKGROUND

The C-746-U Contained Landfill is an operating solid waste landfill located north of the Paducah Gaseous Diffusion Plant and north of the C-746-S&T Landfills. Construction and operation of the C-746-U Contained Landfill were permitted in November 1996. The operation is regulated under Solid Waste Landfill Permit No. SW07300014, SW07300015, SW07300045. The permitted C-746-U Contained Landfill area covers about 60 acres and includes a liner and leachate collection system. The C-746-U Contained Landfill currently is operating in Phases 4, 5, and 6, with Phase 7 approved for receipt of waste as of September 27, 2019. A minor permit modification that included upgrades to the leachate storage capacity for Phases 6 and 7 was approved by the Kentucky Division of Waste Management (KDWM) on May 21, 2021 (FRNP 2021). Phases 1, 2, and 3 have long-term cover. Phases 8 through 23 have not been constructed.

#### 1.2 MONITORING PERIOD ACTIVITIES

#### 1.2.1 Groundwater Monitoring

Three zones are monitored at the site: the Upper Continental Recharge System (UCRS), the Upper Regional Gravel Aquifer (URGA), and the Lower Regional Gravel Aquifer (LRGA). There are 21 monitoring wells (MWs) under permit for the C-746-U Contained Landfill: 9 UCRS wells, 6 URGA wells, and 6 LRGA wells. A map of the MW locations is presented in Figure 1. All MWs were sampled this quarter with the exception of MW359, MW365, MW368, MW376, and MW377 (screened in the UCRS), which had insufficient amounts of water to obtain samples; therefore, there are no laboratory analysis results for these locations.

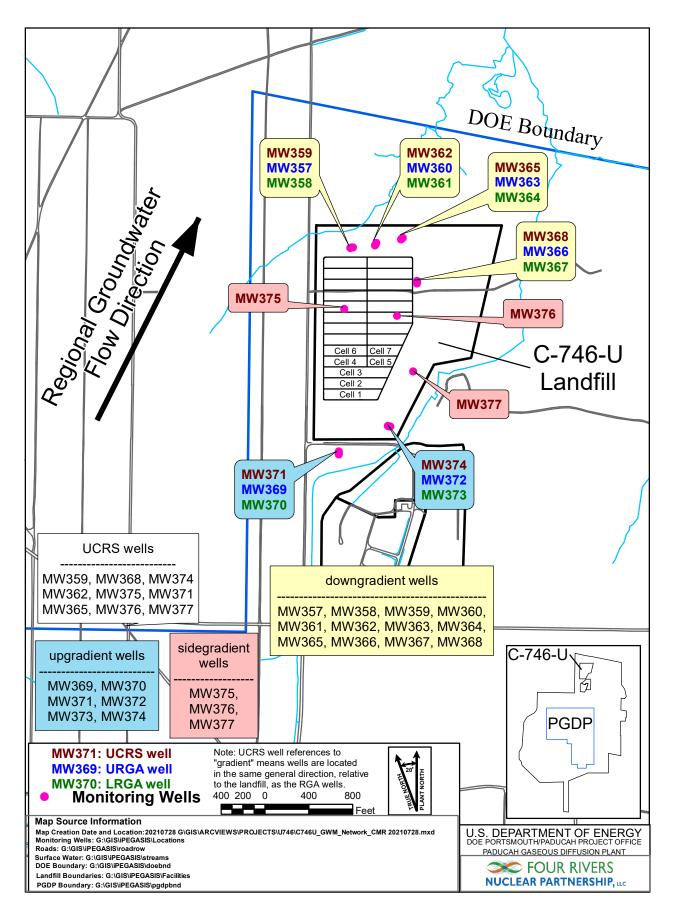


Figure 1. C-746-U Landfill Groundwater Monitoring Well Network

Consistent with the approved *Groundwater Monitoring Plan for the Solid Waste Permitted Landfills* (C-746-S Residential Landfill, C-746-T Inert Landfill, and C-746-U Contained Landfill) at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, (Groundwater Monitoring Plan) UCRS wells are included in the monitoring program (LATA Kentucky 2014). Groundwater flow gradients are downward through the UCRS, but flow in the underlying Regional Gravel Aquifer (RGA) is lateral. Groundwater flow in the RGA typically is in a northeasterly direction in the vicinity of the C-746-U Contained Landfill. The Ohio River and lower reaches of Little Bayou Creek are the discharge areas for the RGA flow system from the vicinity of the landfills.

Consistent with the conceptual site model, the constituent concentrations in UCRS wells are considered to be representative only of the conditions local to the well or sourced from overlying soils; thus, no discussion of potential "upgradient" sources is relevant to the discussion for the UCRS. Nevertheless, a UTL for background also has been calculated for UCRS wells using concentrations from UCRS wells located in the same direction (relative to the landfill) as those RGA wells identified as upgradient. The results from these wells are considered to represent historical "background" for UCRS water quality. Similarly, other gradient references for UCRS wells are identified using the same gradient references (relative to the landfill) that are attributed to nearby RGA wells. Results from UCRS wells are compared to this UTL and exceedances of these values are reported in the quarterly report.

Groundwater sampling was conducted within the first quarter 2024 in accordance with the Groundwater Monitoring Plan (LATA Kentucky 2014) using the Deactivation and Remediation Contractor procedure CP4-ES-2101, *Groundwater Sampling*. Groundwater sampling for the first quarter 2024 was conducted on January 23–25, 2024. The analytical laboratory used U.S. Environmental Protection Agency-approved methods, as applicable. Appropriate sample containers and preservatives were used. The parameters specified in Permit Condition GSTR0001, Special Condition 1, were analyzed for all locations sampled.

The groundwater flow rate and direction determination are provided in Appendix E. Depth-to-water was measured on January 22, 2024, in MWs of the C-746-U Contained Landfill (see Appendix E, Table E.1), in MWs of the C-746-S&T Landfills, and in MWs of the surrounding region (shown on Appendix E, Figure E.4). Water level measurements in 39 vicinity wells define the potentiometric surface for the RGA. Typical regional flow in the RGA is northeastward, toward the Ohio River. During January 2024, RGA groundwater flow in the area of the landfill was oriented northeast. The hydraulic gradient for the RGA in the vicinity of the C-746-U Contained Landfill in January 2024 was  $3.19 \times 10^{-4}$  ft/ft (see Appendix E, Table E.2). The hydraulic gradients for the URGA and LRGA at the C-746-U Contained Landfill were  $5.92 \times 10^{-4}$  ft/ft and  $6.32 \times 10^{-4}$  ft/ft, respectively (see Appendix E, Table E.2). Calculated groundwater flow rates (average linear velocity) at the C-746-U Contained Landfill range from 1.01 to 1.72 ft/day for the URGA and 1.07 to 1.83 ft/day for the LRGA (see Appendix E, Table E.3).

#### 1.2.2 Methane Monitoring

Methane monitoring was conducted in accordance with 401 *KAR* 48:090 § 5 and the approved Explosive Gas Monitoring Program (KEEC 2011), which is Technical Application Attachment 12, of the Solid Waste Permit. Industrial Hygiene staff monitored for the occurrence of methane in four on-site building locations and four locations along the landfill boundary on February 8, 2024. Appendix H provides a map of the monitoring locations (Appendix H, Figure H.1). Monitoring results identified that all locations were compliant with the regulatory requirement of < 100% lower explosive limit (LEL) at boundary locations and < 25% LEL at all other locations. The results are documented on the C-746-U Contained Landfill Methane Monitoring Report provided in Appendix H.

#### 1.2.3 Surface Water Monitoring

Surface water was monitored, as specified in 401 KAR 48:300 § 2, Surface Water Monitoring Plan, and the approved Surface Water Monitoring Plan for C-746-U and C-746-S&T Landfills Permit Number SW07300014, SW07300015, SW07300045, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Agency Interest Number 3059 (FRNP 2021), which is Technical Application Attachment 24 of the Solid Waste Permit. Surface water sampling was performed on January 9, 2024, at three locations monitored for the C-746-U Contained Landfill: (1) instream location L154, (2) downstream location L351, and (3) instream location L150 (Figure 2). Surface water results are provided in Appendix I.

#### 1.3 KEY RESULTS

Groundwater data were evaluated in accordance with the approved Groundwater Monitoring Plan (LATA Kentucky 2014), which is Technical Application Attachment 25, of the Solid Waste Permit. For the current reporting quarter, there were no parameters that exceeded their respective MCLs. If there had been any MCL exceedances, they would have been listed in Table 1. Those constituents that exceeded their respective MCL would have been evaluated further against their historical background UTL. Table 2 identifies parameters (that do not have MCLs) with concentrations that exceeded the statistically derived historical background UTL during the first quarter 2024, as well as parameters that exceeded their MCL and also exceeded their historical background UTL. Those constituents (present in downgradient wells) that exceed their historical background UTL were evaluated against their current UTL-derived background using the most recent eight quarters of data from wells considered to be background. Constituents in downgradient wells that exceeded current background UTL are shown on Table 3.

**Table 1. Summary of MCL Exceedances** 

UCRS	URGA	LRGA
None	None	None

\_

<sup>&</sup>lt;sup>1</sup> The UTL comparison for pH uses a two-sided test for both UTLs and LTLs. For the purposes of this report, the reference to "UTL exceedances" also includes the LTL for pH.

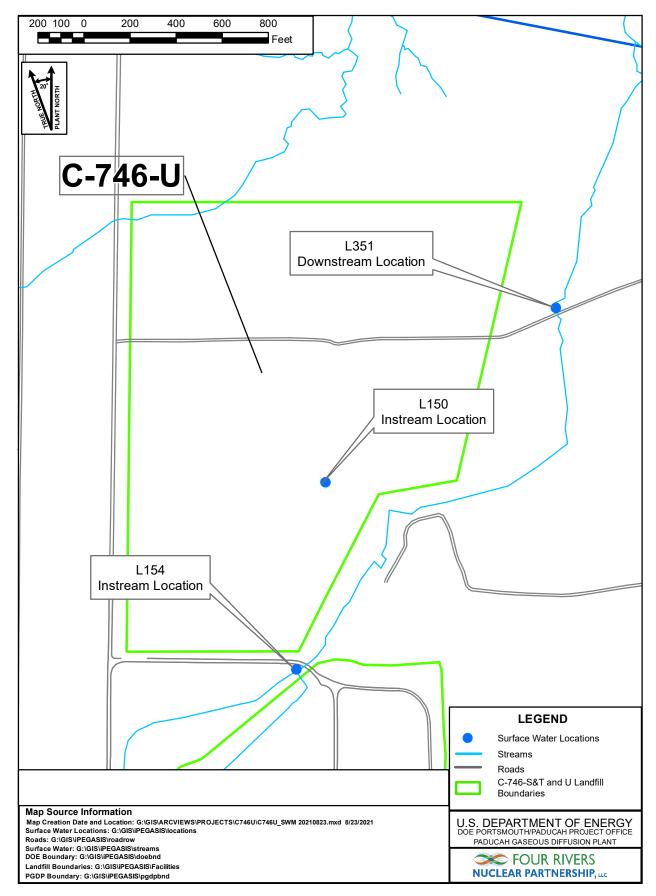


Figure 2. C-746-U Landfill Surface Water Monitoring Locations

Table 2. Exceedances of Statistically Derived Historical Background Concentrations

UCRS <sup>a</sup>	URGA	LRGA
MW362: Oxidation-reduction	MW357: Oxidation-reduction potential <sup>b</sup>	MW358: Nickel and
potential <sup>b</sup>		oxidation-reduction potential <sup>b</sup>
MW371: Magnesium and	MW360: Oxidation-reduction potential <sup>b</sup>	MW361: Oxidation-reduction
oxidation-reduction potential <sup>b</sup>		potential <sup>b</sup> and technetium-99
MW374: Oxidation-reduction	MW363: Oxidation-reduction potential <sup>b</sup>	MW364: Oxidation-reduction
potential <sup>b</sup> and sulfate		potential <sup>b</sup> and technetium-99
MW375: Oxidation-reduction	MW366: Oxidation-reduction potential <sup>b</sup>	MW367: Oxidation-reduction
potential <sup>b</sup> and sulfate		potential <sup>b</sup>
	MW369: Oxidation-reduction potential <sup>b</sup>	MW370: Dissolved oxygen,
		oxidation-reduction potential <sup>b</sup>
	MW372: Calcium, conductivity, dissolved	MW373: Calcium and
	solids, magnesium, oxidation-reduction	oxidation-reduction potential <sup>b</sup>
	potential, <sup>b</sup> and sulfate	

<sup>&</sup>lt;sup>a</sup> Gradients in the UCRS are downward. UCRS gradient designations are identified using the same gradient reference (relative to the landfill) that is attributed to nearby RGA wells.

Sidegradient wells: MW375, MW376, MW377. Downgradient wells: MW357, MW358, MW359, MW360, MW361, MW362, MW363, MW364, MW365, MW366, MW367, MW368. Upgradient wells: MW370, MW371, MW372, MW373, MW374.

Table 3. Exceedances of Current Background UTL in Downgradient RGA Wells

URGA	LRGA
None	MW358: Nickel
	MW361: Technetium-99
	MW364: Oxidation-reduction
	potential* and technetium-99

<sup>\*</sup>Oxidation-reduction potential calibrated as Eh.

A notification of MCL exceedances, or lack of exceedances, was submitted electronically to the KDWM, in accordance with 401 *KAR* 48:300 § 7, *Sampling and Analysis*, prior to the submittal of this report. There were no MCL exceedances in the current reporting quarter.

Any constituent that exceeded the MCL in downgradient wells would be subjected to a comparison against the UTL concentration calculated using historical concentrations from wells identified as background.

This report is the notification of parameters that had statistically significant increased concentrations relative to historical background concentrations, as required by Permit No. SW07300014, SW07300015, SW07300045, Condition GSTR0001, Standard Requirement 5, and 401 *KAR* 48:300 § 7.

The constituents that had exceedances of the statistically derived historical background UTL underwent additional statistical evaluation. The current quarter concentrations were compared to the current background UTLs that were developed using the most recent eight quarters of data from wells identified as background in order to determine if the current downgradient (compliance) well concentrations are consistent with current background values. Table 3 summarizes the evaluation against current background UTL for those constituents present in downgradient RGA wells with historical UTL exceedances. In accordance with the approved Groundwater Monitoring Plan, constituents in downgradient wells that exceed the historical UTL, but do not exceed the current UTL, are considered not to have a C-746-U Contained Landfill source; therefore, they are Type 1 exceedances—not attributable to the C-746-U Contained Landfill. Except for nickel in MW358, oxidation-reduction potential in MW364, and

<sup>&</sup>lt;sup>b</sup> Oxidation-reduction potential calibrated as Eh.

technetium-99 in MW361 and MW364, all UTL exceedances reported for this quarter were evaluated and considered to be Type 1 exceedances—not attributable to the C-746-U Contained Landfill.

Technetium-99 in downgradient LRGA wells MW361 and MW364, nickel in downgradient LRGA well MW358, and oxidation-reduction potential in MW364 exceeded both the historical background UTL and the current background UTL; therefore, these results are preliminarily considered to be Type 2 exceedances. To evaluate the preliminary Type 2 exceedances further, the parameters were subjected to the Mann-Kendall statistical test for trends using the most recent eight quarters of data. The results are summarized in Table 4. No trend was indicated for any of the aforementioned preliminary Type 2 exceedances and; therefore, they are considered to be Type 1 exceedances—not attributable to the C-746-U Contained Landfill.

Table 4. C-746-U Landfills Downgradient Wells Trend Summary Utilizing the Previous Eight Quarters

Location	Well ID	Parameter	Sample Size	Alphaa	p-Value <sup>b</sup>	Sc	<b>Decision</b> <sup>d</sup>
	MW358	Nickel	8	0.05	0.548	0	No trend
C-746-U	MW361	Technetium-99	8	0.05	0.119	8	No trend
Contained Landfill	MW364	Oxidation-reduction potential	8	0.05	0.089	12	No trend
	MW364	Technetium-99	8	0.05	0.360	-5	No Trend

<sup>&</sup>lt;sup>a</sup> An alpha of 0.05 represents a 95% confidence interval.

Note: Statistics generated using ProUCL.

All UTL exceedances reported for this quarter were evaluated and considered to be Type 1 exceedances—not attributable to the C-746-U Contained Landfill.

<sup>&</sup>lt;sup>b</sup> The p-value represents the risk of acceptance of the H<sub>a</sub> hypothesis of a trend, in terms of a percentage.

The initial value of the Mann-Kendall statistic, S, is assumed to be 0 (e.g., no trend). If a data value from a later time period is higher than a data value from an earlier time period, S is incremented by 1. On the other hand, if the data value from a later time period is lower than a data value sampled earlier, S is decremented by 1. The net result of all such increments and decrements yields the final value of S. A very high positive value of S is an indicator of an increasing trend, and a very low negative value indicates a decreasing trend.

 $<sup>^{</sup>d}$  The Mann-Kendall decision operates on two hypotheses; the  $H_{0}$  and  $H_{a}$ .  $H_{0}$  assumes there is no trend in the data, whereas  $H_{a}$  assumes either a positive or negative trend.



#### 2. DATA EVALUATION/STATISTICAL SYNOPSIS

The statistical analyses conducted on the first quarter 2024 groundwater data collected from the C-746-U Contained Landfill MWs were performed in accordance with the Groundwater Monitoring Plan (LATA Kentucky 2014). The statistical analyses for this report use data from the first eight quarters that were sampled for each parameter, beginning with the baseline sampling events in 2002, when available. The sampling dates associated with background data are listed next to the result in the statistical analysis sheets in Appendix D (Attachments D1 and D2).

If parameters that exceed the MCL for Kentucky solid waste facilities found in 401 *KAR* 47:030 § 6 were detected, they were documented and evaluated further. MCL exceedances, if found, were reviewed against historical background results (UTL). If the MCL exceedance was found not to exceed the historical UTL, the exceedance was noted as a Type 1 exceedance—an exceedance not attributable to the C-746-U Contained Landfill. If there was an exceedance of the MCL in a downgradient well and this constituent also exceeded the historical background, the quarterly result was compared to the current background UTL (developed using the most recent eight quarters of data from wells identified as background) to identify if this exceedance is attributable to upgradient/nonlandfill sources. If the downgradient concentration was less than the current background, the exceedance was noted as a Type 1 exceedance. If a constituent exceeds its Kentucky solid waste facility MCL, historical background UTL, and current background UTL, it was reported as a Type 2 exceedance—source undetermined. Type 2 exceedances (undetermined source) were evaluated further using the Mann-Kendall test for trend. If there was no statistically significant increasing trend for a constituent in a downgradient well, the exceedance was reclassified as a Type 1 exceedance (not attributable to the C-746-U Contained Landfill).

For those parameters that do not have a Kentucky solid waste facility MCL, the same process was used. If a constituent without an MCL exceeded its historical background UTL and its current background UTL, it was evaluated further to identify the source of the exceedance, if possible. If the source of the exceedance could not be identified, it was reported as a Type 2 exceedance—source undetermined. Type 2 exceedances (undetermined source) were evaluated further using the Mann-Kendall test for trend. If there was no statistically significant increasing trend for a constituent in a downgradient well, the exceedance was reclassified as a Type 1 exceedance (not attributable to the C-746-U Contained Landfill).

To calculate the UTL, the data were divided into censored (nondetects) and uncensored (detected) observations. The one-sided tolerance interval statistical test was conducted only on parameters that had at least one uncensored observation. Results of the one-sided tolerance interval statistical test were used to determine whether the data showed a statistical exceedance in concentrations with respect to historical background concentrations (UTL).

For the statistical analysis of pH, a two-sided tolerance interval statistical test was conducted. The test well results were compared to both a UTL and LTL to determine if statistically significant deviations in concentrations existed with respect to background well data.

A stepwise list of the one-sided tolerance interval statistical procedures applied to the data is provided in Appendix D under Statistical Analysis Process. The statistical analysis was conducted separately for each parameter in each well. The MWs included in the statistical analyses are listed in Table 5.

**Table 5. Monitoring Wells Included in Statistical Analysis** 

UCRS	URGA	LRGA
MW359°	MW357	MW358
MW362	MW360	MW361
MW365°	MW363	MW364
MW368°	MW366	MW367
MW371 <sup>b</sup>	MW369 (background)	MW370 (background)
MW374 <sup>b</sup>	MW372 (background)	MW373 (background)
MW375	, , ,	, ,
MW376°		
MW377°		

<sup>&</sup>lt;sup>a</sup> Map showing the MW locations is shown on Figure 1.

#### 2.1 STATISTICAL ANALYSIS OF GROUNDWATER DATA

Parameters requiring statistical analysis are summarized in Appendix D for each hydrogeological unit. A stepwise list for determining exceedances of statistically derived historical background concentrations is provided in Appendix D under Statistical Analysis Process. A comparison of the current quarter's results to the statistically derived historical background was conducted for parameters that do not have MCLs and also for those parameters whose concentrations exceed MCLs. Appendix G summarizes the occurrences (by well and by quarter) of historical UTLs and MCL exceedances. The constituents that had exceedances of the statistically derived historical background UTL underwent additional statistical evaluation. The current quarter concentrations were compared to the current background UTL developed using the most recent eight quarters of data from wells identified as upgradient in order to determine if the current downgradient concentrations are consistent with current background values.

#### 2.1.1 Upper Continental Recharge System

In this quarter, 24 parameters, including those with MCLs, required statistical analysis in the UCRS. During the first quarter, magnesium, oxidation-reduction potential, and sulfate displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. None of the parameters in downgradient UCRS wells exceeded the current background UTLs.

#### 2.1.2 Upper Regional Gravel Aquifer

In this quarter, 27 parameters, including those with MCLs, required statistical analysis in the URGA. During the first quarter, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, and sulfate displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. None of the parameters in downgradient URGA wells exceeded the current background UTLs.

#### 2.1.3 Lower Regional Gravel Aquifer

In this quarter, 29 parameters, including those with MCLs, required statistical analysis in the LRGA. During the first quarter, calcium, dissolved oxygen, nickel, oxidation-reduction potential, and technetium-99 displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. Nickel in MW358, oxidation-reduction potential in MW364, and technetium-99 in downgradient LRGA wells MW361 and MW364 exceeded the current background UTL.

<sup>&</sup>lt;sup>b</sup> In the same direction (relative to the landfill) as RGA wells considered to be upgradient.

<sup>&</sup>lt;sup>c</sup> Well had insufficient water to permit a water sample for laboratory analysis.

#### 2.2 DATA VERIFICATION AND VALIDATION

Data verification is the process of comparing a data set against a set standard or contractual requirements. In accordance with the approved Groundwater Monitoring Plan (LATA Kentucky 2014), data verification is performed for 100% of the data. Data are flagged as necessary.

Data validation was performed on 100% of the organic, inorganic, and radiochemical analytical data by a qualified individual independent from sampling, laboratory, project management, or other decision-making personnel. Data validation evaluates the laboratory adherence to analytical method requirements. Validation qualifiers are added by the independent validator and not the laboratory.

Field quality control samples are collected each sampling event. Field blanks, rinseate blanks, and trip blanks are obtained to ensure quality of field and laboratory practices and data are reported in the Groundwater Sample Analysis forms in Appendix C. Laboratory quality control samples, such as matrix spikes, matrix spike duplicates, and method blanks, are performed by the laboratory. Both field and laboratory quality control sample results are reviewed as part of the data verification/validation process.

Data verification and validation results for this data set indicated that all data were considered usable.



#### 3. PROFESSIONAL GEOLOGIST AUTHORIZATION

**DOCUMENT IDENTIFICATION:** C-746-U Contained Landfill First Quarter Calendar Year 2024

(January-March) Compliance Monitoring Report, Paducah

Gaseous Diffusion Plant, Paducah, Kentucky

(FRNP-RPT-0350/V1)

Stamped and signed pursuant to my authority as a duly registered geologist under the provisions of KRS Chapter 322A.



Clark PG265379

Date



#### 4. REFERENCES

- FRNP (Four Rivers Nuclear Partnership, LLC) 2021. Surface Water Monitoring Plan for C-746-U and C-746-S&T Landfills Permit Number SW07300014, SW07300015, SW07300045, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Agency Interest Number 3059, Solid Waste Landfill Permit No. SW07300014, SW07300015, SW07300045, Technical Application Attachment 24, Four Rivers Nuclear Partnership, LLC, Paducah, KY, March.
- KEEC (Kentucky Energy and Environment Cabinet) 2011. Solid Waste Landfill Permit No. SW07300014, SW07300015, SW07300045, Division of Waste Management, Solid Waste Branch, Technical Application Attachment 12, "Explosive Gas Monitoring Program," January 21.
- LATA Kentucky (LATA Environmental Services of Kentucky, LLC) 2014. Groundwater Monitoring Plan for the Solid Waste Permitted Landfills (C-746-S Residential Landfill, C-746-T Inert Landfill, and C-746-U Contained Landfill) at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, PAD-PROJ-0139, Solid Waste Landfill Permit No. SW07300014, SW07300015, SW07300045, Technical Application Attachment 25, LATA Environmental Services of Kentucky, LLC, Kevil, KY, June.



# **APPENDIX A**

GROUNDWATER, SURFACE WATER, LEACHATE, AND METHANE MONITORING SAMPLE DATA REPORTING FORM



## GROUNDWATER, SURFACE WATER, LEACHATE, AND METHANE MONITORING SAMPLE DATA REPORTING FORM

# NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET DEPARTMENT FOR ENVIRONMENTAL PROTECTION DIVISION OF WASTE MANAGEMENT SOLID WASTE BRANCH 14 REILLY ROAD FRANKFORT, KY 40601

Facility Name		E—Paducah fficially show		Diffusion Plant Permit Face)	Activity:	C-746-1	U Contained Landfill
SW07300014, Permit No: SW07300015, SW07300045		Fin	Finds/Unit No:		& Year	1st Qtr. CY 2024	
Please check t	he following as	s applicable	e:				
Char	acterization _	X Qua	arterly _	Semiannual	Ann	ual	Assessment
Please check a	applicable subn	nittal(s):	X	Groundwater	X	Surfac	e Water
		-		Leachate	X	_ Metha	ne Monitoring
45:160) or by sta jurisdiction of th (48) hours of m Submitting the lainstruction pages.  I certify under per with a system desinquiry of the per	tute (Kentucky Fe Division of Waking the determent is NOT malty of law that the signed to assure son or persons dislief, true, accurate	Revised Statu  Taste Manag  rmination of considered  his documenthat qualified rectly responder, and comp	ues Chapter ement. You using stati I notification t and all atta d personnel nsible for golete. I am a	lation (Kentucky Waste r 224) to conduct ground use report any inconstical analyses, direct on. Instructions for compachments were prepared a properly gather and evathering the information ware that there are significant to the residual properly in the property of the property gather and evathering the information ware that there are significant property is a property of the property of the property gather and evathering the information ware that there are significant property is a property of the propert	dwater and su lication of co comparison pleting the for under my dire aluate the info , the informat	rface water ontamination, or other mare attacked ction or surprise submit	r monitoring under the ion within forty-eight r similar techniques. The ched. Do not submit the pervision in accordance ubmitted. Based on my ted is, to the best of my
	dfield, Program Nuclear Partne				1	Date	
April Ladd, F	Paducah Site L	Lead			<u> </u>	Date	

U.S. Department of Energy



# APPENDIX B FACILITY INFORMATION SHEET



# **FACILITY INFORMATION SHEET**

	Groundwater: January 2024 Surface water: January 2024			Permit	SW07300014, SW07300015,			
Sampling Date:	Methane: February 2024	County:	McCracken	Nos.	SW07300045			
Facility Name:	U.S. DOE—Paducah Gaseous							
(As officially shown on DWM Permit Face)								
Site Address:	5600 Hobbs Road	Kevil, Kentucky		42053				
	Street	City/State		Zip				
Phone No: (270)	) 441-6800 Latitude	:: N 37° 07' 45"	Longi	tude: W	88° 47' 55"			
_	OV	WNER INFORMATION						
Facility Owner:	U.S. DOE, Joel Bradburne, I Portsmouth/Paducah Project		Phone No:	(850) 210	) 4000			
•		Office						
Contact Person:	Bruce Ford Director, Environment	al Sarvices	Phone No:	(270) 441	1-333/			
Contact Person Tit								
Mailing Address:	5511 Hobbs Road	Kevil, Kentucky		42053				
	Street	City/State		Zip				
SAMPLING PERSONNEL								
	(IF OTHER TH	IAN LANDFILL OR LABO	ORATORY)					
Company: Four	Rivers Nuclear Partnership, L	I C						
Contact Person:	Chris Skinner	LC	Phone No:	(270) 44	1-5675			
Mailing Address:	5511 Hobbs Road	Kevil, Kentucky	Thone Ivo.	42053	11 3073			
Walling / Radiess.	Street	City/State Zip						
	LAB	ORATORY RECORD #1						
Laboratory GEI	Laboratories, LLC	Lab	ID No: KY90	129				
Contact Person:	Valerie Davis		Phone No:	(843) 769	9-7391			
Mailing Address:	2040 Savage Road	Charleston, South Car	rolina	294	07			
	Street	City/State		Zij	p			
	LAB	ORATORY RECORD #2	2					
Laboratory: N/A	Α	Lab I	D No: N/A					
Contact Person:	N/A		Phone No:	N/A				
Mailing Address:	N/A							
	Street	City/State		,	Zip			
	LAB	ORATORY RECORD #3	•					
Laboratory: N/A	Λ	Lab I	D No: N/A					
Contact Person:	N/A		Phone No:	N/A				
Mailing Address:	N/A			-				
2	Street	City/State			Zip			



# APPENDIX C GROUNDWATER SAMPLE ANALYSES AND LABORATORY REPORTS



 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW357 DOWN RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4798 SAMPLE ID: MW357UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4798		SAMPLE ID:		MW357UG2-24		Sample Type: REG		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	W	0.362	mg/L	0.2	1/23/2024			SW846-9056A	=
Chloride	J	31.7	mg/L	250	1/23/2024			SW846-9056A	=
Fluoride	J	0.194	mg/L	4	1/23/2024			SW846-9056A	=
Nitrate as Nitrogen	J	1.11	mg/L	10	1/23/2024			SW846-9056A	=
Gulfate		38.7	mg/L	2	1/23/2024			SW846-9056A	=
Barometric Pressure Reading		30.23	Inches/Hg		1/23/2024				Х
Conductivity		411	μmhos/cm		1/23/2024				Х
Depth to Water		48.01	ft		1/23/2024				Х
Dissolved Oxygen		4.2	mg/L		1/23/2024				Х
:h (approx)		451	mV		1/23/2024				Х
oH		6.08	Std Unit		1/23/2024				Х
emperature		58.3	deg F		1/23/2024				X
urbidity		0	NTU		1/23/2024				X
Aluminum	U	0.05	mg/L	0.05	1/23/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
Arsenic	J	0.0028	mg/L	0.005	1/23/2024			SW846-6020B	=
Barium	•	0.0723	mg/L	0.004	1/23/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
Goron	N	0.378	mg/L	0.0003	1/23/2024			SW846-6020B	=
admium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Calcium	<u> </u>	24.7	mg/L	0.001	1/23/2024			SW846-6020B	
Chromium	U	0.01	mg/L	0.2	1/23/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	
		0.001		0.001					=
Copper	J		mg/L		1/23/2024			SW846-6020B	J
ron	J	0.0543	mg/L	0.1	1/23/2024			SW846-6020B	=
ead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Magnesium	В	12	mg/L	0.03	1/23/2024			SW846-6020B	=
Manganese		0.00591	mg/L	0.005	1/23/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
lickel	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
otassium		1.69	mg/L	0.3	1/23/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
elenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
iilver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Sodium		45.1	mg/L	0.25	1/23/2024			SW846-6020B	=
antalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
hallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Jranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=
/anadium	BJ	0.00504	mg/L	0.02	1/23/2024			SW846-6020B	U
linc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=
/lercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
Barium, Dissolved		0.0738	mg/L	0.004	1/23/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	UJ
Jranium, Dissolved	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	UJ
PCB-1016	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=

PCB-1221	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1232	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1242	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1248	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1254	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1260	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1268	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
Radium-226	U	0.09	pCi/L	0.43	1/23/2024	0.285	0.286	AN-1418	=
Radium-228	U	0.683	pCi/L	4.32	1/23/2024	2.37	2.38	EPA-904-M	=
Strontium-90	U	-0.504	pCi/L	3.63	1/23/2024	1.77	1.77	EPA-905.0-M	=
Tritium	U	196	pCi/L	219	1/23/2024	143	148	EPA-906.0-M	=
Technetium-99	U	18.6	pCi/L	22.9	1/23/2024	13.8	13.9	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.39	pCi/L	1.67	1/23/2024	0.926	0.931	HASL 300, Th-01- RC M	=
Thorium-232	U	-0.0216	pCi/L	0.77	1/23/2024	0.377	0.378	HASL 300, Th-01- RC M	=
Alpha activity	U	5.48	pCi/L	6.22	1/23/2024	4.52	4.62	SW846-9310	=
Beta activity		20.7	pCi/L	9	1/23/2024	7.24	8.02	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.02	ug/L	0.02	1/23/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5		5	1/23/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1		1	1/23/2024			SW846-8260D	=
Chloromethane	U	1		1	1/23/2024			SW846-8260D	
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L ug/L	1	1/23/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L ug/L	1	1/23/2024			SW846-8260D	
שואוטוווכנוומוופ	U	1	ug/L	1	1/23/2024			2440-9700D	-

U	1	ug/L	1	1/23/2024	SW846-8260D	=
			-	1/25/2024	344040-02000	-
U	5	ug/L	5	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	3	ug/L	3	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
	2	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
	211	mg/L	10	1/23/2024	EPA-160.1	=
U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
U	20	mg/L	20	1/23/2024	EPA-410.4	=
U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
U	10	ug/L	10	1/23/2024	SW846-9020B	=
J	0.621	mg/L	2	1/23/2024	SW846-9060A	=
	U U U U U U U U U U U U U U U U U U U	U 5 U 1 U 1 U 1 U 1 U 1 U 1 U 5 U 1 U 5 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5	U 5 ug/L U 1 ug/L U 5 ug/L U 1 ug/L U 1 ug/L U 1 ug/L U 1 ug/L U 0 5 ug/L U 0 1 ug/L U 0 5 ug/L U 0 1 ug/L U 0 1 ug/L U 0.5 mg/L U 0.2 mg/L U 0.2 mg/L U 0.2 mg/L	U 5 ug/L 5 U 1 ug/L 1 U 3 ug/L 3 U 1 ug/L 1 U 1 ug/L 1 U 5 ug/L 5 U 1 ug/L 1 U 5 ug/L 5 U 1 ug/L 1 U 5 ug/L 5 U 1 ug/L 1 U 0 5 ug/L 5 U 1 ug/L 1 U 0 5 ug/L 5 U 1 ug/L 1 U 5 ug/L 1 U 5 ug/L 5 U 1 ug/L 1 U 0.5 mg/L 0.5 U 0.2 mg/L 0.2 U 10 ug/L 10	U 5 ug/L 1 1/23/2024  U 1 ug/L 1 1/23/2024  U 5 ug/L 5 1/23/2024  U 1 ug/L 1 1/23/2024  U 0 5 ug/L 5 1/23/2024  U 0 5 ug/L 5 1/23/2024  U 0 0 1 ug/L 1 1/23/2024  U 0 0 1 ug/L 1 1/23/2024  U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	U         5         ug/L         5         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         3         ug/L         3         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         5         ug/L         5         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         5         ug/L         5         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         0.

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW358 DOWN RGA Type: LRGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4799 SAMPLE ID: MW358UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4799	SAMPLE ID: M		MW358UG2-24		Sample Ty			
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	W	0.214	mg/L	0.2	1/23/2024			SW846-9056A	=
Chloride	J	16.5	mg/L	250	1/23/2024			SW846-9056A	=
Fluoride	J	0.276	mg/L	4	1/23/2024			SW846-9056A	=
Nitrate as Nitrogen	J	0.185	mg/L	10	1/23/2024			SW846-9056A	=
Sulfate		27.6	mg/L	2	1/23/2024			SW846-9056A	=
Barometric Pressure Reading		30.23	Inches/Hg		1/23/2024				Х
Conductivity		504	μmhos/cm		1/23/2024				Х
Depth to Water		48.16	ft		1/23/2024				Х
Dissolved Oxygen		0.69	mg/L		1/23/2024				Х
ih (approx)		167	mV		1/23/2024				Х
oH		6.34	Std Unit		1/23/2024				Х
emperature		58.8	deg F		1/23/2024				Х
urbidity		0	NTU		1/23/2024				Х
Aluminum		0.0585	mg/L	0.05	1/23/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
Arsenic		0.0065	mg/L	0.005	1/23/2024			SW846-6020B	=
Barium		0.0984	mg/L	0.004	1/23/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
Boron	N	0.135	mg/L	0.015	1/23/2024			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Calcium	<del>-</del>	33.4	mg/L	0.2	1/23/2024			SW846-6020B	J
Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
Cobalt		0.0269	mg/L	0.001	1/23/2024			SW846-6020B	=
Copper	J	0.000841	mg/L	0.002	1/23/2024			SW846-6020B	J
ron	<del>-</del>	14.9	mg/L	0.1	1/23/2024			SW846-6020B	=
ead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Magnesium	В	19.5	mg/L	0.03	1/23/2024			SW846-6020B	=
Manganese		2.55	mg/L	0.05	1/23/2024			SW846-6020B	=
Molybdenum	J	0.000428	mg/L	0.001	1/23/2024			SW846-6020B	=
lickel	<u>,                                      </u>	0.0907	mg/L	0.002	1/23/2024			SW846-6020B	=
Potassium		3.28	mg/L	0.3	1/23/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	 =
illver	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	
odium	<u> </u>	34.6	mg/L	0.001	1/23/2024			SW846-6020B	=
antalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	
Thallium	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
Jranium Jranium	U	0.002	mg/L	0.002				SW846-6020B	
/anadium	BJ	0.0002	mg/L mg/L	0.0002	1/23/2024			SW846-6020B	= U
		0.00476	mg/L	0.02				SW846-6020B	
/inc	J				1/23/2024			SW846-6020B SW846-7470A	=
Mercury	J	0.000173	mg/L	0.0002	1/23/2024				=
Barium, Dissolved		0.0911	mg/L	0.004	1/23/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	UJ
Jranium, Dissolved	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	UJ
PCB-1016	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=

PCB-1221	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
PCB-1232	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
PCB-1242	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
PCB-1248	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
PCB-1254	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
PCB-1260	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
PCB-1268	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.105	ug/L	0.105	1/23/2024			SW846-8082A	=
Radium-226	U	0.0666	pCi/L	1.13	1/23/2024	0.549	0.549	AN-1418	=
Radium-228	U	0.279	pCi/L	4.07	1/23/2024	2.17	2.17	EPA-904-M	=
Strontium-90	U	-1.65	pCi/L	4.53	1/23/2024	2.2	2.2	EPA-905.0-M	=
Tritium	U	111	pCi/L	218	1/23/2024	130	131	EPA-906.0-M	=
Technetium-99	U	17.5	pCi/L	22.6	1/23/2024	13.6	13.7	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.945	pCi/L	1.54	1/23/2024	1.09	1.1	HASL 300, Th-01- RC M	=
Thorium-232	U	-0.0214	pCi/L	0.793	1/23/2024	0.39	0.391	HASL 300, Th-01- RC M	=
Alpha activity	U	2.57	pCi/L	5.9	1/23/2024	3.49	3.52	SW846-9310	=
Beta activity		15.4	pCi/L	9.44	1/23/2024	6.85	7.33	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/23/2024	<del>.</del>		SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1		1	1/23/2024			SW846-8260D	=
Chloromethane	U	1		1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene					4 /22 /2024				
0.0 1,0 1.0	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1		1	1/23/2024			SW846-8260D SW846-8260D	=

U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	3	ug/L	3	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
J	0.41	ug/L	1	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
U	5	ug/L	5	1/23/2024	SW846-8260D	=
U	1	ug/L	1	1/23/2024	SW846-8260D	=
	242	mg/L	10	1/23/2024	EPA-160.1	=
U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
J	12.8	mg/L	20	1/23/2024	EPA-410.4	=
U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
J	8.66	ug/L	10	1/23/2024	SW846-9020B	=
		mg/L		. / /	SW846-9060A	=
		U 5 U 5 U 1 U 1 U 1 U 3 U 1 U 1 U 1 U 5 J 0.41 U 1 U 5 J 0.41 U 1 U 5 J 0.41 U 1 U 5 J 0.5 J 12.8 U 0.5	U 5 ug/L U 1 ug/L U 3 ug/L U 1 ug/L U 5 ug/L U 5 ug/L U 5 ug/L U 1 ug/L U 5 ug/L U 1 ug/L U 1 ug/L U 5 ug/L U 1 ug/L U 0.5 mg/L U 0.5 mg/L U 0.2 mg/L U 0.2 mg/L	U 5 ug/L 5 U 5 ug/L 5 U 1 ug/L 1 U 3 ug/L 3 U 1 ug/L 1 U 5 ug/L 5 J 0.41 ug/L 1 U 1 ug/L 1 U 1 ug/L 1 U 5 ug/L 5 J 0.41 ug/L 1 U 1 ug/L 1 U 5 ug/L 5 J 0.41 ug/L 1 U 5 ug/L 5 J 0.41 ug/L 1 U 5 ug/L 5 U 1 ug/L 1 U 0.5 mg/L 0.5 J 12.8 mg/L 20 U 0.2 mg/L 0.2 J 8.66 ug/L 10	U 5 ug/L 5 1/23/2024  U 1 ug/L 1 1/23/2024  U 5 ug/L 5 1/23/2024  U 1 ug/L 1 1/23/2024  U 5 ug/L 5 1/23/2024  U 1 ug/L 1 1/23/2024  U 1 ug/L 1 1/23/2024  U 1 ug/L 1 1/23/2024  U 0 5 ug/L 5 1/23/2024  U 0 5 ug/L 5 1/23/2024  U 0 5 ug/L 5 1/23/2024  U 0 1 ug/L 1 1/23/2024  U 0 0.5 mg/L 0.5 1/23/2024  U 0.5 mg/L 0.5 1/23/2024  U 0.2 mg/L 0.2 1/23/2024  U 0.2 mg/L 0.2 1/23/2024	U         5         ug/L         5         1/23/2024         SW846-8260D           U         5         ug/L         5         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         3         ug/L         3         1/23/2024         SW846-8260D           U         3         ug/L         3         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         5         ug/L         5         1/23/2024         SW846-8260D           U         1         ug/L         1         1/23/2024         SW846-8260D           U         1<

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW360 DOWN RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4800 SAMPLE ID: MW360DUG2-24 Sample Type: FR

AKGWA Well Tag #:	8004-4800		SAMPLE ID:		MW360DUG2-24		Sample Type: FR			
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation	
Bromide	JW	0.158	mg/L	0.2	1/23/2024			SW846-9056A	=	
Chloride	J	7.06	mg/L	250	1/23/2024			SW846-9056A	=	
Fluoride	J	0.256	mg/L	4	1/23/2024			SW846-9056A	=	
Nitrate as Nitrogen	J	0.611	mg/L	10	1/23/2024			SW846-9056A	=	
Sulfate		12.2	mg/L	0.4	1/23/2024			SW846-9056A	=	
Aluminum	J	0.0365	mg/L	0.05	1/23/2024			SW846-6020B	=	
Antimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=	
Arsenic	J	0.00244	mg/L	0.005	1/23/2024			SW846-6020B	=	
Barium		0.203	mg/L	0.004	1/23/2024			SW846-6020B	=	
Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=	
Boron	N	0.0373	mg/L	0.015	1/23/2024			SW846-6020B	=	
Cadmium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=	
Calcium		18.6	mg/L	0.2	1/23/2024			SW846-6020B	J	
Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=	
Cobalt	J	0.000985	mg/L	0.001	1/23/2024			SW846-6020B	J	
Copper	J	0.00155	mg/L	0.002	1/23/2024			SW846-6020B	J	
ron	J	0.0916	mg/L	0.1	1/23/2024			SW846-6020B	=	
Lead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=	
Magnesium	В	8.83	mg/L	0.03	1/23/2024			SW846-6020B	=	
Manganese		0.00932	mg/L	0.005	1/23/2024			SW846-6020B	J	
Molybdenum	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=	
Nickel	J	0.000628	mg/L	0.002	1/23/2024			SW846-6020B	J	
Potassium		0.759	mg/L	0.3	1/23/2024			SW846-6020B	=	
Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=	
Selenium	J	0.00199	mg/L	0.005	1/23/2024			SW846-6020B	=	
Silver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=	
Sodium		57.8	mg/L	2.5	1/23/2024			SW846-6020B	=	
Tantalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=	
Thallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=	
Uranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=	
Vanadium	BJ	0.00485	mg/L	0.02	1/23/2024			SW846-6020B	U	
Zinc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=	
Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=	
Barium, Dissolved		0.2	mg/L	0.004	1/23/2024			SW846-6020B	J	
Chromium, Dissolved	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	UJ	
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	UJ	
PCB-1016	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1221	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1232	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1242	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1248	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1254	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1260	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
PCB-1268	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
Polychlorinated biphenyl	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=	
				G 0						

Radium-226	U	0.26	pCi/L	0.421	1/23/2024	0.304	0.304	AN-1418	=
Radium-228	U	2.42	pCi/L	3.26	1/23/2024	2.07	2.16	EPA-904-M	=
Strontium-90	U	-0.729	pCi/L	2.95	1/23/2024	1.33	1.33	EPA-905.0-M	=
Tritium	U	7.74	pCi/L	215	1/23/2024	111	111	EPA-906.0-M	=
Technetium-99	U	-0.988	pCi/L	23.1	1/23/2024	13.4	13.4	HASL 300, Tc-02- RC M	=
Thorium-230	U	-0.211	pCi/L	1.68	1/23/2024	0.627	0.628	HASL 300, Th-01- RC M	=
Thorium-232	U	0.307	pCi/L	1.24	1/23/2024	0.755	0.757	HASL 300, Th-01- RC M	=
Alpha activity	U	3.39	pCi/L	6.09	1/23/2024	3.85	3.89	SW846-9310	=
Beta activity	U	2.4	pCi/L	9.44	1/23/2024	5.29	5.31	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.02	ug/L	0.02	1/23/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1.2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
<u> </u>	U	5	ug/L ug/L	5				SW846-8260D	=
2-Butanone					1/23/2024				
2-Hexanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
lodomethane	U	5	ug/L	5	1/23/2024	-		SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Tetrachloroethene Toluene	U	1	ug/L ug/L	1	1/23/2024			SW846-8260D SW846-8260D	=
Tetrachloroethene Toluene Total Xylene			ug/L ug/L ug/L						

trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Dissolved Solids		221	mg/L	10	1/23/2024	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/23/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
Total Organic Halides (TOX)	U	10	ug/L	10	1/23/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.08	mg/L	2	1/23/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW360 DOWN RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4800 SAMPLE ID: MW360UG2-24 Sample Type: REG

Stromide	AKGWA Well Tag #:	8004-4800		SAMPLE ID:		MW360UG2-24		Sample Type: REG		
Chloride	Parameter	Qualifier	Result	Units			•	TPU	Method	Validation
Filter	Bromide	JW	0.163	mg/L	0.2	1/23/2024			SW846-9056A	=
Nitrake as Nitrogen J 0.538 mg/t 10 1/23/2024 SW846-9056A = cultate 10.3 mg/t 0.4 1/23/2024 SW846-9056A = cultate 10.3 mg/t 0.5 1/23/2024 SW846-9056A = cultate 10.3 mg/t 0.5 1/23/2024 SW846-9056B = cultate	Chloride	J	5.85	mg/L	250	1/23/2024			SW846-9056A	=
Sulfate         10.3         mg/L         0.4         1/23/2024         SW846-9056A         =           Barometric Pressure Reading         30.21         Inches/hig         1/23/2024         X         X           Depth to Water         41.34         ft         1/23/2024         X         X           Sicosolved Oxygen         1.99         mg/L         1/23/2024         X         X           Eth (approx)         480         mV         1/23/2024         X         X           Eth (approx)         481         Std Unit         1/23/2024         X         X           Emperature         55.7         6eg F         1/23/2024         X         X           Furbidity         0         NTU         1/23/2024         X         X           Alumhum         J         0.0337         mg/L         0.05         1/23/2024         XW846-60208         =           Alumhum         J         0.0337         mg/L         0.05         1/23/2024         XW846-60208         =           Alumhum         J         0.0337         mg/L         0.05         1/23/2024         XW846-60208         =           Alumhum         J         0.0339         mg/L         0.00<	Fluoride	J	0.273	mg/L	4	1/23/2024			SW846-9056A	=
Sammetric Pressure Reading   30.21   Inches/Hg	Nitrate as Nitrogen	J	0.538	mg/L	10	1/23/2024			SW846-9056A	=
Conductivity 384 μmhos/cm 1/23/2024 X Depth to Water 14.3.4 ft 1/23/2024 X Depth to Water 14.3.4 ft 1/23/2024 X En (approx) 1.99 mg/L 1/23/2024 X En (approx) 480 mV 1/23/2024 X EN (approx) 580 mg/L 0.05 1/23/2024 X EN (approx) 580 mg/L 0.05 1/23/2024 X EN (approx) 580 mg/L 0.003 1/23/2024 X EN (approx) 580 mg/L 0.003 1/23/2024 X EN (approx) 6 mg/L 0.005 1/23/2024 X EN (approx) 7 mg/L 0.015 1/23/2024 X EN (approx) 7 mg/L 0.015 1/23/2024 X EN (approx) 7 mg/L 0.015 1/23/2024 X EN (approx) 8 mg/L 0.005 1/23	Sulfate		10.3	mg/L	0.4	1/23/2024			SW846-9056A	=
Depth to Water	Barometric Pressure Reading		30.21	Inches/Hg		1/23/2024				Х
Dissolved Oxygen   1.99 mg/L   1/23/2024   X   X   X   Chi (approx)   480 mV   1/23/2024   X   X   X   X   Chi (approx)   480 mV   1/23/2024   X   X   X   X   X   X   X   X   X	Conductivity		384	μmhos/cm		1/23/2024				Х
Magnerium	Depth to Water		41.34	ft		1/23/2024				Х
Part	Dissolved Oxygen		1.99	mg/L		1/23/2024				Х
Turbidity	Eh (approx)		480	mV		1/23/2024				Х
Turbidity         0         NTU         1/23/2024         X           Aluminum         J         0.0375         mg/L         0.05         1/23/2024         SW846-60208         =           Arsenic         J         0.0032         mg/L         0.003         1/23/2024         SW846-60208         =           Arsenic         J         0.00326         mg/L         0.005         1/23/2024         SW846-60208         =           Beryllium         U         0.0005         mg/L         0.004         1/23/2024         SW846-60208         =           Seryllium         U         0.001         mg/L         0.005         1/23/2024         SW846-60208         =           Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Cadmium         U         0.01         mg/L         0.01         1/23/2024         SW846-60208         =           Cadmium         U         0.01         mg/L         0.001         1/23/2024         SW846-60208         =           Cadmium         U	рН		6.11	Std Unit		1/23/2024				Х
Aluminum         J         0.0375         mg/L         0.05         1/33/2024         SW846-60208         =           Antimony         U         0.003         mg/L         0.003         1/23/2024         SW846-60208         =           Arsenic         J         0.0036         mg/L         0.005         1/23/2024         SW846-60208         =           Barium         0.207         mg/L         0.004         1/23/2024         SW846-60208         =           Beryllium         U         0.005         mg/L         0.005         1/23/2024         SW846-60208         =           Beryllium         U         0.001         mg/L         0.015         1/23/2024         SW846-60208         =           Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Calcium         18.6         mg/L         0.01         1/23/2024         SW846-60208         =           Calcium         18.6         mg/L         0.01         1/23/2024         SW846-60208         =           Calcium         18.6         mg/L         0.01         1/23/2024         SW846-60208         =           Calcium         19	Temperature		55.7	deg F		1/23/2024				Х
Antimony U 0.003 mg/L 0.003 1/23/2024 SW846-60208 =  Arsenic J 0.00326 mg/L 0.005 1/23/2024 SW846-60208 =  Barlim	Turbidity		0	NTU		1/23/2024				Х
Antimony U 0.003 mg/L 0.003 1/23/2024 SW846-60208 =  Arsenic J 0.00326 mg/L 0.005 1/23/2024 SW846-60208 =  Barlim	Aluminum	J	0.0375	mg/L	0.05	1/23/2024			SW846-6020B	=
Barium	Antimony	U	0.003		0.003	1/23/2024			SW846-6020B	=
Beryllium	Arsenic	J	0.00326	mg/L	0.005	1/23/2024			SW846-6020B	=
Second   N   0.0311 mg/L   0.015 1/23/2024   SW846-60208   =   Cadmium	Barium		0.207	mg/L	0.004	1/23/2024			SW846-6020B	=
Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Calcium         18.6         mg/L         0.2         1/23/2024         SW846-6020B         J           Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         J           Cobalt         J         0.000178         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.00167         mg/L         0.002         1/23/2024         SW846-6020B         J           Gron         J         0.0895         mg/L         0.1         1/23/2024         SW846-6020B         J           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.29         mg/L         0.03         1/23/2024         SW846-6020B         =           Magnesium         B         9.29         mg/L         0.03         1/23/2024         SW846-6020B         =           Magnesium         B         9.29         mg/L         0.001         1/23/2024         SW846-6020B         =	Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
Calcium         18.6         mg/L         0.2         1/23/2024         SW846-6020B         J           Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         =           Cobalt         J         0.000718         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.00178         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0895         mg/L         0.002         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.29         mg/L         0.03         1/23/2024         SW846-6020B         =           Mangnesse         0.00783         mg/L         0.005         1/23/2024         SW846-6020B         J           Molydenum         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         J           Potassium         0         0.747         mg/L         0.001         1/23/2024         SW846-6020B         J <td< td=""><td>Boron</td><td>N</td><td>0.0311</td><td>mg/L</td><td>0.015</td><td>1/23/2024</td><td></td><td></td><td>SW846-6020B</td><td>=</td></td<>	Boron	N	0.0311	mg/L	0.015	1/23/2024			SW846-6020B	=
Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         =           Cobalt         J         0.000718         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.00167         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0895         mg/L         0.1         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.29         mg/L         0.005         1/23/2024         SW846-6020B         =           Magnesium         U         0.0013         mg/L         0.005         1/23/2024         SW846-6020B         =           Magnesium         U         0.001         mg/L         0.005         1/23/2024         SW846-6020B         =           Molybdenum         U         0.001         mg/L         0.002         1/23/2024         SW846-6020B         =           Nickel         J         0.00678         mg/L         0.002         1/23/2024         SW846-6020B	Cadmium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Cobalt         J         0.000718         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.00167         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0895         mg/L         0.1         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.29         mg/L         0.003         1/23/2024         SW846-6020B         =           Malgnesium         B         9.29         mg/L         0.005         1/23/2024         SW846-6020B         =           Malgnesium         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         J           Malgnesium         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         J           Malgnesium         U         0.001         mg/L         0.002         1/23/2024         SW846-6020B         J           Molybdenum         U         0.001         mg/L         0.002         1/23/2024         SW846-6020B	Calcium		18.6	mg/L	0.2	1/23/2024			SW846-6020B	J
Copper         J         0.00167         mg/L         0.002         1/23/2024         SW846-60208         J           Iron         J         0.0895         mg/L         0.1         1/23/2024         SW846-60208         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-60208         =           Magnesium         B         9.29         mg/L         0.003         1/23/2024         SW846-60208         J           Manganese         0.00783         mg/L         0.005         1/23/2024         SW846-60208         J           Molybdenum         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         J           Nickel         J         0.00678         mg/L         0.002         1/23/2024         SW846-60208         J           Potassium         J         0.0078         mg/L         0.002         1/23/2024         SW846-60208         J           Potassium         U         0.005         mg/L         0.005         1/23/2024         SW846-60208         =           Sklodium         U         0.007         mg/L         0.005         1/23/2024         SW846-60208         =	Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
From   J   0.0895   mg/L   0.1   1/23/2024   SW846-6020B   =	Cobalt	J	0.000718	mg/L	0.001	1/23/2024			SW846-6020B	J
Lead	Copper	J	0.00167	mg/L	0.002	1/23/2024			SW846-6020B	J
Magnesium         B         9.29 mg/L         0.03         1/23/2024         SW846-6020B         =           Manganese         0.00783 mg/L         0.005         1/23/2024         SW846-6020B         J           Molybdenum         U         0.001 mg/L         0.001         1/23/2024         SW846-6020B         =           Nickel         J         0.000678 mg/L         0.002         1/23/2024         SW846-6020B         J           Potassium         0.747 mg/L         0.3         1/23/2024         SW846-6020B         =           Rhodium         U         0.005 mg/L         0.005         1/23/2024         SW846-6020B         =           Selenium         U         0.005 mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001 mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         62.4 mg/L         2.5         1/23/2024         SW846-6020B         =           Tantalum         U         0.005 mg/L         0.005         1/23/2024         SW846-6020B         =           Uranium         U         0.002 mg/L         0.002         1/23/2024         SW846-6020B         =	Iron	J	0.0895	mg/L	0.1	1/23/2024			SW846-6020B	=
Manganese         0.00783         mg/L         0.005         1/23/2024         SW846-6020B         J           Molybdenum         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Nickel         J         0.000678         mg/L         0.002         1/23/2024         SW846-6020B         J           Potassium         0.747         mg/L         0.3         1/23/2024         SW846-6020B         =           Rhodium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Selenium         0.00708         mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         62.4         mg/L         0.001         1/23/2024         SW846-6020B         =           Tantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           U-ranium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Vanadium         BJ	Lead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Molybdenum	Magnesium	В	9.29	mg/L	0.03	1/23/2024			SW846-6020B	=
Nickel J 0.000678 mg/L 0.002 1/23/2024 SW846-6020B J Potassium 0.747 mg/L 0.3 1/23/2024 SW846-6020B = Rhodium U 0.005 mg/L 0.005 1/23/2024 SW846-6020B = Selenium 0.00708 mg/L 0.005 1/23/2024 SW846-6020B = Selenium 0.00708 mg/L 0.005 1/23/2024 SW846-6020B = Sodium 0.00708 mg/L 0.001 1/23/2024 SW846-6020B = Sodium 0.001 mg/L 0.001 1/23/2024 SW846-6020B = Sodium 0.005 mg/L 0.005 1/23/2024 SW846-6020B = Sodium 0.005 mg/L 0.005 1/23/2024 SW846-6020B = Sodium 0.005 mg/L 0.005 1/23/2024 SW846-6020B = Sodium 0.005 mg/L 0.002 1/23/2024 SW846-6020B = Sodium 0.005 mg/L 0.002 1/23/2024 SW846-6020B = SW846-602	Manganese		0.00783	mg/L	0.005	1/23/2024			SW846-6020B	J
Potassium	Molybdenum	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Rhodium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Selenium         0.00708         mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         62.4         mg/L         2.5         1/23/2024         SW846-6020B         =           Fantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002         mg/L         0.002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00552         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         J         0.00355         mg/L         0.02         1/23/2024         SW846-6020B         U           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         J           <	Nickel	J	0.000678	mg/L	0.002	1/23/2024			SW846-6020B	J
Selenium         0.00708         mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         62.4         mg/L         2.5         1/23/2024         SW846-6020B         =           Fantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00552         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         J         0.00335         mg/L         0.02         1/23/2024         SW846-6020B         =           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         J           Barium, Dissolved         U         0.01         mg/L         0.004         1/23/2024         SW846-6020B         U	Potassium		0.747	mg/L	0.3	1/23/2024			SW846-6020B	=
Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         62.4         mg/L         2.5         1/23/2024         SW846-6020B         =           Tantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002         mg/L         0.002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00552         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         J         0.00335         mg/L         0.02         1/23/2024         SW846-6020B         U           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         J           Barium, Dissolved         U         0.01         mg/L         0.04         1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         U	Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Sodium         62.4 mg/L         2.5         1/23/2024         SW846-6020B         =           Tantalum         U         0.005 mg/L         0.005 1/23/2024         SW846-6020B         =           Thallium         U         0.002 mg/L         0.002 1/23/2024         SW846-6020B         =           Uranium         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00552 mg/L         0.02 1/23/2024         SW846-6020B         U           Zinc         J         0.00335 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Barium, Dissolved         0.203 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Selenium		0.00708	mg/L	0.005	1/23/2024			SW846-6020B	=
Tantalum         U         0.005 mg/L         0.005 mg/L         1/23/2024         SW846-6020B         =           Thallium         U         0.002 mg/L         0.002 1/23/2024         SW846-6020B         =           Uranium         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00552 mg/L         0.02 1/23/2024         SW846-6020B         U           Zinc         J         0.00335 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Barium, Dissolved         0.203 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Silver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Thallium U 0.002 mg/L 0.002 1/23/2024 SW846-6020B = Uranium U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B = Vanadium BJ 0.00552 mg/L 0.02 1/23/2024 SW846-6020B U 2inc J 0.00335 mg/L 0.02 1/23/2024 SW846-6020B = Warcury U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B = Warcury U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B = Warium, Dissolved D.203 mg/L 0.004 1/23/2024 SW846-6020B J Chromium, Dissolved U 0.01 mg/L 0.01 1/23/2024 SW846-6020B U U 0.01 mg/L 0.01 1/23/2024 SW846-6020B U U 0.01 mg/L 0.01 1/23/2024 SW846-6020B U U 0.01 mg/L 0.002 1/23/2024 SW846-6020B U U 0.01 mg/L 0.002 1/23/2024 SW846-6020B U U 0.001 mg/L 0.0002 1/23/2024 SW846-6020B U U U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B U U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B U U 0.00002 mg/L 0.0002 1/23/2024 SW846-6020B U U 0.00002 mg/L 0.0002 1/23/2024 SW846-6020B U U U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B U U 0.0002 Mg/L 0.0002 Mg/L 0.0002 1/23/2024 SW846-6020B U U 0.0002 Mg/L 0.0002 Mg/L 0.0002 1/23/2024 SW846-6020B U U 0.0002 Mg/L 0.0002 M	Sodium		62.4	mg/L	2.5	1/23/2024			SW846-6020B	=
Uranium         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00552 mg/L         0.02 1/23/2024         SW846-6020B         U           Zinc         J         0.00335 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-7470A         =           Barium, Dissolved         0.203 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Tantalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Vanadium         BJ         0.00552         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         J         0.00335         mg/L         0.02         1/23/2024         SW846-6020B         =           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-7470A         =           Barium, Dissolved         0.203         mg/L         0.004         1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         UJ	Thallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Zinc         J         0.00335 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-7470A         =           Barium, Dissolved         0.203 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Uranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=
Mercury         U         0.0002 mg/L         0.0002 mg/L         1/23/2024         SW846-7470A         =           Barium, Dissolved         0.203 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Vanadium	ВЈ	0.00552	mg/L	0.02	1/23/2024			SW846-6020B	U
Barium, Dissolved 0.203 mg/L 0.004 1/23/2024 SW846-6020B J Chromium, Dissolved U 0.01 mg/L 0.01 1/23/2024 SW846-6020B UJ Uranium, Dissolved U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B UJ	Zinc	J	0.00335	mg/L	0.02	1/23/2024			SW846-6020B	=
Chromium, Dissolved         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         UJ	Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
Uranium, Dissolved U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B UJ	Barium, Dissolved		0.203		0.004	1/23/2024			SW846-6020B	J
Uranium, Dissolved U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B UJ	Chromium, Dissolved	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	UJ
PCB-1016 U 0.107 ug/L 0.107 1/23/2024 SW846-8082A =	Uranium, Dissolved	U	0.0002		0.0002	1/23/2024			SW846-6020B	UJ
	PCB-1016	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=

PCB-1221	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1232	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1242	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1248	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1254	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1260	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1268	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
Radium-226	U	0.578	pCi/L	0.651	1/23/2024	0.472	0.474	AN-1418	=
Radium-228	U	1.75	pCi/L	2.73	1/23/2024	1.7	1.76	EPA-904-M	=
Strontium-90	U	0.751	pCi/L	2.93	1/23/2024	1.61	1.62	EPA-905.0-M	=
Tritium	U	-114	pCi/L	220	1/23/2024	88.9	89	EPA-906.0-M	UJ
Technetium-99	U	5.52	pCi/L	22.6	1/23/2024	13.3	13.3	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.281	pCi/L	1.53	1/23/2024	0.823	0.827	HASL 300, Th-01- RC M	=
Thorium-232	U	-0.0654	pCi/L	0.937	1/23/2024	0.379	0.38	HASL 300, Th-01- RC M	=
Alpha activity	U	4.48	pCi/L	6.61	1/23/2024	4.37	4.43	SW846-9310	=
Beta activity	U	-0.882	pCi/L	10	1/23/2024	5.2	5.2	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/23/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/23/2024			SW846-8260D	
2-Hexanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	
									=
Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile -	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1		1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=

Ethylbenzene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Dissolved Solids		218	mg/L	10	1/23/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/23/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	4.24	ug/L	10	1/23/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.25	mg/L	2	1/23/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW361 DOWN RGA Type: LRGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4795 SAMPLE ID: MW361UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4795		SAMPLI	EID: 1	лW361UG2-2	24	Sample T	ype: <u>REG</u>	
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	W	0.481	mg/L	0.2	1/23/2024			SW846-9056A	J
Chloride	J	37.9	mg/L	250	1/23/2024			SW846-9056A	=
-luoride	J	0.195	mg/L	4	1/23/2024			SW846-9056A	=
Nitrate as Nitrogen	J	1.16	mg/L	10	1/23/2024			SW846-9056A	=
Sulfate		83	mg/L	4	1/23/2024			SW846-9056A	=
Barometric Pressure Reading		30.23	Inches/Hg		1/23/2024				Х
Conductivity		515	μmhos/cm		1/23/2024				Х
Depth to Water		41.58	ft		1/23/2024				Х
Dissolved Oxygen		3.26	mg/L		1/23/2024				Х
:h (approx)		320	mV		1/23/2024				Х
)H		6.03	Std Unit		1/23/2024				Х
emperature		58	deg F		1/23/2024				Х
urbidity		0	NTU		1/23/2024				Х
luminum	U	0.05	mg/L	0.05	1/23/2024			SW846-6020B	=
Intimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
rsenic	J	0.00274	mg/L	0.005	1/23/2024			SW846-6020B	=
arium		0.0541	mg/L	0.004	1/23/2024			SW846-6020B	=
eryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
oron	N	0.198	mg/L	0.015	1/23/2024			SW846-6020B	J
admium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
alcium		34.9	mg/L	0.2	1/23/2024			SW846-6020B	J
Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
obalt	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Copper	J	0.000833	mg/L	0.002	1/23/2024			SW846-6020B	J
ron	J	0.0379	mg/L	0.1	1/23/2024			SW846-6020B	=
ead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
/Jagnesium	В	17.1	mg/L	0.03	1/23/2024			SW846-6020B	=
/langanese	J	0.00312	mg/L	0.005	1/23/2024			SW846-6020B	U
Лоlybdenum	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
lickel	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
otassium		2.55	mg/L	0.3	1/23/2024			SW846-6020B	=
hodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
elenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
ilver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
odium		49.4	mg/L	0.25	1/23/2024			SW846-6020B	=
antalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
hallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Jranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=
anadium	ВЈ	0.00488	mg/L	0.00	1/23/2024			SW846-6020B	U
inc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
arium, Dissolved		0.0526	mg/L	0.0002	1/23/2024			SW846-6020B	J
Chromium, Dissolved	U	0.0320	mg/L	0.004	1/23/2024			SW846-6020B	, ,
Jranium, Dissolved	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	UJ
PCB-1016	U	0.0002	ug/L	0.0002	1/23/2024			SW846-8082A	=
CD-1010	U	0.1	ug/ L	0.1	1/23/2024			3 VV 040-0U0ZA	-

PCS-1222										
PGB-1242	PCB-1221	U	0.1	ug/L	0.1	1/23/2024			SW846-8082A	=
PCB-1248	PCB-1232	U	0.1	ug/L	0.1	1/23/2024			SW846-8082A	=
PCB-12564   J	PCB-1242	U	0.1	ug/L	0.1	1/23/2024			SW846-8082A	=
PCS-1260	PCB-1248	U	0.1	ug/L	0.1	1/23/2024			SW846-8082A	=
PCB-1268   U	PCB-1254	J	0.0797	ug/L	0.1	1/23/2024			SW846-8082A	J
Polychiominated biphenyman   0.15   0g/L   0.639   1/33/2024   0.318   0.319   NN-946-800ZA   1   1   1   1   1   1   1   1   1	PCB-1260	J	0.0702	ug/L	0.1	1/23/2024			SW846-8082A	J
Radium-226	PCB-1268	U	0.1	ug/L	0.1	1/23/2024			SW846-8082A	=
Radium 228	Polychlorinated biphenyl		0.15	ug/L	0.1	1/23/2024			SW846-8082A	J
Strontium-90	Radium-226	U	0.0593	pCi/L	0.639	1/23/2024	0.318	0.319	AN-1418	=
Tritlum	Radium-228	U	1.7	pCi/L	3.9	1/23/2024	2.28	2.32	EPA-904-M	=
Technetium-99	Strontium-90	U	-0.994	pCi/L	3.26	1/23/2024	1.48	1.48	EPA-905.0-M	=
Technetium-99	Tritium	U	86.9	pCi/L	213	1/23/2024	123	125	EPA-906.0-M	=
No.	Technetium-99		54.3	pCi/L	22.8		14.4	15.7	HASL 300, Tc-02-	=
Northernol									RC M	
New Note	Thorium-230	U	1.26	pCi/L	1.93	1/23/2024	1.44	1.46	•	=
Beta activity	Thorium-232	U	-0.0217	pCi/L	1.08	1/23/2024	0.554	0.555	•	=
Deta activity	Alpha activity	U	1.36	pCi/L	8.3	1/23/2024	4.26	4.27	SW846-9310	=
1,2-Oibromo-3-chloropropane         U         0.02         ug/L         0.02         1/23/2024         SW846-8001         =           1,1,1,2-Tertachloroethane         U         1         ug/L         1         1/23/2024         SW846-82000         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-82600         =           1,2-Dichloroethane         U         1         ug/L         1         <	Beta activity		38.6		9.91	1/23/2024	9.22	11.2	SW846-9310	=
1,1,1,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,1-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Irrichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2		U			0.02					=
1,1,1-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024										=
1.1,2,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1.1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1.1,Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024 <td><del>- ' ' '</del></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	<del>- ' ' '</del>									
1,1,2-Trichloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichlorophrane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024         S	<del></del>									
1,1-Dichloroethane										
1,1-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2,3-Trichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-										
1,2,3-Trichloropropane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloromethane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroptopane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroptopane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           4-Actone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           4-Actone         U         5 ug/L         5         1/23/2024         SW8										
1,2-Dibromoethane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichloroethane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Actonicin         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Actonicin         U         5 ug/L         5         1/23/2024         SW846-82										
1,2-Dichlorobenzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichloroethane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichloropropane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,4-Dichlorobenzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         2-Butanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Actone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Actone       U       1 ug/L       1 1/23/2024 </td <td>· · ·</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	· · ·									
1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acetone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =	· ·									
1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acctone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =										
1,4-Dichlorobenzene U 1 1 ug/L 1 1/23/2024 SW846-8260D = 2-Butanone U 5 ug/L 5 1/23/2024 SW846-8260D = 2-Butanone U 6 ug/L 1 ug/L 1 1/23/2024 SW846-8260D = 2-Butanone U 6 ug/L 1 ug/L 1 1/23/2024 SW846-8260D = 2-Butanone U 7 ug/L 1 ug/L 1 1/23/2024 SW846-8260D = 2-Butanone U 7 ug/L 1 ug/L 1 1/23/2024 SW846-8260D = 2-Butanone U 7 ug/L 1 ug/L 1	<u> </u>									
2-Butanone U 5 ug/L 5 1/23/2024 SW846-8260D =  2-Hexanone U 5 ug/L 5 1/23/2024 SW846-8260D =  4-Methyl-2-pentanone U 5 ug/L 5 1/23/2024 SW846-8260D =  4-Methyl-2-pentanone U 5 ug/L 5 1/23/2024 SW846-8260D =  Acctore U 5 ug/L 5 1/23/2024 SW846-8260D =  Acrolein U 5 ug/L 5 1/23/2024 SW846-8260D =  Acrolein U 5 ug/L 5 1/23/2024 SW846-8260D =  Acrolein U 5 ug/L 5 1/23/2024 SW846-8260D U  Acrylonitrile U 5 ug/L 5 1/23/2024 SW846-8260D =  Benzene U 1 1 ug/L 1 1/23/2024 SW846-8260D =  Bromochloromethane U 1 ug/L 1 1/23/2024 SW846-8260D =  Carbon disulfide U 5 ug/L 5 1/23/2024 SW846-8260D =  Carbon tetrachloride U 1 ug/L 1 1/23/2024 SW846-8260D =  Carbon tetrachloride U 1 ug/L 1 1/23/2024 SW846-8260D =  Carbon tetrachloride U 1 ug/L 1 1/23/2024 SW846-8260D =  Chlorobenzene U 1 ug/L 1 1/23/2024 SW846-8260D =  Chlorobenzene U 1 ug/L 1 1/23/2024 SW846-8260D =  Chlorothane U 1 ug/L 1 1/23/2024 SW846-8260D =  Cis-1,2-Dichlorothene U 1 ug/L 1 1/23/2024 SW846-8260D =  Cis-1,3-Dichlorothene U 1 ug/L 1 1/23/2024 SW846-8260D =  Cis-1,3-Dichlorothen	· · · ·									
2-Hexanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acetone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       UJ         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       UJ         Acrolein       U       5       ug/L       1       1/23/2024       SW846-8260D       =         Benzene       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromochloromethane       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       =	· · · · · · · · · · · · · · · · · · ·									
4-Methyl-2-pentanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acetone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       UJ         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Bernel       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromochloromethane       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Carbon tetrachloride       U       1       ug/L       1       1/23/2024       SW846-8260D       =<	2-Butanone								SW846-8260D	=
Acetone       U       5 ug/L       5       1/23/2024       SW846-8260D       =         Acrolein       U       5 ug/L       5       1/23/2024       SW846-8260D       UJ         Acrylonitrile       U       5 ug/L       5       1/23/2024       SW846-8260D       =         Benzene       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Bromochloromethane       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Bromodichloromethane       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Bromomethane       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Bromomethane       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Carbon disulfide       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Carbon tetrachloride       U       1 ug/L       1       1/23/2024       SW846-8260D       =         Chlorobenzene       U       1 ug/L       1       1/23/2024       SW		U			5					=
Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         UJ           Acrylonitrile         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =      <	4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrylonitrile         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         = <t< td=""><td>Acetone</td><td>U</td><td>5</td><td>ug/L</td><td>5</td><td>1/23/2024</td><td></td><td></td><td>SW846-8260D</td><td>=</td></t<>	Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromodichloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon disulfide         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Bromochloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Bromodichloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Bromoform         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Bromomethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Cis-1,2-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/23/2024         SW846-8260D <td>Acrylonitrile</td> <td>U</td> <td>5</td> <td>ug/L</td> <td>5</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Bromodichloromethane	Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D	Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Carbon disulfide	U	5		5				SW846-8260D	=
Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =		U	1							=
Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =										=
Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =										
Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =	-									
cis-1,2-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =										
cis-1,3-Dichloropropene       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Dibromochloromethane       U       1       ug/L       1       1/23/2024       SW846-8260D       =										
Dibromochloromethane U 1 ug/L 1 1/23/2024 SW846-8260D =	-									
U 1 ug/L 1 1/23/2024 SW846-8260D =	-									
	Dipromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=

Ethylbenzene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Dissolved Solids		292	mg/L	10	1/23/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/23/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
Total Organic Halides (TOX)	U	10	ug/L	10	1/23/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.729	mg/L	2	1/23/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW362 DOWN RGA Type: UCRS Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-0986 SAMPLE ID: MW362UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-0986		SAMPLI	E ID:	MW362UG2-2	24	Sample Ty	pe: REG	
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	UW	0.2	mg/L	0.2	1/23/2024			SW846-9056A	=
Chloride	J	3.96	mg/L	250	1/23/2024			SW846-9056A	=
luoride	J	0.349	mg/L	4	1/23/2024			SW846-9056A	=
litrate as Nitrogen	J	0.619	mg/L	10	1/23/2024			SW846-9056A	=
ulfate		12.5	mg/L	0.4	1/23/2024			SW846-9056A	=
arometric Pressure Reading		30.23	Inches/Hg		1/23/2024				Х
Conductivity		603	μmhos/cm		1/23/2024				Х
epth to Water		28.69	ft		1/23/2024				Х
issolved Oxygen		1.06	mg/L		1/23/2024				Х
h (approx)		437	mV		1/23/2024				Х
Н		6.9	Std Unit		1/23/2024				Х
emperature		58	deg F		1/23/2024				Х
urbidity		3.16	NTU		1/23/2024				Х
luminum		0.53	mg/L	0.05	1/23/2024			SW846-6020B	=
intimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
rsenic	J	0.00276	mg/L	0.005	1/23/2024			SW846-6020B	=
arium		0.0984	mg/L	0.004	1/23/2024			SW846-6020B	=
eryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
oron	JN	0.0139	mg/L	0.015	1/23/2024			SW846-6020B	=
admium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
alcium		16	mg/L	0.2	1/23/2024			SW846-6020B	J
hromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
obalt	J	0.000422	mg/L	0.001	1/23/2024			SW846-6020B	J
opper	J	0.0019	mg/L	0.002	1/23/2024			SW846-6020B	J
ron		0.435	mg/L	0.1	1/23/2024			SW846-6020B	=
ead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
/lagnesium	В	7.63	mg/L	0.03	1/23/2024			SW846-6020B	=
Manganese		0.00917	mg/L	0.005	1/23/2024			SW846-6020B	J
Nolybdenum	J	0.000447	mg/L	0.001	1/23/2024			SW846-6020B	=
lickel	J	0.00132	mg/L	0.002	1/23/2024			SW846-6020B	J
otassium		0.375	mg/L	0.3	1/23/2024			SW846-6020B	=
hodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
elenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
ilver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
odium		104	mg/L	2.5	1/23/2024			SW846-6020B	=
antalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
hallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Iranium		0.00109	mg/L	0.0002	1/23/2024			SW846-6020B	=
anadium	BJ	0.00609	mg/L	0.02	1/23/2024			SW846-6020B	U
inc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
arium, Dissolved		0.0919	mg/L	0.004	1/23/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	UJ
Jranium, Dissolved		0.000998	mg/L	0.0002	1/23/2024			SW846-6020B	J

PCB-1221   U										
PCB-1242	PCB-1221	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1258	PCB-1232	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PES-1254 U 0.11 ug/L 0.11 1/23/2024 SW846-8022A = PCB-1260 U 0.11 ug/L 0.11 1/23/2024 SW846-8022A = PCB-1260 U 0.11 ug/L 0.11 1/23/2024 SW846-8022A = Poly-thornaced biphenyl U 0.11 ug/L 0.11 1/23/2024 SW846-8022A = Poly-thornaced biphenyl U 0.13 ug/L 0.11 1/23/2024 SW846-8022A = Route 1 1/23/2024 SW846-802A = Route	PCB-1242	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCS-1260	PCB-1248	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1268   U	PCB-1254	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
Provisionaled bipheny    U	PCB-1260	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
Radium-226	PCB-1268	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
Radium-228	Polychlorinated biphenyl	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
Strontium 90	Radium-226	U	0.513	pCi/L	0.579	1/23/2024	0.508	0.509	AN-1418	=
Tritium	Radium-228	U	1.12	pCi/L	4.23	1/23/2024	2.37	2.38	EPA-904-M	=
Technetium-99	Strontium-90	U	-1.76	pCi/L	3.94	1/23/2024	1.8	1.8	EPA-905.0-M	=
Norther-230	Tritium	U	70.7	pCi/L	211	1/23/2024	120	121	EPA-906.0-M	=
Norman	Technetium-99	U	7.92	pCi/L	23	1/23/2024	13.6	13.6	•	=
New No.   New	Thorium-230	U	0.12	pCi/L	1.61	1/23/2024	0.786	0.788	•	=
Beta activity	Thorium-232	U	-0.0683	pCi/L	0.992	1/23/2024	0.402	0.403	•	=
1,2 - Dibromo-3-chloropropane         U         0.0189         ug/L         0.0189         1/23/2024         SW846-8011         =           1,1,1,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,1,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Tichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloroepropane         U         1         ug/L         1	Alpha activity	U	0.134	pCi/L	9.02	1/23/2024	4.69	4.7	SW846-9310	=
1,1,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,1-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropenae         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropenae         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropenae         U         1         ug/L         1         1/23/2024	Beta activity	U	-22.3	pCi/L	15.6	1/23/2024	6.42	6.42	SW846-9310	UJ
1,1,1-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dirhoroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dirhoroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/23/2024 <td>1,2-Dibromo-3-chloropropane</td> <td>U</td> <td>0.0189</td> <td>ug/L</td> <td>0.0189</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8011</td> <td>=</td>	1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/23/2024			SW846-8011	=
1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Tichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,1,2-Irichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobrane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024	1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane         U         1 ug/L         1 1 1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloroptopane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024 <td>1,1,1-Trichloroethane</td> <td>U</td> <td>1</td> <td>ug/L</td> <td>1</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,1-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2,3-Trichloropropane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,4-Dichloropenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024         SW846-8260D </td <td>1,1,2,2-Tetrachloroethane</td> <td>U</td> <td>1</td> <td>ug/L</td> <td>1</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2,3-Trichloropropane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropernane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropernane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5 1/23/2024         SW846-8260D         =           Acrolein         U         5 ug/L         5 1/23/2024         SW84	1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5         ug/L         5         1/23/2024         SW846-8260D	1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichlorobenzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichloroethane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichloropropane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,4-Dichlorobenzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         2-Butanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Acetone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Acetone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Benzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         Benzene       U       1 ug/L       1 1/23/2024       SW846-8260D </td <td>1,1-Dichloroethene</td> <td>U</td> <td>1</td> <td>ug/L</td> <td>1</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichlorocethane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,2-Dichloropropane       U       1 ug/L       1 1/23/2024       SW846-8260D       =         1,4-Dichlorobenzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         2-Butanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Acetone       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Acrolein       U       5 ug/L       5 1/23/2024       SW846-8260D       =         Benzene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         Bromochloromethane       U       1 ug/L       1 1/23/2024       SW846-8	1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acetone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =	1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane         U         1 ug/L         1         1/23/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/23/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Acctone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Acctone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Acctone         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5 ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260	1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene U 1 ug/L 1 1/23/2024 SW846-8260D = 2-Butanone U 5 ug/L 5 1/23/2024 SW846-8260D = 2-Hexanone U 6 ug/L 1 1/23/2024 SW846-8260D = 2-Hexanone U	1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone U 5 ug/L 5 1/23/2024 SW846-8260D = 2-Hexanone U 5 ug/L 5 1/23/2024 SW846-8260D = 4-Methyl-2-pentanone U 5 ug/L 5 1/23/2024 SW846-8260D = 4-Methyl-2-pentanone U 5 ug/L 5 1/23/2024 SW846-8260D = Acctone U 5 ug/L 5 1/23/2024 SW846-8260D = Acrolein U 5 ug/L 5 1/23/2024 SW846-8260D = Acrolein U 5 ug/L 5 1/23/2024 SW846-8260D = Acrolein U 5 ug/L 5 1/23/2024 SW846-8260D UJ Acrylonitrile U 5 ug/L 5 1/23/2024 SW846-8260D = Benzene U 1 ug/L 1 1/23/2024 SW846-8260D = Bromochloromethane U 1 ug/L 1 1/23/2024 SW846-8260D = Bromodichloromethane U 1 ug/L 1 1/23/2024 SW846-8260D = Bromoform U 1 ug/L 1 1/23/2024 SW846-8260D = Bromomethane U 1 ug/L 1 1/23/2024 SW846-8260D = Bromomethane U 1 ug/L 1 1/23/2024 SW846-8260D = Carbon disulfide U 5 ug/L 5 1/23/2024 SW846-8260D = Carbon tetrachloride U 1 ug/L 1 1/23/2024 SW846-8260D = Carbon tetrachloride U 1 ug/L 1 1/23/2024 SW846-8260D = Chlorobenzene U 1 ug/L 1 1/23/2024 SW846-8260D = Chlorobenzene U 1 ug/L 1 1/23/2024 SW846-8260D = Chlorotethane U 1 ug/L 1 1/23/2024 SW846-8260D = Cis-1,2-Dichlorotethene U 1 ug/L 1 1/23/2024 SW846-8260D = Cis-1,3-Dichloropropene U 1 ug/L 1 1/23/2024 SW846-8260D = Cis-1,3-Dichlorotethene U 1 ug/L 1 1/23/2024 SW846-8260D = Cis-1,3-Dichlorotethene U 1 ug/L 1 1/23/2024 SW846-8260D = Cis-1,3-Dichlorotethene U 1 ug/L 1 1/23/2024 SW846-8260D =	1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         2-Hexanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acetone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acrolein       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromochloritile       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromochloromethane       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromochloromethane       U       1       ug/L       1       1/23/2024       SW846-8260D	1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Hexanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acetone       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       U         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       U         Acrolein       U       5       ug/L       5       1/23/2024       SW846-8260D       =         Benzene       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromochloromethane       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/23/2024       SW846-8260D       = </td <td>2-Butanone</td> <td>U</td> <td>5</td> <td></td> <td>5</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	2-Butanone	U	5		5	1/23/2024			SW846-8260D	=
Acetone         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromofichloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =	2-Hexanone	U	5		5	1/23/2024			SW846-8260D	=
Acrolein         U         5         ug/L         5         1/23/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromofichloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         = <td>4-Methyl-2-pentanone</td> <td>U</td> <td>5</td> <td>ug/L</td> <td>5</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrylonitrile         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromoethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         = <t< td=""><td>Acetone</td><td>U</td><td>5</td><td>ug/L</td><td>5</td><td>1/23/2024</td><td></td><td></td><td>SW846-8260D</td><td>=</td></t<>	Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Bromochloromethane         U         1 ug/L         1 /23/2024         SW846-8260D         =           Bromodichloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Bromoform         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Bromomethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Cis-1,2-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Cis-1,3-Dichloropropene         U         1 ug/L         1 1/23/2024         SW846-8260D	Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Bromodichloromethane	Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D	Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =	Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide         U         5 ug/L         5 l/23/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 l/23/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 l/23/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 l/23/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 l/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 l/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 l/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 l/23/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 l/23/2024         SW846-8260D         =	Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon tetrachloride         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Chloroethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/23/2024         SW846-8260D         =	Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Chlorobenzene	U	1		1	1/23/2024			SW846-8260D	=
Chloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         cis-1,3-Dichloropropene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         Dibromochloromethane       U       1 ug/L       1 1/23/2024       SW846-8260D       =	Chloroform	U	1		1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         cis-1,3-Dichloropropene       U       1 ug/L       1 1/23/2024       SW846-8260D       =         Dibromochloromethane       U       1 ug/L       1 1/23/2024       SW846-8260D       =	Chloromethane	U	1		1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene         U         1         ug/L         1         1/23/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/23/2024         SW846-8260D         =	cis-1,2-Dichloroethene	U	1		1	1/23/2024			SW846-8260D	=
Dibromochloromethane U 1 ug/L 1 1/23/2024 SW846-8260D =	cis-1,3-Dichloropropene	U	1		1	1/23/2024			SW846-8260D	=
	Dibromochloromethane	U	1		1	1/23/2024			SW846-8260D	=
	Dibromomethane									=

Ethylbenzene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Dissolved Solids		325	mg/L	10	1/23/2024	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/23/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	6.2	ug/L	10	1/23/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.48	mg/L	2	1/23/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW363 DOWN RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4796 SAMPLE ID: MW363UG2-24 Sample Type: REG

Bromide	AKGWA Well Tag #:	8004-4796		SAMPLI	E ID:	MW363UG2-2	24	Sample T	ype: REG	
Chloride J 21.1 mg/L 250 1/23/2024 SW846-9056A =  Pluoride J 0.305 mg/L 4 1/23/2024 SW846-9056A =  SW846-9056A	Parameter	Qualifier	Result	Units			•	TPU	Method	Validation
Fillumitide	Bromide	UW	0.2	mg/L	0.2	1/23/2024			SW846-9056A	=
Nitrate as Nitrogen J 3.07 mg/L 10 1/23/2024 SW846-9056A =  Sulfatre 28.4 mg/L 2 1/23/2024 SW846-9056A =  Sulfatre 30.2 inches/Hg 1/23/2024 SW846-9056A =  Amount inches/Hg 1/23/2024 SW846-9056A =  SW846-9056A =  Nitrate 30.2 inches/Hg 1/23/2024 SW846-9056B =  Nitrate 30	Chloride	J	21.1	mg/L	250	1/23/2024			SW846-9056A	=
Sulfate	Fluoride	J	0.305	mg/L	4	1/23/2024			SW846-9056A	=
Banometric Pressure Reading   30.2   Inches/Hg   1/23/2024	Nitrate as Nitrogen	J	3.07	mg/L	10	1/23/2024			SW846-9056A	=
Conductivity         373         µmhos/cm         1/23/2024         X           Depth to Water         47.83         t         1/23/2024         X           Dissolved Oxygen         1.3         mg/L         1/23/2024         X           Eh (approx)         663         mV         1/23/2024         X           pH         6.13         Std Unit         1/23/2024         X           remperature         58.4         deg F         1/23/2024         X           Aluminum         U         0.05         mg/L         0.05         1/23/2024         SW846-60208         =           Aluminum         U         0.05         mg/L         0.003         1/23/2024         SW846-60208         =           Arsenic         J         0.0027         mg/L         0.003         1/23/2024         SW846-60208         =           Bervilium         U         0.003         mg/L         0.004         1/23/2024         SW846-60208         =           Bervilium         U         0.001         mg/L         0.004         1/23/2024         SW846-60208         =           Bervilium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208	Sulfate		28.4	mg/L	2	1/23/2024			SW846-9056A	=
Depth to Water	Barometric Pressure Reading		30.2	Inches/Hg		1/23/2024				Х
Dissolved Oxygen         1.3         mg/L         1/23/2024         X           Eh (approx)         363         mV         1/23/2024         X           pH         6.31         Sixt Units         1/23/2024         X           Temperature         58.4         deg F         1/23/2024         X           Valuminum         U         0.05         mg/L         0.05         1/23/2024         SW846-60208         =           Antimony         U         0.005         mg/L         0.003         1/23/2024         SW846-60208         =           Antimony         U         0.003         mg/L         0.003         1/23/2024         SW846-60208         =           Antimony         U         0.0037         mg/L         0.005         1/23/2024         SW846-60208         =           Beryllium         U         0.00257         mg/L         0.005         1/23/2024         SW846-60208         =           Beryllium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Beryllium         U         0.001         mg/L         0.01         1/23/2024         SW846-60208         =           Beryllium	Conductivity		373	μmhos/cm		1/23/2024				Х
Second   S	Depth to Water		47.83	ft		1/23/2024				Х
Part	Dissolved Oxygen		1.3	mg/L		1/23/2024				Х
Turbidity	Eh (approx)		363	mV		1/23/2024				Х
Turbidity         0         NTU         1/23/2024         X           Alluminum         U         0.05         mg/L         0.05         1/23/2024         SW846-60208         =           Anteninony         U         0.003         mg/L         0.003         1/23/2024         SW846-60208         =           Antenic         J         0.00257         mg/L         0.005         1/23/2024         SW846-60208         =           Barlum         0.121         mg/L         0.004         1/23/2024         SW846-60208         =           Beryllium         U         0.0005         mg/L         0.0015         1/23/2024         SW846-60208         =           Beryllium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Caddium         U         0.001         mg/L         0.001         1/23/2024         SW846-60208         =           Caddium         U         0.01         mg/L         0.001         1/23/2024         SW846-60208         =           Cobalt         J         0.00	рН		6.13	Std Unit		1/23/2024				Х
Antminum  U  0.05 mg/L  0.05 1/23/2024  SW846-6020B  Antmony  U  0.003 mg/L  0.003 1/23/2024  SW846-6020B  = Antmony  U  0.003 mg/L  0.005 1/23/2024  SW846-6020B  = Baryling  U  0.005 mg/L  0.005 1/23/2024  SW846-6020B  = Beryllium  U  0.005 mg/L  0.0005 1/23/2024  SW846-6020B  = Beryllium  U  0.001 mg/L  0.005 1/23/2024  SW846-6020B  = Beryllium  U  0.001 mg/L  0.005 1/23/2024  SW846-6020B  = Caldium  U  0.001 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt  J  0.000878 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt  J  0.000878 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt  U  0.002 1/23/2024  SW846-6020B  = Cobalt  U  0.003 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt  U  0.002 1/23/2024  SW846-6020B  = Cobalt  Copper  J  0.008878 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt  Copper  J  0.008878 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt  Copper  J  0.0002 mg/L  0.002 1/23/2024  SW846-6020B  = Cobalt  Copper  Magnesium  B  9.43 mg/L  0.001 1/23/2024  SW846-6020B  = Magnesium  B  9.43 mg/L  0.001 1/23/2024  SW846-6020B  = Molybdenum  U  0.001 mg/L  0.001 1/23/2024  SW846-6020B  = Cobalt	Temperature		58.4	deg F		1/23/2024				Х
Antimony U 0.003 mg/L 0.003 1/23/2024 SW846-60208 = Arsenic J 0.00257 mg/L 0.005 1/23/2024 SW846-60208 = Barlum U 0.121 mg/L 0.004 1/23/2024 SW846-60208 = Beryllium U 0.0005 mg/L 0.0005 1/23/2024 SW846-60208 = Beryllium U 0.0005 mg/L 0.0005 1/23/2024 SW846-60208 = Beryllium U 0.0005 mg/L 0.001 1/23/2024 SW846-60208 = Cadmium U 0.001 mg/L 0.01 1/23/2024 SW846-60208 = Cadmium U 0.001 mg/L 0.01 1/23/2024 SW846-60208 J Chromium U 0.001 mg/L 0.01 1/23/2024 SW846-60208 J Chromium U 0.001 mg/L 0.01 1/23/2024 SW846-60208 J Chromium U 0.001 mg/L 0.001 1/23/2024 SW846-60208 J Chromium U 0.000878 mg/L 0.001 1/23/2024 SW846-60208 J Chromium U 0.000878 mg/L 0.001 1/23/2024 SW846-60208 J Chromium U 0.0002 mg/L 0.002 1/23/2024 SW846-60208 J Chromium U 0.002 mg/L 0.002 1/23/2024 SW846-60208 = Chromium U 0.002 mg/L 0.002 1/23/2024 SW846-60208 = Chromium U 0.002 mg/L 0.002 1/23/2024 SW846-60208 = Chromium U 0.001 mg/L 0.005 1/23/2024 SW846-60208 = Chromium U 0.005 mg/L 0.005 1/23/2024 SW846-60208 = Chromium U 0.0002 mg/L 0.002 1/23/2024 SW846-60208 = Chromium U 0.0002 mg/L 0.0002 1/23/2024 SW846-60208 = Chromium U 0.0002 mg/L 0.0002 1/23/2024 SW846-60208 = Chromium U 0.0002 mg/L 0.0002 1/23/2024 SW846-60208 U 0.0002 mg/L 0.0002 1/23/2024 SW846-60208 U 0.0002 mg/L 0.0	Turbidity		0	NTU		1/23/2024				Х
Arsenic J 0.00257 mg/L 0.005 1/23/2024 SW846-6020B = Barium 0.121 mg/L 0.004 1/23/2024 SW846-6020B = Beryllium U 0.0005 mg/L 0.0005 1/23/2024 SW846-6020B = Beryllium U 0.0005 mg/L 0.0005 1/23/2024 SW846-6020B = Beryllium U 0.0014 mg/L 0.015 1/23/2024 SW846-6020B = Cadmium U 0.0011 mg/L 0.015 1/23/2024 SW846-6020B = Cadmium U 0.0011 mg/L 0.001 1/23/2024 SW846-6020B = Calcium 21.1 mg/L 0.2 1/23/2024 SW846-6020B J Chromium U 0.001 mg/L 0.01 1/23/2024 SW846-6020B J Chromium U 0.001 mg/L 0.01 1/23/2024 SW846-6020B J Chromium U 0.001 mg/L 0.01 1/23/2024 SW846-6020B J Chromium U 0.000851 mg/L 0.001 1/23/2024 SW846-6020B J Chromium J 0.000851 mg/L 0.001 1/23/2024 SW846-6020B J Chromium J 0.000851 mg/L 0.002 1/23/2024 SW846-6020B J Chromium J 0.0034 mg/L 0.002 1/23/2024 SW846-6020B J Chromium J 0.0034 mg/L 0.002 1/23/2024 SW846-6020B E Chad U 0.002 mg/L 0.002 1/23/2024 SW846-6020B E Chad U 0.002 mg/L 0.002 1/23/2024 SW846-6020B E Chad U 0.002 mg/L 0.003 1/23/2024 SW846-6020B E Chad U 0.002 mg/L 0.003 1/23/2024 SW846-6020B E Chad U 0.003 mg/L 0.003 1/23/2024 SW846-6020B E Chad U	Aluminum	U	0.05	mg/L	0.05	1/23/2024			SW846-6020B	=
Barium  0.121 mg/L  0.004 1/23/2024  SW846-6020B = Beryllium  U  0.0005 mg/L  0.0005 1/23/2024  SW846-6020B = Boron  N  0.0214 mg/L  0.015 1/23/2024  SW846-6020B = Cadmium  U  0.001 mg/L  0.001 1/23/2024  SW846-6020B = Cadmium  U  0.001 mg/L  0.001 1/23/2024  SW846-6020B   Cadmium  U  0.001 mg/L  0.01 1/23/2024  SW846-6020B   Cadmium  U  0.001 mg/L  0.01 1/23/2024  SW846-6020B   Cobalt  J  0.00878 mg/L  0.001 1/23/2024  SW846-6020B   Copper  J  0.000878 mg/L  0.001 1/23/2024  SW846-6020B   Copper  J  0.000881 mg/L  0.001 1/23/2024  SW846-6020B   Copper  J  0.000881 mg/L  0.002 1/23/2024  SW846-6020B   Copper  Lead  U  0.002 mg/L  0.002 1/23/2024  SW846-6020B   Copper  Lead  U  0.002 mg/L  0.002 1/23/2024  SW846-6020B   Copper  Marganese  0.0112 mg/L  0.005 1/23/2024  SW846-6020B   Copper  Nickel  0.045 mg/L  0.001 1/23/2024  SW846-6020B   Copper  Copper  D C	Antimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
Beryllium         U         0.0005         mg/L         0.0005         1/23/2024         SW846-6020B         =           Boron         N         0.0214         mg/L         0.015         1/23/2024         SW846-6020B         =           Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Calcium         21.1         mg/L         0.2         1/23/2024         SW846-6020B         J           Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         J           Cobalt         J         0.00878         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.008871         mg/L         0.002         1/23/2024         SW846-6020B         J           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.005         1/23/2024         SW846-6020B         = <t< td=""><td>Arsenic</td><td>J</td><td>0.00257</td><td>mg/L</td><td>0.005</td><td>1/23/2024</td><td></td><td></td><td>SW846-6020B</td><td>=</td></t<>	Arsenic	J	0.00257	mg/L	0.005	1/23/2024			SW846-6020B	=
Boron   N   0.0214   mg/L   0.015   1/23/2024   SW846-6020B   =   Cadmium   U   0.001   mg/L   0.001   1/23/2024   SW846-6020B   =   Cadmium   U   0.001   mg/L   0.02   1/23/2024   SW846-6020B   =   Cadmium   U   0.01   mg/L   0.01   1/23/2024   SW846-6020B   J   Chromium   U   0.01   mg/L   0.001   1/23/2024   SW846-6020B   J   Chromium   U   0.00878   mg/L   0.001   1/23/2024   SW846-6020B   J   Chromium   U   0.00878   mg/L   0.002   1/23/2024   SW846-6020B   J   Chromium   U   0.002   mg/L   0.002   1/23/2024   SW846-6020B   J   Chromium   U   0.002   mg/L   0.002   1/23/2024   SW846-6020B   E   Chromium   E   E   E   E   E   E   E   E   E	Barium		0.121	mg/L	0.004	1/23/2024			SW846-6020B	=
Cadmium         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Calcium         21.1         mg/L         0.2         1/23/2024         SW846-6020B         J           Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         J           Cobalt         J         0.000878         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.000851         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0734         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.003         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.003         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.001         1/23/2024         SW846-6020B         =      <	Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
Calcium         21.1         mg/L         0.2         1/23/2024         SW846-6020B         J           Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         =           Cobalt         J         0.000878         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.000878         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0734         mg/L         0.00         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.00         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.00         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.00         1/23/2024         SW846-6020B         =           Manganese         0.112         mg/L         0.005         1/23/2024         SW846-6020B         =           Nickel         0.045         mg/L         0.001         1/23/2024         SW846-6020B         =           Rhodium         U <td>Boron</td> <td>N</td> <td>0.0214</td> <td>mg/L</td> <td>0.015</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-6020B</td> <td>=</td>	Boron	N	0.0214	mg/L	0.015	1/23/2024			SW846-6020B	=
Chromium         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         =           Cobalt         J         0.000878         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.000851         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0734         mg/L         0.1         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.005         1/23/2024         SW846-6020B         =           Manganesie         0.112         mg/L         0.005         1/23/2024         SW846-6020B         =           Molybdenum         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Nickel         0.0445         mg/L         0.002         1/23/2024         SW846-6020B         =           Potassium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =	Cadmium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Cobalt         J         0.000878         mg/L         0.001         1/23/2024         SW846-6020B         J           Copper         J         0.000851         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0734         mg/L         0.1         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.003         1/23/2024         SW846-6020B         =           Mangesium         B         9.43         mg/L         0.005         1/23/2024         SW846-6020B         =           Mangesium         B         9.43         mg/L         0.005         1/23/2024         SW846-6020B         =           Mangesium         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Molybdenum         U         0.001         mg/L         0.002         1/23/2024         SW846-6020B         =           Nickel         0.0445         mg/L         0.002         1/23/2024         SW846-6020B         = <td>Calcium</td> <td></td> <td>21.1</td> <td>mg/L</td> <td>0.2</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-6020B</td> <td>J</td>	Calcium		21.1	mg/L	0.2	1/23/2024			SW846-6020B	J
Copper         J         0.000851         mg/L         0.002         1/23/2024         SW846-6020B         J           Iron         J         0.0734         mg/L         0.1         1/23/2024         SW846-6020B         =           Lead         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Magnesium         B         9.43         mg/L         0.03         1/23/2024         SW846-6020B         =           Manganese         0.112         mg/L         0.005         1/23/2024         SW846-6020B         =           Molybdenum         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Molybdenum         U         0.0045         mg/L         0.002         1/23/2024         SW846-6020B         =           Nickel         0.0445         mg/L         0.002         1/23/2024         SW846-6020B         =           Potassium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Selenium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =	Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
Fron	Cobalt	J	0.000878	mg/L	0.001	1/23/2024			SW846-6020B	J
Lead	Copper	J	0.000851	mg/L	0.002	1/23/2024			SW846-6020B	J
Magnesium         B         9.43 mg/L         0.03 1/23/2024         SW846-6020B         =           Manganese         0.112 mg/L         0.005 1/23/2024         SW846-6020B         =           Molybdenum         U         0.001 mg/L         0.001 1/23/2024         SW846-6020B         =           Nickel         0.0445 mg/L         0.002 1/23/2024         SW846-6020B         =           Potassium         2.07 mg/L         0.3 1/23/2024         SW846-6020B         =           Rhodium         U         0.005 mg/L         0.005 1/23/2024         SW846-6020B         =           Selenium         U         0.005 mg/L         0.005 1/23/2024         SW846-6020B         =           Silver         U         0.001 mg/L         0.001 1/23/2024         SW846-6020B         =           Sodium         38.4 mg/L         0.25 1/23/2024         SW846-6020B         =           Tantalum         U         0.005 mg/L         0.005 1/23/2024         SW846-6020B         =           Thallium         U         0.002 mg/L         0.005 1/23/2024         SW846-6020B         =           Uranium         U         0.002 mg/L         0.002 1/23/2024         SW846-6020B         =           Vanadium         BJ <td>Iron</td> <td>J</td> <td>0.0734</td> <td>mg/L</td> <td>0.1</td> <td>1/23/2024</td> <td></td> <td></td> <td>SW846-6020B</td> <td>=</td>	Iron	J	0.0734	mg/L	0.1	1/23/2024			SW846-6020B	=
Manganese         0.112         mg/L         0.005         1/23/2024         SW846-6020B         =           Molybdenum         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Nickel         0.0445         mg/L         0.002         1/23/2024         SW846-6020B         =           Potassium         2.07         mg/L         0.3         1/23/2024         SW846-6020B         =           Rhodium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Selenium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         38.4         mg/L         0.25         1/23/2024         SW846-6020B         =           Tantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Vanadium         BJ	Lead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Molybdenum	Magnesium	В	9.43	mg/L	0.03	1/23/2024			SW846-6020B	=
Nickel   0.0445 mg/L   0.002 1/23/2024   SW846-6020B   =     Potassium   2.07 mg/L   0.3 1/23/2024   SW846-6020B   =     Rhodium   U   0.005 mg/L   0.005 1/23/2024   SW846-6020B   =     Selenium   U   0.005 mg/L   0.005 1/23/2024   SW846-6020B   =     Selenium   U   0.005 mg/L   0.005 1/23/2024   SW846-6020B   =     Sodium   38.4 mg/L   0.25 1/23/2024   SW846-6020B   =     Sodium   38.4 mg/L   0.25 1/23/2024   SW846-6020B   =     Tantalum   U   0.005 mg/L   0.005 1/23/2024   SW846-6020B   =     Tantalum   U   0.002 mg/L   0.002 1/23/2024   SW846-6020B   =     Uranium   U   0.0002 mg/L   0.002 1/23/2024   SW846-6020B   =     Vanadium   BJ   0.00511 mg/L   0.002 1/23/2024   SW846-6020B   =     Vanadium   BJ   0.00511 mg/L   0.02 1/23/2024   SW846-6020B   =     Wercury   U   0.0002 mg/L   0.002 1/23/2024   SW846-6020B   =     Mercury   U   0.0002 mg/L   0.0002 1/23/2024   SW846-6020B   =     Barium, Dissolved   U   0.011 mg/L   0.004 1/23/2024   SW846-6020B   U     Uranium, Dissolved   U   0.0102 mg/L   0.001 1/23/2024   SW846-6020B   U     Uranium, Dissolved   U   0.0002 mg/L   0.0002 1/23/2024   SW846-6020B   U	Manganese		0.112	mg/L	0.005	1/23/2024			SW846-6020B	=
Potassium	Molybdenum	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Rhodium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Selenium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         38.4         mg/L         0.25         1/23/2024         SW846-6020B         =           Tantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00511         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         U           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         U	Nickel		0.0445	mg/L	0.002	1/23/2024			SW846-6020B	=
Selenium         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         38.4         mg/L         0.25         1/23/2024         SW846-6020B         =           Tantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00511         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         U         0.02         mg/L         0.02         1/23/2024         SW846-6020B         =           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         J           Barium, Dissolved         U         0.01         mg/L         0.004         1/23/2024         SW846-6020B         U	Potassium		2.07	mg/L	0.3	1/23/2024			SW846-6020B	=
Silver         U         0.001         mg/L         0.001         1/23/2024         SW846-6020B         =           Sodium         38.4         mg/L         0.25         1/23/2024         SW846-6020B         =           Tantalum         U         0.005         mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002         mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00511         mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         U         0.02         mg/L         0.02         1/23/2024         SW846-6020B         =           Mercury         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         J           Barium, Dissolved         U         0.01         mg/L         0.004         1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.001         mg/L         0.002         1/23/2024         SW846-6020B <td< td=""><td>Rhodium</td><td>U</td><td>0.005</td><td>mg/L</td><td>0.005</td><td>1/23/2024</td><td></td><td></td><td>SW846-6020B</td><td>=</td></td<>	Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Sodium         38.4 mg/L         0.25         1/23/2024         SW846-6020B         =           Tantalum         U         0.005 mg/L         0.005         1/23/2024         SW846-6020B         =           Thallium         U         0.002 mg/L         0.002         1/23/2024         SW846-6020B         =           Uranium         U         0.0002 mg/L         0.0002         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00511 mg/L         0.02         1/23/2024         SW846-6020B         U           Zinc         U         0.02 mg/L         0.02         1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002         1/23/2024         SW846-6020B         J           Barium, Dissolved         U         0.01 mg/L         0.004         1/23/2024         SW846-6020B         U           Uranium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ	Selenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Tantalum         U         0.005 mg/L         0.005 mg/L         1/23/2024         SW846-6020B         =           Thallium         U         0.002 mg/L         0.002 1/23/2024         SW846-6020B         =           Uranium         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00511 mg/L         0.02 1/23/2024         SW846-6020B         U           Zinc         U         0.02 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         =           Barium, Dissolved         0.119 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Silver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Thallium U 0.002 mg/L 0.002 1/23/2024 SW846-6020B = Uranium U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B = Vanadium BJ 0.00511 mg/L 0.02 1/23/2024 SW846-6020B U Zinc U 0.02 mg/L 0.02 1/23/2024 SW846-6020B = Warcury U 0.0002 mg/L 0.002 1/23/2024 SW846-6020B = Warcury U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B = Warcury U 0.0002 mg/L 0.0002 1/23/2024 SW846-7470A = Warcury Sw846-7470A = Warcury Dissolved U 0.119 mg/L 0.004 1/23/2024 SW846-6020B J SW846-6020B U U 0.001 mg/L 0.001 1/23/2024 SW846-6020B U U U 0.001 mg/L 0.001 1/23/2024 SW846-6020B U U U 0.001 mg/L 0.001 1/23/2024 SW846-6020B U U U 0.0002 mg/L 0.0002 Mg/L 0.0002 1/23/2024 SW846-6020B U U U 0.0002 Mg/L 0.0002	Sodium		38.4	mg/L	0.25	1/23/2024			SW846-6020B	=
Uranium         U         0.0002 mg/L         0.0002 mg/L         1/23/2024         SW846-6020B         =           Vanadium         BJ         0.00511 mg/L         0.02 1/23/2024         SW846-6020B         U           Zinc         U         0.02 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-7470A         =           Barium, Dissolved         0.119 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Tantalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Vanadium         BJ         0.00511 mg/L         0.02 1/23/2024         SW846-6020B         U           Zinc         U         0.02 mg/L         0.02 1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-7470A         =           Barium, Dissolved         0.119 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Thallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Zinc         U         0.02 mg/L         0.02 mg/L         1/23/2024         SW846-6020B         =           Mercury         U         0.0002 mg/L         0.0002 1/23/2024         SW846-7470A         =           Barium, Dissolved         0.119 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Uranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=
Mercury         U         0.0002 mg/L         0.0002 mg/L         1/23/2024         SW846-7470A         =           Barium, Dissolved         0.119 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Vanadium	ВЈ	0.00511	mg/L	0.02	1/23/2024			SW846-6020B	U
Barium, Dissolved         0.119 mg/L         0.004 1/23/2024         SW846-6020B         J           Chromium, Dissolved         U         0.01 mg/L         0.01 1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002 mg/L         0.0002 1/23/2024         SW846-6020B         UJ	Zinc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=
Chromium, Dissolved         U         0.01         mg/L         0.01         1/23/2024         SW846-6020B         UJ           Uranium, Dissolved         U         0.0002         mg/L         0.0002         1/23/2024         SW846-6020B         UJ	Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
Uranium, Dissolved U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B UJ	Barium, Dissolved		0.119	mg/L	0.004	1/23/2024			SW846-6020B	J
Uranium, Dissolved U 0.0002 mg/L 0.0002 1/23/2024 SW846-6020B UJ	Chromium, Dissolved	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	UJ
PCB-1016 U 0.11 ug/L 0.11 1/23/2024 SW846-8082A =	Uranium, Dissolved	U	0.0002		0.0002	1/23/2024			SW846-6020B	UJ
	PCB-1016	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=

PCB-1221	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1232	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1242	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1248	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1254	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1260	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
PCB-1268	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.11	ug/L	0.11	1/23/2024			SW846-8082A	=
Radium-226	U	0.22	pCi/L	0.692	1/23/2024	0.43	0.43	AN-1418	=
Radium-228	U	2.36	pCi/L	4.05	1/23/2024	2.47	2.54	EPA-904-M	=
Strontium-90	U	0.63	pCi/L	3.7	1/23/2024	2.01	2.01	EPA-905.0-M	=
Tritium	U	121	pCi/L	217	1/23/2024	131	133	EPA-906.0-M	=
Technetium-99	U	6.56	pCi/L	23.3	1/23/2024	13.7	13.8	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.524	pCi/L	1.63	1/23/2024	0.969	0.976	HASL 300, Th-01- RC M	=
Thorium-232	U	0.128	pCi/L	1.01	1/23/2024	0.563	0.564	HASL 300, Th-01- RC M	=
Alpha activity	U	4.51	pCi/L	6.71	1/23/2024	4.44	4.51	SW846-9310	=
Beta activity	U	3.7	pCi/L	9.25	1/23/2024	5.38	5.41	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.02	ug/L	0.02	1/23/2024	-	-	SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1		1	1/23/2024			CMOVE BUCOD	=
	U	1	46/ L	_	1/23/2024			SW846-8260D	_

Ethylbenzene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/23/2024	SW846-8260D	=
Dissolved Solids		202	mg/L	10	1/23/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/23/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/23/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/23/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	8.74	ug/L	10	1/23/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.26	mg/L	2	1/23/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW364 DOWN RGA Type: LRGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4797 SAMPLE ID: MW364UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4797		SAMPLI	E ID:	MW364UG2-2	24	Sample Ty	/pe: REG	
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.572	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	37.2	mg/L	250	1/24/2024			SW846-9056A	J
Fluoride	J	0.181	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	J	1.21	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		68.2	mg/L	2	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/24/2024				Х
Conductivity		471	μmhos/cm		1/24/2024				Х
Depth to Water		47.39	ft		1/24/2024				Х
Dissolved Oxygen		3.97	mg/L		1/24/2024				Х
Eh (approx)		520	mV		1/24/2024				Х
pH		6.04	Std Unit		1/24/2024				Х
Temperature		58.8	deg F		1/24/2024				Х
Turbidity		0	NTU		1/24/2024				Х
Aluminum	U	0.05	mg/L	0.05	1/24/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic	J	0.00263	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.0597	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Boron		0.174	mg/L	0.015	1/24/2024			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Calcium		33.7	mg/L	0.2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Copper	J	0.0011	mg/L	0.002	1/24/2024			SW846-6020B	J
Iron	J	0.0589	mg/L	0.1	1/24/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		14.8	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese	J	0.0039	mg/L	0.005	1/24/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Potassium		1.98	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Sodium		44.6	mg/L	0.25	1/24/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Zinc	J	0.0159	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/24/2024			SW846-7470A	=
Barium, Dissolved		0.056	mg/L	0.004	1/24/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	UJ
PCB-1016	U	0.1		0.1	1/24/2024			SW846-8082A	=
			٠.						

PCB-1221	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
PCB-1232	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
PCB-1242	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
PCB-1248	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
PCB-1254	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
PCB-1260	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
PCB-1268	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.1	ug/L	0.1	1/24/2024			SW846-8082A	=
Radium-226	U	0.69	pCi/L	0.828	1/24/2024	0.699	0.7	AN-1418	=
Radium-228	U	1.62	pCi/L	4.47	1/24/2024	2.57	2.61	EPA-904-M	=
Strontium-90	U	1.15	pCi/L	6.3	1/24/2024	3.5	3.5	EPA-905.0-M	=
Tritium	U	-24.2	pCi/L	229	1/24/2024	126	126	EPA-906.0-M	=
Technetium-99		48.1	pCi/L	17.9	1/24/2024	12.6	13.7	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.672	pCi/L	1.46	1/24/2024	0.946	0.955	HASL 300, Th-01- RC M	=
Thorium-232	U	0.0719	pCi/L	1.04	1/24/2024	0.519	0.52	HASL 300, Th-01- RC M	=
Alpha activity	U	1.39	pCi/L	6.86	1/24/2024	3.41	3.41	SW846-9310	=
Beta activity		27.1	pCi/L	8.72	1/24/2024	7.72	8.89	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY1	0.0187	ug/L	0.0187	1/24/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane	U	1		1	1/24/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	
Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform	U	1		1	1/24/2024			SW846-8260D	<u> </u>
Chloromethane	U	1		1	1/24/2024			SW846-8260D SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L ug/L	1	1/24/2024			SW846-8260D	
cis-1,3-Dichloropropene	U				1/24/2024			SW846-8260D SW846-8260D	=
<del> </del>		1	-	1					
Dibromochloromethane  Dibromochloromethane	U	1		1	1/24/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene	J	0.72	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		264	mg/L	10	1/24/2024	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	5.24	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.497	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW366 DOWN RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-0982 SAMPLE ID: MW366UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-0982		SAMPLE ID:		MW366UG2-24		Sample T		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.571	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	38.9	mg/L	250	1/24/2024			SW846-9056A	=
Fluoride	J	0.204	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	J	1.02	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		49.1	mg/L	2	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.06	Inches/Hg		1/24/2024				Х
Conductivity		484	μmhos/cm		1/24/2024				Х
Depth to Water		47.97	ft		1/24/2024				Х
Dissolved Oxygen		2.66	mg/L		1/24/2024				Х
Eh (approx)		348	mV		1/24/2024				Х
рН		6.1	Std Unit		1/24/2024				Х
Temperature		60.2	deg F		1/24/2024				Х
Turbidity		0	NTU		1/24/2024				Х
Aluminum	U	0.05	mg/L	0.05	1/24/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic	J	0.00316	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.108	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Boron		0.0871	mg/L	0.015	1/24/2024			SW846-6020B	J
Cadmium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Calcium		33.2	mg/L	0.2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Copper	J	0.000966	mg/L	0.002	1/24/2024			SW846-6020B	J
Iron		0.121	mg/L	0.1	1/24/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		14.5	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese		0.0165	mg/L	0.005	1/24/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Nickel	J	0.000991	mg/L	0.002	1/24/2024			SW846-6020B	J
Potassium		1.93	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Selenium	J	0.00221	mg/L	0.005	1/24/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Sodium		47.8	mg/L	0.25	1/24/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/24/2024			SW846-7470A	=
Barium, Dissolved		0.103	mg/L	0.004	1/24/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	UJ
PCB-1016	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
			-		•				

PK-1-121										
PER-1242	PCB-1221	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
PCB-1248	PCB-1232	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
PES-1254 U 0.113 ug/L 0.113 1/24/2024 SW866-802A = PCB-1260 U 0.113 ug/L 0.113 1/24/2024 SW866-802A = PCB-1260 U 0.113 ug/L 0.113 1/24/2024 SW866-802A = Polychlomicade biphenyl U 0.113 ug/L 0.113 1/24/2024 SW866-802A = Polychlomicade biphenyl U 0.113 ug/L 0.113 1/24/2024 SW866-802A = Robust	PCB-1242	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
PCB-1260	PCB-1248	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
PCB-1268	PCB-1254	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
Provisionaled bipheny    U	PCB-1260	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
Radium   226	PCB-1268	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
Radium-228	Polychlorinated biphenyl	U	0.113	ug/L	0.113	1/24/2024			SW846-8082A	=
Strontium-90	Radium-226	U	0.349	pCi/L	0.422	1/24/2024	0.341	0.341	AN-1418	=
Tritlum	Radium-228	U	3.55	pCi/L	4.43	1/24/2024	2.79	2.93	EPA-904-M	=
Fechnetium-99	Strontium-90	U	1.42	pCi/L	4.57	1/24/2024	2.6	2.61	EPA-905.0-M	=
Northm-230	Tritium	U	-19	pCi/L	231	1/24/2024	128	128	EPA-906.0-M	=
Northern	Technetium-99		62.3	pCi/L	17.8	1/24/2024	13.1	14.9	•	=
New Note	Thorium-230	U	1.16	pCi/L	1.34	1/24/2024	1.06	1.07	•	=
Deta activity	Thorium-232	U	-0.103	pCi/L	0.98	1/24/2024	0.359	0.359	•	=
1,2-Dibromo-3-chloropropane         UY1         0.019         ug/L         0.019         1/24/2024         SW846-8011         =           1,1,1,2-Tertachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,1,2-Tertachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroptopane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroptopane         U         1         ug/L         1 </td <td>Alpha activity</td> <td>U</td> <td>0.23</td> <td>pCi/L</td> <td>8.82</td> <td>1/24/2024</td> <td>3.87</td> <td>3.87</td> <td>SW846-9310</td> <td>=</td>	Alpha activity	U	0.23	pCi/L	8.82	1/24/2024	3.87	3.87	SW846-9310	=
1,1,2-Tetrachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,1-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024 <td>Beta activity</td> <td></td> <td>29.4</td> <td>pCi/L</td> <td>7.49</td> <td>1/24/2024</td> <td>7.66</td> <td>9.02</td> <td>SW846-9310</td> <td>=</td>	Beta activity		29.4	pCi/L	7.49	1/24/2024	7.66	9.02	SW846-9310	=
1,1,1-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2,7-Ertarchloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/24/2024	1,2-Dibromo-3-chloropropane	UY1	0.019	ug/L	0.019	1/24/2024			SW846-8011	=
1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Tichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroberane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroperpane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroperpane         U         1         ug/L         1         1/24/2024	1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane         U         1 ug/L         1 1 1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dibrooperhane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroperpane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroperpane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichloroperpane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichloroperpane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/24/2024	1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane         U         1 ug/L         1 1/24/2024         SW346-8260D         =           1,1-Dichloroethene         U         1 ug/L         1 1/24/2024         SW346-8260D         =           1,2-3-Trichloropropane         U         1 ug/L         1 1/24/2024         SW346-8260D         =           1,2-Dichloroethane         U         1 ug/L         1 1/24/2024         SW346-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/24/202	1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2,3-Trichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropernene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropernene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichloropernene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichloropernene         U         5         ug/L         5         1/24/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/24/2024         SW846-	1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroptopane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           2-Butanone         U         1 ug/L         1         1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/24/2024         SW846-82	1,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dibromoethane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           A-restone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1 ug/L         1         1/24/2024         SW846-8260D	1,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,2-Dichloropethane       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,2-Dichloropropane       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,4-Dichlorobenzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         2-Butanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acetone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acrolein       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Benzene       U       1 ug/L       1 1/24/2024       SW846	1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Acetone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Acetone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Acrolein         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Acrolein         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Benzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Bromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	1,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane         U         1 ug/L         1         1/24/2024         SW846-82600         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-82600         =           2-Butanone         U         5 ug/L         5         1/24/2024         SW846-82600         =           2-Hexanone         U         5 ug/L         5         1/24/2024         SW846-82600         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/24/2024         SW846-82600         =           Acctone         U         5 ug/L         5         1/24/2024         SW846-82600         =           Acctone         U         5 ug/L         5         1/24/2024         SW846-82600         =           Acrolein         U         5 ug/L         5         1/24/2024         SW846-82600         =           Acrolein         U         5 ug/L         5         1/24/2024         SW846-82600         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-82600         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-826	1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene U 1 ug/L 1 1/24/2024 SW846-8260D = 2-Butanone U 5 ug/L 5 1/24/2024 SW846-8260D = 2-Hexanone U 5 ug/L 5 1/24/2024 SW846-8260D UJ Acrylonitrile U 5 ug/L 5 1/24/2024 SW846-8260D = 2-Hexanone U 1 ug/L 1 1/24/2024 SW846-8260D = 2-Hexanon	1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone U 5 ug/L 5 1/24/2024 SW846-8260D =  2-Hexanone U 5 ug/L 5 1/24/2024 SW846-8260D =  4-Methyl-2-pentanone U 5 ug/L 5 1/24/2024 SW846-8260D =  4-Methyl-2-pentanone U 5 ug/L 5 1/24/2024 SW846-8260D =  Acctone U 5 ug/L 5 1/24/2024 SW846-8260D =  Acrolein U 5 ug/L 5 1/24/2024 SW846-8260D =  Acrolein U 5 ug/L 5 1/24/2024 SW846-8260D =  Acrolein U 5 ug/L 5 1/24/2024 SW846-8260D UJ  Acrylonitrile U 5 ug/L 5 1/24/2024 SW846-8260D =  Benzene U 1 ug/L 1 1/24/2024 SW846-8260D =  Bromochloromethane U 1 ug/L 1 1/24/2024 SW846-8260D =  Bromodichloromethane U 1 ug/L 1 1/24/2024 SW846-8260D =  Bromoform U 1 ug/L 1 1/24/2024 SW846-8260D =  Bromomethane U 1 ug/L 1 1/24/2024 SW846-8260D =  Carbon disulfide U 5 ug/L 5 1/24/2024 SW846-8260D =  Carbon tetrachloride U 1 ug/L 1 1/24/2024 SW846-8260D =  Carbon tetrachloride U 1 ug/L 1 1/24/2024 SW846-8260D =  Carbon tetrachloride U 1 ug/L 1 1/24/2024 SW846-8260D =  Chlorobenzene U 1 ug/L 1 1/24/2024 SW846-8260D =  Chlorobenzene U 1 ug/L 1 1/24/2024 SW846-8260D =  Chlorotehane U 1 ug/L 1 1/24/2024 SW846-8260D =  Cis-1,2-Dichlorotehane U 1 ug/L 1 1/24/2024 SW846-8260D =  Cis-1,3-Dichloropropene U 1 ug/L 1 1/24/2024 SW846-8260D =  Cis-1,3-Dichlorotehane U 1 ug/L 1 1/24/2024 SW846-8260D =  C	1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Hexanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acetone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon di	1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acetone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         1         1/24/2024         SW846-8260D         =           <	2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromofichloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =	2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromofichloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         = <td>4-Methyl-2-pentanone</td> <td>U</td> <td>5</td> <td>ug/L</td> <td>5</td> <td>1/24/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorothane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Bromochloromethane         U         1 ug/L         1 /24/2024         SW846-8260D         =           Bromodichloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Bromoform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Bromomethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Cis-1,2-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D <t< td=""><td>Acrylonitrile</td><td>U</td><td>5</td><td>ug/L</td><td>5</td><td>1/24/2024</td><td></td><td></td><td>SW846-8260D</td><td>=</td></t<>	Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Bromodichloromethane	Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Bromomethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Bromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Chloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene       U       1       ug/L       1       1/24/2024       SW846-8260D       =         cis-1,3-Dichloropropene       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Dibromochloromethane       U       1       ug/L       1       1/24/2024       SW846-8260D       =	Chloroform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Chloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane U 1 ug/L 1 1/24/2024 SW846-8260D =	cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane U 1 ug/L 1 1/24/2024 SW846-8260D =	cis-1,3-Dichloropropene	U	1		1	1/24/2024			SW846-8260D	=
	Dibromochloromethane	U	1		1	1/24/2024			SW846-8260D	=
	Dibromomethane	U	1		1	1/24/2024			SW846-8260D	=

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene		1.3	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		278	mg/L	10	1/24/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	3.68	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.62	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW367 DOWN RGA Type: LRGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4793 SAMPLE ID: MW367UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4793		SAMPL	E ID:	MW367UG2-2	24	Sample T	ype: <u>REG</u>	
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	6.65	mg/L	250	1/24/2024			SW846-9056A	=
Fluoride	J	0.121	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		19.5	mg/L	2	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.07	Inches/Hg		1/24/2024				Х
Conductivity		277	μmhos/cm		1/24/2024				Х
Depth to Water		48.4	ft		1/24/2024				Х
Dissolved Oxygen		1.43	mg/L		1/24/2024				Х
Eh (approx)		295	mV		1/24/2024				Х
pH		5.94	Std Unit		1/24/2024				Х
Temperature		60.2	deg F		1/24/2024				Х
Turbidity		1.96	NTU		1/24/2024				Х
Aluminum	U	0.05	mg/L	0.05	1/24/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic		0.00422	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.129	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Boron		0.0232	mg/L	0.015	1/24/2024			SW846-6020B	J
Cadmium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Calcium		13.1	mg/L	0.2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt		0.00668	mg/L	0.001	1/24/2024			SW846-6020B	J
Copper	J	0.000775	mg/L	0.002	1/24/2024			SW846-6020B	J
Iron		7.08	mg/L	0.1	1/24/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		7.44	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese		1.38	mg/L	0.05	1/24/2024			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Nickel		0.00244	mg/L	0.002	1/24/2024			SW846-6020B	J
Potassium		2.7	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Sodium		15.7	mg/L	0.25	1/24/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Thallium	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.002	1/24/2024			SW846-6020B	=
Vanadium	U	0.002	mg/L	0.0002	1/24/2024			SW846-6020B	=
Zinc	J	0.0109	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0109	mg/L	0.002	1/24/2024			SW846-7470A	=
Barium, Dissolved	U	0.0002	mg/L	0.0002				SW846-6020B	
-	U				1/24/2024				
Chromium, Dissolved		0.01	mg/L	0.01	1/24/2024			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	UJ
PCB-1016	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=

PCB-1221										
PCB-1242	PCB-1221	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCS-1268	PCB-1232	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PES-1254 U 0.107 ug/L 0.107 1/24/2024 SW846-8082A = PCB-1260 U 0.107 ug/L 0.107 1/24/2024 SW846-8082A = PCB-1260 U 0.107 ug/L 0.107 1/24/2024 SW846-8082A = Poly-thornaced biphenyl U 0.107 ug/L 0.107 1/24/2024 SW846-8082A = Poly-thornaced biphenyl U 0.107 ug/L 0.107 1/24/2024 SW846-8082A = Robust	PCB-1242	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCS-1260	PCB-1248	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1268   U	PCB-1254	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
Provisionaled bipheny    U	PCB-1260	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
Radium-226	PCB-1268	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
Radium-128	Polychlorinated biphenyl	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
Strontium 90	Radium-226	U	0.22	pCi/L	1.19	1/24/2024	0.746	0.746	AN-1418	=
Tritium	Radium-228	U	2.99	pCi/L	3.68	1/24/2024	2.34	2.46	EPA-904-M	=
Technetium-99	Strontium-90	U	3.38	pCi/L	4.61	1/24/2024	2.87	2.92	EPA-905.0-M	=
Norther-230	Tritium	U	19	pCi/L	231	1/24/2024	130	130	EPA-906.0-M	=
Thorium-232	Technetium-99	U	-6.79	pCi/L	18	1/24/2024	9.8	9.8	•	=
New	Thorium-230	U	0.541	pCi/L	1.73	1/24/2024	1.01	1.02	•	=
Beta activity	Thorium-232	U	0.266	pCi/L	1.09	1/24/2024	0.659	0.661	•	=
1,2-Dibromo-3-chloropropane         UY1         0.0188         ug/L         0.0188         1/24/2024         SW846-8011         =           1,1,1,2-Tertachforoethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,1,2-Trichforoethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Trichforoethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1	Alpha activity	U	-0.744	pCi/L	7.59	1/24/2024	2.95	2.95	SW846-9310	=
1,1,2-Tetrachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,1-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024 <td>Beta activity</td> <td>U</td> <td>1.36</td> <td>pCi/L</td> <td>7.5</td> <td>1/24/2024</td> <td>4.07</td> <td>4.08</td> <td>SW846-9310</td> <td>=</td>	Beta activity	U	1.36	pCi/L	7.5	1/24/2024	4.07	4.08	SW846-9310	=
1,1,1-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Trichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dirhoroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dirhoroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/24/2024 <td>1,2-Dibromo-3-chloropropane</td> <td>UY1</td> <td>0.0188</td> <td>ug/L</td> <td>0.0188</td> <td>1/24/2024</td> <td></td> <td></td> <td>SW846-8011</td> <td>=</td>	1,2-Dibromo-3-chloropropane	UY1	0.0188	ug/L	0.0188	1/24/2024			SW846-8011	=
1,1,2,2-Tetrachloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1,2-Tichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropenane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropenane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropenane         U         1         ug/L         1         1/24/2024	1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,1-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dibromoethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dibromoethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/24/2024	1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,1-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Brichloropropane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         5 ug/L         5 1/24/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5 1/24/2024	1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2,3-Trichloropropane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroperhane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroperne         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloroperne         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5 1/24/2024         SW846-8260D	1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           2-Butanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5         ug/L         5         1/24/2024         SW846-8260D	1,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dibromoethane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloroethane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,2-Dichloropropane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Actone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Actone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Actone         U         5 ug/L         5         1/24/2024         SW846-8260D         <	1,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,2-Dichlorocethane       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,2-Dichloropropane       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,4-Dichlorobenzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         2-Butanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acetone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acrolein       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Benzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         Bromochloromethane       U       1 ug/L       1 1/24/2024       SW846-8	1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,2-Dichloropropane       U       1 ug/L       1 1/24/2024       SW846-8260D       =         1,4-Dichlorobenzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         2-Butanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         2-Hexanone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acetone       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acrolein       U       5 ug/L       5 1/24/2024       SW846-8260D       =         Acrolein       U       1 ug/L       1 1/24/2024       SW846-8260D       =         Benzene       U       1 ug/L       1 1/24/2024       SW846-8260D       =         Bromofichloromethane       U       1 ug/L       1 1/24/2024       SW846-8260D       =	1,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane         U         1 ug/L         1         1/24/2024         SW846-8260D         =           1,4-Dichlorobenzene         U         1 ug/L         1         1/24/2024         SW846-8260D         =           2-Butanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           2-Hexanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           4-Methyl-2-pentanone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Acctone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Acctone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Acctone         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5 ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260	1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene U 1 ug/L 1 1/24/2024 SW846-8260D = 2-Butanone U 5 ug/L 5 1/24/2024 SW846-8260D = 2-Hexanone U 1 ug/L 1 ug/L 1 1/24/2024 SW846-8260D = 2-Hexa	1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone U 5 ug/L 5 1/24/2024 SW846-8260D = 2-Hexanone U 5 ug/L 5 1/24/2024 SW846-8260D = 4-Methyl-2-pentanone U 5 ug/L 5 1/24/2024 SW846-8260D = 4-Methyl-2-pentanone U 5 ug/L 5 1/24/2024 SW846-8260D = Acctone U 5 ug/L 5 1/24/2024 SW846-8260D = Acrolein U 5 ug/L 5 1/24/2024 SW846-8260D = Acrolein U 5 ug/L 5 1/24/2024 SW846-8260D = Acrolein U 5 ug/L 5 1/24/2024 SW846-8260D UJ Acrylonitrile U 5 ug/L 5 1/24/2024 SW846-8260D = Benzene U 1 ug/L 1 1/24/2024 SW846-8260D = Bromochloromethane U 1 ug/L 1 1/24/2024 SW846-8260D = Bromodichloromethane U 1 ug/L 1 1/24/2024 SW846-8260D = Bromoform U 1 ug/L 1 1/24/2024 SW846-8260D = Bromomethane U 1 ug/L 1 1/24/2024 SW846-8260D = Bromomethane U 1 ug/L 1 1/24/2024 SW846-8260D = Carbon disulfide U 5 ug/L 5 1/24/2024 SW846-8260D = Carbon tetrachloride U 1 ug/L 1 1/24/2024 SW846-8260D = Carbon tetrachloride U 1 ug/L 1 1/24/2024 SW846-8260D = Chlorobenzene U 1 ug/L 1 1/24/2024 SW846-8260D = Chlorobenzene U 1 ug/L 1 1/24/2024 SW846-8260D = Chlorotethane U 1 ug/L 1 1/24/2024 SW846-8260D = Cis-1,2-Dichlorotethene U 1 ug/L 1 1/24/2024 SW846-8260D = Cis-1,3-Dichloropropene U 1 ug/L 1 1/24/2024 SW846-8260D = Cis-1,3-Dichlorotethene U 1 ug/L 1 1/24/2024 SW846-8260D = Cis-1,3-Dichlorotethene U 1 ug/L 1 1/24/2024 SW846-8260D = Cis-1,3-Dichlorotethene U 1 ug/L 1 1/24/2024 SW846-8260D =	1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Hexanone       U       5       ug/L       5       1/24/2024       SW846-8260D       =         4-Methyl-2-pentanone       U       5       ug/L       5       1/24/2024       SW846-8260D       =         Acetone       U       5       ug/L       5       1/24/2024       SW846-8260D       =         Acrolein       U       5       ug/L       5       1/24/2024       SW846-8260D       U         Acrolein       U       5       ug/L       5       1/24/2024       SW846-8260D       U         Acrolein       U       5       ug/L       5       1/24/2024       SW846-8260D       U         Berzene       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Bromochloromethane       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Bromoform       U       1       ug/L       1       1/24/2024       SW846-8260D       = </td <td>1,4-Dichlorobenzene</td> <td>U</td> <td>1</td> <td>ug/L</td> <td>1</td> <td>1/24/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acetone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         1         1/24/2024         SW846-8260D         =           <	2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromofichloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =	2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein         U         5         ug/L         5         1/24/2024         SW846-8260D         U           Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromofichloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         = <td>4-Methyl-2-pentanone</td> <td>U</td> <td>5</td> <td>ug/L</td> <td>5</td> <td>1/24/2024</td> <td></td> <td></td> <td>SW846-8260D</td> <td>=</td>	4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrylonitrile         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Benzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromothidide         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorothane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Bromochloromethane         U         1 ug/L         1 /24/2024         SW846-8260D         =           Bromodichloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Bromoform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Bromomethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Cis-1,2-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D <td< td=""><td>Acrylonitrile</td><td>U</td><td>5</td><td>ug/L</td><td>5</td><td>1/24/2024</td><td></td><td></td><td>SW846-8260D</td><td>=</td></td<>	Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Bromodichloromethane	Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Bromomethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Carbon disulfide         U         5         ug/L         5         1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D	Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon disulfide         U         5 ug/L         5 1/24/2024         SW846-8260D         =           Carbon tetrachloride         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chlorobenzene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloroform         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon tetrachloride         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Bromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Chloroethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Chloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1         ug/L         1         1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1         ug/L         1         1/24/2024         SW846-8260D         =	Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,2-Dichloroethene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           cis-1,3-Dichloropropene         U         1 ug/L         1 1/24/2024         SW846-8260D         =           Dibromochloromethane         U         1 ug/L         1 1/24/2024         SW846-8260D         =	Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene       U       1       ug/L       1       1/24/2024       SW846-8260D       =         cis-1,3-Dichloropropene       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Dibromochloromethane       U       1       ug/L       1       1/24/2024       SW846-8260D       =	Chloroform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene       U       1       ug/L       1       1/24/2024       SW846-8260D       =         Dibromochloromethane       U       1       ug/L       1       1/24/2024       SW846-8260D       =	Chloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane U 1 ug/L 1 1/24/2024 SW846-8260D =	cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane U 1 ug/L 1 1/24/2024 SW846-8260D =	cis-1,3-Dichloropropene	U	1		1	1/24/2024			SW846-8260D	=
	Dibromochloromethane	U	1		1	1/24/2024			SW846-8260D	=
	Dibromomethane									=

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		122	mg/L	10	1/24/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)	U	10	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	U	2	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW369 UP RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4820 SAMPLE ID: MW369UG2-24 Sample Type: REG

ANGWA Well Tag #.	8004-4820		SAIVIPLI	נוט:ו	VIW369UG2-2	24 3	sample I	/pe: KEG	
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	•	0.362	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	27.7	mg/L	250	1/24/2024			SW846-9056A	=
Fluoride	J	0.27	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	J	1.06	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		8.49	mg/L	0.4	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.08	Inches/Hg		1/24/2024				Х
Conductivity		341	μmhos/cm		1/24/2024				Х
Depth to Water		42.31	ft		1/24/2024				Х
Dissolved Oxygen		2.42	mg/L		1/24/2024				Х
Eh (approx)		423	mV		1/24/2024				Х
рН		6.13	Std Unit		1/24/2024				Х
Temperature		59.8	deg F		1/24/2024				Х
Turbidity		0	NTU		1/24/2024				Х
Aluminum		0.0573	mg/L	0.05	1/24/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic	J	0.00304	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.375	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Boron		0.0239	mg/L	0.015	1/24/2024			SW846-6020B	J
Cadmium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Calcium		16.4	mg/L	0.2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt		0.00483	mg/L	0.001	1/24/2024			SW846-6020B	J
Copper	J	0.0017	mg/L	0.002	1/24/2024			SW846-6020B	J
Iron		0.107	mg/L	0.1	1/24/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		7.13	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese		0.0058	mg/L	0.005	1/24/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Nickel		0.00294	mg/L	0.002	1/24/2024			SW846-6020B	J
Potassium		0.564	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Selenium	J	0.00276	mg/L	0.005	1/24/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Sodium		51.2	mg/L	2.5	1/24/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/24/2024			SW846-7470A	=
Barium, Dissolved		0.37	mg/L	0.004	1/24/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	UJ
PCB-1016	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
			<u>.</u>	~ 25	• •				

PCB-1221	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1232	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1242	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1248	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1254	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1260	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1268	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
Radium-226	U	0.637	pCi/L	0.653	1/24/2024	0.487	0.489	AN-1418	=
Radium-228	U	0.337	pCi/L	3.17	1/24/2024	1.67	1.67	EPA-904-M	=
Strontium-90	U	-1.67	pCi/L	5	1/24/2024	2.36	2.36	EPA-905.0-M	=
Tritium	U	-122	pCi/L	232	1/24/2024	120	120	EPA-906.0-M	UJ
Technetium-99		62.7	pCi/L	18.5	1/24/2024	13.6	15.3	HASL 300, Tc-02- RC M	=,
Thorium-230	U	0.462	pCi/L	1.42	1/24/2024	0.866	0.872	HASL 300, Th-01- RC M	=
Thorium-232	U	-0.0686	pCi/L	0.999	1/24/2024	0.405	0.406	HASL 300, Th-01- RC M	=
Alpha activity	U	-1.14	pCi/L	7.22	1/24/2024	2.32	2.32	SW846-9310	=
Beta activity		27.8	pCi/L	7.25	1/24/2024	7.46	8.71	SW846-9310	=
1,2-Dibromo-3-chloropropane	USY1	0.0188	ug/L	0.0188	1/24/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane	U	1		1	1/24/2024			SW846-8260D	=
Dibromomethane	U	1		1	1/24/2024			SW846-8260D	

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene	J	0.9	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		189	mg/L	10	1/24/2024	EPA-160.1	=
Iodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)		21	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.769	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW370 UP RGA Type: LRGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4818 SAMPLE ID: MW370UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4818		SAMPLE ID:		MW370UG2-24		Sample Type: REG		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.598	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	40.1	mg/L	250	1/24/2024			SW846-9056A	=
Fluoride	J	0.194	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	J	1.32	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		19.3	mg/L	4	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.04	Inches/Hg		1/24/2024				Х
Conductivity		437	μmhos/cm		1/24/2024				Х
Depth to Water		43.12	ft		1/24/2024				Х
Dissolved Oxygen		4.65	mg/L		1/24/2024				Х
Eh (approx)		530	mV		1/24/2024				Х
рН		6.2	Std Unit		1/24/2024				Х
Temperature		61.1	deg F		1/24/2024				Х
Turbidity		0	NTU		1/24/2024				Х
Aluminum	U	0.05	mg/L	0.05	1/24/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic	J	0.00308	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.239	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Boron		0.127	mg/L	0.015	1/24/2024			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Calcium		30	mg/L	0.2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Copper	J	0.00181	mg/L	0.002	1/24/2024			SW846-6020B	J
Iron	J	0.0376	mg/L	0.1	1/24/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		13.5	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese	J	0.00168	mg/L	0.005	1/24/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Potassium		2.55	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Sodium		47.2	mg/L	0.25	1/24/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Zinc	J	0.00333	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/24/2024			SW846-7470A	=
Barium, Dissolved		0.236	mg/L	0.004	1/24/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	UJ
PCB-1016	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
1 CD 1010	U	0.107	ug/ L	0.107	1/24/2024			3 VV 0+0-0002A	-

PCB-1221	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1232	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1242	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1248	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1254	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1260	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
PCB-1268	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.107	ug/L	0.107	1/24/2024			SW846-8082A	=
Radium-226	U	0.529	pCi/L	0.635	1/24/2024	0.47	0.472	AN-1418	=
Radium-228	U	2.97	pCi/L	3.83	1/24/2024	2.43	2.54	EPA-904-M	=
Strontium-90	U	0.933	pCi/L	4.96	1/24/2024	2.77	2.78	EPA-905.0-M	=
Tritium	U	-0.23	pCi/L	231	1/24/2024	129	129	EPA-906.0-M	=
Technetium-99	U	10.3	pCi/L	18	1/24/2024	10.8	10.8	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.814	pCi/L	1.74	1/24/2024	1.14	1.15	HASL 300, Th-01- RC M	=
Thorium-232	U	0.571	pCi/L	1.09	1/24/2024	0.854	0.858	HASL 300, Th-01- RC M	=
Alpha activity	U	1.34	pCi/L	7.14	1/24/2024	3.51	3.51	SW846-9310	=
Beta activity	U	3.36	pCi/L	8.6	1/24/2024	4.98	5.02	SW846-9310	=
1,2-Dibromo-3-chloropropane	USY1	0.0185	ug/L	0.0185	1/24/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene		1	ug/L	1	1/24/2024			SW846-8260D	=
	U	1	ug/ L	1	1/21/2021			3440-02000	
Dibromochloromethane	U	1		1	1/24/2024			SW846-8260D	=

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene		2.12	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		235	mg/L	10	1/24/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)		14.4	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.805	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW371 UP RGA Type: UCRS Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4819 SAMPLE ID: MW371UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4819		SAMPLE ID:		MW371UG2-24		Sample Type: REG		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	4.06	mg/L	250	1/24/2024			SW846-9056A	=
Fluoride	J	0.29	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		9.84	mg/L	0.4	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.01	Inches/Hg		1/24/2024				Х
Conductivity		700	μmhos/cm		1/24/2024				Х
Depth to Water		25.46	ft		1/24/2024				Х
Dissolved Oxygen		1.97	mg/L		1/24/2024				Х
Eh (approx)		452	mV		1/24/2024				Х
рН		6.54	Std Unit		1/24/2024				Х
Temperature		62	deg F		1/24/2024				Х
Turbidity		0	NTU		1/24/2024				Х
Aluminum		0.24	mg/L	0.05	1/24/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic	J	0.00347	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.22	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Boron	J	0.00984	mg/L	0.015	1/24/2024			SW846-6020B	U
Cadmium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Calcium		56.8	mg/L	2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Copper	J	0.00115	mg/L	0.002	1/24/2024			SW846-6020B	J
Iron		0.2	mg/L	0.1	1/24/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		20.3	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese		0.00917	mg/L	0.005	1/24/2024			SW846-6020B	J
Molybdenum	J	0.000282	mg/L	0.001	1/24/2024			SW846-6020B	=
Nickel	J	0.00136	mg/L	0.002	1/24/2024			SW846-6020B	J
Potassium		0.396	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Sodium		98.1	mg/L	2.5	1/24/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Uranium		0.00214	mg/L	0.0002	1/24/2024			SW846-6020B	=
Vanadium	J	0.00367	mg/L	0.02	1/24/2024			SW846-6020B	=
Zinc	J	0.00498	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/24/2024			SW846-7470A	=
Barium, Dissolved		0.215	mg/L	0.004	1/24/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	UJ
Uranium, Dissolved		0.00219	mg/L	0.0002	1/24/2024			SW846-6020B	J
PCB-1016	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
			-		•				

PCB-1221	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
PCB-1232	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
PCB-1242	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
PCB-1248	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
PCB-1254	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
PCB-1260	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
PCB-1268	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.109	ug/L	0.109	1/24/2024			SW846-8082A	=
Radium-226	U	0.759	pCi/L	1.45	1/24/2024	1.13	1.13	AN-1418	=
Radium-228	U	-1.25	pCi/L	4.37	1/24/2024	2.13	2.13	EPA-904-M	=
Strontium-90	TU	-0.16	pCi/L	4.71	1/24/2024	2.49	2.49	EPA-905.0-M	=
Tritium	U	62	pCi/L	231	1/24/2024	133	134	EPA-906.0-M	=
Technetium-99	U	-4.4	pCi/L	18.4	1/24/2024	10.2	10.2	HASL 300, Tc-02- RC M	=
Thorium-230	U	-0.0148	pCi/L	1.59	1/24/2024	0.705	0.707	HASL 300, Th-01- RC M	=
Thorium-232	U	-0.0215	pCi/L	0.821	1/24/2024	0.406	0.407	HASL 300, Th-01- RC M	=
Alpha activity	U	1.01	pCi/L	8.15	1/24/2024	3.74	3.74	SW846-9310	=
Beta activity	U	7.24	pCi/L	10.7	1/24/2024	6.59	6.71	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY1	0.0186	ug/L	0.0186	1/24/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane	U	1		1	1/24/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform	U	1		1	1/24/2024			SW846-8260D	=
Chloromethane	U	1		1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1		1	1/24/2024			SW846-8260D	=
Dibromochloromethane	U	1		1	1/24/2024			SW846-8260D	=
Dibromomethane	U	1		1	1/24/2024			SW846-8260D	
שואוטוווטווופנוומוופ	U	1	ug/L	1	1/24/2024			3 VV 040-0 Z 0 U D	-

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		416	mg/L	10	1/24/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	7.32	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.94	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW372 UP RGA Type: URGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4808 SAMPLE ID: MW372UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4808		SAMPLE ID:		MW372UG2-24		Sample Type: REG		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	<u> </u>	0.492	mg/L	0.2	1/25/2024			SW846-9056A	=
Chloride	BJ	37.9	mg/L	4	1/25/2024			SW846-9056A	U
-luoride	J	0.222	mg/L	4	1/25/2024			SW846-9056A	=
Nitrate as Nitrogen	J	0.845	mg/L	10	1/25/2024			SW846-9056A	=
Sulfate		148	mg/L	8	1/25/2024			SW846-9056A	=
Barometric Pressure Reading		30.05	Inches/Hg		1/25/2024				Х
Conductivity		727	μmhos/cm		1/25/2024				Х
Depth to Water		37.48	ft		1/25/2024				Х
Dissolved Oxygen		1.7	mg/L		1/25/2024				Х
Eh (approx)		483	mV		1/25/2024				Х
)H		6.07	Std Unit		1/25/2024				Х
emperature		61.3	deg F		1/25/2024				Х
urbidity		0	NTU		1/25/2024				Х
Aluminum	U	0.05	mg/L	0.05	1/25/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/25/2024			SW846-6020B	=
Arsenic		0.0052	mg/L	0.005	1/25/2024			SW846-6020B	=
Barium		0.0576	mg/L	0.004	1/25/2024			SW846-6020B	=
eryllium	U	0.0005	mg/L	0.0005	1/25/2024			SW846-6020B	=
oron	В	1.38	mg/L	0.3	1/25/2024			SW846-6020B	=
admium	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
alcium		71.4	mg/L	4	1/25/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/25/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
Copper	J	0.00146	mg/L	0.002	1/25/2024			SW846-6020B	J
ron	J	0.0869	mg/L	0.1	1/25/2024			SW846-6020B	=
ead	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
/Jagnesium		25.1	mg/L	0.03	1/25/2024			SW846-6020B	=
Manganese	J	0.00199	mg/L	0.005	1/25/2024			SW846-6020B	J
/lolybdenum	J	0.000268	mg/L	0.001	1/25/2024			SW846-6020B	=
lickel		0.000627	mg/L	0.002	1/25/2024			SW846-6020B	J
otassium		2.12	mg/L	0.3	1/25/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
elenium	J	0.00155	mg/L	0.005	1/25/2024			SW846-6020B	=
ilver	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
odium		60.8	mg/L	5	1/25/2024			SW846-6020B	=
antalum	UN	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
hallium	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
Jranium	U	0.0002	mg/L	0.0002	1/25/2024			SW846-6020B	=
anadium	J	0.00573	mg/L	0.00	1/25/2024			SW846-6020B	=
inc	U	0.02	mg/L	0.02	1/25/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/25/2024			SW846-7470A	=
arium, Dissolved		0.0559	mg/L	0.004	1/25/2024			SW846-6020B	J
Chromium, Dissolved	U	0.0339	mg/L	0.004	1/25/2024			SW846-6020B	, ,
Jranium, Dissolved	U	0.0002	mg/L	0.0002	1/25/2024			SW846-6020B	UJ
PCB-1016	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
CD-1010	U	0.106	ug/L	0.100	1/23/2024			3 VV 040-0U0ZA	-

PCB-1221	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
PCB-1232	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
PCB-1242	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
PCB-1248	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
PCB-1254	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
PCB-1260	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
PCB-1268	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.106	ug/L	0.106	1/25/2024			SW846-8082A	=
Radium-226	U	0.524	pCi/L	0.646	1/25/2024	0.517	0.518	AN-1418	=
Radium-228	U	0.86	pCi/L	4.09	1/25/2024	2.24	2.26	EPA-904-M	=
Strontium-90	U	0.804	pCi/L	5.45	1/25/2024	3	3	EPA-905.0-M	=
Tritium	U	3.58	pCi/L	230	1/25/2024	129	129	EPA-906.0-M	=
Technetium-99		38.9	pCi/L	16.3	1/25/2024	11.4	12.2	HASL 300, Tc-02- RC M	=
Thorium-230	U	0.827	pCi/L	1.63	1/25/2024	1.07	1.08	HASL 300, Th-01- RC M	=
Thorium-232	U	0.221	pCi/L	1.19	1/25/2024	0.666	0.667	HASL 300, Th-01- RC M	=
Alpha activity	U	6.28	pCi/L	11.7	1/25/2024	7.13	7.21	SW846-9310	UJ
Beta activity		26.5	pCi/L	10.8	1/25/2024	8.54	9.61	SW846-9310	=
1,2-Dibromo-3-chloropropane	US	0.0188	ug/L	0.0188	1/25/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,1-Trichloroethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1-Dichloroethene	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5		5	1/25/2024			SW846-8260D	=
Acetone	JY2	3.63	ug/L	5	1/25/2024			SW846-8260D	=
Acrolein	U	5.05	ug/L	5	1/25/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/25/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L ug/L	1	1/25/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	
Bromoform	U	1	ug/L ug/L	1	1/25/2024			SW846-8260D	=
Bromomethane	UY2	1	ug/L ug/L	1	1/25/2024			SW846-8260D	=
Carbon disulfide	UY2	5	ug/L ug/L	5				SW846-8260D SW846-8260D	
-	UY2				1/25/2024				=
Carbon tetrachloride	UYZ	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloropenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroethane		1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroform	U	1	O,	1	1/25/2024			SW846-8260D	=
Chloromethane	UY1	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=

UY2	1	ug/L	1	1/25/2024	SW846-8260D	
		. 0,	_	1/23/2024	3440-02000	=
UY2	5	ug/L	5	1/25/2024	SW846-8260D	=
JY2	1.35	ug/L	5	1/25/2024	SW846-8260D	=
UY2	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
UY2	3	ug/L	3	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	5	ug/L	5	1/25/2024	SW846-8260D	=
	2.5	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	5	ug/L	5	1/25/2024	SW846-8260D	=
UY1	1	ug/L	1	1/25/2024	SW846-8260D	UJ
	438	mg/L	10	1/25/2024	EPA-160.1	=
U	0.5	mg/L	0.5	1/25/2024	EPA-300.0	=
U	20	mg/L	20	1/25/2024	EPA-410.4	=
U	0.2	mg/L	0.2	1/25/2024	SW846-9012B	=
	10.9	ug/L	10	1/25/2024	SW846-9020B	=
J	1.02	mg/L	2	1/25/2024	SW846-9060A	=
	UY2 UY2 U U UY2 U U U U U U U U U U U U	JY2 1.35 UY2 1 U 1 U 1 U 1 UY2 3 U 1 U 1 U 5 U 1 U 5 U 5 U 1 U 5 UY1 1 U 0.5 U 0.5 U 0.5	JY2 1.35 ug/L UY2 1 ug/L U 5 ug/L U 1 ug/L U 1 ug/L U 0 5 ug/L U 1 ug/L U 0.5 mg/L U 0.2 mg/L U 0.2 mg/L	JY2     1.35     ug/L     5       UY2     1     ug/L     1       U     1     ug/L     1       U     1     ug/L     1       UY2     3     ug/L     3       U     1     ug/L     1       U     1     ug/L     1       U     5     ug/L     5       2.5     ug/L     1       U     1     ug/L     1       U     5     ug/L     5       UY1     1     ug/L     1       U     0.5     mg/L     0.5       U     0.5     mg/L     0.5       U     0.2     mg/L     0.2       U     0.2     mg/L     0.2       10.9     ug/L     10	JY2       1.35       ug/L       5       1/25/2024         UY2       1       ug/L       1       1/25/2024         U       1       ug/L       1       1/25/2024         U       1       ug/L       1       1/25/2024         UY2       3       ug/L       3       1/25/2024         U       1       ug/L       1       1/25/2024         U       1       ug/L       1       1/25/2024         U       5       ug/L       5       1/25/2024         U       1       ug/L       1       1/25/2024         U       5       ug/L       5       1/25/2024         UY1       1       ug/L       1       1/25/2024         UY1       1       ug/L       1       1/25/2024         U       0.5       mg/L       0.5       1/25/2024         U       0.5       mg/L       0.5       1/25/2024         U       0.2       mg/L       0.2       1/25/2024         U       0.2       mg/L       0.2       1/25/2024         U       0.2       mg/L       0.2       1/25/2024         U       0.2	JY2         1.35         ug/L         5         1/25/2024         SW846-8260D           UY2         1         ug/L         1         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           UY2         3         ug/L         3         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           U         5         ug/L         5         1/25/2024         SW846-8260D           U         5         ug/L         1         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           U         5         ug/L         5         1/25/2024         SW846-8260D           UY1         1         ug/L         1         1/25/2024         SW846-8260D           U         0.5         mg/L         1         1/25/2024         EPA-160.1           U

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW373 UP RGA Type: LRGA Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-4792 SAMPLE ID: MW373UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-4792		SAMPLE ID: M\		MW373UG2-2	лW373UG2-24		Sample Type: REG	
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.202	mg/L	0.2	1/25/2024			SW846-9056A	=
Chloride	JB	31.3	mg/L	4	1/25/2024			SW846-9056A	U
luoride	J	0.214	mg/L	4	1/25/2024			SW846-9056A	=
Nitrate as Nitrogen	J	0.732	mg/L	10	1/25/2024			SW846-9056A	=
Sulfate		194	mg/L	8	1/25/2024			SW846-9056A	=
Barometric Pressure Reading		30.05	Inches/Hg		1/25/2024				Х
Conductivity		909	μmhos/cm		1/25/2024				Х
Depth to Water		37.8	ft		1/25/2024				Х
Dissolved Oxygen		1.3	mg/L		1/25/2024				Х
Eh (approx)		493	mV		1/25/2024				Х
Н		6.03	Std Unit		1/25/2024				Х
emperature		60.8	deg F		1/25/2024				Х
urbidity		0	NTU		1/25/2024				Х
Aluminum	U	0.05	mg/L	0.05	1/25/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/25/2024			SW846-6020B	=
Arsenic		0.00644	mg/L	0.005	1/25/2024			SW846-6020B	=
Barium		0.0361	mg/L	0.004	1/25/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/25/2024			SW846-6020B	=
Boron	В	2.22	mg/L	0.3	1/25/2024			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
Calcium		84	mg/L	4	1/25/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/25/2024			SW846-6020B	=
Cobalt	J	0.000501	mg/L	0.001	1/25/2024			SW846-6020B	J
Copper	J	0.00116	mg/L	0.002	1/25/2024			SW846-6020B	J
ron	J	0.0872	mg/L	0.1	1/25/2024			SW846-6020B	=
.ead	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
Magnesium		29.9	mg/L	0.03	1/25/2024			SW846-6020B	=
Manganese		0.0593	mg/L	0.005	1/25/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
lickel	J	0.00164	mg/L	0.002	1/25/2024			SW846-6020B	J
Potassium		2.62	mg/L	0.3	1/25/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
elenium	U	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
iilver	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
odium		63.7	mg/L	5	1/25/2024			SW846-6020B	=
- Tantalum	UN	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
Jranium	J	0.00071	mg/L	0.002	1/25/2024			SW846-6020B	=
/anadium		0.00715	mg/L	0.0002	1/25/2024			SW846-6020B	=
inc		0.00713	mg/L	0.02	1/25/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/25/2024			SW846-7470A	
Barium, Dissolved	0	0.0002	mg/L	0.0002	1/25/2024			SW846-6020B	
•	U	0.0364	mg/L	0.004					
Chromium, Dissolved					1/25/2024			SW846-6020B	UJ
Jranium, Dissolved	J	0.000091	mg/L	0.0002	1/25/2024			SW846-6020B	J –
PCB-1016	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=

PCB-1221	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
PCB-1232	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
PCB-1242	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
PCB-1248	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
PCB-1254	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
PCB-1260	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
PCB-1268	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.104	ug/L	0.104	1/25/2024			SW846-8082A	=
Radium-226	U	0.026	pCi/L	0.553	1/25/2024	0.264	0.264	AN-1418	=
Radium-228	U	2.49	pCi/L	3.25	1/25/2024	2.07	2.17	EPA-904-M	=
Strontium-90	U	2.98	pCi/L	5.7	1/25/2024	3.39	3.42	EPA-905.0-M	=
Tritium	U	98	pCi/L	238	1/25/2024	140	141	EPA-906.0-M	=
Technetium-99	U	6.7	pCi/L	16.4	1/25/2024	9.63	9.66	HASL 300, Tc-02- RC M	=
Thorium-230	U	1.15	pCi/L	2.82	1/25/2024	1.8	1.81	HASL 300, Th-01- RC M	=
Thorium-232	U	-0.284	pCi/L	2.26	1/25/2024	0.792	0.794	HASL 300, Th-01- RC M	=
Alpha activity	U	2.87	pCi/L	9.17	1/25/2024	4.96	4.98	SW846-9310	UJ
Beta activity	U	2.38	pCi/L	10.6	1/25/2024	5.95	5.96	SW846-9310	=
1,2-Dibromo-3-chloropropane	SU	0.0189	ug/L	0.0189	1/25/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,1-Trichloroethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1-Dichloroethene	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
4-Methyl-2-pentanone	LU	5	ug/L	5	1/25/2024			SW846-8260D	=
Acetone	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/25/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/25/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromomethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Carbon disulfide	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=
Carbon tetrachloride	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloromethane	UY1	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=

Ethylbenzene	UY2	1	ug/L	1	1/25/2024	SW846-8260D	=
Iodomethane	UY2	5	ug/L	5	1/25/2024	SW846-8260D	=
Methylene chloride	BJY2	1.6	ug/L	5	1/25/2024	SW846-8260D	U
Styrene	UY2	1	ug/L	1	1/25/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/25/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/25/2024	SW846-8260D	=
Total Xylene	UY2	3	ug/L	3	1/25/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/25/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/25/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/25/2024	SW846-8260D	UJ
Trichloroethene		2.72	ug/L	1	1/25/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/25/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/25/2024	SW846-8260D	=
Vinyl chloride	UY1	1	ug/L	1	1/25/2024	SW846-8260D	UJ
Dissolved Solids		536	mg/L	10	1/25/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/25/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/25/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/25/2024	SW846-9012B	=
Total Organic Halides (TOX)		14.3	ug/L	10	1/25/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.37	mg/L	2	1/25/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW374 UP RGA Type: UCRS Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-0990 SAMPLE ID: MW374UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-0990		SAMPLE ID:		MW374UG2-24		Sample Type: REG		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.488	mg/L	0.2	1/25/2024			SW846-9056A	=
Chloride	BJ	44.8	mg/L	250	1/25/2024			SW846-9056A	U
Fluoride	J	0.281	mg/L	4	1/25/2024			SW846-9056A	=
Nitrate as Nitrogen	J	0.329	mg/L	10	1/25/2024			SW846-9056A	=
Sulfate		15.4	mg/L	0.4	1/25/2024			SW846-9056A	=
Barometric Pressure Reading		30.02	Inches/Hg		1/25/2024				Х
Conductivity		694	μmhos/cm		1/25/2024				Х
Depth to Water		24.59	ft		1/25/2024				Х
Dissolved Oxygen		2.2	mg/L		1/25/2024				Х
Eh (approx)		455	mV		1/25/2024				Х
pH		6.7	Std Unit		1/25/2024				Х
Temperature		62.1	deg F		1/25/2024				Х
Turbidity		5.26	NTU		1/25/2024				Х
Aluminum		0.075	mg/L	0.05	1/25/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/25/2024			SW846-6020B	=
Arsenic	J	0.00429	mg/L	0.005	1/25/2024			SW846-6020B	=
Barium		0.153	mg/L	0.004	1/25/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/25/2024			SW846-6020B	=
Boron	В	0.016	mg/L	0.015	1/25/2024			SW846-6020B	J
Cadmium	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
Calcium		24.7	mg/L	0.2	1/25/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/25/2024			SW846-6020B	=
Cobalt	J	0.000662	mg/L	0.001	1/25/2024			SW846-6020B	J
Copper	J	0.000664	mg/L	0.002	1/25/2024			SW846-6020B	J
Iron		0.854	mg/L	0.1	1/25/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
Magnesium		6.28	mg/L	0.03	1/25/2024			SW846-6020B	=
Manganese		0.198	mg/L	0.005	1/25/2024			SW846-6020B	=
Molybdenum	J	0.00033	mg/L	0.001	1/25/2024			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
Potassium		0.421	mg/L	0.3	1/25/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
Selenium		0.00576	mg/L	0.005	1/25/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/25/2024			SW846-6020B	=
Sodium		128	mg/L	5	1/25/2024			SW846-6020B	=
Tantalum	UN	0.005	mg/L	0.005	1/25/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/25/2024			SW846-6020B	=
Uranium		0.000316	mg/L	0.0002	1/25/2024			SW846-6020B	=
Vanadium	J	0.0038	mg/L	0.02	1/25/2024			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/25/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/25/2024			SW846-7470A	=
Barium, Dissolved		0.149	mg/L	0.004	1/25/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/25/2024			SW846-6020B	UJ
Uranium, Dissolved		0.000314	mg/L	0.0002	1/25/2024			SW846-6020B	J
PCB-1016	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
	-		· 0, -		,,				

PCB-1221	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
PCB-1232	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
PCB-1242	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
PCB-1248	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
PCB-1254	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
PCB-1260	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
PCB-1268	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.114	ug/L	0.114	1/25/2024			SW846-8082A	=
Radium-226	U	0.381	pCi/L	0.507	1/25/2024	0.379	0.38	AN-1418	=
Radium-228	U	1.78	pCi/L	3.74	1/25/2024	2.2	2.25	EPA-904-M	=
Strontium-90	U	-1.64	pCi/L	5.94	1/25/2024	3	3	EPA-905.0-M	=
Tritium	U	15.3	pCi/L	239	1/25/2024	133	133	EPA-906.0-M	=
Technetium-99	U	3.19	pCi/L	16.7	1/25/2024	9.57	9.58	HASL 300, Tc-02-	=
redifference of the second of	Ü	3.13	pci, L	10.7	1,23,2021	3.37	3.30	RC M	
Thorium-230	U	0.657	pCi/L	1.53	1/25/2024	0.97	0.978	HASL 300, Th-01- RC M	=
Thorium-232	U	0.0744	pCi/L	1.06	1/25/2024	0.53	0.531	HASL 300, Th-01- RC M	=
Alpha activity	U	-0.395	pCi/L	9.11	1/25/2024	3.68	3.68	SW846-9310	UJ
Beta activity	U	-2.43	pCi/L	9.46	1/25/2024	4.58	4.58	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/25/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,1-Trichloroethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
L,1-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	
*	UY2							SW846-8260D	
1,1-Dichloroethene		1	ug/L	1	1/25/2024				
1,2,3-Trichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
4-Methyl-2-pentanone	LU	5	ug/L	5	1/25/2024			SW846-8260D	=
Acetone	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/25/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/25/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromomethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Carbon disulfide	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=
Carbon tetrachloride	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloromethane	UY1	1	ug/L ug/L	1	1/25/2024			SW846-8260D	
cis-1,2-Dichloroethene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=

UY2	1	ug/L	1	1/25/2024	SW846-8260D	=
UY2	5	ug/L	5	1/25/2024	SW846-8260D	=
BJY2	1.58	ug/L	5	1/25/2024	SW846-8260D	U
UY2	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
UY2	3	ug/L	3	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	5	ug/L	5	1/25/2024	SW846-8260D	UJ
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	1	ug/L	1	1/25/2024	SW846-8260D	=
U	5	ug/L	5	1/25/2024	SW846-8260D	=
UY1	1	ug/L	1	1/25/2024	SW846-8260D	UJ
	393	mg/L	10	1/25/2024	EPA-160.1	=
U	0.5	mg/L	0.5	1/25/2024	EPA-300.0	=
U	20	mg/L	20	1/25/2024	EPA-410.4	=
U	0.2	mg/L	0.2	1/25/2024	SW846-9012B	=
	26.7	ug/L	10	1/25/2024	SW846-9020B	=
	2.5	mg/L	2	1/25/2024	SW846-9060A	=
	UY2 BJY2 UY2 U U U U U U U U U U U U U U U U U	UY2 5 BJY2 1.58 UY2 1 U 1 U 1 UV 1 UY2 3 U 1 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5 U 1 U 5	UY2 5 ug/L  BJY2 1.58 ug/L  UY2 1 ug/L  U 1 ug/L  U 1 ug/L  UY2 3 ug/L  UY2 3 ug/L  U 1 ug/L  U 5 ug/L  U 1 ug/L  U 1 ug/L  U 0.5 ug/L  U 0.5 ug/L  U 0 5 ug/L	UY2 5 ug/L 5  BJY2 1.58 ug/L 5  UY2 1 ug/L 1  U 1 ug/L 1  U 1 ug/L 1  UY2 3 ug/L 3  U 1 ug/L 1  UY2 3 ug/L 3  U 1 ug/L 1  U 5 ug/L 5  U 1 ug/L 1  U 5 ug/L 5  U 1 ug/L 1  U 5 ug/L 5  U 1 ug/L 1  U 0 5 ug/L 5  U 1 ug/L 1  U 0 5 ug/L 5  U 1 ug/L 1  U 0 5 ug/L 5  U 0 1 ug/L 1  U 0 5 ug/L 5  U 1 ug/L 1  U 0 5 ug/L 5  UY1 1 ug/L 1  U 0 5 ug/L 5  UY1 2 ug/L 1  U 5 ug/L 5  UY1 1 ug/L 1  U 5 ug/L 5	UY2 5 ug/L 5 1/25/2024  BJY2 1.58 ug/L 5 1/25/2024  UY2 1 ug/L 1 1/25/2024  U 1 ug/L 1 1/25/2024  U 1 ug/L 1 1/25/2024  U 1 ug/L 1 1/25/2024  UY2 3 ug/L 3 1/25/2024  U 1 ug/L 1 1/25/2024  U 5 ug/L 5 1/25/2024  U 1 ug/L 1 1/25/2024  U 0 5 ug/L 5 1/25/2024  U 0 5 ug/L 5 1/25/2024  U 0 5 ug/L 5 1/25/2024  U 0 5 ug/L 1 1/25/2024  U 0 5 ug/L 1 1/25/2024  U 0 5 ug/L 1 1/25/2024  U 0 0.5 mg/L 0.5 1/25/2024  U 0 0.5 mg/L 0.5 1/25/2024  U 0 0.2 mg/L 1 0 1/25/2024	UY2         5         ug/L         5         1/25/2024         SW846-8260D           BJY2         1.58         ug/L         5         1/25/2024         SW846-8260D           UY2         1         ug/L         1         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           UY2         3         ug/L         3         1/25/2024         SW846-8260D           U         1         ug/L         1         1/25/2024         SW846-8260D           UY1         1         ug/L         1         1/25/2024         SW846-8260D           U

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: MW375 SIDE RGA Type: UCRS Period: 1st Quarter 2024

AKGWA Well Tag #: 8004-0985 SAMPLE ID: MW375UG2-24 Sample Type: REG

AKGWA Well Tag #:	8004-0985		SAMPLE ID:		MW375UG2-24		Sample T		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/24/2024			SW846-9056A	=
Chloride	JW	3.09	mg/L	250	1/24/2024			SW846-9056A	=
Fluoride	J	0.324	mg/L	4	1/24/2024			SW846-9056A	=
Nitrate as Nitrogen	J	0.832	mg/L	10	1/24/2024			SW846-9056A	=
Sulfate		22.7	mg/L	0.8	1/24/2024			SW846-9056A	=
Barometric Pressure Reading		30.07	Inches/Hg		1/24/2024				Х
Conductivity		334	μmhos/cm		1/24/2024				Х
Depth to Water		33.52	ft		1/24/2024				Х
Dissolved Oxygen		0.6	mg/L		1/24/2024				Х
Eh (approx)		373	mV		1/24/2024				Х
oH		6.4	Std Unit		1/24/2024				Х
emperature		60.3	deg F		1/24/2024				Х
urbidity		0	NTU		1/24/2024				Х
lluminum	J	0.0266	mg/L	0.05	1/24/2024			SW846-6020B	=
Intimony	U	0.003	mg/L	0.003	1/24/2024			SW846-6020B	=
Arsenic	J	0.00287	mg/L	0.005	1/24/2024			SW846-6020B	=
Barium		0.169	mg/L	0.004	1/24/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/24/2024			SW846-6020B	=
Soron	J	0.0111	mg/L	0.015	1/24/2024			SW846-6020B	U
admium	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
alcium		12.9	mg/L	0.2	1/24/2024			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/24/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
Copper	J	0.000652	mg/L	0.002	1/24/2024			SW846-6020B	J
ron	J	0.067	mg/L	0.1	1/24/2024			SW846-6020B	=
ead	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Magnesium		5.02	mg/L	0.03	1/24/2024			SW846-6020B	=
Manganese		0.00549	mg/L	0.005	1/24/2024			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
lickel	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
otassium	J	0.25	mg/L	0.3	1/24/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
elenium	J	0.00239	mg/L	0.005	1/24/2024			SW846-6020B	=
ilver	U	0.001	mg/L	0.001	1/24/2024			SW846-6020B	=
odium		55.7	mg/L	2.5	1/24/2024			SW846-6020B	=
antalum	U	0.005	mg/L	0.005	1/24/2024			SW846-6020B	=
hallium	U	0.002	mg/L	0.002	1/24/2024			SW846-6020B	=
Jranium	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	=
anadium	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
inc	U	0.02	mg/L	0.02	1/24/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/24/2024			SW846-7470A	=
Barium, Dissolved		0.165	mg/L	0.004	1/24/2024			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.004	1/24/2024			SW846-6020B	, UJ
Jranium, Dissolved	U	0.0002	mg/L	0.0002	1/24/2024			SW846-6020B	UJ
PCB-1016	U	0.0002	ug/L	0.0002	1/24/2024			SW846-8082A	=
CD-1010	U	0.112	ug/ L	0.112	1/24/2024			3440-000ZA	-

PCB-1221	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1232	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1242	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1248	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1254	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1260	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
PCB-1268	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.112	ug/L	0.112	1/24/2024			SW846-8082A	=
Radium-226	U	0.282	pCi/L	0.369	1/24/2024	0.297	0.297	AN-1418	=
Radium-228	U	0.89	pCi/L	3.8	1/24/2024	2.12	2.13	EPA-904-M	=
Strontium-90	U	1.08	pCi/L	5.9	1/24/2024	3.31	3.32	EPA-905.0-M	=
Tritium	U	-41.4	pCi/L	232	1/24/2024	126	126	EPA-906.0-M	=
Technetium-99	U	-4.12	pCi/L	18.4	1/24/2024	10.2	10.2	HASL 300, Tc-02- RC M	=
Thorium-230	U	-0.197	pCi/L	1.83	1/24/2024	0.7	0.701	HASL 300, Th-01- RC M	=,
Thorium-232	U	-0.138	pCi/L	1.38	1/24/2024	0.513	0.514	HASL 300, Th-01- RC M	=
Alpha activity	U	2.96	pCi/L	8.79	1/24/2024	4.9	4.92	SW846-9310	=
Beta activity	U	5.22	pCi/L	13.7	1/24/2024	8.02	8.07	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY1	0.0187	ug/L	0.0187	1/24/2024			SW846-8011	=
,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
.,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
.,1-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
,1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
L,2-Dibromoethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
1-Methyl-2-pentanone	U	5	ug/L ug/L	5	1/24/2024			SW846-8260D	
									=
Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/24/2024		<del>.</del>	SW846-8260D	=
	U	1	ug/L	1	1/24/2024			SW846-8260D	=

Ethylbenzene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024	SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/24/2024	SW846-8260D	=
Dissolved Solids		201	mg/L	10	1/24/2024	EPA-160.1	=
lodide	U	0.5	mg/L	0.5	1/24/2024	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20	mg/L	20	1/24/2024	EPA-410.4	=
Cyanide	U	0.2	mg/L	0.2	1/24/2024	SW846-9012B	=
Total Organic Halides (TOX)	J	7.58	ug/L	10	1/24/2024	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.72	mg/L	2	1/24/2024	SW846-9060A	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: QC Period: 1st Quarter 2024

AKGWA Well Tag #: N/A SAMPLE ID: FB1UG2-24 Sample Typ FB

AKGWA Well Tag #:	N/A		SAMP	<b>SAMPLE ID:</b> FB1		Sample Typ FB			
				Reporting	Date	Counting			
Parameter	Qualifier	Result	Units	Limit	Collected	Error (+/-)	TPU	Method	Validation
Aluminum	J	0.0194	mg/L	0.05	1/23/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
Arsenic	J	0.0021	mg/L	0.005	1/23/2024			SW846-6020B	=
Barium	U	0.004	mg/L	0.004	1/23/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
Boron	JN	0.00828	mg/L	0.015	1/23/2024			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Calcium	U	0.2	mg/L	0.2	1/23/2024			SW846-6020B	UJ
Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Copper	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/23/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Magnesium	U	0.03	mg/L	0.03	1/23/2024			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Molybdenum	J	0.000279	mg/L	0.001	1/23/2024			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Potassium	U	0.3	mg/L	0.3	1/23/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Sodium	J	0.121	mg/L	0.25	1/23/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=
Vanadium	ВЈ	0.00544	mg/L	0.02	1/23/2024			SW846-6020B	U
Zinc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
PCB-1016	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1221	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1232	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1242	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1248	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1254	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1260	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
PCB-1268	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.108	ug/L	0.108	1/23/2024			SW846-8082A	=
Radium-226	U	0.35	pCi/L	0.509	1/23/2024	0.375	0.376	AN-1418	=
Radium-228	U	-0.288	pCi/L	4.67	1/23/2024	2.45	2.45	EPA-904-M	=
Strontium-90	U	-1.71	pCi/L	4.41	1/23/2024	1.99	1.99	EPA-905.0-M	=
Tritium	U	47.9	pCi/L	217	1/23/2024	119	119	EPA-906.0-M	=
Technetium-99	U	-1.71	pCi/L	22.6	1/23/2024	13.2	13.2	HASL 300, Tc-02-RC	
Thorium-230	U	1.58	pCi/L	2.89	1/23/2024	1.95	1.98	HASL 300, Th-01-RC	
Thorium-232	U	0.0742	pCi/L	2.13	1/23/2024	1	1	HASL 300, Th-01-RC	
Alpha activity	U	1.18	pCi/L	5.52	1/23/2024	2.78	2.79	SW846-9310	=
	•	1.10	P 0., L	3.32	-, -0, 202 1	5	,,	23.0.00000	

Beta activity	U	5.99	pCi/L	9.62	1/23/2024	5.86	5.95	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/23/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
2-Butanone		40.6	ug/L	5	1/23/2024			SW846-8260D	=
2-Hexanone		7.72	ug/L	5	1/23/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acetone		18	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromomethane	U	1		1	1/23/2024			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024			SW846-8260D	=
•			ug/L		1/23/2024				
Vinyl chloride	U	1	ug/L	1	1/23/20/4			SW846-8260D	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: QC Period: 1st Quarter 2024

AKGWA Well Tag #: N/A SAMPLE ID: RI1UG2-24 Sample Typ RI

AKGWA Well Tag #:	N/A		SAMPLE ID: RI		I1UG2-24	Sample Typ RI			
				Reporting	•	Counting			
Parameter	Qualifier	Result	Units	Limit	Collected	Error (+/-)	TPU	Method	Validation
Aluminum	U	0.05	mg/L	0.05	1/23/2024			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/23/2024			SW846-6020B	=
Arsenic	J	0.00207	mg/L	0.005	1/23/2024			SW846-6020B	=
Barium	U	0.004	mg/L	0.004	1/23/2024			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/23/2024			SW846-6020B	=
Boron	UN	0.015	mg/L	0.015	1/23/2024			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Calcium	U	0.2	mg/L	0.2	1/23/2024			SW846-6020B	UJ
Chromium	U	0.01	mg/L	0.01	1/23/2024			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Copper	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/23/2024			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Magnesium	U	0.03	mg/L	0.03	1/23/2024			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Potassium	U	0.3	mg/L	0.3	1/23/2024			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/23/2024			SW846-6020B	=
Sodium	U	0.25	mg/L	0.25	1/23/2024			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/23/2024			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/23/2024			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/23/2024			SW846-6020B	=
Vanadium	ВЈ	0.0054	mg/L	0.02	1/23/2024			SW846-6020B	U
Zinc	U	0.02	mg/L	0.02	1/23/2024			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/23/2024			SW846-7470A	=
PCB-1016	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1221	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1232	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1242	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1248	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1254	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1260	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
PCB-1268	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
Polychlorinated biphenyl	U	0.107	ug/L	0.107	1/23/2024			SW846-8082A	=
Radium-226	U	0.499	pCi/L	0.951	1/23/2024	0.743	0.744	AN-1418	=
Radium-228	U	0.683	pCi/L	4.78	1/23/2024	2.63	2.63	EPA-904-M	=
Strontium-90	U	2.33	pCi/L	4.72	1/23/2024	2.79	2.82	EPA-905.0-M	=
Tritium	-	543	pCi/L	218	1/23/2024	185	213	EPA-906.0-M	=
Technetium-99	U	-3.97	pCi/L	23.8	1/23/2024	13.8	13.8	HASL 300, Tc-02-RC	
Thorium-230	U	1.6	pCi/L	2.73	1/23/2024	2	2.03	HASL 300, Th-01-RC	
Thorium-232	U	-0.0712	pCi/L	1.83	1/23/2024	0.821	0.824	HASL 300, Th-01-RC	
Alpha activity	U	-0.97	pCi/L	9.57	1/23/2024	4.04	4.04	SW846-9310	=
Aupilia activity	U	-0.57	PCI/ L	5.57	1/23/2024	7.07	7.04	2**0-0 2310	-

1,2-Dibromo-3-chloropropane 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	U	0.02	ug/L	0.02	1 /22 /222 1		•	
			46/ L	0.02	1/23/2024		SW846-8011	=
1 1 1-Trichloroethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,1,1 11101101000110110	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/23/2024		SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/23/2024		SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Acetone	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024		SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Chloroform	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Dibromomethane	U	1		1	1/23/2024		SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024		SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/23/2024		SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/23/2024		SW846-8260D	=
Vinyl chloride	U	1	ug/L	1	1/23/2024		SW846-8260D	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: QC Period: 1st Quarter 2024

AKGWA Well Tag #: N/A SAMPLE ID: TB1UG2-24 Sample Typ

AKGWA Well Tag #:	N/A		SAMPLE ID: TB1UG2-24			Samp			
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	U	0.0192	ug/L	0.0192	1/23/2024	LIIOI (17-)		SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	<u>-</u>
1,1-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L ug/L	1	1/23/2024			SW846-8260D	=
<u> </u>	U	5	ug/L	5	1/23/2024				=
2-Butanone 2-Hexanone	U	5	ug/L ug/L	5	1/23/2024			SW846-8260D	= =
	U	5						SW846-8260D	
4-Methyl-2-pentanone			ug/L	5	1/23/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/23/2024			SW846-8260D	UJ
Acrylonitrile -	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/23/2024			SW846-8260D	=
Styrene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Toluene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/23/2024			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/23/2024			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/23/2024			SW846-8260D	=

Trichlorofluoromethane	U	1 ug/L	1	1/23/2024	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/23/2024	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/23/2024	SW846-8260D	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: QC Period: 1st Quarter 2024

AKGWA Well Tag #: N/A SAMPLE ID: TB2UG2-24 Sample Typ

AKGWA Well Tag #:	N/A		SAMPLE ID: TB2		B2UG2-24 <b>S</b>		Sample Typ IB		
Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	USY1	0.0189	ug/L	0.0189	1/24/2024	E1101 (+/-)	IFU	SW846-8011	=
1,1,1,2-Tetrachloroethane	U	0.0189	ug/L ug/L	1	1/24/2024			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L ug/L	1	1/24/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L ug/L	1				SW846-8260D	
1.1-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L ug/L	1				SW846-8260D	=
1,2-Dibromoethane	U				1/24/2024			SW846-8260D	=
,		1	ug/L	1	1/24/2024				
1,2-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acetone	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/24/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Benzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
lodomethane	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Styrene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Toluene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/24/2024			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/24/2024			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/24/2024			SW846-8260D	=
Trichloroethene	U	1		1	1/24/2024			SW846-8260D	
THE HIGH DELITERIE	U	1	ug/L	0.60	1/ 4+/ 2024			2 44 0-0-0700D	_

Trichlorofluoromethane	U	1 ug/L	1	1/24/2024	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/24/2024	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/24/2024	SW846-8260D	=

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: QC Period: 1st Quarter 2024

AKGWA Well Tag #: N/A SAMPLE ID: TB3UG2-24 Sample Typ TB

ANGWA Well Tag #.	N/A		SAIVII	PLE ID: 18	3UG2-24	samp	оте тур	10	
				Reporting	Date	Counting			
Parameter	Qualifier	Result	Units	Limit	Collected	Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	U	0.0192	ug/L	0.0192	1/25/2024			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,1-Trichloroethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,1-Dichloroethene	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/25/2024			SW846-8260D	=
Acetone	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=,
Acrolein	U	5	ug/L	5	1/25/2024			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/25/2024			SW846-8260D	=,
Benzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Bromomethane	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Carbon disulfide	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=
Carbon tetrachloride	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=,
Chlorobenzene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=,
Chloroform	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Chloromethane	UY1	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/25/2024			SW846-8260D	=,
Dibromochloromethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Ethylbenzene	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Iodomethane	UY2	5	ug/L	5	1/25/2024			SW846-8260D	=,
Methylene chloride	JY2	1.42	ug/L	5	1/25/2024			SW846-8260D	=
Styrene	UY2	1	ug/L	1	1/25/2024			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Toluene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
Total Xylene	UY2	3	ug/L	3	1/25/2024			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/25/2024			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/25/2024			SW846-8260D	=
Trichloroethene	U	1		1	1/25/2024			SW846-8260D	=
				~					

Trichlorofluoromethane	U	1 ug/L	1	1/25/2024	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/25/2024	SW846-8260D	=
Vinyl chloride	UY1	1 ug/L	1	1/25/2024	SW846-8260D	UJ

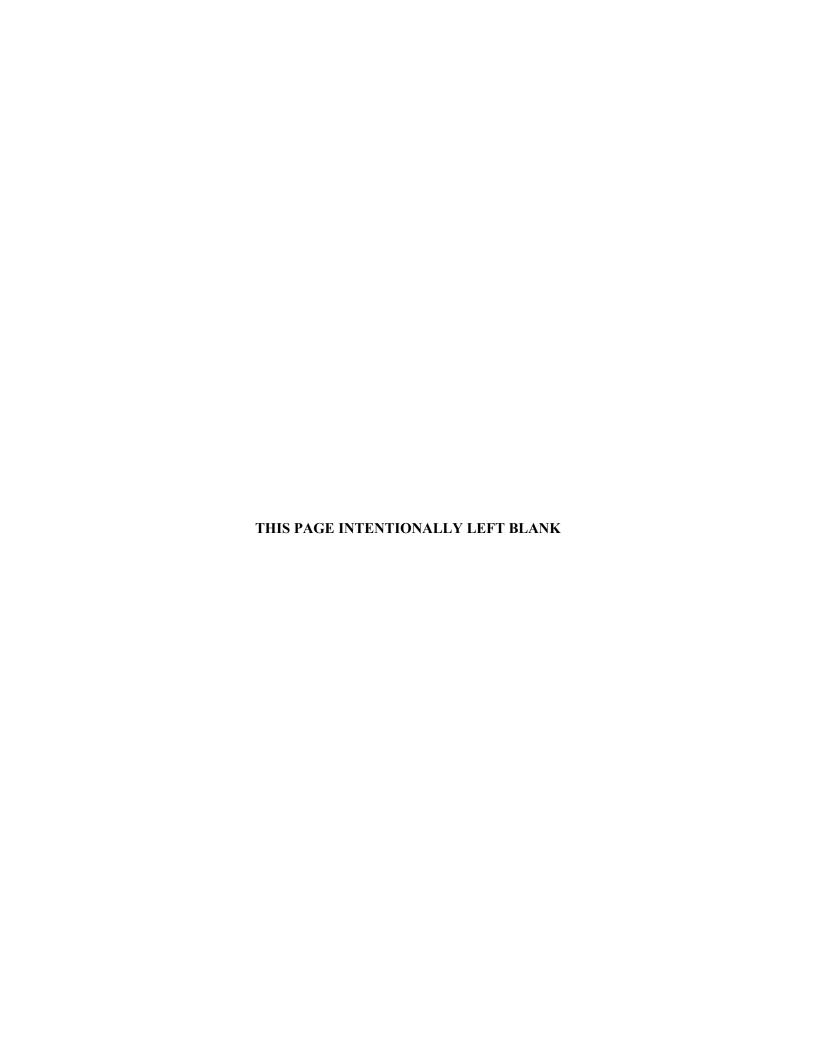
Qualifier	Code Definitions
*	Duplicate analysis not within control limits.
В	Analyte was detected in the associated blank.
Н	Analysis performed outside holding time requirement.
J	Estimated quantitation.
L	LCS and/or LCSD recovery outside of control limits.
L1	LCS/LCSD RPD outside acceptance criteria.
N	Sample spike (MS/MSD) recovery not within control limits
N1	MS/MSD or PS/PSD RPD outside acceptance criteria.
Р	Difference between results from two GC columns outside control limits.
S	Sample surrogate recovery outside acceptance criteria.
Т	Tracer recovery outside control limits of 30-110%.
U	Not detected.
W	Post-digestion spike recovery out of control limits.
W1	Post-digestion spike and post-digestion spike duplicate RPD out of control limits.
Х	Other specific flags and footnotes may be required to properly define the results.
Y1	MS/MSD recovery outside acceptance criteria.
Y2	MS/MSD RPD outside acceptance criteria.

RGA Type	Code Definitions
LRGA	Lower Regional Gravel Aquifer
UCRS	Upper Continental Recharge System
URGA	Upper Regional Gravel Aquifer
NA	Not Applicable.

Sample T	ype Code Definitions
REG	Regular
FR	Field Replicate (code used for Field Duplicate)
RI	Equipment Rinsate Blank
FB	Field Blank
ТВ	Trip Blank

Validatio	on Code Definitions
=	Validated result, no additional qualifier necessary
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ	Analyte not detected above the reported detection limit, and the reported detection limit is approximated due to quality deficiency.
Х	Not validated

# ATTACHMENT C1 GEL LABORATORIES CERTIFICATE OF ANALYSIS



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW357UG2-24

Sample ID: 652552001

Matrix: WG

Collect Date: 23-JAN-24 11:01 Receive Date: 24-JAN-24 Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibron	no-3-chloropr	opane "As Rece	ived"								
1,2-Dibromo-3-chloropropan	-	0.0200	0.00900	0.0200	ug/L	1.00	1	BM1	01/25/24	1704 2557973	3 2
Carbon Analysis											
9060A, Total Organic (	Carbon "As R	eceived"									
Total Organic Carbon Averag		0.621	0.330	2.00	mg/L		1	RM3	01/24/24	1923 2558010	) 3
Flow Injection Analysi	S										
9012B, Cyanide, Total	"As Received	l''									
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	0828 2555817	7 4
Halogen Analysis					Ü						
9020B, TOX (Organic	Halogen) "As	Received"									
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RM3	01/25/24	1615 2558485	5 5
Ion Chromatography					J						
300.0, Iodide in Liquid	"As Received	1"									
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1356 2564209	6
SW846 9056A Anions	(5 elements)				8						
Bromide	w	0.362	0.0670	0.200	mg/L		1	TXT1	01/24/24	1557 2557999	7
Fluoride	J	0.194	0.0330	4.00	mg/L		1				
Nitrate-N	J	1.11	0.0330	10.0	mg/L		1				
Chloride	J	31.7	0.335	250	mg/L		5	TXT1	01/24/24	2244 2557999	8
Sulfate		38.7	0.665	2.00	mg/L		5				
Mercury Analysis-CVA	AA										
7470, Mercury Liquid '	"As Received"	"									
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1009 2558062	2 9
Metals Analysis-ICP-M	1S										
6020, Metals (15+ elen	nents) "As Re	ceived"									
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1313 2557969	10
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2110 2557969	11
Magnesium	В	12.0	0.0100	0.0300	mg/L	1.00	1				
Sodium		45.1	0.0800	0.250	mg/L	1.00	1				
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0416 2557969	12
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1				
Arsenic	J	0.00280	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0723	0.000670	0.00400	mg/L	1.00	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW357UG2-24 Project: FRNP00507 Sample ID: 652552001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	S										
6020, Metals (15+ elem-	ents) "As Re	ceived"									
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Calcium		24.7	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00108	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0543	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Manganese		0.00591	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Potassium		1.69	0.0800	0.300	mg/L		1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00504	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Boron	N	0.378	0.0260	0.0750	mg/L	1.00	5	BAJ	02/21/24	1118 2557969	13
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	s Received"										
Aroclor-1016	U	0.108	0.0361	0.108	ug/L	0.00108	1	NS2	01/26/24	1624 2558538	14
Aroclor-1221	U	0.108	0.0361	0.108		0.00108	1				
Aroclor-1232	U	0.108	0.0361	0.108		0.00108	1				
Aroclor-1242	U	0.108	0.0361	0.108	ug/L	0.00108	1				
Aroclor-1248	U	0.108	0.0361	0.108	ug/L	0.00108	1				
Aroclor-1254	U	0.108	0.0361	0.108	ug/L	0.00108	1				
Aroclor-1260	U	0.108	0.0361	0.108	ug/L	0.00108	1				
Aroclor-1268	U	0.108	0.0361	0.108	ug/L	0.00108	1				
Aroclor-Total	U	0.108	0.0361	0.108	ug/L	0.00108	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		211	2.38	10.0	mg/L			KLP1	01/30/24	1037 2560120	15
Spectrometric Analysis			2.50								
=	Namand !! A = 1	Dagairead"									
410.4, Chem. Oxygen D	emana "As l	keceivea"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW357UG2-24 Project: FRNP00507 Sample ID: 652552001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	e Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1511	2558185	16
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0234	2558696	17
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW357UG2-24 Project: FRNP00507 Sample ID: 652552001 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full suite "A	s Receiv	ved"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene		2.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Methods v	were perf	formed:						
Method Desc	cription			Analyst	Date	Time	Prep Batch	
SW846 3005A ICP-1	MS 3005A	PREP		JD2	01/30/24	0645	2557968	_
SW846 9010C Distillation SW84	46 9010C I	Prep		ES2	01/25/24	0739	2555812	
SW846 8011 PREP 8011	Prep			BM1	01/25/24	1423	2557972	
SW846 3535A SW33	535A PCB	SPE Extraction		DXF4	01/26/24	0515	2558537	
SW846 7470A Prep EPA	7470A Me	rcury Prep Liquid		AXS5	01/25/24	1150	2558061	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW357UG2-24 Project: FRNP00507 Sample ID: 652552001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analyti	cal Methods	were performed:							
Method	Description	n				Analys	t Comments		
1	SW846 8011								
2	SW846 8011								
3	SW846 9060	A							
4	SW846 9012	В							
5	SW846 90201	В							
6	EPA 300.0								
7	SW846 9056	A							
8	SW846 9056	A							
9	SW846 7470	A							
10	SW846 3005	A/6020B							
11	SW846 3005	A/6020B							
12	SW846 3005	A/6020B							
13	SW846 3005	A/6020B							
14	SW846 3535	A/8082A							
15	EPA 160.1								
16	EPA 410.4								
17	SW846 82601	D							
Surrogate/Tracer Reco	very Test			Re	sult	Nomin	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 V	OA- 1,2-Dibromo-3-chloropropane '	'As	5.17	ug/L	6.	63 78	(56%-149%)	)

#### 8011 VOA- 1,2-Dibromo-3-chloropropane "As 5.17 ug/L (56%-149%) Received" Decachlorobiphenyl 8082A, PCB Liquids "As Received" 0.153 ug/L 0.217 71 (30% - 135%)4cmx 8082A, PCB Liquids "As Received" 0.160 ug/L 0.217 74 (26% - 108%)Bromofluorobenzene 8260D, Volatiles- full suite "As Received" 52.9 ug/L 50.0 106 (74%-123%) 8260D, Volatiles- full suite "As Received" 47.1 ug/L 1,2-Dichloroethane-d4 50.0 94 (76%-127%) 44.3 ug/L Toluene-d8 8260D, Volatiles- full suite "As Received" 50.0 89 (77%-121%)

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW357UG2-24 Sample ID: 652552002

Matrix: WG

Collect Date: 23-JAN-24 11:01
Receive Date: 24-JAN-24
Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-MS									
6020, Dissolved Metals (3 Elements) "As Received"									
Barium		0.0738	0.000670	0.00400	mg/L	1.00 1	PRB 02/20/24	0420 2557969	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00 1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00 1			
The following Prep Methods were performed:									
Method	Description		Analyst	Date	Time	Prep Batch			
EPA 160	Laboratory Filtration		RXB5	01/24/24	1335	2557914			
SW846 3005A	ICP-MS 3005A PREP		JD2	01/30/24	0645	2557968			
The following Analytical Methods were performed:									
Method	Description			Analyst Comments					
1	SW846 3005A	\/6020B				•			

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24

Sample ID: 652552003

Matrix: WG

Collect Date: 23-JAN-24 11:49
Receive Date: 24-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Bat	ch Method
504.1/8011 Analysis of	of EDB/DBCP										
8011 VOA- 1,2-Dibro	omo-3-chloropr	opane "As Re	ceived"								
1,2-Dibromo-3-chloropropa	_	0.0189	0.00853	0.0189	ug/L	0.947	1	BM1	01/25/24	1729 2557	973 1
Carbon Analysis											
9060A, Total Organic	Carbon "As R	eceived"									
Total Organic Carbon Aver	rage	4.70	0.330	2.00	mg/L		1	RM3	01/24/24	1956 2558	010 3
Flow Injection Analys	sis										
9012B, Cyanide, Tota	al "As Received	1"									
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	0835 2555	317 4
Halogen Analysis											
9020B, TOX (Organic	c Halogen) "As	Received"									
Total Organic Halogens	J	8.66	3.33	10.0	ug/L		1	RM3	01/25/24	1653 2558	185 5
Ion Chromatography											
300.0, Iodide in Liqui	d "As Received	d"									
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1409 2564	209 6
SW846 9056A Anion	s (5 elements)	"As Received'	1								
Bromide	W	0.214	0.0670	0.200	mg/L		1	TXT1	01/24/24	1628 2557	999 7
Fluoride	J	0.276	0.0330	4.00	mg/L		1				
Nitrate-N	J	0.185	0.0330	10.0	mg/L		1				
Chloride	J	16.5	0.335	250	mg/L		5	TXT1	01/24/24	2315 2557	999 8
Sulfate		27.6	0.665	2.00	mg/L		5				
Mercury Analysis-CV	/AA										
7470, Mercury Liquid	l "As Received	"									
Mercury	J	0.000173	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1010 2558	)62 9
Metals Analysis-ICP-	MS										
6020, Metals (15+ ele	ements) "As Re	ceived"									
Aluminum		0.0585	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0423 2557	969 10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1				
Arsenic		0.00650	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0984	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Calcium		33.4	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt		0.0269	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.000841	0.000300	0.00200	mg/L	1.00	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24 Project: FRNP00507 Sample ID: 652552003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Iron		14.9	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Molybdenum	J	0.000428	0.000200	0.00100	mg/L	1.00	1				
Nickel		0.0907	0.000600	0.00200	mg/L	1.00	1				
Potassium		3.28	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00476	0.00330	0.0200	mg/L	1.00	1				
Zinc	J	0.00826	0.00330	0.0200	mg/L	1.00	1				
Boron	N	0.135	0.00520	0.0150	mg/L	1.00	1	BAJ	02/21/24	1120 2557969	9 11
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00		PRB	02/20/24	2121 2557969	) 12
Magnesium	В	19.5	0.0100	0.0300	mg/L	1.00					
Sodium		34.6	0.0800	0.250	mg/L	1.00	1				
Manganese		2.55	0.0100	0.0500	mg/L	1.00		PRB	02/20/24	2124 2557969	9 13
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00		PRB	02/21/24	1315 2557969	9 14
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.105	0.0350	0.105	ug/L	0.00105	1	NS2	01/26/24	1636 2558538	3 15
Aroclor-1221	U	0.105	0.0350	0.105	ug/L	0.00105					
Aroclor-1232	U	0.105	0.0350	0.105	ug/L	0.00105	1				
Aroclor-1242	U	0.105	0.0350	0.105	ug/L	0.00105	1				
Aroclor-1248	U	0.105	0.0350	0.105	ug/L	0.00105	1				
Aroclor-1254	U	0.105	0.0350	0.105		0.00105					
Aroclor-1260	U	0.105	0.0350	0.105	ug/L	0.00105	1				
Aroclor-1268	U	0.105	0.0350	0.105	ug/L	0.00105	1				
Aroclor-Total	U	0.105	0.0350	0.105	ug/L	0.00105	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		242	2.38	10.0	mg/L			KLP1	01/30/24	1037 2560120	) 16
Spectrometric Analysis											
410.4, Chem. Oxygen I	Demand "As l	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24 Project: FRNP00507 Sample ID: 652552003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	e Batch	Method
Spectrometric Analysis	S											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	J	12.8	8.95	20.0	mg/L		1	JW2	01/25/24	1511	2558185	17
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0302	2558696	18
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW358UG2-24 Project: FRNP00507 Sample ID: 652552003 Client ID: FRNP005

DL

RL

Units

PF

							•	
Volatile Organics								
8260D, Volatiles- full st	uite "As Recei	ved"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	J	0.410	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were per	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 9010C Distillation	SW846 9010C	Prep		ES2	01/25/24	0739	2555812	
SW846 3005A	ICP-MS 3005A	A PREP		JD2	01/30/24	0645	2557968	
SW846 8011 PREP	8011 Prep			BM1	01/25/24	1423	2557972	
SW846 3535A	SW3535A PCE	3 SPE Extraction		DXF4	01/26/24	0515	2558537	
SW846 7470A Prep	EPA 7470A M	ercury Prep Liquid		AXS5	01/25/24	1150	2558061	
=		=						

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24 Project: FRNP00507 Sample ID: 652552003 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL Unit	s PF	DF Analyst Date	Time Batch	Method
The following Analyti	cal Methods were performed:						
Method	Description			Analys	t Comments		
1	SW846 8011						
2	SW846 8011						
3	SW846 9060A						
4	SW846 9012B						
5	SW846 9020B						
6	EPA 300.0						
7	SW846 9056A						
8	SW846 9056A						
9	SW846 7470A						
10	SW846 3005A/6020B						
11	SW846 3005A/6020B						
12	SW846 3005A/6020B						
13	SW846 3005A/6020B						
14	SW846 3005A/6020B						
15	SW846 3535A/8082A						
16	EPA 160.1						
17	EPA 410.4						
18	SW846 8260D						
Surrogate/Tracer Recor	very Test		Result	Nomin	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chlo Received"	ropropane "As	5.80 ug/L	6.7	77 86	(56%-149%)	)
Decachlorobiphenyl	8082A, PCB Liquids "As Receiv	ed"	0.0925 ug/L	0.21	10 44	(30%-135%)	)
4cmx	8082A, PCB Liquids "As Receiv	ed"	0.149 ug/L	0.21	10 71	(26%-108%)	)
Bromofluorobenzene	8260D, Volatiles- full suite "As I	Received"	53.8 ug/L	50	.0 108	(74%-123%)	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As I	Received"	47.1 ug/L	50	.0 94	(76%-127%)	)

**Notes:** 

Toluene-d8

44.6 ug/L

50.0

89

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24 Project: FRNP00507 Sample ID: 652552003 Client ID: FRNP005

Parameter C	Dualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
	<	11050110						Time Datem	1.1001100

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24 Sample ID: 652552004

Matrix: WG

Collect Date: 23-JAN-24 11:49
Receive Date: 24-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	lyst Date	Time	Batch	Method
Metals Analysis-IC	P-MS											
6020, Dissolved Me	etals (3 Elements)	"As Received"										
Barium		0.0911	0.000670	0.00400	mg/L	1.00	1	PRB	02/20/24	0427	2557969	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					
The following Prep	Methods were pe	rformed:										
Method	Description	ı		Analyst	Date		Time	e P	rep Batch			
EPA 160	Laboratory Fil	tration		RXB5	01/24/24		1335	2	557914			
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24		0645	2	557968			
The following Ana	alytical Methods w	ere performed:										
Method	Description				Α	nalys	t Coı	nmen	its			

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

SW846 3005A/6020B

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360DUG2-24

Sample ID: 652552005

Matrix: WG

Collect Date: 23-JAN-24 08:08 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibrom	o-3-chloropi	opane "As Rece	ived"								
1,2-Dibromo-3-chloropropane	-	0.0200	0.00900	0.0200	ug/L	1.00	1	BM1	01/25/24	1754 2557973	1
Carbon Analysis											
9060A, Total Organic C	Carbon "As R	eceived"									
Total Organic Carbon Average		1.08	0.330	2.00	mg/L		1	RM3	01/24/24	2029 2558010	3
Flow Injection Analysis					Ü						
9012B, Cyanide, Total '		1"									
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	0836 2555817	' 4
Halogen Analysis					8						
9020B, TOX (Organic I	Halogen) "As	Received"									
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RM3	01/25/24	1750 2558485	5
Ion Chromatography		10.0	5.55	10.0	48/2		-	141.10	01/20/21	1700 2000.00	
300.0, Iodide in Liquid	"As Receive	<b>d"</b>									
Iodide	U U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1422 2564209	6
SW846 9056A Anions (			0.107	0.500	mg/L		•	17111	02/00/24	1422 230420	0
Bromide	JW	0.158	0.0670	0.200	mg/L		1	TXT1	01/24/24	1659 2557999	7
Chloride	J.,,	7.06	0.0670	250	mg/L		1	1211	01/21/21	1037 2337777	,
Fluoride	J	0.256	0.0330	4.00	mg/L		1				
Nitrate-N	J	0.611	0.0330	10.0	mg/L		1				
Sulfate		12.2	0.133	0.400	mg/L		1				
Mercury Analysis-CVA	A										
7470, Mercury Liquid ".	As Received	"									
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1012 2558062	8
Metals Analysis-ICP-M	S										
6020, Metals (15+ element	ents) "As Re	ceived"									
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1317 2557969	9
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Aluminum	J	0.0365	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0438 2557969	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1				
Arsenic	J	0.00244	0.00200	0.00500	mg/L	1.00					
Barium		0.203	0.000670	0.00400	mg/L	1.00					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00					
Calcium		18.6	0.0800	0.200	mg/L	1.00					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360DUG2-24 Project: FRNP00507 Sample ID: 652552005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	S										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Cobalt	J	0.000985	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00155	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0916	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Manganese		0.00932	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Nickel	J	0.000628	0.000600	0.00200	mg/L	1.00	1				
Potassium		0.759	0.0800	0.300	mg/L	1.00	1				
Selenium	J	0.00199	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00485	0.00330	0.0200	mg/L	1.00					
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00					
Cadmium	U	0.00100	0.000300	0.00100	mg/L			PRB	02/20/24	2139 2557969	11
Magnesium	В	8.83	0.0100	0.0300	mg/L	1.00					
Boron	N	0.0373	0.00520	0.0150	mg/L	1.00		BAJ	02/21/24	1121 2557969	
Sodium		57.8	0.800	2.50	mg/L	1.00	10	PRB	02/20/24	2143 2557969	13
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.108	0.0360	0.108	ug/L	0.00108	1	NS2	01/26/24	1648 2558538	14
Aroclor-1221	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-1232	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-1242	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-1248	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-1254	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-1260	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-1268	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Aroclor-Total	U	0.108	0.0360	0.108	ug/L	0.00108	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		221	2.38	10.0	mg/L			KLP1	01/30/24	1037 2560120	15
Spectrometric Analysis					3						
410.4, Chem. Oxygen D	Demand "As I	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360DUG2-24 Project: FRNP00507 Sample ID: 652552005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Tim	e Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen I	Demand "As I	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1511	2558185	16
Volatile Organics												
8260D, Volatiles- full s	uite "As Rece	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0329	2558696	17
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

FRNP00507

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW360DUG2-24

Project: Sample ID: 652552005 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full su	uite "As Receiv	ved"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	hods were perf	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 3005A	ICP-MS 3005A	PREP		JD2	01/30/24	0645	2557968	
SW846 8011 PREP	8011 Prep			BM1	01/25/24	1423	2557972	
SW846 3535A	SW3535A PCB	SPE Extraction		DXF4	01/26/24	0515	2558537	
SW846 7470A Prep	EPA 7470A Me	ercury Prep Liquid		AXS5	01/25/24	1150	2558061	
SW846 9010C Distillation	SW846 9010C I	Prep		ES2	01/25/24	0739	2555812	
		-						

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360DUG2-24 Project: FRNP00507 Sample ID: 652552005 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following An	alytical Methods were performed:							
Method	Description				Analyst	Comments		
1	SW846 8011							
2	SW846 8011							
3	SW846 9060A							
4	SW846 9012B							
5	SW846 9020B							
6	EPA 300.0							
7	SW846 9056A							
8	SW846 7470A							
9	SW846 3005A/6020B							
10	SW846 3005A/6020B							
11	SW846 3005A/6020B							
12	SW846 3005A/6020B							
13	SW846 3005A/6020B							
14	SW846 3535A/8082A							
15	EPA 160.1							
16	EPA 410.4							
17	SW846 8260D							
Surrogate/Tracer I	Recovery Test		Res	ult	Nomina	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenz	ene 8011 VOA- 1,2-Dibromo-3-chloropropane ".	As	5.22 1	ug/L	6.7	5 77	(56%-149%)	)

0.147 ug/L

0.155 ug/L

51.8 ug/L

47.9 ug/L

45.0 ug/L

0.216

0.216

50.0

50.0

50.0

68

72

104

96

90

(30% - 135%)

(26% - 108%)

(74%-123%)

(76%-127%)

(77%-121%)

#### **Notes:**

Toluene-d8

4cmx

Decachlorobiphenyl

Bromofluorobenzene

1,2-Dichloroethane-d4

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

Received"

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

8082A, PCB Liquids "As Received"

8082A, PCB Liquids "As Received"

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360DUG2-24

Sample ID: 652552006

Matrix: WG

Collect Date: 23-JAN-24 08:08
Receive Date: 24-JAN-24
Collector: Client

Collector:	Clie	ent								
Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-M	IS									
6020, Dissolved Metals	(3 Elements)	"As Received"								
Barium		0.200	0.000670	0.00400	mg/L	1.00	1	PRB 02/20/24	0441 255796	9 1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Me	thods were pe	erformed:								
Method	Description	1		Analyst	Date	Т	Time	Prep Batch		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24	0	645	2557968		
EPA 160	Laboratory Fi	ltration		RXB5	01/24/24	1	335	2557914		
The following Analytic	cal Methods v	vere performed:								
Method	Description				A	Analyst	Con	nments		

# Notes:

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SW846 3005A/6020B

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24

Sample ID: 652552007

Matrix: WG

Collect Date: 23-JAN-24 08:08 Receive Date: 24-JAN-24 Collector: Client

Solit   No   1.2- Dibromo-3-chiorpropage   1	Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Carbon	504.1/8011 Analysis of	EDB/DBCP											
Carbon	8011 VOA- 1,2-Dibrom	o-3-chloropr	opane "As Re	ceived"									
Carbon Analysis			-		0.0189	ug/L	0.943	1	BM1	01/25/24	1818	2557973	1
Total Organic Carbon Average   J   1.25   0.330   2.00   mg/L   1.8   RM3   0.1/42/2   2.58010   3.8	Carbon Analysis												
Total Organic Carbon Average   J   1.25   0.330   2.00   mg/L   1.8   RM3   0.1/42/2   2.58010   3.8	9060A, Total Organic C	Carbon "As R	eceived"										
Flow Injection Analysis				0.330	2.00	mg/L		1	RM3	01/24/24	2122	2558010	3
Cyanide, Total   U   0.200   0.00167   0.200   mg/L   1.00   1.0	Flow Injection Analysis												
Cyanide, Total   U   0.200   0.00167   0.200   mg/L   1.00   1.0	•		<u>.</u> "										
Halogen Analysis	•			0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	0837	2555817	4
P020B, TOX (Organic Halogen) "As Received"   Total Organic Halogens   J   4.24   3.33   10.0   ug/L   1   RM3   01/25/24   1826   258485   5   10   10   10   10   10   10   10						8							
Total Organic Halogens	•	Halogen) "As	Received"										
No Chromatography   Support   Supp		•		3.33	10.0	ug/L		1	RM3	01/25/24	1826	2558485	5
Substituting   Subs	-												
Totalide	0 1 .	"As Received	1"										
SW846 9056A Anions (5 elements) "As Received"   Suminide   JW   0.163   0.0670   0.200   mg/L   1   1   1   1   1   1   1   1   1	-			0.167	0.500	mg/L		1	TXT1	02/06/24	1439	2564209	6
Bromide		_			0.000	g/ 2		•		02/00/2.	1.07	200.200	Ü
Chloride		` '			0.200	mg/L		1	TXT1	01/24/24	1731	2557999	7
Nitrate-N J 0.538 0.0330 10.0 mg/L 1 SURATE NORTH NORT						U		1					
Sulfate         10.3         0.133         0.400         mg/L         1         I         I         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Fluoride	J	0.273	0.0330	4.00	mg/L		1					
Mercury Analysis-CVAA           7470, Mercury Liquid "As Received"           Mercury         U 0.000200         0.000670         0.000200         mg/L         1.00         1         JP2         01/26/24         1014         2558062         8           Mercury         U 0.000200         0.000300         0.00100         mg/L         1.00         1         JP2         01/26/24         1014         2558062         8           Metals Analysis-ICP-MS           Cadmium         U 0.00100         0.000300         0.00100         mg/L         1.00         1         PRB         02/20/24         2150         2557969         9           Magnesium         B         9.29         0.0193         0.0500         mg/L         1.00         1         PRB         02/20/24         0445         2557969         9           Alminum         J         0.00300         0.0193         0.0500         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10	Nitrate-N	J	0.538	0.0330	10.0	mg/L		1					
7470, Mercury Liquid "As Received"  Mercury  U 0.000200 0.0000670 0.000200 mg/L 1.00 1 JP2 01/26/24 1014 2558062 8  Metals Analysis-ICP-MS  6020, Metals (15+ elements) "As Received"  Cadmium  U 0.00100 0.000300 0.00100 mg/L 1.00 1 PRB 02/20/24 2150 2557969 9  Magnesium B 9.29 0.0100 0.0300 mg/L 1.00 1 PRB 02/20/24 0445 2557969 10  Aluminum J 0.0375 0.0193 0.0500 mg/L 1.00 1 PRB 02/20/24 0445 2557969 10  Antimony U 0.00300 0.00100 0.00300 mg/L 1.00 1 PRB 02/20/24 0445 2557969 10  Arsenic J 0.00326 0.00200 0.00500 mg/L 1.00 1  Barium 0.207 0.000670 0.00400 mg/L 1.00 1 Beryllium U 0.000500 0.000000 0.000500 mg/L 1.00 1  FR 02/20/24 0445 2557969 10  Magnesium May 0.207 0.000670 0.00400 mg/L 1.00 1  May 0.207 0.000670 0.000670 0.000500 mg/L 1.00 1  May 0.207 0.000670 0.0006	Sulfate		10.3	0.133	0.400	mg/L		1					
Mercury         U         0.000200         0.0000670         0.000200         mg/L         1.00         1         JP2         01/26/24         1014         2558062         8           Metals Analysis-ICP-MS           6020, Metals (15+ elements) "As Received"           Cadmium         U         0.00100         0.000300         0.00100         mg/L         1.00         1         PRB         02/20/24         2150         2557969         9           Magnesium         B         9.29         0.0100         0.0300         mg/L         1.00         1         PRB         02/20/24         045         2557969         9           Antimony         J         0.0330         0.0100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00300         0.00100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00326         0.00200         0.00500         mg/L         1.00         1         1         1         1         1         1         1         1	Mercury Analysis-CVA	A											
Mercury         U         0.000200         0.0000670         0.000200         mg/L         1.00         1         JP2         01/26/24         1014         2558062         8           Metals Analysis-ICP-MS           6020, Metals (15+ elements) "As Received"           Cadmium         U         0.00100         0.000300         0.00100         mg/L         1.00         1         PRB         02/20/24         2150         2557969         9           Magnesium         B         9.29         0.0100         0.0300         mg/L         1.00         1         PRB         02/20/24         045         2557969         9           Antimony         J         0.0330         0.0100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00300         0.00100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00326         0.00200         0.00500         mg/L         1.00         1         1         1         1         1         1         1         1	7470, Mercury Liquid ".	As Received'	"										
6020, Metals (15+ elements) "As Received"           Cadmium         U         0.00100         0.000300         0.00100         mg/L         1.00         1         PRB         02/20/24         2150         2557969         9           Magnesium         B         9.29         0.0100         0.0300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         9           Aluminum         J         0.0375         0.0193         0.0500         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00300         0.00100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00326         0.00200         0.00500         mg/L         1.00         1         FRB         02/20/24         0445         2557969         10           Barium         0.207         0.000670         0.00400         mg/L         1.00         1         FRB         1.00         1         FRB         1.00         1         FRB         1.00         1         FRB	· · · · · · · · · · · · · · · · · · ·			0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1014	2558062	8
Cadmium         U         0.00100         0.000300         0.00100         mg/L         1.00         1         PRB         02/20/24         2150         2557969         9           Magnesium         B         9.29         0.0100         0.0300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Aluminum         J         0.0375         0.0193         0.0500         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Antimony         U         0.00300         0.00100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00320         0.00200         0.00500         mg/L         1.00         1         Image: Company of the company	Metals Analysis-ICP-M	S											
Cadmium         U         0.00100         0.000300         0.00100         mg/L         1.00         1         PRB         02/20/24         2150         2557969         9           Magnesium         B         9.29         0.0100         0.0300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Aluminum         J         0.0375         0.0193         0.0500         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Antimony         U         0.00300         0.00100         0.00300         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Arsenic         J         0.00320         0.00200         0.00500         mg/L         1.00         1         Image: Company of the company	6020, Metals (15+ elem	ents) "As Red	ceived"										
Aluminum         J         0.0375         0.0193         0.0500         mg/L         1.00         1         PRB         02/20/24         0445         2557969         10           Antimony         U         0.00300         0.00100         0.00300         mg/L         1.00         1           Arsenic         J         0.00326         0.00200         0.00500         mg/L         1.00         1           Barium         0.207         0.000670         0.00400         mg/L         1.00         1           Beryllium         U         0.000500         0.000200         0.000500         mg/L         1.00         1           Calcium         18.6         0.0800         0.200         mg/L         1.00         1	Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2150	2557969	9
Antimony         U         0.00300         0.00100         0.00300         mg/L         1.00         1           Arsenic         J         0.00326         0.00200         0.00500         mg/L         1.00         1           Barium         0.207         0.000670         0.00400         mg/L         1.00         1           Beryllium         U         0.000500         0.000500         mg/L         1.00         1           Calcium         18.6         0.0800         0.200         mg/L         1.00         1	Magnesium	В	9.29	0.0100	0.0300	mg/L	1.00	1					
Arsenic         J         0.00326         0.00200         0.00500         mg/L         1.00         1           Barium         0.207         0.000670         0.00400         mg/L         1.00         1           Beryllium         U         0.000500         0.000200         0.000500         mg/L         1.00         1           Calcium         18.6         0.0800         0.200         mg/L         1.00         1	Aluminum	J	0.0375	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0445	2557969	10
Barium         0.207         0.000670         0.00400         mg/L         1.00         1           Beryllium         U 0.000500         0.000200         0.000500         mg/L         1.00         1           Calcium         18.6         0.0800         0.200         mg/L         1.00         1	Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Beryllium         U         0.000500         0.000200         0.000500         mg/L         1.00         1           Calcium         18.6         0.0800         0.200         mg/L         1.00         1	Arsenic	J	0.00326	0.00200	0.00500	mg/L	1.00	1					
Calcium 18.6 0.0800 0.200 mg/L 1.00 1	Barium		0.207	0.000670	0.00400	mg/L	1.00	1					
	Beryllium	U	0.000500			mg/L	1.00	1					
Chromium U 0.0100 0.00300 0.0100 mg/L 1.00 1	Calcium					mg/L		1					
	Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24 Project: FRNP00507 Sample ID: 652552007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Metals Analysis-ICP-M	1S											
6020, Metals (15+ elem	nents) "As Re	ceived"										
Cobalt	J	0.000718	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.00167	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0895	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Manganese		0.00783	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.000678	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.747	0.0800	0.300	mg/L	1.00	1					
Selenium		0.00708	0.00150	0.00500	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	BJ	0.00552	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.00335	0.00330	0.0200	mg/L	1.00	1					
Sodium		62.4	0.800	2.50	mg/L	1.00	10	PRB	02/20/24	2153	2557969	11
Boron	N	0.0311	0.00520	0.0150	mg/L	1.00	1	BAJ	02/21/24	1123	2557969	12
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1319	2557969	13
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "A	As Received"											
Aroclor-1016	U	0.107	0.0357	0.107	ug/L	0.00107	1	NS2	01/26/24	1700	2558538	14
Aroclor-1221	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Aroclor-1232	U	0.107	0.0357	0.107		0.00107	1					
Aroclor-1242	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Aroclor-1248	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Aroclor-1254	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Aroclor-1260	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Aroclor-1268	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Aroclor-Total	U	0.107	0.0357	0.107	ug/L	0.00107	1					
Solids Analysis												
160.1, Dissolved Solids	s "As Receive	d"										
Total Dissolved Solids	7 115 11000110	218	2.38	10.0	mg/L			KLP1	01/30/24	1037	2560120	15
Spectrometric Analysis		210	2.30	10.0	mg/L			IXL/I I	01/30/24	1037	2300120	13
•												
410.4, Chem. Oxygen I	Demand "As l	Received"										

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24 Project: FRNP00507 Sample ID: 652552007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	e Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1511	2558185	16
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0357	2558696	17
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24 Project: FRNP00507 Sample ID: 652552007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF D	F Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full su	uite "As Rece	eived"							
Methylene chloride	U	5.00	0.500	5.00	ug/L	1			
Styrene	U	1.00	0.333	1.00	ug/L	1			
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1			
Toluene	U	1.00	0.333	1.00	ug/L	1			
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1			
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1			
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1			
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1			
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1			
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1			
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1			
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1			
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1			
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1			
The following Prep Met	hods were pe	erformed:							
Method	Description	1		Analyst	Date	Tin	ne Prep Batch	ı	
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24	064	5 2557968		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		AXS5	01/25/24	115	0 2558061		
SW846 3535A	SW3535A PC	CB SPE Extraction		DXF4	01/26/24	051	5 2558537		
SW846 9010C Distillation	SW846 90100	C Prep		ES2	01/25/24	073	9 2555812		
SW846 8011 PREP	8011 Prep	•		BM1	01/25/24	142	3 2557972		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24 Project: FRNP00507 Sample ID: 652552007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	were performed:							
Method	Description	1				Analyst	Comments		
1	SW846 8011								
2	SW846 8011								
3	SW846 9060A	A							
4	SW846 9012E	3							
5	SW846 9020E	3							
6	EPA 300.0								
7	SW846 9056A	Α							
8	SW846 7470A	Α							
9	SW846 3005A	A/6020B							
10	SW846 3005A	A/6020B							
11	SW846 3005A	A/6020B							
12	SW846 3005A	A/6020B							
13	SW846 3005A	A/6020B							
14	SW846 3535A	A/8082A							
15	EPA 160.1								
16	EPA 410.4								
17	SW846 8260I	)							
Surrogate/Tracer Recov	very Test			Re	esult	Nomin	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 V	OA- 1.2-Dibromo-3-chloropropage "	'Δς	4 78	R 110/I	6.7	73 71	(56%-149%)	<u> </u>

Surrogate/Tracer Recovery	Test	Result	rvoiiiiiai	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As	4.78 ug/L	6.73	71	(56%-149%)
	Received"				
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.107 ug/L	0.214	50	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.119 ug/L	0.214	56	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.7 ug/L	50.0	105	(74%-123%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.2 ug/L	50.0	94	(76%-127%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	44.8 ug/L	50.0	90	(77%-121%)

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration **SQL**: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24 Sample ID: 652552008

Matrix: WG

Collect Date: 23-JAN-24 08:08 Receive Date: 24-JAN-24 Collector: Client Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP	-MS									
6020, Dissolved Met	als (3 Elements)	"As Received"								
Barium		0.203	0.000670	0.00400	mg/L	1.00	1	PRB 02/20/24	0449 2557969	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep I	Methods were pe	erformed:								
Method	Description	1		Analyst	Date		Time	Prep Batch	l	
EPA 160	Laboratory Fi	ltration		RXB5	01/24/24		1335	2557914		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24		0645	2557968		
The following Analy	tical Methods w	vere performed:								
Method	Description				A	Analys	Cor	nments		
1	SW846 3005A	/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24

Sample ID: 652552009

Matrix: WG

Collect Date: 23-JAN-24 09:18 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis of	of EDB/DBCP											
8011 VOA- 1,2-Dibro	mo-3-chloropr	opane "As R	eceived"									
1,2-Dibromo-3-chloropropa	-	0.0200	0.00900	0.0200	ug/L	1.00	1	BM1	01/25/24	1843	2557973	1
Carbon Analysis												
9060A, Total Organic	Carbon "As R	eceived"										
Total Organic Carbon Aver		0.729	0.330	2.00	mg/L		1	RM3	01/24/24	2155	2558010	3
Flow Injection Analys	sis											
9012B, Cyanide, Tota	l "As Received	l''										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	0824	2555817	4
Halogen Analysis												
9020B, TOX (Organic	c Halogen) "As	Received"										
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RM3	01/25/24	1300	2558485	5
Ion Chromatography												
300.0, Iodide in Liqui	d "As Received	d"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1454	2564209	6
SW846 9056A Anion	s (5 elements)	"As Received	1"									
Bromide	W	0.481	0.0670	0.200	mg/L		1	TXT1	01/24/24	1802	2557999	7
Fluoride	J	0.195	0.0330	4.00	mg/L		1					
Nitrate-N	J	1.16	0.0330	10.0	mg/L		1					
Chloride	J	37.9	0.670	250	mg/L		10	TXT1	01/24/24	2347	2557999	8
Sulfate		83.0	1.33	4.00	mg/L		10					
Mercury Analysis-CV	'AA											
7470, Mercury Liquid	l "As Received	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1015	2558062	9
Metals Analysis-ICP-	MS											
6020, Metals (15+ ele	ments) "As Re	ceived"										
Boron	N	0.198	0.00520	0.0150	mg/L	1.00	1	BAJ	02/21/24	1128	2557969	10
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1325	2557969	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2208	2557969	12
Magnesium	В	17.1	0.0100	0.0300	mg/L	1.00	1					
Sodium		49.4	0.0800	0.250	mg/L	1.00	1					
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0452	2557969	13
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00274	0.00200	0.00500	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24 Project: FRNP00507 Sample ID: 652552009 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Barium		0.0541	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Calcium		34.9	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.000833	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0379	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Manganese	J	0.00312	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Potassium		2.55	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00488	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.100	0.0333	0.100	ug/L	0.00100	1	NS2 01	/26/24	1736 2558538	14
Aroclor-1221	U	0.100	0.0333	0.100	ug/L	0.00100	1				
Aroclor-1232	U	0.100	0.0333	0.100	_	0.00100					
Aroclor-1242	U	0.100	0.0333	0.100	ug/L	0.00100	1				
Aroclor-1248	U	0.100	0.0333	0.100	ug/L	0.00100	1				
Aroclor-1254	J	0.0797	0.0333	0.100	ug/L	0.00100	1				
Aroclor-1260	J	0.0702	0.0333	0.100	ug/L	0.00100	1				
Aroclor-1268	U	0.100	0.0333	0.100	ug/L	0.00100	1				
Aroclor-Total		0.150	0.0333	0.100	ug/L	0.00100	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		292	2.38	10.0	mg/L			KLP1 01	/30/24	1037 2560120	15
Spectrometric Analysis		<b>-</b>	2.50		8/ 2				•		
410.4, Chem. Oxygen I		Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24 Project: FRNP00507 Sample ID: 652552009 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	e Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1511	2558185	16
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0425	2558696	17
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24 Project: FRNP00507 Sample ID: 652552009 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF I	OF Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full st	uite "As Rece	eived"							
Methylene chloride	U	5.00	0.500	5.00	ug/L		1		
Styrene	U	1.00	0.333	1.00	ug/L		1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1		
Toluene	U	1.00	0.333	1.00	ug/L		1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1		
The following Prep Met	thods were pe	erformed:							
Method	Description	n		Analyst	Date	Ti	me Prep Batch		
SW846 3535A	SW3535A PC	CB SPE Extraction		DXF4	01/26/24	05	15 2558537		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		AXS5	01/25/24	11.	50 2558061		
SW846 9010C Distillation	SW846 90100	C Prep		ES2	01/25/24	07	39 2555812		
SW846 3005A	ICP-MS 3005	SA PREP		JD2	01/30/24	06	45 2557968		
SW846 8011 PREP	8011 Prep			BM1	01/25/24	14	23 2557972		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24 Project: FRNP00507 Sample ID: 652552009 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Ana	alytical Methods were performed:							
Method	Description				Analyst	Comments		
1	SW846 8011							
2	SW846 8011							
3	SW846 9060A							
4	SW846 9012B							
5	SW846 9020B							
6	EPA 300.0							
7	SW846 9056A							
8	SW846 9056A							
9	SW846 7470A							
10	SW846 3005A/6020B							
11	SW846 3005A/6020B							
12	SW846 3005A/6020B							
13	SW846 3005A/6020B							
14	SW846 3535A/8082A							
15	EPA 160.1							
16	EPA 410.4							
17	SW846 8260D							
Surrogate/Tracer R	decovery Test		Res	ult	Nomina	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenze	ene 8011 VOA- 1,2-Dibromo-3-chloropropane ".	As	5.68	ug/L	6.6	6 85	(56%-149%)	)

#### Received" Decachlorobiphenyl 8082A, PCB Liquids "As Received" 0.158 ug/L 0.200 79 (30% - 135%)4cmx 8082A, PCB Liquids "As Received" 0.138 ug/L 0.200 69 (26% - 108%)Bromofluorobenzene 8260D, Volatiles- full suite "As Received" 53.0 ug/L 50.0 106 (74%-123%) 8260D, Volatiles- full suite "As Received" 46.7 ug/L 1,2-Dichloroethane-d4 50.0 93 (76%-127%) 45.3 ug/L Toluene-d8 8260D, Volatiles- full suite "As Received" 50.0 91 (77%-121%)

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24 Sample ID: 652552010

Matrix: WG

Collect Date: 23-JAN-24 09:18 Receive Date: 24-JAN-24 Collector: Client Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-M	S									
6020, Dissolved Metals	(3 Elements)	"As Received"								
Barium		0.0526	0.000670	0.00400	mg/L	1.00	1	PRB 02/20/24	0518 2557969	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Met	hods were pe	erformed:								
Method	Description	1		Analyst	Date	7	Гіте	Prep Batch		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24	C	)645	2557968		
EPA 160	Laboratory Fi	ltration		RXB5	01/24/24	1	1335	2557914		
The following Analytic	al Methods w	vere performed:								
Method	Description				A	nalyst	Con	nments		

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

SW846 3005A/6020B

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24

Sample ID: 652552011

Matrix: WG

Collect Date: 23-JAN-24 10:15
Receive Date: 24-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibror	no-3-chloropi	opane "As Rec	ceived"								
1,2-Dibromo-3-chloropropar	-	0.0189	0.00849	0.0189	ug/L	0.944	1	BM1	01/25/24	1957 2557973	1
Carbon Analysis					_						
9060A, Total Organic	Carbon "As R	eceived"									
Total Organic Carbon Avera		1.48	0.330	2.00	mg/L		1	RM3	01/24/24	2333 2558010	3
Flow Injection Analysi	-				C						
9012B, Cyanide, Total		l"									
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	1013 2555817	4
Halogen Analysis					8						
9020B, TOX (Organic	Halogen) "As	Received"									
Total Organic Halogens	J	6.20	3.33	10.0	ug/L		1	RM3	01/26/24	1426 2559096	5
Ion Chromatography	_				8-		-				-
300.0, Iodide in Liquid	"As Received	<b>1</b> "									
Iodide	U U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1533 2564209	6
SW846 9056A Anions			0.107	0.500	mg/ L		•		02,00,2.	1000 200.209	Ü
Bromide	UW	0.200	0.0670	0.200	mg/L		1	TXT1	01/24/24	1833 2557999	7
Chloride	J	3.96	0.0670	250	mg/L		1				·
Fluoride	J	0.349	0.0330	4.00	mg/L		1				
Nitrate-N	J	0.619	0.0330	10.0	mg/L		1				
Sulfate		12.5	0.133	0.400	mg/L		1				
Mercury Analysis-CV	AA										
7470, Mercury Liquid	"As Received	"									
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1027 2558062	8
Metals Analysis-ICP-N	1S				_						
6020, Metals (15+ elen	nents) "As Re	ceived"									
Boron	JN	0.0139	0.00520	0.0150	mg/L	1.00	1	BAJ	02/21/24	1136 2557969	9
Sodium		104	0.800	2.50	mg/L	1.00	10	PRB	02/20/24	2240 2557969	
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2237 2557969	
Magnesium	В	7.63	0.0100	0.0300	mg/L	1.00	1				
Aluminum		0.530	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0521 2557969	12
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1				
Arsenic	J	0.00276	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0984	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24 Project: FRNP00507 Sample ID: 652552011 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	nents) "As Re	ceived"									
Calcium		16.0	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	J	0.000422	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00190	0.000300	0.00200	mg/L	1.00	1				
Iron		0.435	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Manganese		0.00917	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	J	0.000447	0.000200	0.00100	mg/L	1.00	1				
Nickel	J	0.00132	0.000600	0.00200	mg/L	1.00	1				
Potassium		0.375	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium		0.00109	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00609	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1335 2557969	13
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.110	0.0367	0.110	ug/L	0.00110	1	NS2	01/26/24	1812 2558538	14
Aroclor-1221	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-1232	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-1242	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-1248	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-1254	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-1260	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-1268	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Aroclor-Total	U	0.110	0.0367	0.110	ug/L	0.00110	1				
Solids Analysis											
160.1, Dissolved Solids	s "As Receive	d"									
Total Dissolved Solids		325	2.38	10.0	mg/L			KLP1	01/30/24	1037 2560120	15
Spectrometric Analysis					-						
410.4, Chem. Oxygen I	Demand "As I	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24 Project: FRNP00507 Sample ID: 652552011 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis											
410.4, Chem. Oxygen I	Demand "As l	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1511 2558185	16
Volatile Organics					Ü						
8260D, Volatiles- full s	suite "As Rece	eived"									
1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0453 2558696	17
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW362UG2-24 Project: FRNP00507 Sample ID: 652552011 Client ID: FRNP005

							•	
Volatile Organics								
8260D, Volatiles- full st	uite "As Recei	ived"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were per	rformed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 8011 PREP	8011 Prep			BM1	01/25/24	1423	2557972	
SW846 9010C Distillation	SW846 9010C	Prep		ES2	01/25/24	0739	2555812	
SW846 7470A Prep	EPA 7470A M	ercury Prep Liquid		AXS5	01/25/24	1150	2558061	
SW846 3535A	SW3535A PCI	B SPE Extraction		DXF4	01/26/24	0515	2558537	
SW846 3005A	ICP-MS 3005A	A PREP		JD2	01/30/24	0645	2557968	

DL

RL

Units

PF

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24 Project: FRNP00507 Sample ID: 652552011 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	s PF	DF Analyst Date	Time Batch	Method
The following Analytic	al Methods v	vere performed:							
Method	Description					Analyst	Comments		
1	SW846 8011								
2	SW846 8011								
3	SW846 9060A	Λ							
4	SW846 9012E	3							
5	SW846 9020E	3							
6	EPA 300.0								
7	SW846 9056A	Λ							
8	SW846 7470A	Λ							
9	SW846 3005A	A/6020B							
10	SW846 3005A	A/6020B							
11	SW846 3005A	A/6020B							
12	SW846 3005A	A/6020B							
13	SW846 3005A	A/6020B							
14	SW846 3535A	A/8082A							
15	EPA 160.1								
16	EPA 410.4								
17	SW846 8260E	)							
Surrogate/Tracer Recov	ery Test			R	esult	Nomina	al Recovery%	Acceptable L	imits

Surrogate/Tracer Recovery	Test	Resuit	Nommai	Recovery%	Acceptable Lillins
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As	5.73 ug/L	6.74	85	(56%-149%)
	Received"				
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.0956 ug/L	0.220	43	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.129 ug/L	0.220	58	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.1 ug/L	50.0	104	(74%-123%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.0 ug/L	50.0	94	(76%-127%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	45.0 ug/L	50.0	90	(77%-121%)

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration **SQL**: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24 Sample ID: 652552012

Matrix: WG

Collect Date: 23-JAN-24 10:15
Receive Date: 24-JAN-24
Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP	P-MS									
6020, Dissolved Met	tals (3 Elements)	"As Received"								
Barium		0.0919	0.000670	0.00400	mg/L	1.00	1	PRB 02/20/24	0525 2557969	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium		0.000998	0.0000670	0.000200	mg/L	1.00	1			
The following Prep 1	Methods were pe	rformed:								
Method	Description	1		Analyst	Date	,	Time	Prep Batch	l	
EPA 160	Laboratory Fi	ltration		RXB5	01/24/24		1335	2557914		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24		0645	2557968		
The following Analy	ytical Methods w	vere performed:								
Method	Description				A	Analys	Cor	nments		
1	SW846 3005A	/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24

Sample ID: 652552013

Matrix: WG

Collect Date: 23-JAN-24 12:40 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis of	f EDB/DBCP											
8011 VOA- 1,2-Dibroi	mo-3-chloropr	opane "As Re	ceived"									
1,2-Dibromo-3-chloropropai	ne U	0.0200	0.00900	0.0200	ug/L	1.00	1	BM1	01/25/24	2110	2557973	2
Carbon Analysis												
9060A, Total Organic	Carbon "As R	eceived"										
Total Organic Carbon Avera		1.26	0.330	2.00	mg/L		1	RM3	01/25/24	0006	2558010	3
Flow Injection Analysi	is											
9012B, Cyanide, Total	"As Received	l''										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/25/24	1014	2555817	4
Halogen Analysis												
9020B, TOX (Organic	Halogen) "As	Received"										
Total Organic Halogens	J	8.74	3.33	10.0	ug/L		1	RM3	01/26/24	1530	2559096	5
Ion Chromatography												
300.0, Iodide in Liquid	l "As Received	d"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1612	2564209	6
SW846 9056A Anions	(5 elements)	"As Received'										
Chloride	J	21.1	0.335	250	mg/L		5	TXT1	01/25/24	0121	2557999	7
Sulfate		28.4	0.665	2.00	mg/L		5					
Bromide	UW	0.200	0.0670	0.200	mg/L		1	TXT1	01/24/24	1905	2557999	8
Fluoride	J	0.305	0.0330	4.00	mg/L		1					
Nitrate-N	J	3.07	0.0330	10.0	mg/L		1					
Mercury Analysis-CV												
7470, Mercury Liquid	"As Received	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1029	2558062	9
Metals Analysis-ICP-N	AS											
6020, Metals (15+ eler	nents) "As Re	ceived"										
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1336	2557969	10
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0528	2557969	11
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00257	0.00200	0.00500	mg/L	1.00	1					
Barium		0.121	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Calcium		21.1	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24 Project: FRNP00507 Sample ID: 652552013 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analys	t Date	Time	Batch	Method
Metals Analysis-ICP-M	IS											
6020, Metals (15+ elem	nents) "As Re	ceived"										
Cobalt	J	0.000878	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.000851	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0734	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Manganese		0.112	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.0445	0.000600	0.00200	mg/L	1.00	1					
Potassium		2.07	0.0800	0.300	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	BJ	0.00511	0.00330	0.0200	mg/L	1.00	1					
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2248	2557969	12
Magnesium	В	9.43	0.0100	0.0300	mg/L	1.00	1					
Sodium		38.4	0.0800	0.250	mg/L	1.00	1					
Boron	N	0.0214	0.00520	0.0150	mg/L	1.00	1	BAJ	02/21/24	1137	2557969	13
Semi-Volatiles-PCB												
8082A, PCB Liquids "A	As Received"											
Aroclor-1016	U	0.110	0.0365	0.110	ug/L	0.00110	1	NS2	01/26/24	1824	2558538	14
Aroclor-1221	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Aroclor-1232	U	0.110	0.0365	0.110		0.00110						
Aroclor-1242	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Aroclor-1248	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Aroclor-1254	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Aroclor-1260	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Aroclor-1268	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Aroclor-Total	U	0.110	0.0365	0.110	ug/L	0.00110	1					
Solids Analysis												
160.1, Dissolved Solids	s "As Receive	ed"										
Total Dissolved Solids	. 115 11000110	202	2.38	10.0	mg/L			KLP1	01/30/24	1037	2560120	15
Spectrometric Analysis		202	2.30	10.0	mg/L			IXLI I	01/30/24	1057	2300120	13
•												
410.4, Chem. Oxygen I	Jemand "As I	Received"										

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24 Project: FRNP00507 Sample ID: 652552013 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Tim	e Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1511	2558185	16
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0521	2558696	17
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW363UG2-24 Project: FRNP00507 Sample ID: 652552013 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full st	uite "As Receiv	ed"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were perf	ormed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 8011 PREP	8011 Prep			BM1	01/25/24	1423	2557972	
SW846 3535A	SW3535A PCB SPE Extraction			DXF4	01/26/24	0515	2558537	
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid			AXS5	01/25/24	1150	2558061	
SW846 9010C Distillation	SW846 9010C Prep			ES2	01/25/24	0739	2555812	
SW846 3005A	ICP-MS 3005A PREP			JD2	01/30/24	0645	2557968	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24 Project: FRNP00507 Sample ID: 652552013 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method	
The following Analytic	cal Methods w	vere performed:								
Method	Description		Analyst Comments							
1	SW846 8011									
2	SW846 8011									
3	SW846 9060A	L								
4	SW846 9012B	l e e e e e e e e e e e e e e e e e e e								
5	SW846 9020B	l e e e e e e e e e e e e e e e e e e e								
6	EPA 300.0									
7	SW846 9056A	<u>.</u>								
8	SW846 9056A	<u>.</u>								
9	SW846 7470A	<u>.</u>								
10	SW846 3005A	/6020B								
11	SW846 3005A	/6020B								
12	SW846 3005A	/6020B								
13	SW846 3005A/6020B									
14	SW846 3535A/8082A									
15	EPA 160.1									
16	EPA 410.4									
17	SW846 8260D	)								
Surrogate/Tracer Recovery Test			R	esult	Nomin	al Recovery%	Acceptable L	imits		
1-Chloro-2-fluorobenzene	8011 VO Receive	OA- 1,2-Dibromo-3-chloropropane d"	"As	5.7	7 ug/L	6.7	72 86	(56%-149%)	)	

0.154 ug/L

0.162 ug/L

52.4 ug/L

47.3 ug/L

44.8 ug/L

0.219

0.219

50.0

50.0

50.0

70

74

105

95

90

(30% - 135%)

(26% - 108%)

(74%-123%)

(76%-127%)

(77%-121%)

#### **Notes:**

Toluene-d8

4cmx

Decachlorobiphenyl

Bromofluorobenzene

1,2-Dichloroethane-d4

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

8082A, PCB Liquids "As Received"

8082A, PCB Liquids "As Received"

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24 Sample ID: 652552014

Matrix: WG

Collect Date: 23-JAN-24 12:40 Receive Date: 24-JAN-24 Collector: Client Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-M	S									
6020, Dissolved Metals	(3 Elements)	"As Received"								
Barium		0.119	0.000670	0.00400	mg/L	1.00	1	PRB 02/20/24	0532 2557969	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Met	hods were pe	rformed:								
Method	Description	1		Analyst	Date	7	Гітє	e Prep Batch		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24	(	0645	2557968		
EPA 160	Laboratory Fil	tration		RXB5	01/24/24	1	1335	2557914		
The following Analytic	al Methods w	vere performed:								
Method	Description				A	nalyst	Cor	nments		
1	SW846 3005A	/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: FB1UG2-24 Sample ID: 652552015

Matrix: WATER

Collect Date: 23-JAN-24 08:10 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibron	no-3-chloropr	opane "As	Received"								
1,2-Dibromo-3-chloropropan	-	0.0189	0.00850	0.0189	ug/L	0.945	1	BM1	01/25/24	2135 2557973	1
Ion Chromatography											
300.0, Iodide in Liquid	"As Received	1"									
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1625 2564209	3
Mercury Analysis-CVA	AΑ				Z.						
7470, Mercury Liquid '		"									
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1030 2558062	4
Metals Analysis-ICP-M		0.000200	0.0000070	0.000200	g.2	1.00	-	V1 <u>-</u>	01/20/2.	1000 2000002	•
6020, Metals (15+ elem		ceived"									
Aluminum	J	0.0194	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0536 2557969	5
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	TKD	02/20/24	0330 2331707	3
Arsenic	J	0.00300	0.00200	0.00500	mg/L	1.00	1				
Barium	U	0.00400	0.000670	0.00300	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Calcium	U	0.200	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	U	0.00200	0.000300	0.00200	mg/L	1.00	1				
Iron	U	0.100	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Manganese	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	J	0.000279	0.000200	0.00100	mg/L	1.00	1				
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Potassium	U	0.300	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00544	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1338 2557969	6
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Boron	JN	0.00828	0.00520	0.0150	mg/L	1.00	1	BAJ	02/21/24	1139 2557969	7
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2255 2557969	8

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: FB1UG2-24 Project: FRNP00507 Sample ID: 652552015 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analys	t Date	Time Batch	Method
Metals Analysis-ICP-N	MS										
6020, Metals (15+ eler	ments) "As Re	ceived"									
Magnesium	U	0.0300	0.0100	0.0300	mg/L	1.00	1				
Sodium	J	0.121	0.0800	0.250	mg/L		1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "	As Received"										
Aroclor-1016	U	0.108	0.0359	0.108	ug/L	0.00108	1	NS2	01/26/24	1836 2558538	9
Aroclor-1221	U	0.108	0.0359	0.108	ug/L	0.00108					
Aroclor-1232	U	0.108	0.0359	0.108		0.00108					
Aroclor-1242	U	0.108	0.0359	0.108		0.00108					
Aroclor-1248	U	0.108	0.0359	0.108	ug/L	0.00108	1				
Aroclor-1254	U	0.108	0.0359	0.108	ug/L	0.00108	1				
Aroclor-1260	U	0.108	0.0359	0.108	ug/L	0.00108	1				
Aroclor-1268	U	0.108	0.0359	0.108	ug/L	0.00108	1				
Aroclor-Total	U	0.108	0.0359	0.108	ug/L	0.00108	1				
Volatile Organics											
8260D, Volatiles- full	suite "As Rec	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0549 2558696	5 10
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone		40.6	1.67	5.00	ug/L		1				
2-Hexanone		7.72	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone		18.0	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: FB1UG2-24 Project: FRNP00507 Sample ID: 652552015 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Volatile Organics										
8260D, Volatiles- full s	suite "As Rece	eived"								
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1			
Bromoform	U	1.00	0.333	1.00	ug/L		1			
Bromomethane	U	1.00	0.337	1.00	ug/L		1			
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1			
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1			
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1			
Chloroethane	U	1.00	0.333	1.00	ug/L		1			
Chloroform	U	1.00	0.333	1.00	ug/L		1			
Chloromethane	U	1.00	0.333	1.00	ug/L		1			
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1			
Dibromomethane	U	1.00	0.333	1.00	ug/L		1			
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1			
Iodomethane	U	5.00	1.67	5.00	ug/L		1			
Methylene chloride	U	5.00	0.500	5.00	ug/L		1			
Styrene	U	1.00	0.333	1.00	ug/L		1			
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1			
Toluene	U	1.00	0.333	1.00	ug/L		1			
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1			
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1			
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1			
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1			
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1			
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1			

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8011 PREP	8011 Prep	BM1	01/25/24	1423	2557972
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	01/25/24	1150	2558061
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	01/26/24	0515	2558537
SW846 3005A	ICP-MS 3005A PREP	JD2	01/30/24	0645	2557968

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: FB1UG2-24 Project: FRNP00507 Sample ID: 652552015 Client ID: FRNP005

DL

RL

Units

PF

The following Analytic	cal Methods were performed:									
Method	Description		Analyst Co	omments						
1	SW846 8011		-							
2	SW846 8011									
3	EPA 300.0									
4	SW846 7470A									
5	SW846 3005A/6020B									
6	SW846 3005A/6020B									
7	SW846 3005A/6020B									
8	SW846 3005A/6020B									
9	SW846 3535A/8082A									
10	SW846 8260D									
Surrogate/Tracer Recov	very Test	Result	Nominal	Recovery%	Acceptable Limits					
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	5.96 ug/L	6.75	88	(56%-149%)					
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.160 ug/L	0.216	74	(30%-135%)					
4cmx	8082A, PCB Liquids "As Received"	0.143 ug/L	0.216	67	(26%-108%)					
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.4 ug/L	50.0	105	(74%-123%)					
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	48.0 ug/L	50.0	96	(76%-127%)					
Toluene-d8	8260D, Volatiles- full suite "As Received"	45.0 ug/L	50.0	90	(77%-121%)					

#### **Notes:**

Parameter

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: RI1UG2-24 Sample ID: 652552016

Matrix: WATER

Collect Date: 23-JAN-24 07:30 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibron	no-3-chloropr	opane "As	Received"								
1,2-Dibromo-3-chloropropan	e U	0.0200	0.00900	0.0200	ug/L	1.00	1	BM1	01/25/24	2159 2557973	3 1
Ion Chromatography											
300.0, Iodide in Liquid	"As Received	d"									
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1638 2564209	3
Mercury Analysis-CVA	λA										
7470, Mercury Liquid '		"									
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/26/24	1032 2558062	2 4
Metals Analysis-ICP-M					8						
6020, Metals (15+ elem		ceived"									
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1340 2557969	5
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1	PRB	02/20/24	2259 2557969	6
Magnesium	U	0.0300	0.0100	0.0300	mg/L	1.00	1				
Sodium	U	0.250	0.0800	0.250	mg/L	1.00	1				
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	PRB	02/20/24	0539 2557969	7
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1				
Arsenic	J	0.00207	0.00200	0.00500	mg/L	1.00	1				
Barium	U	0.00400	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Calcium	U	0.200	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	U	0.00200	0.000300	0.00200	mg/L	1.00	1				
Iron	U	0.100	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Manganese	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Potassium	U	0.300	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	BJ	0.00540	0.00330	0.0200	mg/L	1.00	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: RI1UG2-24 Project: FRNP00507 Sample ID: 652552016 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-N	MS									
6020, Metals (15+ eler	ments) "As Re	ceived"								
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1			
Boron	UN	0.0150	0.00520	0.0150	mg/L	1.00	1	BAJ 02/21/24	1140 2557969	8
Semi-Volatiles-PCB										
8082A, PCB Liquids "	As Received"									
Aroclor-1016	U	0.107	0.0356	0.107	ug/L	0.00107	1	NS2 01/26/24	1849 2558538	9
Aroclor-1221	U	0.107	0.0356	0.107	ug/L	0.00107				
Aroclor-1232	U	0.107	0.0356	0.107		0.00107				
Aroclor-1242	U	0.107	0.0356	0.107		0.00107				
Aroclor-1248	U	0.107	0.0356	0.107	ug/L	0.00107	1			
Aroclor-1254	U	0.107	0.0356	0.107		0.00107	1			
Aroclor-1260	U	0.107	0.0356	0.107	ug/L	0.00107	1			
Aroclor-1268	U	0.107	0.0356	0.107	ug/L	0.00107	1			
Aroclor-Total	U	0.107	0.0356	0.107	ug/L	0.00107	1			
Volatile Organics										
8260D, Volatiles- full	suite "As Rece	eived"								
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6 01/26/24	0616 2558696	10
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1			
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1			
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1			
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1			
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1			
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1			
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1			
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1			
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1			
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1			
2-Butanone	U	5.00	1.67	5.00	ug/L		1			
2-Hexanone	U	5.00	1.67	5.00	ug/L		1			
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1			
Acetone	U	5.00	1.74	5.00	ug/L		1			
Acrolein	U	5.00	1.67	5.00	ug/L		1			
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1			
Benzene	U	1.00	0.333	1.00	ug/L		1			
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1			

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: RI1UG2-24 Project: FRNP00507 Sample ID: 652552016 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full s	uite "As Rec	eived"							
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1		
Bromoform	U	1.00	0.333	1.00	ug/L		1		
Bromomethane	U	1.00	0.337	1.00	ug/L		1		
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1		
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1		
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1		
Chloroethane	U	1.00	0.333	1.00	ug/L		1		
Chloroform	U	1.00	0.333	1.00	ug/L		1		
Chloromethane	U	1.00	0.333	1.00	ug/L		1		
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1		
Dibromomethane	U	1.00	0.333	1.00	ug/L		1		
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1		
Iodomethane	U	5.00	1.67	5.00	ug/L		1		
Methylene chloride	U	5.00	0.500	5.00	ug/L		1		
Styrene	U	1.00	0.333	1.00	ug/L		1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1		
Toluene	U	1.00	0.333	1.00	ug/L		1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1		

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	JD2	01/30/24	0645	2557968
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	01/26/24	0515	2558537
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	AXS5	01/25/24	1150	2558061
SW846 8011 PREP	8011 Prep	BM1	01/25/24	1423	2557972

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: RI1UG2-24 Project: FRNP00507 Sample ID: 652552016 Client ID: FRNP005

DL

RL

Units

PF

The following Analytic	cal Methods were performed:									
Method	Description	Analyst Comments								
1	SW846 8011		·							
2	SW846 8011									
3	EPA 300.0									
4	SW846 7470A									
5	SW846 3005A/6020B									
6	SW846 3005A/6020B									
7	SW846 3005A/6020B									
8	SW846 3005A/6020B									
9	SW846 3535A/8082A									
10	SW846 8260D									
Surrogate/Tracer Recov	very Test	Result	Nominal	Recovery%	Acceptable Limits					
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.49 ug/L	6.76	96	(56%-149%)					
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.171 ug/L	0.214	80	(30%-135%)					
4cmx	8082A, PCB Liquids "As Received"	0.153 ug/L	0.214	72	(26%-108%)					
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.9 ug/L	50.0	106	(74%-123%)					
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.8 ug/L	50.0	96	(76%-127%)					
Toluene-d8	8260D, Volatiles- full suite "As Received"	45.4 ug/L	50.0	91	(77%-121%)					

#### **Notes:**

Parameter

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB1UG2-24 Sample ID: 652552017

Matrix: WATER

Collect Date: 23-JAN-24 07:25 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibrom	o-3-chloropr	opane "As Rec	eived"								
1,2-Dibromo-3-chloropropane	· U	0.0192	0.00863	0.0192	ug/L	0.959	1	BM1	01/25/24	2224 2557973	2
Volatile Organics											
8260D, Volatiles- full st	uite "As Rece	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	0644 2558696	3
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB1UG2-24 Project: FRNP00507 Sample ID: 652552017 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF A	nalyst Date	Time Batch	Method
Volatile Organics										
8260D, Volatiles- full st	uite "As Rece	eived"								
Methylene chloride	U	5.00	0.500	5.00	ug/L		1			
Styrene	U	1.00	0.333	1.00	ug/L		1			
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1			
Toluene	U	1.00	0.333	1.00	ug/L		1			
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1			
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1			
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1			
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1			
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1			
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1			
The following Prep Met	hods were pe	erformed:								
Method	Description	n		Analyst	Date		Time	Prep Batch		
SW846 8011 PREP	8011 Prep			BM1	01/25/24		1423	2557972		

#### The following Analytical Methods were performed:

Method	Description
1	SW846 8011
2	SW846 8011
3	SW846 8260D

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.11 ug/L	6.85	89	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	51.2 ug/L	50.0	102	(74%-123%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.0 ug/L	50.0	94	(76%-127%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	44.6 ug/L	50.0	89	(77%-121%)

Analyst Comments

#### **Notes:**

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB1UG2-24 Project: FRNP00507 Sample ID: 652552017 Client ID: FRNP005

Parameter C	Dualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
	<	11050110						Time Datem	1.1001100

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: Project: Client ID: MW357UG2-24 FRNP00507 FRNP005 652552001

WG Collect Date:

23-JAN-24 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result Ur	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date	Time	Batch	Mtd.
Rad Alpha Spec Analysi	is												
AN-1418 AlphaSpec R	a226, Liquid	"As Receiv	ed"										
Radium-226	U	0.0900	+/-0.285	0.430	+/-0.286	5.00	pCi/L		CM4	02/13/24	1000	2557927	1
Th-01-RC M, Th Isotop	pes, Liquid "A	As Received	"										
Thorium-230	U	0.390	+/-0.926	1.67	+/-0.931	50.0	pCi/L		EJ1	02/08/24	0859	2557928	2
Thorium-232	U	-0.0216	+/-0.377	0.770	+/-0.378		pCi/L						
Rad Gas Flow Proportion 904.0Mod, Ra228, Liqu		_											
Radium-228	U	0.683	+/-2.37	4.32	+/-2.38	4.99	pCi/L		JE1	02/15/24	1144	2563645	3
905.0Mod, Sr90, liquid	l "As Receive	ed"											
Strontium-90	U	-0.504	+/-1.77	3.63	+/-1.77	8.00	pCi/L		ST2	01/27/24	1400	2558361	4
9310, Alpha/Beta Activ	vity, liquid "A	As Received"	,										
Alpha	U	5.48	+/-4.52	6.22	+/-4.62	15.0	pCi/L		KP1	01/29/24	1725	2558391	5
Beta		20.7	+/-7.24	9.00	+/-8.02	50.0	pCi/L						
Rad Liquid Scintillation 906.0M, Tritium Dist,	•	eceived"											
Tritium	U	196	+/-143	219	+/-148	300	pCi/L		HB2	02/15/24	2200	2563303	6
Tc-02-RC-MOD, Tc99	, Liquid "As	Received"											
Technetium-99	U	18.6	+/-13.8	22.9	+/-13.9	25.0	pCi/L		GS3	02/13/24	0624	2563182	7
TDL - C-11 A 1-4'													

The following Analytical Methods were performed **Description** 

Method

	•
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	90.5	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	98	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	91.2	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	86.8	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	97.7	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW357UG2-24 Project: FRNP00507 Sample ID: 652552001 Project: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.
Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

# Surrogate/Tracer Recovery Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

+/-1.10

+/-0.391

Project:

Client ID:

pCi/L

pCi/L

50.0

FRNP00507

02/09/24 0838 2557928 2

3

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

U

U

0.945

-0.0214

+/-1.09

+/-0.390

1.54

0.793

Client Sample ID: MW358UG2-24
Sample ID: 652552003
Matrix: WG
Collect Date: 23-JAN-24
Receive Date: 24-JAN-24

Receive Date: 24-JAN-24

Thorium-230

Thorium-232

Collector:	Chent											
Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analyst	Date Time	Batch	Mtd.
Rad Alpha Spec Analy AN-1418 AlphaSpec	,	d "As Receiv	ed"									
Radium-226	U	0.0666	+/-0.549	1.13	+/-0.549	5.00	pCi/L		CM4	02/13/24 1423	2557927	1
Th-01-RC M, Th Ison	topes, Liquid '	'As Received	"									

Rad Gas Flow Propos	rtional Counti	ng									
904.0Mod, Ra228, I	Liquid "As Rece	eived"									
Radium-228	U	0.279	+/-2.17	4.07	+/-2.17	4.99	pCi/L	JE1	02/15/24 1144	2563645	3
905.0Mod, Sr90, liq	uid "As Receiv	ed"									
Strontium-90	U	-1.65	+/-2.20	4.53	+/-2.20	8.00	pCi/L	ST2	01/27/24 1400	2558361	4

9310, Alpha/Beta Activity, liquid "As Received" U 2.57 Alpha +/-3.49 5.90 +/-3.52 15.0 pCi/L KP1 01/29/24 1725 2558391 5 15.4 50.0 +/-6.85 9.44 +/-7.33pCi/L

Rad Liquid Scintillation Analysis 906.0M, Tritium Dist, Liquid "As Received"

	1										
Tritium	U	111	+/-130	218	+/-131	300	pCi/L	HB2	02/15/24 2221	2563303	6
Tc-02-RC-MOD, Tc99	9, Liquid "As I	Received"									
Technetium-99	U	17.5	+/-13.6	22.6	+/-13.7	25.0	pCi/L	GS3	02/13/24 0655	2563182	7

The following Analytical Methods were performed

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	92.2	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	90.4	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	91	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	91.4	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	98.7	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW358UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652552003

**Parameter Result Uncertainty** Units Qualifier MDC **TPU** RLPF DF Analyst Date Time Batch Mtd.

Surrogate/Tracer Recovery

Test

**Acceptable Limits** Batch ID Recovery%

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: MW360DUG2-24 Project: Client ID: 652552005 WG Collect Date:

23-JAN-24 Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date	Time	Batch	Mtd.
Rad Alpha Spec Analys	is												
AN-1418 AlphaSpec R	a226, Liquid	"As Receiv	ed"										
Radium-226	U	0.260	+/-0.304	0.421	+/-0.304	5.00	pCi/L		CM4	02/10/24	1417	2557927	1
Th-01-RC M, Th Isoto	pes, Liquid "A	As Received	"										
Thorium-230	U	-0.211	+/-0.627	1.68	+/-0.628	50.0	pCi/L		EJ1	02/09/24	0838	2557928	2
Thorium-232	U	0.307	+/-0.755	1.24	+/-0.757		pCi/L						
Rad Gas Flow Proportion	onal Countir	ng											
904.0Mod, Ra228, Liq	uid "As Rece	ived"											
Radium-228	U	2.42	+/-2.07	3.26	+/-2.16	4.99	pCi/L		JE1	02/15/24	1144	2563645	3
905.0Mod, Sr90, liquid	d "As Receive	ed"											
Strontium-90	U	-0.729	+/-1.33	2.95	+/-1.33	8.00	pCi/L		ST2	01/27/24	1400	2558361	4
9310, Alpha/Beta Acti	vity, liquid "A	s Received'	,										
Alpha	U	3.39	+/-3.85	6.09	+/-3.89	15.0	pCi/L		KP1	01/29/24	1725	2558391	5
Beta	U	2.40	+/-5.29	9.44	+/-5.31	50.0	pCi/L						
Rad Liquid Scintillation	n Analysis												
906.0M, Tritium Dist,	Liquid "As R	eceived"											
Tritium	U	7.74	+/-111	215	+/-111	300	pCi/L		HB2	02/15/24	2243	2563303	6
Tc-02-RC-MOD, Tc99	, Liquid "As I	Received"											
Technetium-99	U	-0.988	+/-13.4	23.1	+/-13.4	25.0	pCi/L		GS3	02/13/24	0726	2563182	7
The following Analytics	134.412		3										

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	94.4	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	95.7	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	87.8	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	98.5	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	96.8	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360DUG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652552005

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RL

Surrogate/Tracer Recovery Test Batch ID Recovery% **Acceptable Limits** 

#### Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project: Client ID:

FRNP00507 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: Collect Date: MW360UG2-24 652552007 WG 23-JAN-24

Receive Date: 24-JAN-24 Collector: Client

Parameter	Qualifier	Result Ur	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date T	ime	Batch	Mtd.
Rad Alpha Spec Analysi	is												
AN-1418 AlphaSpec R	a226, Liquid	"As Receiv	ed"										
Radium-226	U	0.578	+/-0.472	0.651	+/-0.474	5.00	pCi/L		CM4	02/10/24 1	417	2557927	1
Th-01-RC M, Th Isotop	pes, Liquid "A	As Received	"										
Thorium-230	U	0.281	+/-0.823	1.53	+/-0.827	50.0	pCi/L		EJ1	02/09/24 0	838	2557928	3 2
Thorium-232	U	-0.0654	+/-0.379	0.937	+/-0.380		pCi/L						
Rad Gas Flow Proportion	onal Countir	ng											
904.0Mod, Ra228, Liq	uid "As Rece	ived"											
Radium-228	U	1.75	+/-1.70	2.73	+/-1.76	4.99	pCi/L		JE1	02/15/24 1	144	2563645	3
905.0Mod, Sr90, liquid	l "As Receive	ed"											
Strontium-90	U	0.751	+/-1.61	2.93	+/-1.62	8.00	pCi/L		ST2	01/27/24 1	400	2558361	4
9310, Alpha/Beta Activ	vity, liquid "A	s Received"	,										
Alpha	U	4.48	+/-4.37	6.61	+/-4.43	15.0	pCi/L		KP1	01/29/24 1	725	2558391	5
Beta	U	-0.882	+/-5.20	10.0	+/-5.20	50.0	pCi/L						
Rad Liquid Scintillation	Analysis												
906.0M, Tritium Dist,	Liquid "As R	eceived"											
Tritium	U	-114	+/-88.9	220	+/-89.0	300	pCi/L		HB2	02/15/24 2	305	2563303	6
Tc-02-RC-MOD, Tc99	, Liquid "As I	Received"											
Technetium-99	U	5.52	+/-13.3	22.6	+/-13.3	25.0	pCi/L		GS3	02/13/24 0	757	2563182	. 7
The following Analytics	l Mathada m		mad										

The following Method	g Analytical Methods were performed  Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	93.2	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	98.8	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	93.2	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	96.1	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	98.5	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW360UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652552007

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RLSurrogate/Tracer Recovery Batch ID Recovery% **Acceptable Limits** 

Test

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

Collector:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client

Client Sample ID: Sample ID: Matrix: MW361UG2-24 652552009 WG Collect Date: 23-JAN-24 Receive Date: 24-JAN-24

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Гime	Batch	Mtd
Rad Alpha Spec Anal	ysis												
AN-1418 AlphaSpec	Ra226, Liquid	"As Receiv	ed"										
Radium-226	U	0.0593	+/-0.318	0.639	+/-0.319	5.00	pCi/L		CM4	02/10/24 1	1417	2557927	1
Th-01-RC M, Th Iso	topes, Liquid ".	As Received	"										
Thorium-230	U	1.26	+/-1.44	1.93	+/-1.46	50.0	pCi/L		EJ1	02/09/24 (	0838	2557928	3 2
Thorium-232	U	-0.0217	+/-0.554	1.08	+/-0.555		pCi/L						
Rad Gas Flow Propor	tional Countii	ng											
904.0Mod, Ra228, L	iquid "As Rece	ived"											
Radium-228	U	1.70	+/-2.28	3.90	+/-2.32	4.99	pCi/L		JE1	02/15/24 1	1144	2563645	; 3
905.0Mod, Sr90, liqu	uid "As Receive	ed"											
Strontium-90	U	-0.994	+/-1.48	3.26	+/-1.48	8.00	pCi/L		ST2	01/27/24 1	1400	2558361	4
9310, Alpha/Beta Ac	ctivity, liquid "A	As Received	'										
Alpha	U	1.36	+/-4.26	8.30	+/-4.27	15.0	pCi/L		KP1	01/29/24 1	1653	2558391	. 5
Beta		38.6	+/-9.22	9.91	+/-11.2	50.0	pCi/L						
Rad Liquid Scintillati	•												
906.0M, Tritium Dis	t, Liquid "As R	eceived"											
Tritium	U	86.9	+/-123	213	+/-125	300	pCi/L		HB2	02/15/24 2	2326	2563303	6
Tc-02-RC-MOD, Tc	99, Liquid "As	Received"											
Technetium-99		54.3	+/-14.4	22.8	+/-15.7	25.0	pCi/L		GS3	02/13/24 (	0828	2563182	2 7
The following Analyti	ical Mathads v	vara narfor	mad										

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	92.5	(30%-110%)	_
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	66.8	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	83	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	101	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	98.3	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW361UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652552009

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RL**Acceptable Limits** Batch ID Recovery%

Surrogate/Tracer Recovery Test

#### Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project: Client ID:

FRNP00507 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24 Sample ID: 652552011 Matrix: WG Collect Date: 23-JAN-24

Receive Date: 24-JAN-24
Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Anal	yst Date	Time	Batch	Mtd.
Rad Alpha Spec An	nalysis												
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	ed"										
Radium-226	U	0.513	+/-0.508	0.579	+/-0.509	5.00	pCi/L		CM	1 02/13/24	1000	2557927	1
Th-01-RC M, Th I	Isotopes, Liquid "A	As Received	"										
Thorium-230	U	0.120	+/-0.786	1.61	+/-0.788	50.0	pCi/L		EJ1	02/09/24	1 0838	2557928	2
Thorium-232	U	-0.0683	+/-0.402	0.992	+/-0.403		pCi/L						
Rad Gas Flow Prop	ortional Countii	ng											
904.0Mod, Ra228	3, Liquid "As Rece	ived"											
Radium-228	U	1.12	+/-2.37	4.23	+/-2.38	4.99	pCi/L		JE1	02/15/24	1145	2563645	3
905.0Mod, Sr90, l	liquid "As Receive	ed"											
Strontium-90	U	-1.76	+/-1.80	3.94	+/-1.80	8.00	pCi/L		ST2	01/27/24	1401	2558361	4
9310, Alpha/Beta	Activity, liquid "A	As Received'	'										
Alpha	U	0.134	+/-4.69	9.02	+/-4.70	15.0	pCi/L		KP	01/30/24	1156	2558391	5
Beta	U	-22.3	+/-6.42	15.6	+/-6.42	50.0	pCi/L						
Rad Liquid Scintilla	ation Analysis												
906.0M, Tritium I	Dist, Liquid "As R	eceived"											
Tritium	U	70.7	+/-120	211	+/-121	300	pCi/L		HB	2 02/15/24	1 2348	2563303	6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As	Received"											
Technetium-99	U	7.92	+/-13.6	23.0	+/-13.6	25.0	pCi/L		GS:	02/13/24	1 0859	2563182	. 7

The following Analytical Methods were performed

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	95.5	(30%-110%)	_
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	95.8	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	88.3	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	96.1	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	97	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW362UG2-24 Project: FRNP00507 Sample ID: 652552011 Project: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.

Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24 Sample ID: 652552013 Matrix: WG Collect Date: 23-JAN-24

Receive Date: 24-JAN-24
Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch 1	Mtd.
Rad Alpha Spec Analy	rsis												
AN-1418 AlphaSpec		"As Receiv	ed"										
Radium-226	U	0.220	+/-0.430	0.692	+/-0.430	5.00	pCi/L		CM4	02/13/24	1000	2557927	1
Th-01-RC M, Th Isoto	opes, Liquid "A	As Received	"										
Thorium-230	U	0.524	+/-0.969	1.63	+/-0.976	50.0	pCi/L		EJ1	02/09/24	0838	2557928	2
Thorium-232	U	0.128	+/-0.563	1.01	+/-0.564		pCi/L						
Rad Gas Flow Proport 904.0Mod, Ra228, Li		_											
Radium-228	U	2.36	+/-2.47	4.05	+/-2.54	4.99	pCi/L		JE1	02/15/24	1432	2563645	3
905.0Mod, Sr90, liqu	id "As Receive	≥d"											
Strontium-90	U	0.630	+/-2.01	3.70	+/-2.01	8.00	pCi/L		ST2	01/27/24	1401	2558361	4
9310, Alpha/Beta Act	tivity, liquid "A	s Received'	,										
Alpha	U	4.51	+/-4.44	6.71	+/-4.51	15.0	pCi/L		KP1	01/29/24	1653	2558391	5
Beta	U	3.70	+/-5.38	9.25	+/-5.41	50.0	pCi/L						
Rad Liquid Scintillation 906.0M, Tritium Dist	•	eceived"											
Tritium	U	121	+/-131	217	+/-133	300	pCi/L		HB2	02/16/24	0009	2563303	6
Tc-02-RC-MOD, Tc9	9, Liquid "As	Received"											
Technetium-99	U	6.56	+/-13.7	23.3	+/-13.8	25.0	pCi/L		GS3	02/13/24	0929	2563182	7
The following Applytic	al Mathada u	zono nonfon	mod										

The following Analytical Methods were performed

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	90.4	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	88.5	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	86.2	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	82.1	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	96.2	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW363UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652552013

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RL

Batch ID Recovery% Surrogate/Tracer Recovery Test **Acceptable Limits** 

#### Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

Collector:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

FRNP00507

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client

Client Sample ID: Sample ID: Matrix: FB1UG2-24 652552015 WATER Collect Date: 23-JAN-24 Receive Date: 24-JAN-24

Client ID: FRNP005

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Alpha Spec Analys	sis											
AN-1418 AlphaSpec R	Ra226, Liquid	"As Receiv	ed"									
Radium-226	U	0.350	+/-0.375	0.509	+/-0.376	5.00	pCi/L		CM4	02/10/24 1417	2557927	1
Th-01-RC M, Th Isoto	pes, Liquid "A	As Received	"									
Thorium-230	U	1.58	+/-1.95	2.89	+/-1.98	50.0	pCi/L		EJ1	02/09/24 0838	2557928	2
Thorium-232	U	0.0742	+/-1.00	2.13	+/-1.00		pCi/L					
Rad Gas Flow Proporti	ional Countir	ng										
904.0Mod, Ra228, Liq	quid "As Rece	ived"										
Radium-228	U	-0.288	+/-2.45	4.67	+/-2.45	4.99	pCi/L		JE1	02/15/24 1145	2563645	3
905.0Mod, Sr90, liqui	d "As Receive	ed"										
Strontium-90	U	-1.71	+/-1.99	4.41	+/-1.99	8.00	pCi/L		ST2	01/27/24 1401	2558361	4
9310, Alpha/Beta Acti	ivity, liquid "A	As Received'	,									
Alpha	U	1.18	+/-2.78	5.52	+/-2.79	15.0	pCi/L		KP1	01/29/24 1725	2558391	5
Beta	U	5.99	+/-5.86	9.62	+/-5.95	50.0	pCi/L					
Rad Liquid Scintillation	•											
906.0M, Tritium Dist,	Liquid "As R	eceived"										
Tritium	U	47.9	+/-119	217	+/-119	300	pCi/L		HB2	02/16/24 0031	2563303	6
Tc-02-RC-MOD, Tc99	9, Liquid "As I	Received"										
Technetium-99	U	-1.71	+/-13.2	22.6	+/-13.2	25.0	pCi/L		GS3	02/13/24 1000	2563182	. 7
The following Analytic	al Methods w	vere perfori	med									

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	92.6	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	52.6	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	94.1	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	72.7	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	98.9	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: FB1UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652552015

**Parameter** Qualifier **Result Uncertainty MDC** Units PF DF Analyst Date Time Batch Mtd. **TPU** RL**Acceptable Limits** Batch ID Recovery%

Surrogate/Tracer Recovery

Test

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: RI1UG2-24 652552016 WATER Collect Date: 23-JAN-24 Receive Date: 24-JAN-24

Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Rad Alpha Spec An	alysis												
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	red"										
Radium-226	U	0.499	+/-0.743	0.951	+/-0.744	5.00	pCi/L		CM4	02/13/24	1423	2557927	1
Th-01-RC M, Th I	sotopes, Liquid "A	As Received	"										
Thorium-230	U	1.60	+/-2.00	2.73	+/-2.03	50.0	pCi/L		EJ1	02/10/24	0926	2557928	2
Thorium-232	U	-0.0712	+/-0.821	1.83	+/-0.824		pCi/L						
Rad Gas Flow Prop	ortional Countii	ng											
904.0Mod, Ra228	, Liquid "As Rece	ived"											
Radium-228	U	0.683	+/-2.63	4.78	+/-2.63	4.99	pCi/L		JE1	02/15/24	1145	2563645	3
905.0Mod, Sr90, l	liquid "As Receive	ed"											
Strontium-90	U	2.33	+/-2.79	4.72	+/-2.82	8.00	pCi/L		ST2	01/27/24	1401	2558361	4
9310, Alpha/Beta	Activity, liquid "A	As Received	"										
Alpha	U	-0.970	+/-4.04	9.57	+/-4.04	15.0	pCi/L		KP1	01/30/24	1156	2558391	5
Beta	U	-4.44	+/-5.40	11.2	+/-5.41	50.0	pCi/L						
Rad Liquid Scintilla 906.0M, Tritium I	•	eceived"											
Tritium		543	+/-185	218	+/-213	300	pCi/L		HB2	02/16/24	0053	2563303	6
Tc-02- $RC$ - $MOD$ , $T$	Tc99, Liquid "As	Received"											
Technetium-99	U	-3.97	+/-13.8	23.8	+/-13.8	25.0	pCi/L		GS3	02/13/24	1031	2563182	7
The fellowing Amel	4:1 M-4bd												

The following Analytical Methods were performed

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2557927	92.8	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2557928	87.5	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563645	88	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2558361	82.1	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2563182	93.9	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: RI1UG2-24 Project: FRNP00507 Sample ID: 652552016 Project: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.

Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

Notes:

The MDC is a sample specific MDC.

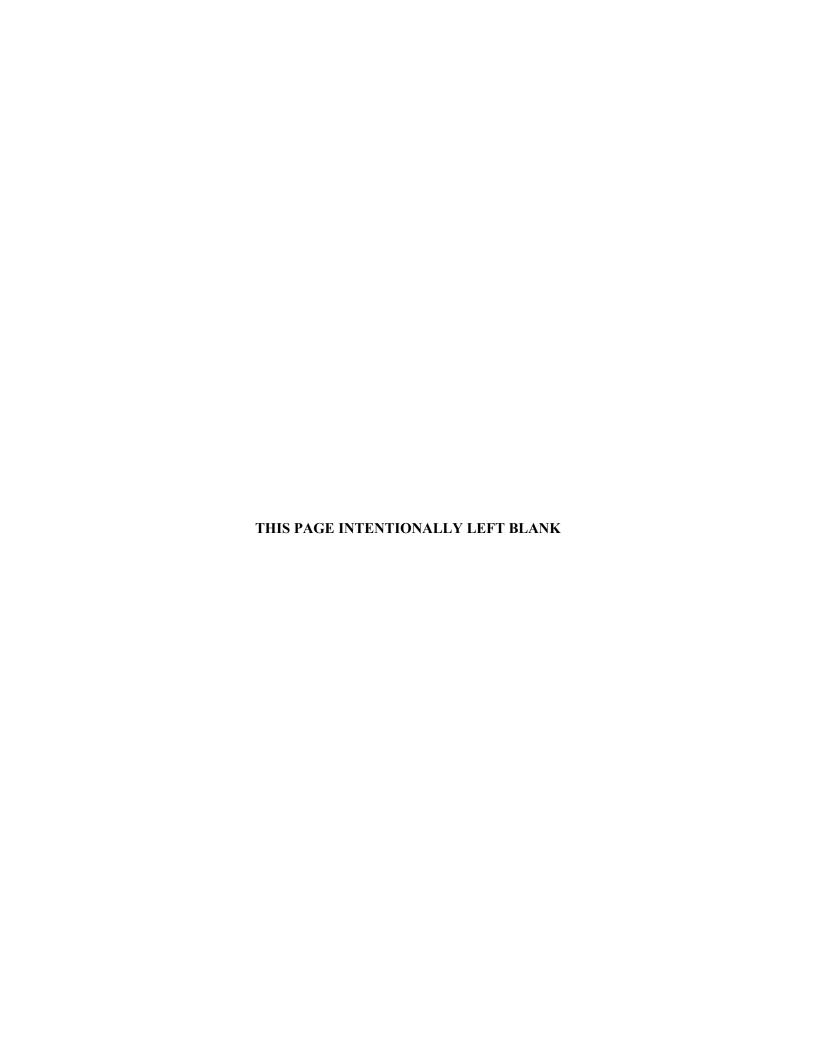
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

# ATTACHMENT C2 GEL LABORATORIES CERTIFICATE OF ANALYSIS



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24

Sample ID: 652726001

Matrix: WG

Collect Date: 24-JAN-24 07:54
Receive Date: 25-JAN-24
Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis	of EDB/DBCP											
8011 VOA- 1,2-Dibr	omo-3-chloropi	opane "As Recei	ved"									
1,2-Dibromo-3-chloroprop	-	0.0187	0.00840	0.0187	ug/L	0.933	1	LL2	01/26/24	1522 2	2558742	1
Carbon Analysis												
9060A, Total Organi	c Carbon "As R	eceived"										
Total Organic Carbon Ave		0.497	0.330	2.00	mg/L		1	RM3	01/26/24	0000 2	2558749	3
Flow Injection Analy	rsis											
9012B, Cyanide, Tot	al "As Received	l''										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/24	0805 2	2558930	4
Halogen Analysis												
9020B, TOX (Organi	ic Halogen) "As	Received"										
Total Organic Halogens	J	5.24	3.33	10.0	ug/L		1	RM3	01/26/24	1247 2	2559096	5
Ion Chromatography												
300.0, Iodide in Liqu	id "As Received	1"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1651 2	2564209	6
SW846 9056A Anior	ns (5 elements)	"As Received"										
Chloride	JW	37.2	0.335	250	mg/L		5	CH6	01/25/24	2027 2	2558568	7
Nitrate-N	J	1.21	0.165	10.0	mg/L		5					
Sulfate		68.2	0.665	2.00	mg/L		5					
Bromide		0.572	0.0670	0.200	mg/L		1	CH6	01/25/24	1315 2	2558568	8
Fluoride	J	0.181	0.0330	4.00	mg/L		1					
Mercury Analysis-CV	VAA											
7470, Mercury Liquio	d "As Received	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1100 2	2560151	9
Metals Analysis-ICP	-MS											
6020, Metals (15+ ele	ements) "As Re	ceived"										
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	1919 2	2558648	10
Barium		0.0597	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		33.7	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.00110	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0589	0.0330	0.100	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24 Project: FRNP00507 Sample ID: 652726001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	e Batch	Method
Metals Analysis-ICP-M	S											
6020, Metals (15+ elem	ents) "As Re	ceived"										
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		14.8	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00390	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Potassium		1.98	0.0800	0.300	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		44.6	0.0800	0.250	mg/L	1.00	1					
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.0159	0.00330	0.0200	mg/L	1.00	1					
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0206	2558648	11
Rhodium	U	0.00500	0.00160	0.00500	mg/L			PRB	02/21/24	1525	2558648	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Antimony	U	0.00300	0.00100	0.00300	mg/L			RM4	02/21/24	1825	2558648	13
Arsenic	J	0.00263	0.00200	0.00500	mg/L			RM4	02/21/24	1044	2558648	14
Boron		0.174	0.00520	0.0150	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "A	As Received"											
Aroclor-1016	U	0.100	0.0333	0.100	ug/L	0.00100	1	YS1	02/16/24	1148	2568588	15
Aroclor-1221	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-1232	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-1242	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-1248	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-1254	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-1260	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-1268	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Aroclor-Total	U	0.100	0.0333	0.100	ug/L	0.00100	1					
Solids Analysis												
160.1, Dissolved Solids	"As Receive	ed"										
Total Dissolved Solids		264	2.38	10.0	mg/L			KLP1	01/31/24	1040	2561127	16
Spectrometric Analysis					3							
410.4, Chem. Oxygen D	Demand "As l	Received"										

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24 Project: FRNP00507 Sample ID: 652726001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis	3										
410.4, Chem. Oxygen	Demand "As I	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519 2558570	17
Volatile Organics											
8260D, Volatiles- full s	suite "As Rec	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1035 2558696	18
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW364UG2-24 Project: FRNP00507 Sample ID: 652726001 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full s	uite "As Recei	ved"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	J	0.720	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were per	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 9010C Distillation	SW846 9010C Prep			ES2	01/26/24	0822	2558929	
SW846 3535A	SW3535A PCB SPE Extraction			DXF4	02/16/24	0454	2568582	
SW846 8011 PREP	8011 Prep			LL2	01/26/24	1343	2558740	
SW846 7470A Prep	EPA 7470A Me		JM13	01/30/24	1205	2560147		
SW846 3005A	ICP-MS 3005A		JD2	01/30/24	0645	2558647		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24 Project: FRNP00507 Sample ID: 652726001 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL Unit	ts PF I	OF Analyst Date	Time Batch	Method
The following Analyti	ical Methods were performed:				-		
Method	Description			Analyst (	Comments		
1	SW846 8011						
2	SW846 8011						
3	SW846 9060A						
4	SW846 9012B						
5	SW846 9020B						
6	EPA 300.0						
7	SW846 9056A						
8	SW846 9056A						
9	SW846 7470A						
10	SW846 3005A/6020B						
11	SW846 3005A/6020B						
12	SW846 3005A/6020B						
13	SW846 3005A/6020B						
14	SW846 3005A/6020B						
15	SW846 3535A/8082A						
16	EPA 160.1						
17	EPA 410.4						
18	SW846 8260D						
Surrogate/Tracer Reco	very Test		Result	Nominal	Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloro Received"	ppropane "As	6.75 ug/L	6.67	101	(56%-149%	)
Decachlorobiphenyl	8082A, PCB Liquids "As Received	d"	0.144 ug/L	0.200	72	(30%-135%	)
4cmx	8082A, PCB Liquids "As Received	d"	0.136 ug/L	0.200	68	(26%-108%	)
Bromofluorobenzene	8260D, Volatiles- full suite "As Re	eceived"	52.9 ug/L	50.0	106	(74%-123%	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Re	eceived"	47.6 ug/L	50.0	95	(76%-127%	)
Toluene-d8	8260D, Volatiles- full suite "As Re	eceived"	44.8 ug/L	50.0	90	(77%-121%	)

# Notes:

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24 Project: FRNP00507 Sample ID: 652726001 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24 Sample ID: 652726002

Matrix: WG

Collect Date: 24-JAN-24 07:54
Receive Date: 25-JAN-24
Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF DF	7 Analyst Date	Time Batch	Method
Metals Analysis-IC	CP-MS							
6020, Dissolved M	etals (3 Elements) "As Received"							
Barium	0.0560	0.000670	0.00400	mg/L	1.00 1	RM4 02/20/24	1938 2558648	1
Chromium	U 0.0100	0.00300	0.0100	mg/L	1.00 1			
Uranium	U 0.000200	0.0000670	0.000200	mg/L	1.00 1			
The following Prep	Methods were performed:							
Method	Description		Analyst	Date	Tim	e Prep Batch	l	
SW846 3005A	ICP-MS 3005A PREP		JD2	01/30/24	0645	2558647		
EPA 160	Laboratory Filtration		RXB5	01/25/24	1244	2558567		
The following Ana	alytical Methods were performed:							
Method	Description			A	Analyst Co	mments	·	
1	SW846 3005A/6020B				•			

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24

Sample ID: 652726003

Matrix: WG

Collect Date: 24-JAN-24 09:03 Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis of	EDB/DBCP											
8011 VOA- 1,2-Dibrom	o-3-chloropr	opane "As R	deceived"									
1,2-Dibromo-3-chloropropane		0.0190	0.00854	0.0190	ug/L	0.949	1	LL2	01/26/24	1636	2558742	1
Carbon Analysis												
9060A, Total Organic C	arbon "As R	eceived"										
Total Organic Carbon Average	e J	0.620	0.330	2.00	mg/L		1	RM3	01/26/24	0138	2558749	3
Flow Injection Analysis												
9012B, Cyanide, Total "	'As Received	l''										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/24	0808	2558930	4
Halogen Analysis												
9020B, TOX (Organic I	Halogen) "As	Received"										
Total Organic Halogens	J	3.68	3.33	10.0	ug/L		1	RM3	01/26/24	1711	2559096	5
Ion Chromatography												
300.0, Iodide in Liquid '	"As Received	d"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1730	2564209	6
SW846 9056A Anions (	5 elements) '	"As Receive	d"									
Nitrate-N	J	1.02	0.165	10.0	mg/L		5	CH6	01/25/24	2231	2558568	7
Sulfate		49.1	0.665	2.00	mg/L		5					
Chloride	JW	38.9	0.670	250	mg/L		10	CH6	01/25/24	2200	2558568	8
Bromide		0.571	0.0670	0.200	mg/L		1	CH6	01/25/24	1448	2558568	9
Fluoride	J	0.204	0.0330	4.00	mg/L		1					
Mercury Analysis-CVA												
7470, Mercury Liquid ".	As Received'	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1112	2560151	10
Metals Analysis-ICP-M	S											
6020, Metals (15+ eleme	ents) "As Red	ceived"										
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1849	2558648	11
Arsenic	J	0.00316	0.00200	0.00500	mg/L	1.00	1	RM4	02/21/24	1116	2558648	12
Boron		0.0871	0.00520	0.0150	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1539	2558648	13
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Nickel	J	0.000991	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24		2558648	14
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	2005	2558648	15
Barium		0.108	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Project: FRNP00507 Sample ID: 652726003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst I	Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Calcium		33.2	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.000966	0.000300	0.00200	mg/L	1.00	1				
Iron		0.121	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		14.5	0.0100	0.0300	mg/L	1.00	1				
Manganese		0.0165	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Potassium		1.93	0.0800	0.300	mg/L	1.00	1				
Selenium	J	0.00221	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Sodium		47.8	0.0800	0.250	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.113	0.0377	0.113	ug/L	0.00113	1	YS1 02/	16/24	1221 2568588	16
Aroclor-1221	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Aroclor-1232	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Aroclor-1242	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Aroclor-1248	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Aroclor-1254	U	0.113	0.0377	0.113		0.00113	1				
Aroclor-1260	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Aroclor-1268	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Aroclor-Total	U	0.113	0.0377	0.113	ug/L	0.00113	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	d"									
Total Dissolved Solids		278	2.38	10.0	mg/L			KLP1 01/	31/24	1040 2561127	17
Spectrometric Analysis											
410.4, Chem. Oxygen I	Demand "As I	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Project: FRNP00507 Sample ID: 652726003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis	3										
410.4, Chem. Oxygen	Demand "As I	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519 2558570	18
Volatile Organics											
8260D, Volatiles- full s	suite "As Rec	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1103 2558696	19
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Project: FRNP00507 Sample ID: 652726003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF I	OF Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full st	uite "As Rece	eived"							
Methylene chloride	U	5.00	0.500	5.00	ug/L		1		
Styrene	U	1.00	0.333	1.00	ug/L		1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1		
Toluene	U	1.00	0.333	1.00	ug/L		1		
Trichloroethylene		1.30	0.333	1.00	ug/L		1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1		
The following Prep Met	thods were pe	erformed:							
Method	Description	n		Analyst	Date	Ti	ime Prep Batch	l	
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		JM13	01/30/24	12	2560147		
SW846 3535A	SW3535A PC	CB SPE Extraction		DXF4	02/16/24	04	54 2568582		
SW846 3005A	ICP-MS 3005	SA PREP		JD2	01/30/24	06	2558647		
SW846 9010C Distillation	SW846 90100	C Prep		ES2	01/26/24	08	2558929		
SW846 8011 PREP	8011 Prep			LL2	01/26/24	13	2558740		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Project: FRNP00507 Sample ID: 652726003 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods were performed:							
Method	Description				Analyst	Comments		
1	SW846 8011							
2	SW846 8011							
3	SW846 9060A							
4	SW846 9012B							
5	SW846 9020B							
6	EPA 300.0							
7	SW846 9056A							
8	SW846 9056A							
9	SW846 9056A							
10	SW846 7470A							
11	SW846 3005A/6020B							
12	SW846 3005A/6020B							
13	SW846 3005A/6020B							
14	SW846 3005A/6020B							
15	SW846 3005A/6020B							
16	SW846 3535A/8082A							
17	EPA 160.1							
18	EPA 410.4							
19	SW846 8260D							
Surrogate/Tracer Recov	very Test		Re	sult	Nomina	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chlorop Received"	propane "As	7.24	ug/L	6.7	8 107	(56%-149%)	)
Decachlorobiphenyl	8082A, PCB Liquids "As Received	!"	0.127	ug/L	0.22	7 56	(30%-135%)	)
4cmx	8082A, PCB Liquids "As Received	"		ug/L	0.22	7 59	(26%-108%)	)
Bromofluorobenzene	8260D, Volatiles- full suite "As Re	ceived"	54.0	ug/L	50.	0 108	(74%-123%)	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Re	ceived"	46.9	ug/L	50.	0 94	(76%-127%)	)

# Toluene-d8 Notes:

44.6 ug/L

50.0

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Project: FRNP00507 Sample ID: 652726003 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Sample ID: 652726004

Matrix: WG

Collect Date: 24-JAN-24 09:03
Receive Date: 25-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Metals Analysis-Io	CP-MS											
6020, Dissolved M	Metals (3 Elements)	"As Received"										
Barium		0.103	0.000670	0.00400	mg/L	1.00	1	RM4	02/20/24	2009	2558648	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					
The following Pre	p Methods were pe	rformed:										
Method	Description	1		Analyst	Date	,	Time	Pr	ep Batch			
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24		0645	25	58647			
EPA 160	Laboratory Fil	Itration		RXB5	01/25/24		1244	25	58567			
The following An	alytical Methods w	ere performed:										
Method	Description					Analysi	t Cor	nment	S			

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

SW846 3005A/6020B

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24

Sample ID: 652726005

Matrix: WG

Collect Date: 24-JAN-24 09:53
Receive Date: 25-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis	of EDB/DBCP											
8011 VOA- 1,2-Dibr	omo-3-chloropi	opane "As R	eceived"									
1,2-Dibromo-3-chloroprop	-	0.0188	0.00847	0.0188	ug/L	0.941	1	LL2	01/26/24	1700 2	2558742	2
Carbon Analysis												
9060A, Total Organic	c Carbon "As R	eceived"										
Total Organic Carbon Ave		2.00	0.330	2.00	mg/L		1	RM3	01/26/24	0211 2	2558749	3
Flow Injection Analy	-				Č							
9012B, Cyanide, Tota		1"										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/24	0809 2	2558930	4
Halogen Analysis					Z							
9020B, TOX (Organi	ic Halogen) "As	Received"										
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RM3	01/26/24	1734 2	2559096	5
Ion Chromatography					8							
300.0, Iodide in Liqu	id "As Receive	d"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1743 2	2564209	6
SW846 9056A Anior					8		-					~
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/25/24	1519 2	2558568	7
Chloride	JW	6.65	0.0670	250	mg/L		1					
Fluoride	J	0.121	0.0330	4.00	mg/L		1					
Nitrate-N	U	10.0	0.0330	10.0	mg/L		1					
Sulfate		19.5	0.665	2.00	mg/L		5	CH6	01/25/24	2302 2	2558568	8
Mercury Analysis-CV	VAA											
7470, Mercury Liquid	d "As Received	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1113 2	2560151	9
Metals Analysis-ICP	-MS											
6020, Metals (15+ ele	ements) "As Re	ceived"										
Arsenic	J	0.00422	0.00200	0.00500	mg/L	1.00	1	RM4	02/21/24	1119 2	2558648	10
Boron		0.0232	0.00520	0.0150	mg/L	1.00	1					
Manganese		1.38	0.0100	0.0500	mg/L	1.00	10	RM4	02/21/24		2558648	11
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	2012 2	2558648	12
Barium		0.129	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium	U	13.1 0.0100	0.0800 0.00300	0.200 0.0100	mg/L	1.00 1.00	1 1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Project: FRNP00507 Sample ID: 652726005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time 1	Batch	Method
Metals Analysis-ICP-M	S											
6020, Metals (15+ elem	ents) "As Re	ceived"										
Cobalt	ŕ	0.00668	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.000775	0.000300	0.00200	mg/L	1.00	1					
Iron		7.08	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		7.44	0.0100	0.0300	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Potassium		2.70	0.0800	0.300	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		15.7	0.0800	0.250	mg/L	1.00	1					
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.0109	0.00330	0.0200	mg/L	1.00	1					
Nickel		0.00244	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0259 2	558648	13
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1854 2	558648	14
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1541 2	558648	15
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "A	As Received"											
Aroclor-1016	U	0.107	0.0358	0.107	ug/L	0.00107	1	YS1	02/16/24	1232 2	568588	16
Aroclor-1221	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Aroclor-1232	U	0.107	0.0358	0.107	_	0.00107						
Aroclor-1242	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Aroclor-1248	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Aroclor-1254	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Aroclor-1260	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Aroclor-1268	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Aroclor-Total	U	0.107	0.0358	0.107	ug/L	0.00107	1					
Solids Analysis												
160.1, Dissolved Solids	"As Receive	ed"										
Total Dissolved Solids		122	2.38	10.0	mg/L			KLP1	01/31/24	1040 2	561127	17
Spectrometric Analysis					3-			_				
410.4, Chem. Oxygen D	Demand "As l	Received"										

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Project: FRNP00507 Sample ID: 652726005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis	3										
410.4, Chem. Oxygen l	Demand "As l	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519 2558570	18
Volatile Organics											
8260D, Volatiles- full s	suite "As Rec	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1130 2558696	19
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Project: FRNP00507 Sample ID: 652726005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF I	DF Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full st	uite "As Rece	eived"							
Methylene chloride	U	5.00	0.500	5.00	ug/L		1		
Styrene	U	1.00	0.333	1.00	ug/L		1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1		
Toluene	U	1.00	0.333	1.00	ug/L		1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1		
The following Prep Met	thods were pe	erformed:							
Method	Description	n		Analyst	Date	Ti	ime Prep Batch	1	
SW846 8011 PREP	8011 Prep			LL2	01/26/24	13	343 2558740		
SW846 3535A	SW3535A PC	CB SPE Extraction		DXF4	02/16/24	04	154 2568582		
SW846 9010C Distillation	SW846 90100	C Prep		ES2	01/26/24	08	322 2558929		
SW846 3005A	ICP-MS 3005	SA PREP		JD2	01/30/24	06	545 2558647		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		JM13	01/30/24	12	205 2560147		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Project: FRNP00507 Sample ID: 652726005 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods were performed:							
Method	Description				Analyst	Comments		
1	SW846 8011							
2	SW846 8011							
3	SW846 9060A							
4	SW846 9012B							
5	SW846 9020B							
6	EPA 300.0							
7	SW846 9056A							
8	SW846 9056A							
9	SW846 7470A							
10	SW846 3005A/6020B							
11	SW846 3005A/6020B							
12	SW846 3005A/6020B							
13	SW846 3005A/6020B							
14	SW846 3005A/6020B							
15	SW846 3005A/6020B							
16	SW846 3535A/8082A							
17	EPA 160.1							
18	EPA 410.4							
19	SW846 8260D							
Surrogate/Tracer Recov	rery Test		Re	esult	Nomin	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropr Received"	opane "As	6.5	l ug/L	6.7	2 97	(56%-149%)	)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"		0.169	9 ug/L	0.21	.5 79	(30%-135%)	)
4cmx	8082A, PCB Liquids "As Received"		0.14	4 ug/L	0.21	.5 67	(26%-108%)	)
Bromofluorobenzene	8260D, Volatiles- full suite "As Rece	eived"	51.0	5 ug/L	50	.0 103	(74%-123%)	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Rece	eived"	48.	l ug/L	50	.0 96	(76%-127%)	)

# Toluene-d8 **Notes:**

44.5 ug/L

50.0

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Project: FRNP00507 Sample ID: 652726005 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Sample ID: 652726006

Matrix: WG

Collect Date: 24-JAN-24 09:53
Receive Date: 25-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-M	S									
6020, Dissolved Metals	(3 Elements)	"As Received"								
Barium		0.121	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/24	2016 2558648	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Me	thods were pe	erformed:								
Method	Description	1		Analyst	Date	,	Гітє	Prep Batch		
EPA 160	Laboratory Fi	ltration		RXB5	01/25/24		1244	2558567		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24	(	0645	2558647		
The following Analytic	al Methods w	vere performed:								
Method	Description				A	Analyst	Cor	nments		
1	SW846 3005A	/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24

Sample ID: 652726007

Matrix: WG

Collect Date: 24-JAN-24 11:26 Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis of I	EDB/DBCP											_
8011 VOA- 1,2-Dibrome	o-3-chloropr	opane "As Red	ceived"									
1,2-Dibromo-3-chloropropane		0.0188	0.00846	0.0188	ug/L	0.940	1	LL2	01/26/24	1725	2558742	1
Carbon Analysis												
9060A, Total Organic Ca	arbon "As Re	eceived"										
Total Organic Carbon Average		0.769	0.330	2.00	mg/L		1	RM3	01/26/24	0243	2558749	3
Flow Injection Analysis					•							
9012B, Cyanide, Total ".	As Received	<b>"</b>										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/24	0810	2558930	4
Halogen Analysis					J							
9020B, TOX (Organic H	Halogen) "As	Received"										
Total Organic Halogens	14108011) 113	21.0	3.33	10.0	ug/L		1	RM3	01/26/24	1813	2559096	5
Ion Chromatography					J							
300.0, Iodide in Liquid "	'As Received	1"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1756	2564209	6
SW846 9056A Anions (	5 elements) '				J							
Bromide	,	0.362	0.0670	0.200	mg/L		1	CH6	01/25/24	1550	2558568	7
Fluoride	J	0.270	0.0330	4.00	mg/L		1					
Sulfate		8.49	0.133	0.400	mg/L		1					
Chloride	JW	27.7	0.335	250	mg/L		5	CH6	01/26/24	1058	2558568	8
Nitrate-N	J	1.06	0.165	10.0	mg/L		5					
Mercury Analysis-CVA	A											
7470, Mercury Liquid "A	As Received'	1										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1115	2560151	9
Metals Analysis-ICP-MS	S											
6020, Metals (15+ eleme	ents) "As Red	ceived"										
Arsenic	J	0.00304	0.00200	0.00500	mg/L	1.00	1	RM4	02/21/24	1121	2558648	10
Boron		0.0239	0.00520	0.0150	mg/L	1.00	1					
Sodium		51.2	0.800	2.50	mg/L	1.00	10	RM4	02/21/24	1135	2558648	11
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1543	2558648	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Aluminum		0.0573	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	2020	2558648	13
Barium		0.375	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24 Project: FRNP00507 Sample ID: 652726007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	nents) "As Re	ceived"									
Calcium		16.4	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt		0.00483	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00170	0.000300	0.00200	mg/L	1.00	1				
Iron		0.107	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		7.13	0.0100	0.0300	mg/L	1.00	1				
Manganese		0.00580	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Potassium		0.564	0.0800	0.300	mg/L	1.00	1				
Selenium	J	0.00276	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1858 2558648	14
Nickel		0.00294	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0306 2558648	15
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.112	0.0372	0.112	ug/L	0.00112	1	YS1	02/16/24	1242 2568588	16
Aroclor-1221	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1232	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1242	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1248	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1254	U	0.112	0.0372	0.112		0.00112	1				
Aroclor-1260	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1268	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-Total	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Solids Analysis											
160.1, Dissolved Solids	s "As Receive	ed"									
Total Dissolved Solids		189	2.38	10.0	mg/L			KLP1	01/31/24	1040 2561127	17
Spectrometric Analysis											
410.4, Chem. Oxygen I	Demand "As I	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24 Project: FRNP00507 Sample ID: 652726007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis	3										
410.4, Chem. Oxygen l	Demand "As I	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519 2558570	18
Volatile Organics											
8260D, Volatiles- full s	suite "As Rec	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1158 2558696	19
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW369UG2-24 Project: FRNP00507 Sample ID: 652726007 Client ID: FRNP005

DL

RL

Units

PF

							•	
Volatile Organics								
8260D, Volatiles- full st	uite "As Recei	ved"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	J	0.900	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were per	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 3005A	ICP-MS 3005A	PREP		JD2	01/30/24	0645	2558647	
SW846 7470A Prep	EPA 7470A M	ercury Prep Liquid		JM13	01/30/24	1205	2560147	
SW846 9010C Distillation	SW846 9010C	Prep		ES2	01/26/24	0822	2558929	
SW846 3535A	SW3535A PCE	SPE Extraction		DXF4	02/16/24	0454	2568582	
SW846 8011 PREP	8011 Prep			LL2	01/26/24	1343	2558740	
	-							

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24 Project: FRNP00507 Sample ID: 652726007 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	al Methods were performed:							
Method	Description				Analyst	Comments		
1	SW846 8011							
2	SW846 8011							
3	SW846 9060A							
4	SW846 9012B							
5	SW846 9020B							
6	EPA 300.0							
7	SW846 9056A							
8	SW846 9056A							
9	SW846 7470A							
10	SW846 3005A/6020B							
11	SW846 3005A/6020B							
12	SW846 3005A/6020B							
13	SW846 3005A/6020B							
14	SW846 3005A/6020B							
15	SW846 3005A/6020B							
16	SW846 3535A/8082A							
17	EPA 160.1							
18	EPA 410.4							
19	SW846 8260D							
Surrogate/Tracer Recove	ery Test		R	esult	Nomina	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chlorop Received"	propane "As	9.3	5 ug/L	6.7	1 139	(56%-149%)	)
Decachlorobiphenyl	8082A, PCB Liquids "As Received	"	0.12	7 ug/L	0.22	3 57	(30%-135%)	)
4cmx	8082A, PCB Liquids "As Received			3 ug/L	0.22	3 64	(26%-108%)	)
Bromofluorobenzene	8260D, Volatiles- full suite "As Re			7 ug/L	50.	0 101	(74%-123%)	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Re	ceived"	46.4	4 ug/L	50.	0 93	(76%-127%)	)

# Toluene-d8 **Notes:**

44.6 ug/L

50.0

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24 Project: FRNP00507 Sample ID: 652726007 Client ID: FRNP005

Parameter C	Dualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
	<	11050110						Time Datem	1.1001100

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

**Analyst Comments** 

Report Date: April 25, 2024

FRNP00507

FRNP005

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24 Sample ID: 652726008

Matrix: WG

Collect Date: 24-JAN-24 11:26 Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier R	esult	DL	RL	Units	PF	DF	Analyst Date	Time	Batch	Method
Metals Analysis-IC	CP-MS										
6020, Dissolved M	letals (3 Elements) "As	s Received"									
Barium		0.370	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/24	2024	2558648	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Uranium	U 0.0	000200	0.0000670	0.000200	mg/L	1.00	1				
The following Prep	Methods were perfor	rmed:									
Method	Description			Analyst	Date	Т	Гіте	Prep Batch			
SW846 3005A	ICP-MS 3005A PF	REP		JD2	01/30/24	0	)645	2558647			
EPA 160	Laboratory Filtrati	on		RXB5	01/25/24	1	244	2558567			

The following Analytical Methods were performed:

Method Description

SW846 3005A/6020B

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24

Sample ID: 652726009

Matrix: WG

Collect Date: 24-JAN-24 12:42
Receive Date: 25-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time 1	Batch	Method
504.1/8011 Analysis	of EDB/DBCP											
8011 VOA- 1,2-Dibr	omo-3-chloropr	opane "As Re	eceived"									
1,2-Dibromo-3-chloroprop	-	0.0185	0.00834	0.0185	ug/L	0.927	1	LL2	01/26/24	1750 2	558742	2
Carbon Analysis												
9060A, Total Organi	c Carbon "As R	eceived"										
Total Organic Carbon Ave		0.805	0.330	2.00	mg/L		1	RM3	01/26/24	0336 2	558749	3
Flow Injection Analy	rsis											
9012B, Cyanide, Tot	al "As Received	l"										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/24	0811 2	558930	4
Halogen Analysis												
9020B, TOX (Organi	ic Halogen) "As	Received"										
Total Organic Halogens		14.4	3.33	10.0	ug/L		1	RM3	01/30/24	1408 2	560465	5
Ion Chromatography					Ü							
300.0, Iodide in Liqu	id "As Received	1"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1808 2	564209	6
SW846 9056A Anior	ns (5 elements)	"As Received	"		C							
Bromide	,	0.598	0.0670	0.200	mg/L		1	CH6	01/25/24	1620 2	558568	7
Fluoride	J	0.194	0.0330	4.00	mg/L		1					
Chloride	JW	40.1	0.670	250	mg/L		10	CH6	01/26/24	0034 2	558568	8
Nitrate-N	J	1.32	0.330	10.0	mg/L		10					
Sulfate		19.3	1.33	4.00	mg/L		10					
Mercury Analysis-CV	VAA											
7470, Mercury Liquio	d "As Received	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1117 2	560151	9
Metals Analysis-ICP	-MS											
6020, Metals (15+ ele	ements) "As Re	ceived"										
Arsenic	J	0.00308	0.00200	0.00500	mg/L	1.00	1	RM4	02/21/24	1124 2	558648	10
Boron		0.127	0.00520	0.0150	mg/L	1.00	1					
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	2027 2	558648	11
Barium		0.239	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		30.0	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Project: FRNP00507 Sample ID: 652726009 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	S										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Copper	J	0.00181	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0376	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		13.5	0.0100	0.0300	mg/L	1.00	1				
Manganese	J	0.00168	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Potassium		2.55	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Sodium		47.2	0.0800	0.250	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Zinc	J	0.00333	0.00330	0.0200	mg/L	1.00					
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0314 255864	
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00		RM4	02/21/24	1906 255864	
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00		PRB	02/21/24	1545 255864	8 14
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.107	0.0357	0.107	ug/L	0.00107	1	YS1	02/16/24	1253 256858	8 15
Aroclor-1221	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-1232	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-1242	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-1248	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-1254	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-1260	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-1268	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Aroclor-Total	U	0.107	0.0357	0.107	ug/L	0.00107	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		235	2.38	10.0	mg/L			KLP1	01/31/24	1040 256112	7 16
Spectrometric Analysis					3						
410.4, Chem. Oxygen D	Demand "As l	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Project: FRNP00507 Sample ID: 652726009 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	Batch Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519	2558570	17
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1226	2558696	18
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Project: FRNP00507 Sample ID: 652726009 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF D	OF Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full si	uite "As Rece	eived"							
Methylene chloride	U	5.00	0.500	5.00	ug/L		1		
Styrene	U	1.00	0.333	1.00	ug/L		1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1		
Toluene	U	1.00	0.333	1.00	ug/L		1		
Trichloroethylene		2.12	0.333	1.00	ug/L		1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1		
The following Prep Met	thods were pe	erformed:							
Method	Description	n		Analyst	Date	Ti	me Prep Batch		
SW846 3005A	ICP-MS 3005	SA PREP		JD2	01/30/24	06	45 2558647		
SW846 3535A	SW3535A PC	CB SPE Extraction		DXF4	02/16/24	04:	54 2568582		
SW846 7470A Prep	EPA 7470A N	Mercury Prep Liquid		JM13	01/30/24	120	05 2560147		
SW846 9010C Distillation	SW846 9010	C Prep		ES2	01/26/24	083	22 2558929		
SW846 8011 PREP	8011 Prep			LL2	01/26/24	13	43 2558740		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Project: FRNP00507 Sample ID: 652726009 Client ID: FRNP005

Parameter	Qualifier Result DL	RL	Units	PF 1	DF Analyst Date	Time Batch	Method				
The following Analytic	ical Methods were performed:										
Method	Description		Analyst Comments								
1	SW846 8011										
2	SW846 8011										
3	SW846 9060A										
4	SW846 9012B										
5	SW846 9020B										
6	EPA 300.0										
7	SW846 9056A										
8	SW846 9056A										
9	SW846 7470A										
10	SW846 3005A/6020B										
11	SW846 3005A/6020B										
12	SW846 3005A/6020B										
13	SW846 3005A/6020B										
14	SW846 3005A/6020B										
15	SW846 3535A/8082A										
16	EPA 160.1										
17	EPA 410.4										
18	SW846 8260D										
Surrogate/Tracer Recov	very Test		Result	Nominal	Recovery%	Acceptable Li	mits				
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"		10.5 ug/L	6.62	158*	(56%-149%)					
Decachlorobiphenyl	8082A, PCB Liquids "As Received"		0.141 ug/L	0.215	66	(30%-135%)					
4cmx	8082A, PCB Liquids "As Received"		0.133 ug/L	0.215	62	(26%-108%)					
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"		52.2 ug/L	50.0	104	(74%-123%)					

#### **Notes:**

Toluene-d8

1,2-Dichloroethane-d4

46.8 ug/L

44.6 ug/L

50.0

50.0

94

89

(76%-127%)

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Project: FRNP00507 Sample ID: 652726009 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Sample ID: 652726010

Matrix: WG

Collect Date: 24-JAN-24 12:42
Receive Date: 25-JAN-24
Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-M	S									
6020, Dissolved Metals	(3 Elements)									
Barium		0.236	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/24	2039 2558648	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Met										
Method	Description	1		Analyst	Date	П	Γime	e Prep Batch		
SW846 3005A	ICP-MS 3005	A PREP		JD2	01/30/24	0	)645	2558647		
EPA 160	Laboratory Fi	ltration		RXB5	01/25/24	1	244	2558567		
The following Analytic	al Methods w									
Method	Description			A	nalyst	Cor	nments			
1	SW846 3005A	/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24

Sample ID: 652726011

Matrix: WG

Collect Date: 24-JAN-24 13:26 Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis	of EDB/DBCP										
8011 VOA- 1,2-Dibro	omo-3-chloropr	opane "As Received"									
1,2-Dibromo-3-chloroprop	-	0.0186	0.00838	0.0186	ug/L	0.931	1	LL2	01/26/24	1814 255874	2 2
Carbon Analysis					C						
9060A, Total Organic	Carbon "As Re	eceived"									
Total Organic Carbon Aver		1.94	0.330	2.00	mg/L		1	RM3	01/26/24	0409 255874	9 3
Flow Injection Analys	-	1., .	0.000	2.00	1116/2		•	14.10	01/20/2	0.00 20007.	
9012B, Cyanide, Total "As Received"											
Cyanide, Total	ii As Received	0.200	0.00167	0.200	mg/L	1.00	1	<b>ДУН</b> 3	01/29/24	0812 255893	) 4
Halogen Analysis	O	0.200	0.00107	0.200	mg/L	1.00	1	AAIIS	01/2//24	0012 233073	, 4
9020B, TOX (Organic Halogen) "As Received"											
	c naiogeii) As		2 22	10.0	/T		1	DM2	01/26/24	1051 255000	· =
Total Organic Halogens	J	7.32	3.33	10.0	ug/L		1	RM3	01/26/24	1951 255909	5 5
Ion Chromatography 300.0, Iodide in Liquid "As Received"											
					_						
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1847 256420	9 6
SW846 9056A Anion	` ,										
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/25/24	1651 255856	3 7
Chloride	JW	4.06	0.0670	250	mg/L		1				
Fluoride Nitrate-N	J U	0.290 10.0	0.0330 0.0330	4.00 10.0	mg/L		1 1				
Sulfate	U	9.84	0.0330	0.400	mg/L mg/L		1				
Mercury Analysis-CV	7 Δ Δ	7.04	0.133	0.400	mg/L		1				
		,									
7470, Mercury Liquid			0.0000670	0.000200	/T	1.00		ID2	01/21/04	1110 256015	
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1118 256015	1 8
Metals Analysis-ICP-											
6020, Metals (15+ ele											
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1547 255864	3 9
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1		00/01/01	255054	
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1910 255864	
Nickel	J	0.00136	0.000600 0.0193	0.00200	mg/L	1.00 1.00	1 1	RM4 RM4	02/21/24	0329 255864	
Aluminum Barium		0.240 0.220	0.0193	0.0500 0.00400	mg/L	1.00	1	KW4	02/20/24	2043 255864	5 12
Beryllium	U	0.000500	0.000870	0.00400	mg/L mg/L	1.00	1				
Cadmium	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L mg/L	1.00	1				
					8						

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24 Project: FRNP00507 Sample ID: 652726011 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	S										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00115	0.000300	0.00200	mg/L		1				
Iron		0.200	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		20.3	0.0100	0.0300	mg/L	1.00	1				
Manganese		0.00917	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	J	0.000282	0.000200	0.00100	mg/L	1.00	1				
Potassium		0.396	0.0800	0.300	mg/L	1.00	1				
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium		0.00214	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	J	0.00367	0.00330	0.0200	mg/L	1.00	1				
Zinc	J	0.00498	0.00330	0.0200	mg/L		1				
Arsenic	J	0.00347	0.00200	0.00500	mg/L	1.00	1	RM4	02/21/24	1127 2558648	13
Boron	J	0.00984	0.00520	0.0150	mg/L	1.00	1				
Calcium		56.8	0.800	2.00	mg/L			RM4	02/21/24	1137 2558648	14
Sodium		98.1	0.800	2.50	mg/L	1.00	10				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.109	0.0361	0.109	ug/L	0.00109	1	YS1	02/16/24	1304 2568588	15
Aroclor-1221	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Aroclor-1232	U	0.109	0.0361	0.109	_	0.00109					
Aroclor-1242	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Aroclor-1248	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Aroclor-1254	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Aroclor-1260	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Aroclor-1268	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Aroclor-Total	U	0.109	0.0361	0.109	ug/L	0.00109	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		416	2.38	10.0	mg/L			KLP1	01/31/24	1040 2561127	16
Spectrometric Analysis		-			3-			_			-
410.4, Chem. Oxygen D	Demand "As l	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24 Project: FRNP00507 Sample ID: 652726011 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519	2558570	17
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1253	2558696	18
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW371UG2-24 Project: FRNP00507 Sample ID: 652726011 Client ID: FRNP005

Volatile Organics								
8260D, Volatiles- full su	uite "As Receiv	ed"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	hods were perf	ormed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 8011 PREP	8011 Prep			LL2	01/26/24	1343	2558740	
SW846 3535A	SW3535A PCB	SPE Extraction		DXF4	02/16/24	0454	2568582	
SW846 7470A Prep	EPA 7470A Mei	cury Prep Liquid		JM13	01/30/24	1205	2560147	
SW846 9010C Distillation	SW846 9010C P	rep		ES2	01/26/24	0822	2558929	
SW846 3005A	ICP-MS 3005A	ICP-MS 3005A PREP			01/30/24	0645	2558647	

DL

RL

Units

PF

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24 Project: FRNP00507 Sample ID: 652726011 Client ID: FRNP005

Parameter	Qualifi	er	Result	DL	RL	Unit	s PF	DI	F Analyst Date	Time Batch	Method				
The following Analyti	cal Metho	ds we	ere performed:												
Method	Descrip	tion				Analyst Comments									
1	SW846 8														
2	SW846 8	011													
3	SW846 9	060A													
4	SW846 9	012B													
5	SW846 9	020B													
6	EPA 300.	0													
7	SW846 9	056A													
8	SW846 7	470A													
9	SW846 3	005A/6	5020B												
10	SW846 3	005A/6	5020B												
11	SW846 3	005A/6	5020B												
12	SW846 3	005A/6	5020B												
13	SW846 3	005A/6	5020B												
14	SW846 3	005A/6	5020B												
15	SW846 3	535A/8	3082A												
16	EPA 160.	1													
17	EPA 410.	4													
18	SW846 8	260D													
Surrogate/Tracer Reco	very T	est				Result	Nom	inal	Recovery%	Acceptable L	imits				
1-Chloro-2-fluorobenzene		11 VOA	A- 1,2-Dibromo-3-chlo	ropropane "As		6.80 ug/L		6.65	102	(56%-149%)	)				
Decachlorobiphenyl			CB Liquids "As Receiv	ed"		0.129 ug/L	0	.217	59	(30%-135%)	)				
4cmx			CB Liquids "As Receiv			0.155 ug/L	0	.217	71	(26%-108%)	)				
Bromofluorobenzene	826	60D, V	olatiles- full suite "As l	Received"		52.5 ug/L		50.0	105	(74%-123%)	)				
1,2-Dichloroethane-d4	826	60D, V	olatiles- full suite "As I	Received"		46.3 ug/L		50.0	93	(76%-127%)	)				
Toluene-d8	826	60D, Vo	olatiles- full suite "As l	Received"		45.2 ug/L		50.0	90	(77%-121%)	)				

#### **Notes:**

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24 Project: FRNP00507 Sample ID: 652726011 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24 Sample ID: 652726012

Matrix: WG

Collect Date: 24-JAN-24 13:26 Receive Date: 25-JAN-24 Collector: Client Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-IC	P-MS									
6020, Dissolved M	etals (3 Elements) "	'As Received"								
Barium		0.215	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/24	2047 2558648	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium		0.00219	0.0000670	0.000200	mg/L	1.00	1			
The following Prep	Methods were per	formed:								
Method	Description			Analyst	Date	,	Time	e Prep Batch	1	
EPA 160	Laboratory Filts	ration		RXB5	01/25/24		1244	2558567		
SW846 3005A	ICP-MS 3005A	PREP		JD2	01/30/24		0645	2558647		
The following Ana	alytical Methods we	ere performed:								
Method	Description				A	Analys	t Cor	nments		
1	SW846 3005A/6	5020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24

Sample ID: 652726013

Matrix: WG

Collect Date: 24-JAN-24 10:40 Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
504.1/8011 Analysis of	FEDB/DBCP											
8011 VOA- 1,2-Dibror	no-3-chloropr	opane "As Received"										
1,2-Dibromo-3-chloropropar		0.0187	0.00842	0.0187	ug/L	0.936	1	LL2	01/26/24	1839	2558742	1
Carbon Analysis					-							
9060A, Total Organic	Carbon "As R	eceived"										
Total Organic Carbon Avera		0.720	0.330	2.00	mg/L		1	RM3	01/26/24	0442	2558749	3
Flow Injection Analysi	~				C							
9012B, Cyanide, Total		"										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/24	0819	2558930	4
Halogen Analysis					8							
9020B, TOX (Organic	Halogen) "As	Received"										
Total Organic Halogens	J	7.58	3.33	10.0	ug/L		1	RM3	01/30/24	1508	2560465	5
Ion Chromatography	-	,					_					-
300.0, Iodide in Liquid	"As Received	1"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1900	2564209	6
SW846 9056A Anions					8							
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/25/24	1824	2558568	7
Chloride	JW	3.09	0.0670	250	mg/L		1					
Fluoride	J	0.324	0.0330	4.00	mg/L		1					
Nitrate-N	J	0.832	0.0660	10.0	mg/L		2	CH6	01/26/24	0105	2558568	8
Sulfate		22.7	0.266	0.800	mg/L		2					
Mercury Analysis-CV	AA											
7470, Mercury Liquid	"As Received"	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1120	2560151	9
Metals Analysis-ICP-M	4S											
6020, Metals (15+ elen	nents) "As Re	ceived"										
Sodium	,	55.7	0.800	2.50	mg/L	1.00	10	RM4	02/21/24	1140	2558648	10
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0337	2558648	11
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1549	2558648	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1914	2558648	13
Arsenic	J	0.00287	0.00200	0.00500	mg/L	1.00	1	RM4	02/21/24	1129	2558648	14
Boron	J	0.0111	0.00520	0.0150	mg/L	1.00	1					
Aluminum	J	0.0266	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	2050	2558648	15
Barium		0.169	0.000670	0.00400	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24 Project: FRNP00507 Sample ID: 652726013 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-	MS										
6020, Metals (15+ ele	ments) "As Re	ceived"									
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Calcium		12.9	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.000652	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0670	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		5.02	0.0100	0.0300	mg/L	1.00	1				
Manganese		0.00549	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Potassium	J	0.250	0.0800	0.300	mg/L	1.00	1				
Selenium	J	0.00239	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids '	"As Received"										
Aroclor-1016	U	0.112	0.0372	0.112	ug/L	0.00112	1	YS1	02/16/24	1337 2568588	16
Aroclor-1221	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1232	U	0.112	0.0372	0.112		0.00112	1				
Aroclor-1242	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1248	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1254	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1260	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-1268	U	0.112	0.0372	0.112	ug/L	0.00112	1				
Aroclor-Total	U	0.112	0.0372	0.112		0.00112					
Solids Analysis											
160.1, Dissolved Solid	ds "As Receive	d"									
Total Dissolved Solids	45 715 RCCCIVC	201	2.38	10.0	mg/L			KLP1	01/31/24	1040 2561127	17
	i a	201	2.36	10.0	mg/L			KLFI	01/31/24	1040 2301127	1/
Spectrometric Analysi											
410.4, Chem. Oxygen	Demand "As I	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24 Project: FRNP00507 Sample ID: 652726013 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	e Batch	Method
Spectrometric Analysis	s											
410.4, Chem. Oxygen	Demand "As l	Received"										
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/25/24	1519	2558570	18
Volatile Organics												
8260D, Volatiles- full	suite "As Rec	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1321	2558696	19
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	U	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	U	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1					
Iodomethane	U	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW375UG2-24 Project: FRNP00507 Sample ID: 652726013 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full s	uite "As Receiv	ved"						
Methylene chloride	U	5.00	0.500	5.00	ug/L	1		
Styrene	U	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	U	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	U	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were perf	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 9010C Distillation	SW846 9010C I	Prep		ES2	01/26/24	0822	2558929	
SW846 8011 PREP	8011 Prep			LL2	01/26/24	1343	2558740	
SW846 3535A	SW3535A PCB	SPE Extraction		DXF4	02/16/24	0454	2568582	
SW846 7470A Prep	EPA 7470A Me	rcury Prep Liquid		JM13	01/30/24	1205	2560147	
SW846 3005A	ICP-MS 3005A	PREP		JD2	01/30/24	0645	2558647	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24 Project: FRNP00507 Sample ID: 652726013 Client ID: FRNP005

Parameter	Qualifier Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods were performed:							
Method	Description				Analyst	Comments		
1	SW846 8011				*			
2	SW846 8011							
3	SW846 9060A							
4	SW846 9012B							
5	SW846 9020B							
6	EPA 300.0							
7	SW846 9056A							
8	SW846 9056A							
9	SW846 7470A							
10	SW846 3005A/6020B							
11	SW846 3005A/6020B							
12	SW846 3005A/6020B							
13	SW846 3005A/6020B							
14	SW846 3005A/6020B							
15	SW846 3005A/6020B							
16	SW846 3535A/8082A							
17	EPA 160.1							
18	EPA 410.4							
19	SW846 8260D							
Surrogate/Tracer Recov	very Test		Re	esult	Nomina	al Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chlorop Received"	propane "As	7.76	i ug/L	6.6	9 116	(56%-149%)	1
Decachlorobiphenyl	8082A, PCB Liquids "As Received	"	0.125	ug/L	0.22	3 56	(30%-135%)	)
4cmx	8082A, PCB Liquids "As Received	"		ug/L	0.22	3 68	(26%-108%)	)
Bromofluorobenzene	8260D, Volatiles- full suite "As Re-	ceived"	51.7	ug/L	50.	0 103	(74%-123%)	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Re-	ceived"	46.1	ug/L	50.	0 92	(76%-127%)	)

# Toluene-d8 Notes:

46.4 ug/L

50.0

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24 Project: FRNP00507 Sample ID: 652726013 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24 Sample ID: 652726014

Matrix: WG

Collect Date: 24-JAN-24 10:40
Receive Date: 25-JAN-24
Collector: Client

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	e Time Batch	Method
Metals Analysis-ICP-M	IS									
6020, Dissolved Metals	s (3 Elements)	"As Received"								
Barium		0.165	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/2	24 2054 2558648	3 1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Me	thods were pe	erformed:								
Method	Description	n		Analyst	Date	,	Time	e Prep Bato	ch	
SW846 3005A	ICP-MS 3005	SA PREP		JD2	01/30/24	-	0645	2558647		
EPA 160	Laboratory Fi	ltration		RXB5	01/25/24		1244	2558567		
The following Analytic	cal Methods v	vere performed:								
Method	Description				A	Analyst	t Co	mments		
1	SW846 3005A	A/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB2UG2-24 Sample ID: 652726015

Matrix: WATER

Collect Date: 24-JAN-24 07:05
Receive Date: 25-JAN-24
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
504.1/8011 Analysis of I	EDB/DBCP										
8011 VOA- 1,2-Dibrome		opane "As R	eceived"								
1,2-Dibromo-3-chloropropane		0.0189	0.00852	0.0189	ug/L	0.946	1	LL2	01/26/24	1903 2558742	2
Volatile Organics					C						
8260D, Volatiles- full su	iite "As Rece	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/26/24	1348 2558696	3
1,1,1-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	U	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	U	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	U	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	U	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	U	1.00	0.333	1.00	ug/L		1				
Iodomethane	U	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB2UG2-24 Project: FRNP00507 Sample ID: 652726015 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF A	nalyst Date	Time Batch	Method
Volatile Organics										
8260D, Volatiles- full su	uite "As Rece	eived"								
Methylene chloride	U	5.00	0.500	5.00	ug/L		1			
Styrene	U	1.00	0.333	1.00	ug/L		1			
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1			
Toluene	U	1.00	0.333	1.00	ug/L		1			
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1			
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1			
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1			
Vinyl chloride	U	1.00	0.333	1.00	ug/L		1			
Xylenes (total)	U	3.00	1.00	3.00	ug/L		1			
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1			
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1			
The following Prep Met	hods were pe	erformed:								
Method	Description	n		Analyst	Date		Time	Prep Batch		
SW846 8011 PREP	8011 Prep			LL2	01/26/24		1343	2558740		

#### The following Analytical Methods were performed:

Method	Description
1	SW846 8011
2	SW846 8011
3	SW846 8260D

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	10.7 ug/L	6.76	159*	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	53.2 ug/L	50.0	106	(74%-123%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.8 ug/L	50.0	94	(76%-127%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	45.3 ug/L	50.0	91	(77%-121%)

**Analyst Comments** 

#### **Notes:**

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB2UG2-24 Project: FRNP00507 Sample ID: 652726015 Client ID: FRNP005

Parameter C	Dualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
	<	11050110						Time Datem	1.1001100

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: Project: Client ID: FRNP00507 FRNP005 MW364UG2-24 652726001

WG

Collect Date: 24-JAN-24 Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date T	Гіте	Batch	Mtd.
Rad Alpha Spec An	alysis												
AN-1418 AlphaSp	ec Ra226, Liquid	"As Receiv	ed"										
Radium-226	U	0.690	+/-0.699	0.828	+/-0.700	5.00	pCi/L		EJ1	02/12/24 1	1310	2558724	1
Th-01-RC M, Th Is	sotopes, Liquid "A	As Received	"										
Thorium-230	U	0.672	+/-0.946	1.46	+/-0.955	50.0	pCi/L		EJ1	02/08/24 (	0826	2558725	2
Thorium-232	U	0.0719	+/-0.519	1.04	+/-0.520		pCi/L						
Rad Gas Flow Prop		_											
904.0Mod, Ra228,	, Liquid "As Rece	ived"											
Radium-228	U	1.62	+/-2.57	4.47	+/-2.61	4.99	pCi/L		JE1	02/21/24 (	0827	2563663	3
905.0Mod, Sr90, l	iquid "As Receive	ed"											
Strontium-90	U	1.15	+/-3.50	6.30	+/-3.50	8.00	pCi/L		ST2	02/07/24 1	1521	2562680	4
9310, Alpha/Beta	Activity, liquid "A	As Received'	,										
Alpha	U	1.39	+/-3.41	6.86	+/-3.41	15.0	pCi/L		AW5	02/05/24 1	1517	2559932	5
Beta		27.1	+/-7.72	8.72	+/-8.89	50.0	pCi/L						
Rad Liquid Scintilla	•												
906.0M, Tritium D	Dist, Liquid "As R	eceived"											
Tritium	U	-24.2	+/-126	229	+/-126	300	pCi/L		HB2	02/16/24 1	1633	2563308	6
Tc-02- $RC$ - $MOD$ , $T$	Tc99, Liquid "As	Received"											
Technetium-99		48.1	+/-12.6	17.9	+/-13.7	25.0	pCi/L		GS3	02/19/24 (	0605	2564391	7
TDL - 6-11		•											

The following Analytical Methods were performed Description Method

111CtHou	20011puon
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

<b>Surrogate/Tracer Recovery</b>	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2558724	89.9	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	75.8	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	89.2	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	85.9	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	99.2	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW364UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652726001

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RLSurrogate/Tracer Recovery Test Batch ID Recovery% **Acceptable Limits** 

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project: Client ID:

FRNP00507 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: Collect Date: MW366UG2-24 652726003 WG 24-JAN-24

Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date	Time	Batch	Mtd.
Rad Alpha Spec A	nalysis												
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	red"										
Radium-226	U	0.349	+/-0.341	0.422	+/-0.341	5.00	pCi/L		EJ1	02/10/24	0856	2558724	1
Th-01-RC M, Th	Isotopes, Liquid "A	As Received	"										
Thorium-230	U	1.16	+/-1.06	1.34	+/-1.07	50.0	pCi/L		EJ1	02/09/24	0830	2558725	2
Thorium-232	U	-0.103	+/-0.359	0.980	+/-0.359		pCi/L						
Rad Gas Flow Proj	portional Countir	ng											
904.0Mod, Ra228	8, Liquid "As Rece	ived"											
Radium-228	U	3.55	+/-2.79	4.43	+/-2.93	4.99	pCi/L		JE1	02/21/24	0827	2563663	3
905.0Mod, Sr90,	liquid "As Receive	ed"											
Strontium-90	U	1.42	+/-2.60	4.57	+/-2.61	8.00	pCi/L		ST2	02/07/24	1521	2562680	4
9310, Alpha/Beta	Activity, liquid "A	As Received	"										
Alpha	U	0.230	+/-3.87	8.82	+/-3.87	15.0	pCi/L		AW5	02/05/24	1517	2559932	. 5
Beta		29.4	+/-7.66	7.49	+/-9.02	50.0	pCi/L						
Rad Liquid Scintill 906.0M, Tritium	<mark>lation Analysis</mark> Dist, Liquid "As R	eceived"											
Tritium	U	-19.0	+/-128	231	+/-128	300	pCi/L		HB2	02/16/24	1710	2563308	6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As I	Received"											
Technetium-99		62.3	+/-13.1	17.8	+/-14.9	25.0	pCi/L		GS3	02/19/24	0621	2564391	7
			_										

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2558724	92.4	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	79.4	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	89.8	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	107	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	99	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW366UG2-24 Project: FRNP00507 Sample ID: 652726003 Project: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.

Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

#### Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: MW367UG2-24 652726005 WG Collect Date: 24-JAN-24 Receive Date: 25-JAN-24

Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date Tim	e Batch	Mtd.
Rad Alpha Spec An	nalysis											
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	red"									
Radium-226	U	0.220	+/-0.746	1.19	+/-0.746	5.00	pCi/L		EJ1	02/13/24 1423	2558724	4 1
Th-01-RC M, Th 1	Isotopes, Liquid "A	As Received	!"									
Thorium-230	U	0.541	+/-1.01	1.73	+/-1.02	50.0	pCi/L		EJ1	02/08/24 0826	2558725	5 2
Thorium-232	U	0.266	+/-0.659	1.09	+/-0.661		pCi/L					
Rad Gas Flow Prop	ortional Countir	ng										
904.0Mod, Ra228	3, Liquid "As Rece	ived"										
Radium-228	U	2.99	+/-2.34	3.68	+/-2.46	4.99	pCi/L		JE1	02/21/24 0828	2563663	3 3
905.0Mod, Sr90, l	liquid "As Receive	ed"										
Strontium-90	U	3.38	+/-2.87	4.61	+/-2.92	8.00	pCi/L		ST2	02/07/24 1521	2562680	) 4
9310, Alpha/Beta	Activity, liquid "A	As Received	"									
Alpha	U	-0.744	+/-2.95	7.59	+/-2.95	15.0	pCi/L		AW5	02/05/24 1517	2559932	2 5
Beta	U	1.36	+/-4.07	7.50	+/-4.08	50.0	pCi/L					
Rad Liquid Scintilla	ation Analysis											
906.0M, Tritium I	Dist, Liquid "As R	eceived"										
Tritium	U	19.0	+/-130	231	+/-130	300	pCi/L		HB2	02/16/24 1747	2563308	8 6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As I	Received"										
Technetium-99	U	-6.79	+/-9.80	18.0	+/-9.80	25.0	pCi/L		GS3	02/19/24 0638	2564391	1 7
The fellowing Augl	4: 1 M - 4 h d											

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2558724	88.3	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	77.4	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	92.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	96.4	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	98.2	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW367UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652726005

**Parameter** Qualifier **Result Uncertainty** Units MDC **TPU** RLPF DF Analyst Date Time Batch Mtd. **Acceptable Limits** Surrogate/Tracer Recovery Batch ID Recovery%

Test

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: MW369UG2-24 652726007 WG Collect Date: 24-JAN-24

Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date Ti	ne Batc	n Mtd.
Rad Alpha Spec Ar	nalysis											
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	red"									
Radium-226	U	0.637	+/-0.487	0.653	+/-0.489	5.00	pCi/L		EJ1	02/10/24 08	56 25587	24 1
Th-01-RC M, Th	Isotopes, Liquid "A	As Received	""									
Thorium-230	U	0.462	+/-0.866	1.42	+/-0.872	50.0	pCi/L		EJ1	02/08/24 08	8 25587	25 2
Thorium-232	U	-0.0686	+/-0.405	0.999	+/-0.406		pCi/L					
Rad Gas Flow Prop	oortional Countir	ng										
904.0Mod, Ra228	3, Liquid "As Rece	ived"										
Radium-228	U	0.337	+/-1.67	3.17	+/-1.67	4.99	pCi/L		JE1	02/21/24 08	28 25636	63 3
905.0Mod, Sr90,	liquid "As Receive	ed"										
Strontium-90	U	-1.67	+/-2.36	5.00	+/-2.36	8.00	pCi/L		ST2	02/07/24 15	21 25626	80 4
9310, Alpha/Beta	Activity, liquid "A	As Received'	"									
Alpha	U	-1.14	+/-2.32	7.22	+/-2.32	15.0	pCi/L		AW5	02/05/24 15	7 25599	32 5
Beta		27.8	+/-7.46	7.25	+/-8.71	50.0	pCi/L					
Rad Liquid Scintill	ation Analysis											
906.0M, Tritium I	Dist, Liquid "As R	eceived"										
Tritium	U	-122	+/-120	232	+/-120	300	pCi/L		HB2	02/16/24 18	24 25633	08 6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As I	Received"										
Technetium-99		62.7	+/-13.6	18.5	+/-15.3	25.0	pCi/L		GS3	02/19/24 06	55 25643	91 7
7D1 6 11 . A 1		•										

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2558724	93.4	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	92	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	93.1	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	93.8	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	95.9	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW369UG2-24 Project: FRNP00507 Sample ID: 652726007 Client ID: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.
Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

## Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24
Sample ID: 652726009
Matrix: WG
Collect Date: 24-JAN-24
Receive Date: 25-JAN-24

Collector: 25-JAI
Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date Tim	e Batch	Mtd.
Rad Alpha Spec An	nalysis											
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	red"									
Radium-226	U	0.529	+/-0.470	0.635	+/-0.472	5.00	pCi/L		EJ1	02/10/24 0856	2558724	1
Th-01-RC M, Th I	Isotopes, Liquid "A	As Received	!"									
Thorium-230	U	0.814	+/-1.14	1.74	+/-1.15	50.0	pCi/L		EJ1	02/08/24 0858	2558725	5 2
Thorium-232	U	0.571	+/-0.854	1.09	+/-0.858		pCi/L					
Rad Gas Flow Prop	ortional Countir	ng										
904.0Mod, Ra228	3, Liquid "As Rece	ived"										
Radium-228	U	2.97	+/-2.43	3.83	+/-2.54	4.99	pCi/L		JE1	02/21/24 0828	2563663	3
905.0Mod, Sr90, l	liquid "As Receive	ed"										
Strontium-90	U	0.933	+/-2.77	4.96	+/-2.78	8.00	pCi/L		ST2	02/07/24 1521	2562680	) 4
9310, Alpha/Beta	Activity, liquid "A	As Received	"									
Alpha	U	1.34	+/-3.51	7.14	+/-3.51	15.0	pCi/L		AW5	02/05/24 1517	2559932	2 5
Beta	U	3.36	+/-4.98	8.60	+/-5.02	50.0	pCi/L					
Rad Liquid Scintilla	ation Analysis											
906.0M, Tritium I	Dist, Liquid "As R	eceived"										
Tritium	U	-0.230	+/-129	231	+/-129	300	pCi/L		HB2	02/16/24 1901	2563308	3 6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As I	Received"										
Technetium-99	U	10.3	+/-10.8	18.0	+/-10.8	25.0	pCi/L		GS3	02/19/24 0711	2564391	i 7
The fellowing Amel	-4: aal Madha 3:											

The following Analytical Methods were performed

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2558724	92.7	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	82.5	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	93.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	109	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	97.9	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW370UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652726009

**Parameter** Qualifier **Result Uncertainty MDC** Units PF DF Analyst Date Time Batch Mtd. **TPU** RLSurrogate/Tracer Recovery Batch ID Recovery% **Acceptable Limits** 

Test

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00507

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: MW371UG2-24 652726011 WG Collect Date: 24-JAN-24

Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date Time	<b>Batch</b>	Mtd.
Rad Alpha Spec Ai	nalysis											
AN-1418 AlphaS <sub>I</sub>	pec Ra226, Liquid	"As Receiv	ed"									
Radium-226	U	0.759	+/-1.13	1.45	+/-1.13	5.00	pCi/L		CM4	02/20/24 0832	2568311	1
Th-01-RC M, Th	Isotopes, Liquid "A	As Received	"									
Thorium-230	U	-0.0148	+/-0.705	1.59	+/-0.707	50.0	pCi/L		EJ1	02/08/24 0858	2558725	5 2
Thorium-232	U	-0.0215	+/-0.406	0.821	+/-0.407		pCi/L					
Rad Gas Flow Prop	portional Countir	ng										
904.0Mod, Ra228	8, Liquid "As Rece	ived"										
Radium-228	U	-1.25	+/-2.13	4.37	+/-2.13	4.99	pCi/L		JE1	02/21/24 0828	2563663	3 3
905.0Mod, Sr90,	liquid "As Receive	ed"										
Strontium-90	TU	-0.160	+/-2.49	4.71	+/-2.49	8.00	pCi/L		ST2	02/07/24 1521	2562680	) 4
9310, Alpha/Beta	Activity, liquid "A	As Received	1									
Alpha	U	1.01	+/-3.74	8.15	+/-3.74	15.0	pCi/L		AW5	02/05/24 1517	2559932	2 5
Beta	U	7.24	+/-6.59	10.7	+/-6.71	50.0	pCi/L					
Rad Liquid Scintill	lation Analysis											
906.0M, Tritium	Dist, Liquid "As R	eceived"										
Tritium	U	62.0	+/-133	231	+/-134	300	pCi/L		HB2	02/16/24 1938	2563308	3 6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As I	Received"										
Technetium-99	U	-4.40	+/-10.2	18.4	+/-10.2	25.0	pCi/L		GS3	02/19/24 0728	2564391	i 7
750 e 11 · A	1 (* 134 (1 1											

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2568311	98.9	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	87.1	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	94	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	112 *	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	96	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW371UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652726011

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RLBatch ID Recovery% **Acceptable Limits** 

Surrogate/Tracer Recovery

Test

Notes:

The MDC is a sample specific MDC. TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project: Client ID:

FRNP00507 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: Collect Date: MW375UG2-24 652726013 WG 24-JAN-24

Receive Date: 25-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	st Date Ti	me	Batch :	Mtd.
Rad Alpha Spec Ar	nalysis												
AN-1418 AlphaSp	pec Ra226, Liquid	"As Receiv	red"										
Radium-226	U	0.282	+/-0.297	0.369	+/-0.297	5.00	pCi/L		EJ1	02/10/24 08	56	2558724	1
Th-01-RC M, Th	Isotopes, Liquid "A	As Received	"										
Thorium-230	U	-0.197	+/-0.700	1.83	+/-0.701	50.0	pCi/L		EJ1	02/08/24 08	58	2558725	2
Thorium-232	U	-0.138	+/-0.513	1.38	+/-0.514		pCi/L						
Rad Gas Flow Prop	oortional Countir	ng											
904.0Mod, Ra228	3, Liquid "As Rece	ived"											
Radium-228	U	0.890	+/-2.12	3.80	+/-2.13	4.99	pCi/L		JE1	02/21/24 08	28	2563663	3
905.0Mod, Sr90, 1	liquid "As Receive	ed"											
Strontium-90	U	1.08	+/-3.31	5.90	+/-3.32	8.00	pCi/L		ST2	02/08/24 10	56	2562680	4
9310, Alpha/Beta	Activity, liquid "A	As Received	"										
Alpha	U	2.96	+/-4.90	8.79	+/-4.92	15.0	pCi/L		AW5	02/05/24 15	17	2559932	5
Beta	U	5.22	+/-8.02	13.7	+/-8.07	50.0	pCi/L						
Rad Liquid Scintill 906.0M, Tritium I	•	eceived"											
Tritium	U	-41.4	+/-126	232	+/-126	300	pCi/L		HB2	02/16/24 20	15	2563308	6
Tc- $02$ - $RC$ - $MOD$ ,	Tc99, Liquid "As I	Received"											
Technetium-99	U	-4.12	+/-10.2	18.4	+/-10.2	25.0	pCi/L		GS3	02/19/24 07	45	2564391	7
The fellowing Anal	4:00  Mo4boda												

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2558724	93	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2558725	85.7	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563663	94.5	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	85.9	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564391	96.1	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW375UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652726013

**Parameter** Qualifier **Result Uncertainty** Units PF DF Analyst Date Time Batch Mtd. MDC **TPU** RLTest Batch ID Recovery% **Acceptable Limits** 

Surrogate/Tracer Recovery

Notes:

The MDC is a sample specific MDC.

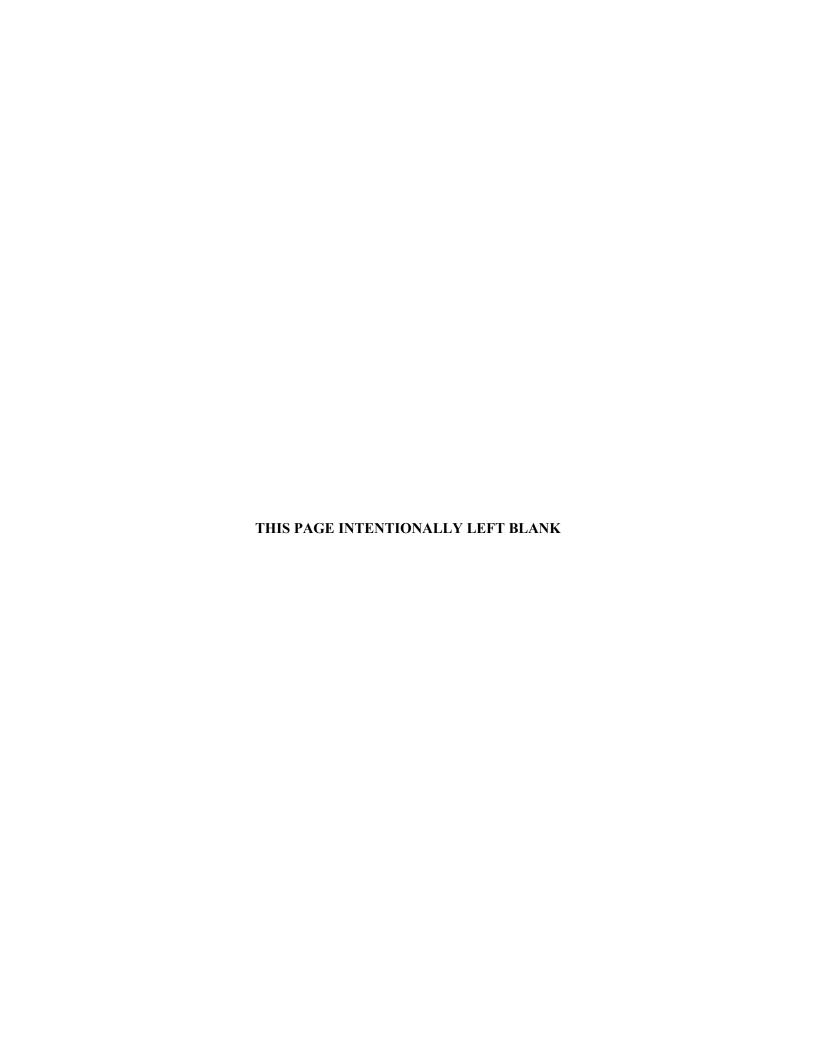
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

# ATTACHMENT C3 GEL LABORATORIES CERTIFICATE OF ANALYSIS



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW372UG2-24

Sample ID: 652906001

Matrix: WG

Collect Date: 25-JAN-24 10:05 Receive Date: 26-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Bate	h Method
504.1/8011 Analysis of	EDB/DBCP										
8011 VOA- 1,2-Dibrom	no-3-chloropr	opane "As Rec	eived"								
1,2-Dibromo-3-chloropropan		0.0188	0.00845	0.0188	ug/L	0.939	1	LL2	02/01/24	1344 25593	22 1
Carbon Analysis					C						
9060A, Total Organic O	Carbon "As Re	eceived"									
Total Organic Carbon Averag		1.02	0.330	2.00	mg/L		1	RM3	01/31/24	1644 25613	67 2
Flow Injection Analysis	3										
9012B, Cyanide, Total	"As Received	"									
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/31/24	0545 25593	664 3
Halogen Analysis					Ü						
9020B, TOX (Organic l	Halogen) "As	Received"									
Total Organic Halogens	8/	10.9	3.33	10.0	ug/L		1	RM3	01/30/24	1546 25604	65 4
Ion Chromatography					Ü						
300.0, Iodide in Liquid	"As Received	l"									
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1913 25642	.09 5
SW846 9056A Anions	(5 elements) '				Ü						
Bromide	,	0.492	0.0670	0.200	mg/L		1	CH6	01/26/24	1642 25593	31 6
Fluoride	J	0.222	0.0330	4.00	mg/L		1				
Nitrate-N	J	0.845	0.0330	10.0	mg/L		1				
Chloride	BJ	37.9	1.34	250	mg/L		20	CH6	01/26/24	2221 25593	31 7
Sulfate		148	2.66	8.00	mg/L		20				
Mercury Analysis-CVA	λA										
7470, Mercury Liquid "	'As Received'	'									
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1126 2560	51 8
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	ents) "As Red	ceived"									
Nickel	J	0.000627	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0000 25593	35 9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1641 25593	35 10
Boron	В	1.38	0.104	0.300	mg/L	1.00	20	RM4	02/21/24	1354 25593	35 11
Calcium		71.4	1.60	4.00	mg/L	1.00	20				
Sodium		60.8	1.60	5.00	mg/L	1.00	20				
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	1713 25593	35 12
Arsenic		0.00520	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0576	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW372UG2-24 Project: FRNP00507 Sample ID: 652906001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-N	MS										
6020, Metals (15+ eler	nents) "As Re	ceived"									
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00146	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0869	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		25.1	0.0100	0.0300	mg/L	1.00	1				
Manganese	J	0.00199	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	J	0.000268	0.000200	0.00100	mg/L	1.00	1				
Potassium		2.12	0.0800	0.300	mg/L	1.00	1				
Selenium	J	0.00155	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	J	0.00573	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1446 2559335	13
Tantalum	UN	0.00500	0.00100	0.00500	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "	As Received"										
Aroclor-1016	U	0.106	0.0354	0.106	ug/L	0.00106	1	YS1	02/16/24	1348 2568588	14
Aroclor-1221	U	0.106	0.0354	0.106	_	0.00106	1				
Aroclor-1232	U	0.106	0.0354	0.106	_	0.00106	1				
Aroclor-1242	U	0.106	0.0354	0.106		0.00106	1				
Aroclor-1248	U	0.106	0.0354	0.106		0.00106	1				
Aroclor-1254	U	0.106	0.0354	0.106	ug/L	0.00106	1				
Aroclor-1260	U	0.106	0.0354	0.106		0.00106	1				
Aroclor-1268	U	0.106	0.0354	0.106	ug/L	0.00106	1				
Aroclor-Total	U	0.106	0.0354	0.106	ug/L	0.00106	1				
Solids Analysis					_						
160.1, Dissolved Solid	e "Ae Racairo	d"									
Total Dissolved Solids	is As Neceive		2.20	10.0	/T			VI D1	02/01/24	1150 0561027	15
		438	2.38	10.0	mg/L			KLP1	02/01/24	1158 2561837	15
Spectrometric Analysis											
410.4, Chem. Oxygen	Demand "As I	Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW372UG2-24 Project: FRNP00507 Sample ID: 652906001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis											
410.4, Chem. Oxygen l	Demand "As l	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	HH2	01/29/24	1244 2559247	16
Volatile Organics											
8260D, Volatiles- full s	suite "As Rece	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/29/24	1204 2559983	17
1,1,1-Trichloroethane	UY2	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	UY2	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1				
Acetone	JY2	3.63	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	UY2	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	UY2	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	UY2	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	UY1	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	UY2	1.00	0.333	1.00	ug/L		1				
Iodomethane	UY2	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW372UG2-24 Project: FRNP00507 Sample ID: 652906001 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full su	uite "As Receiv	ved"						
Methylene chloride	JY2	1.35	0.500	5.00	ug/L	1		
Styrene	UY2	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene		2.50	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	UY1	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	UY2	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	hods were perf	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 3535A	SW3535A PCB	SPE Extraction		DXF4	02/16/24	0454	2568582	
SW846 8011 PREP	8011 Prep			LL2	02/01/24	1147	2559321	
SW846 3005A	ICP-MS 3005A	PREP		SD	01/29/24	1520	2559334	
SW846 9010C Distillation	SW846 9010C I	Prep		ES2	01/30/24	1104	2559563	
SW846 7470A Prep	EPA 7470A Me	ercury Prep Liquid		JM13	01/30/24	1205	2560147	
		=						

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW372UG2-24 Project: FRNP00507 Sample ID: 652906001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method				
The following Analytical Methods were performed:													
Method	Description	1			Analyst Comments								
1	SW846 8011					-							
2	SW846 9060a	A											
3	SW846 9012I	В											
4	SW846 9020I	В											
5	EPA 300.0												
6	SW846 9056A	A											
7	SW846 9056A	A											
8	SW846 7470	A											
9	SW846 3005A	A/6020B											
10	SW846 3005A	A/6020B											
11	SW846 3005A	A/6020B											
12	SW846 3005	A/6020B											
13	SW846 3005A	A/6020B											
14	SW846 3535A	A/8082A											
15	EPA 160.1												
16	EPA 410.4												
17	SW846 8260I	D											
Surrogate/Tracer Reco	overy Test			R	esult	Nomin	al Recovery%	Acceptable L	imits				

11.3 ug/L

0.131 ug/L

0.123 ug/L

50.2 ug/L

43.8 ug/L

43.9 ug/L

6.70

0.213

0.213

50.0

50.0

50.0

168\*

62

58

100

88

88

(56%-149%)

(30% - 135%)

(26% - 108%)

(74%-123%)

(76%-127%)

(77%-121%)

#### **Notes:**

Toluene-d8

4cmx

1-Chloro-2-fluorobenzene

Decachlorobiphenyl

Bromofluorobenzene

1,2-Dichloroethane-d4

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

Received"

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

8011 VOA- 1,2-Dibromo-3-chloropropane "As

8082A, PCB Liquids "As Received"

8082A, PCB Liquids "As Received"

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

8260D, Volatiles- full suite "As Received"

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW372UG2-24 Sample ID: 652906002

Matrix: WG

Collect Date: 25-JAN-24 10:05 Receive Date: 26-JAN-24 Collector: Client Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-M	S									
6020, Dissolved Metals										
Barium		0.0559	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/24	1717 2559335	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	U	0.000200	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Methods were performed:										
Method	Description	1		Analyst	Date	,	Гimе	Prep Batch		
SW846 3005A	ICP-MS 3005	A PREP		SD	01/29/24		1520	2559334		<u></u>
EPA 160	Laboratory Fi	ltration		RXB5	01/26/24		1247	2559164		
The following Analytical Methods were performed:										
Method	Description		Α	analyst	Cor	nments				
1	SW846 3005A	/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW373UG2-24

Sample ID: 652906003

Matrix: WG

Collect Date: 25-JAN-24 10:47
Receive Date: 26-JAN-24
Collector: Client

Parameter Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
504.1/8011 Analysis of EDB/DBCP										
8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"										
1,2-Dibromo-3-chloropropane SU	0.0189	0.00851	0.0189	ug/L	0.946	1	LL2	02/01/24	1458 2559322	1
Carbon Analysis										
9060A, Total Organic Carbon "As Received"										
Total Organic Carbon Average J	1.37	0.330	2.00	mg/L		1	RM3	01/31/24	1717 2561367	2
Flow Injection Analysis										
9012B, Cyanide, Total "As Received	d"									
Cyanide, Total U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/31/24	0546 2559564	3
Halogen Analysis										
9020B, TOX (Organic Halogen) "As	s Received"									
Total Organic Halogens	14.3	3.33	10.0	ug/L		1	RM3	01/30/24	1743 2560465	4
Ion Chromatography										
300.0, Iodide in Liquid "As Receive	ed"									
Iodide U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	1952 2564209	5
SW846 9056A Anions (5 elements)	"As Received"									
Bromide	0.202	0.0670	0.200	mg/L		1	CH6	01/26/24	1713 2559331	6
Fluoride J	0.214	0.0330	4.00	mg/L		1				
Nitrate-N J	0.732	0.0330	10.0	mg/L		1				
Chloride JB	31.3	1.34	250	mg/L		20	CWW	01/29/24	1348 2559331	7
Sulfate	194	2.66	8.00	mg/L		20				
Mercury Analysis-CVAA										
7470, Mercury Liquid "As Received	1"									
Mercury U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1131 2560151	8
Metals Analysis-ICP-MS										
6020, Metals (15+ elements) "As Re	eceived"									
Cadmium U	0.00100	0.000300	0.00100	mg/L	1.00	1	RM4	02/21/24	0008 2559335	9
Molybdenum U	0.00100	0.000200	0.00100	mg/L	1.00	1				
Nickel J	0.00164	0.000600	0.00200	mg/L	1.00	1				
Selenium U	0.00500	0.00150	0.00500	mg/L	1.00	1				
Uranium J	0.0000710	0.0000670	0.000200	mg/L	1.00	1				
Antimony U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1645 2559335	10
Boron B	2.22	0.104	0.300	mg/L	1.00	20	RM4	02/21/24	1356 2559335	11
Calcium	84.0	1.60	4.00	mg/L	1.00	20				
Sodium	63.7	1.60	5.00	mg/L	1.00	20				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW373UG2-24 Project: FRNP00507 Sample ID: 652906003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	yst Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elements) "As Received"											
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	1721 2559335	12
Arsenic		0.00644	0.00200	0.00500	mg/L	1.00	1				
Barium		0.0361	0.000670	0.00400	mg/L	1.00	1				
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	J	0.000501	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.00116	0.000300	0.00200	mg/L	1.00	1				
Iron	J	0.0872	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		29.9	0.0100	0.0300	mg/L	1.00	1				
Manganese		0.0593	0.00100	0.00500	mg/L	1.00	1				
Potassium		2.62	0.0800	0.300	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Vanadium	J	0.00715	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00		PRB	02/21/24	1448 2559335	13
Tantalum	UN	0.00500	0.00100	0.00500	mg/L	1.00	1				
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.104	0.0346	0.104	ug/L	0.00104	1	YS1	02/16/24	1359 2568588	14
Aroclor-1221	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-1232	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-1242	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-1248	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-1254	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-1260	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-1268	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Aroclor-Total	U	0.104	0.0346	0.104	ug/L	0.00104	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		536	2.38	10.0	mg/L			KLP1	02/01/24	1158 2561837	15
Spectrometric Analysis					9						
410.4, Chem. Oxygen Demand "As Received"											

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW373UG2-24 Project: FRNP00507 Sample ID: 652906003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF D	Anal	yst Date	Time Batch	Method
Spectrometric Analysis										
410.4, Chem. Oxygen D	emand "As I	Received"								
COD	U	20.0	8.95	20.0	mg/L	1	HH2	01/29/24	1244 2559247	16
Volatile Organics					C					
8260D, Volatiles- full su	iite "As Rece	eived"								
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L	1	JM6	02/01/24	1303 2559983	17
1,1,1-Trichloroethane	UY2	1.00	0.333	1.00	ug/L	1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L	1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L	1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L	1				
1,1-Dichloroethylene	UY2	1.00	0.333	1.00	ug/L	1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L	1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L	1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L	1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L	1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L	1				
1,4-Dichlorobenzene	Ü	1.00	0.333	1.00	ug/L	1				
2-Butanone	U	5.00	1.67	5.00	ug/L	1				
2-Hexanone	Ü	5.00	1.67	5.00	ug/L	1				
4-Methyl-2-pentanone	LU	5.00	1.67	5.00	ug/L	1				
Acetone	UY2	5.00	1.74	5.00	ug/L	1				
Acrolein	U	5.00	1.67	5.00	ug/L	1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L	1				
Benzene	U	1.00	0.333	1.00	ug/L	1				
Bromochloromethane	Ü	1.00	0.333	1.00	ug/L	1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L	1				
Bromoform	U	1.00	0.333	1.00	ug/L	1				
Bromomethane	UY2	1.00	0.337	1.00	ug/L	1				
Carbon disulfide	UY2	5.00	1.67	5.00	ug/L	1				
Carbon tetrachloride	UY2	1.00	0.333	1.00	ug/L	1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L	1				
Chloroethane	U	1.00	0.333	1.00	ug/L	1				
Chloroform	Ü	1.00	0.333	1.00	ug/L	1				
Chloromethane	UY1	1.00	0.333	1.00	ug/L	1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L	1				
Dibromomethane	Ü	1.00	0.333	1.00	ug/L	1				
Ethylbenzene	UY2		0.333	1.00	ug/L	1				
Emyloenzene	UYZ	1.00	0.555	1.00	ug/L	1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW373UG2-24 Project: FRNP00507 Sample ID: 652906003 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full s	uite "As Receiv	ved"						
Methylene chloride	BJY2	1.60	0.500	5.00	ug/L	1		
Styrene	UY2	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene		2.72	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	UY1	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	UY2	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	thods were perf	ormed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 3535A	SW3535A PCB	SPE Extraction		DXF4	02/16/24	0454	2568582	
SW846 8011 PREP	8011 Prep			LL2	02/01/24	1147	2559321	
SW846 3005A	ICP-MS 3005A	PREP		SD	01/29/24	1520	2559334	
SW846 7470A Prep	EPA 7470A Me	rcury Prep Liquid		JM13	01/30/24	1205	2560147	
SW846 9010C Distillation	SW846 9010C F	Prep		ES2	01/30/24	1104	2559563	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

C-746-U Landfill Quarterly(UG24-02) Project:

Client Sample ID: MW373UG2-24 Project: FRNP00507 Sample ID: 652906003 Client ID: FRNP005

1 SV 2 SV 3 SV 4 SV 5 EF 6 SV	Methods w escription W846 8011 W846 9060A W846 9012B	-				
1 SV 2 SV 3 SV 4 SV 5 EF 6 SV	W846 8011 W846 9060A					
2 SV 3 SV 4 SV 5 EF 6 SV	W846 9060A			Analyst	Comments	
3 SV 4 SV 5 EF 6 SV				-		
4 SV 5 EF 6 SV	W846 9012B					
5 EF 6 SV						
6 SV	W846 9020B					
	PA 300.0					
7 SV	W846 9056A					
	W846 9056A					
8 SV	W846 7470A					
9 SV	W846 3005A	/6020B				
10 SV	W846 3005A	/6020B				
11 SV	W846 3005A	/6020B				
12 SV	W846 3005A	/6020B				
13 SV	W846 3005A	/6020B				
14 SV	W846 3535A	/8082A				
15 EF	PA 160.1					
16 EF	PA 410.4					
17 SV	W846 8260D					
Surrogate/Tracer Recovery						

1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As	10.4 ug/L	6.75	154*	(56%-149%)
	Received"				
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.146 ug/L	0.208	70	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.127 ug/L	0.208	61	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	47.4 ug/L	50.0	95	(74%-123%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	44.8 ug/L	50.0	90	(76%-127%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	41.6 ug/L	50.0	83	(77%-121%)

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration **SQL**: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW373UG2-24 Sample ID: 652906004

Matrix: WG

Collect Date: 25-JAN-24 10:47 Receive Date: 26-JAN-24 Collector: Client

N-24 10:47

Project:

Client ID:

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Metals Analysis-ICP-N	AS									
6020, Dissolved Metal	s (3 Elements)	"As Received"								
Barium		0.0364	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/2	4 1725 2559335	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1			
Uranium	J	0.0000910	0.0000670	0.000200	mg/L	1.00	1			
The following Prep Me	ethods were pe	erformed:								
Method	Description	ı		Analyst	Date	7	Гimе	e Prep Batc	h	
EPA 160	Laboratory Fi	ltration		RXB5	01/26/24	1	1247	2559164		
SW846 3005A	ICP-MS 3005	A PREP		SD	01/29/24	1	1520	2559334		
The following Analyti	cal Methods v	vere performed:								
Method	Description				A	Analyst	Cor	mments		
1	SW846 3005A	\/6020B								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24

Sample ID: 652906005

Matrix: WG

Collect Date: 25-JAN-24 11:32 Receive Date: 26-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Bate	h Method	Ī
504.1/8011 Analysis	of EDB/DBCP											
8011 VOA- 1,2-Dibi	romo-3-chloropr	opane "As Rece	eived"									
1,2-Dibromo-3-chloropro	•	0.0189	0.00850	0.0189	ug/L	0.945	1	LL2	02/01/24	1522 25593	22 1	
Carbon Analysis	•											
9060A, Total Organi	ic Carbon "As R	eceived"										
Total Organic Carbon Av		2.50	0.330	2.00	mg/L		1	RM3	01/31/24	1750 25613	67 2	
Flow Injection Analy	ysis											
9012B, Cyanide, Tot	tal "As Received	l"										
Cyanide, Total	U	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/31/24	0547 25593	64 3	
Halogen Analysis												
9020B, TOX (Organ	ic Halogen) "As	Received"										
Total Organic Halogens	110 11010 8011/ 110	26.7	3.33	10.0	ug/L		1	RM3	01/31/24	1413 25612	63 4	
Ion Chromatography	7											
300.0, Iodide in Liqu		1"										
Iodide	U	0.500	0.167	0.500	mg/L		1	TXT1	02/06/24	2005 25642	.09 5	
SW846 9056A Anio					8							
Bromide	(2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0.488	0.0670	0.200	mg/L		1	CH6	01/26/24	1743 25593	31 6	
Fluoride	J	0.281	0.0330	4.00	mg/L		1					
Nitrate-N	J	0.329	0.0330	10.0	mg/L		1					
Sulfate		15.4	0.133	0.400	mg/L		1					
Chloride	BJ	44.8	0.670	250	mg/L		10	CH6	01/26/24	2323 25593	31 7	
Mercury Analysis-C	VAA											
7470, Mercury Liqui	id "As Received	"										
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/31/24	1133 2560	51 8	
Metals Analysis-ICP	P-MS											
6020, Metals (15+ el	lements) "As Re	ceived"										
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1	RM4	02/21/24	0016 25593	35 9	
Sodium		128	1.60	5.00	mg/L	1.00	20	RM4	02/21/24	1359 25593	35 10	
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1	RM4	02/21/24	1649 25593	35 11	
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	PRB	02/21/24	1450 25593	35 12	
Tantalum	UN	0.00500	0.00100	0.00500	mg/L	1.00	1					
Aluminum		0.0750	0.0193	0.0500	mg/L	1.00	1	RM4	02/20/24	1729 25593	35 13	
Arsenic	J	0.00429	0.00200	0.00500	mg/L	1.00	1					
Barium		0.153	0.000670	0.00400	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24 Project: FRNP00507 Sample ID: 652906005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Metals Analysis-ICP-M	IS										
6020, Metals (15+ elem	ents) "As Re	ceived"									
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Calcium		24.7	0.0800	0.200	mg/L	1.00	1				
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Cobalt	J	0.000662	0.000300	0.00100	mg/L	1.00	1				
Copper	J	0.000664	0.000300	0.00200	mg/L	1.00	1				
Iron		0.854	0.0330	0.100	mg/L	1.00	1				
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1				
Magnesium		6.28	0.0100	0.0300	mg/L	1.00	1				
Manganese		0.198	0.00100	0.00500	mg/L	1.00	1				
Molybdenum	J	0.000330	0.000200	0.00100	mg/L	1.00	1				
Potassium		0.421	0.0800	0.300	mg/L	1.00	1				
Selenium		0.00576	0.00150	0.00500	mg/L	1.00	1				
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1				
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1				
Uranium		0.000316	0.0000670	0.000200	mg/L	1.00	1				
Vanadium	J	0.00380	0.00330	0.0200	mg/L	1.00	1				
Zinc	U	0.0200	0.00330	0.0200	mg/L	1.00	1				
Boron	В	0.0160	0.00520	0.0150	mg/L	1.00	1	RM4	02/21/24	1309 2559335	14
Semi-Volatiles-PCB											
8082A, PCB Liquids "A	As Received"										
Aroclor-1016	U	0.114	0.0381	0.114	ug/L	0.00114	1	YS1	02/16/24	1410 2568588	15
Aroclor-1221	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Aroclor-1232	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Aroclor-1242	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Aroclor-1248	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Aroclor-1254	U	0.114	0.0381	0.114		0.00114	1				
Aroclor-1260	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Aroclor-1268	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Aroclor-Total	U	0.114	0.0381	0.114	ug/L	0.00114	1				
Solids Analysis											
160.1, Dissolved Solids	"As Receive	ed"									
Total Dissolved Solids		393	2.38	10.0	mg/L			KLP1	02/01/24	1158 2561837	16
Spectrometric Analysis					-						
410.4, Chem. Oxygen I		Received"									

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24 Project: FRNP00507 Sample ID: 652906005 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time Batch	Method
Spectrometric Analysis	3										
410.4, Chem. Oxygen	Demand "As l	Received"									
COD	U	20.0	8.95	20.0	mg/L		1	HH2	01/29/24	1244 2559247	17
Volatile Organics											
8260D, Volatiles- full	suite "As Rece	eived"									
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	02/01/24	1331 2559983	18
1,1,1-Trichloroethane	UY2	1.00	0.333	1.00	ug/L		1				
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,1-Dichloroethylene	UY2	1.00	0.333	1.00	ug/L		1				
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1				
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1				
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1				
2-Butanone	U	5.00	1.67	5.00	ug/L		1				
2-Hexanone	U	5.00	1.67	5.00	ug/L		1				
4-Methyl-2-pentanone	LU	5.00	1.67	5.00	ug/L		1				
Acetone	UY2	5.00	1.74	5.00	ug/L		1				
Acrolein	U	5.00	1.67	5.00	ug/L		1				
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1				
Benzene	U	1.00	0.333	1.00	ug/L		1				
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1				
Bromoform	U	1.00	0.333	1.00	ug/L		1				
Bromomethane	UY2	1.00	0.337	1.00	ug/L		1				
Carbon disulfide	UY2	5.00	1.67	5.00	ug/L		1				
Carbon tetrachloride	UY2	1.00	0.333	1.00	ug/L		1				
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1				
Chloroethane	U	1.00	0.333	1.00	ug/L		1				
Chloroform	U	1.00	0.333	1.00	ug/L		1				
Chloromethane	UY1	1.00	0.333	1.00	ug/L		1				
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1				
Dibromomethane	U	1.00	0.333	1.00	ug/L		1				
Ethylbenzene	UY2	1.00	0.333	1.00	ug/L		1				
Iodomethane	UY2	5.00	1.67	5.00	ug/L		1				

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

DF Analyst Date Time Batch Method

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Qualifier

Parameter

Project: C-746-U Landfill Quarterly(UG24-02)

Result

Client Sample ID: MW374UG2-24 Project: FRNP00507 Sample ID: 652906005 Client ID: FRNP005

DL

RL

Units

PF

Volatile Organics								
8260D, Volatiles- full su	uite "As Receiv	ved"						
Methylene chloride	BJY2	1.58	0.500	5.00	ug/L	1		
Styrene	UY2	1.00	0.333	1.00	ug/L	1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L	1		
Toluene	U	1.00	0.333	1.00	ug/L	1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L	1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L	1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L	1		
Vinyl chloride	UY1	1.00	0.333	1.00	ug/L	1		
Xylenes (total)	UY2	3.00	1.00	3.00	ug/L	1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L	1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L	1		
The following Prep Met	hods were perf	formed:						
Method	Description			Analyst	Date	Time	Prep Batch	
SW846 7470A Prep	EPA 7470A Me	rcury Prep Liquid		JM13	01/30/24	1205	2560147	
SW846 3005A	ICP-MS 3005A	PREP		SD	01/29/24	1520	2559334	
SW846 9010C Distillation	SW846 9010C I	Prep		ES2	01/30/24	1104	2559563	
SW846 8011 PREP	8011 Prep	-		LL2	02/01/24	1147	2559321	
SW846 3535A	SW3535A PCB	SPE Extraction		DXF4	02/16/24	0454	2568582	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

8260D, Volatiles- full suite "As Received"

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24 Project: FRNP00507 Sample ID: 652906005 Client ID: FRNP005

Parameter	Qualifier Result	DL I	RL Units	s PF	DF Analyst Date	Time Batch	Method
The following Analyti	cal Methods were performed:						
Method	Description			Analyst	Comments		
1	SW846 8011						
2	SW846 9060A						
3	SW846 9012B						
4	SW846 9020B						
5	EPA 300.0						
6	SW846 9056A						
7	SW846 9056A						
8	SW846 7470A						
9	SW846 3005A/6020B						
10	SW846 3005A/6020B						
11	SW846 3005A/6020B						
12	SW846 3005A/6020B						
13	SW846 3005A/6020B						
14	SW846 3005A/6020B						
15	SW846 3535A/8082A						
16	EPA 160.1						
17	EPA 410.4						
18	SW846 8260D						
Surrogate/Tracer Reco	very Test		Result	Nomina	l Recovery%	Acceptable L	imits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chlor Received"	ropropane "As	6.40 ug/L	6.75	5 95	(56%-149%)	)
Decachlorobiphenyl	8082A, PCB Liquids "As Receive	ed"	0.0876 ug/L	0.229	9 38	(30%-135%)	)
4cmx	8082A, PCB Liquids "As Receive	ed"	0.136 ug/L	0.229	9 59	(26%-108%)	)
Bromofluorobenzene	8260D, Volatiles- full suite "As F	Received"	48.1 ug/L	50.0	96	(74%-123%)	)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As F	Received"	43.9 ug/L	50.0	88	(76%-127%)	)

#### **Notes:**

Toluene-d8

45.0 ug/L

90

50.0

(77%-121%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24 Project: FRNP00507 Sample ID: 652906005 Client ID: FRNP005

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24 Sample ID: 652906006

Matrix: WG

Collect Date: 25-JAN-24 11:32 Receive Date: 26-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst Date	Time	Batch	Method
Metals Analysis-IC	P-MS										
6020, Dissolved Me	etals (3 Elements) "A	As Received"									
Barium		0.149	0.000670	0.00400	mg/L	1.00	1	RM4 02/20/24	1732	2559335	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1				
Uranium	0	0.000314	0.0000670	0.000200	mg/L	1.00	1				
The following Prep	Methods were perfe	ormed:									
Method	Description			Analyst	Date	Т	ime	Prep Batch			
SW846 3005A	ICP-MS 3005A	PREP		SD	01/29/24	1	520	2559334			
EPA 160	Laboratory Filtra	ation		RXB5	01/26/24	1	247	2559164			

The following Analytical Methods were performed:

Method Description Analyst Comments

1 SW846 3005A/6020B

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

FRNP00507

FRNP005

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB3UG2-24 Sample ID: 652906007

Matrix: WATER

Collect Date: 25-JAN-24 06:40

Receive Date: 26-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Anal	yst Date	Time	Batch	Method
504.1/8011 Analysis of	EDB/DBCP											
8011 VOA- 1,2-Dibron	no-3-chloropr	opane "As Rece	ived"									
1,2-Dibromo-3-chloropropan	-	0.0192	0.00865	0.0192	ug/L	0.961	1	LL2	02/01/24	1547	2559322	1
Volatile Organics												
8260D, Volatiles- full s	uite "As Rece	eived"										
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JM6	01/29/24	1326	2559983	2
1,1,1-Trichloroethane	UY2	1.00	0.333	1.00	ug/L		1					
1,1,2,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	UY2	1.00	0.333	1.00	ug/L		1					
1,2,3-Trichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	1.00	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	1.00	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	1.00	0.333	1.00	ug/L		1					
2-Butanone	U	5.00	1.67	5.00	ug/L		1					
2-Hexanone	U	5.00	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	5.00	1.67	5.00	ug/L		1					
Acetone	UY2	5.00	1.74	5.00	ug/L		1					
Acrolein	U	5.00	1.67	5.00	ug/L		1					
Acrylonitrile	U	5.00	1.67	5.00	ug/L		1					
Benzene	U	1.00	0.333	1.00	ug/L		1					
Bromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	UY2	1.00	0.337	1.00	ug/L		1					
Carbon disulfide	UY2	5.00	1.67	5.00	ug/L		1					
Carbon tetrachloride	UY2	1.00	0.333	1.00	ug/L		1					
Chlorobenzene	U	1.00	0.333	1.00	ug/L		1					
Chloroethane	U	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY1	1.00	0.333	1.00	ug/L		1					
Dibromochloromethane	U	1.00	0.333	1.00	ug/L		1					
Dibromomethane	U	1.00	0.333	1.00	ug/L		1					
Ethylbenzene	UY2	1.00	0.333	1.00	ug/L		1					
Iodomethane	UY2	5.00	1.67	5.00	ug/L		1					

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB3UG2-24 Project: FRNP00507 Sample ID: 652906007 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
Volatile Organics									
8260D, Volatiles- full st	uite "As Rece	eived"							
Methylene chloride	JY2	1.42	0.500	5.00	ug/L		1		
Styrene	UY2	1.00	0.333	1.00	ug/L		1		
Tetrachloroethylene	U	1.00	0.333	1.00	ug/L		1		
Toluene	U	1.00	0.333	1.00	ug/L		1		
Trichloroethylene	U	1.00	0.333	1.00	ug/L		1		
Trichlorofluoromethane	U	1.00	0.333	1.00	ug/L		1		
Vinyl acetate	U	5.00	1.67	5.00	ug/L		1		
Vinyl chloride	UY1	1.00	0.333	1.00	ug/L		1		
Xylenes (total)	UY2	3.00	1.00	3.00	ug/L		1		
cis-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
cis-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,2-Dichloroethylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,3-Dichloropropylene	U	1.00	0.333	1.00	ug/L		1		
trans-1,4-Dichloro-2-butene	U	5.00	1.67	5.00	ug/L		1		
The following Prep Met	thods were pe	erformed:							
Method	Description	n		Analyst	Date	,	Time Prep Bate	eh	·
SW846 8011 PREP	8011 Prep			LL2	02/01/24		1147 2559321		

The following Analytical Methods were performed:

Method	Description	Analyst Comments						
1	SW846 8011		-					
2	SW846 8260D							
Surrogate/Tracer Recover	y Test	Result	Nominal	Recovery%	Acceptable Limits			
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As	8.14 ug/L	6.87	119	(56%-149%)			

Bullogate/ Hacel Recovery	1650	Result	Tommai	itecovery /0	receptable Ellints
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As	8.14 ug/L	6.87	119	(56%-149%)
	Received"				
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	49.3 ug/L	50.0	99	(74%-123%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	44.4 ug/L	50.0	89	(76%-127%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	44.7 ug/L	50.0	89	(77%-121%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received" 8260D, Volatiles- full suite "As Received"	44.4 ug/L	50.0	89	(76%-1279

#### **Notes:**

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: TB3UG2-24 Project: FRNP00507 Sample ID: 652906007 Client ID: FRNP005

Parameter C	Dualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
	<	11050110						Time Datem	1.1001100

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project: Client ID:

FRNP00507 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: Sample ID: Matrix: MW372UG2-24 652906001

WG Collect Date:

25-JAN-24 Receive Date: 26-JAN-24 Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date Tim	e Batch	Mtd.
Rad Alpha Spec Ana	alysis											
AN-1418 AlphaSpe	ec Ra226, Liquid	"As Receiv	ed"									
Radium-226	U	0.524	+/-0.517	0.646	+/-0.518	5.00	pCi/L		CM4	02/12/24 1142	255999	3 1
Th-01-RC M, Th Is	sotopes, Liquid "A	As Received	"									
Thorium-230	U	0.827	+/-1.07	1.63	+/-1.08	50.0	pCi/L		EJ1	02/03/24 0926	255999	1 2
Thorium-232	U	0.221	+/-0.666	1.19	+/-0.667		pCi/L					
Rad Gas Flow Prop	ortional Countir	ng										
904.0Mod, Ra228,	Liquid "As Rece	ived"										
Radium-228	U	0.860	+/-2.24	4.09	+/-2.26	4.99	pCi/L		JE1	02/19/24 1059	256368	8 3
905.0Mod, Sr90, la	iquid "As Receive	ed"										
Strontium-90	U	0.804	+/-3.00	5.45	+/-3.00	8.00	pCi/L		ST2	02/07/24 152	2562680	0 4
9310, Alpha/Beta	Activity, liquid "A	As Received'	,									
Alpha	U	6.28	+/-7.13	11.7	+/-7.21	15.0	pCi/L		KP1	02/05/24 1803	255993	6 5
Beta		26.5	+/-8.54	10.8	+/-9.61	50.0	pCi/L					
Rad Liquid Scintilla	tion Analysis											
906.0M, Tritium D	Pist, Liquid "As R	eceived"										
Tritium	U	3.58	+/-129	230	+/-129	300	pCi/L		HB2	02/22/24 0257	256391	8 6
Tc-02- $RC$ - $MOD$ , $T$	Cc99, Liquid "As	Received"										
Technetium-99		38.9	+/-11.4	16.3	+/-12.2	25.0	pCi/L		GS3	02/20/24 1023	256444	1 7
The following Analy	rtical Mathada w		mad									

The following Analytical Methods were performed **Description** 

Method

1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2559993	97.2	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2559991	92.8	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563688	84	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	99	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564441	99.7	(30%-110%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW372UG2-24 Project: FRNP00507 Sample ID: 652906001 Project: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.

Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

# Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project: Client ID: FRNP00507 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW373UG2-24
Sample ID: 652906003
Matrix: WG
Collect Date: 25-JAN-24
Receive Date: 26-JAN-24

Collector: Client

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date T	ime	Batch	Mtd.
Rad Alpha Spec Analys	sis												
AN-1418 AlphaSpec F	Ra226, Liquid	"As Receiv	ed"										
Radium-226	U	0.0260	+/-0.264	0.553	+/-0.264	5.00	pCi/L		CM4	02/12/24 1	142	2559993	1
Th-01-RC M, Th Isoto	pes, Liquid "A	As Received	"										
Thorium-230	U	1.15	+/-1.80	2.82	+/-1.81	50.0	pCi/L		EJ1	02/03/24 0	926	2559991	2
Thorium-232	U	-0.284	+/-0.792	2.26	+/-0.794		pCi/L						
Rad Gas Flow Proporti	ional Countir	ng											
904.0Mod, Ra228, Lie	quid "As Rece	ived"											
Radium-228	U	2.49	+/-2.07	3.25	+/-2.17	4.99	pCi/L		JE1	02/19/24 1	059	2563688	3
905.0Mod, Sr90, liqui	id "As Receive	≥d"											
Strontium-90	U	2.98	+/-3.39	5.70	+/-3.42	8.00	pCi/L		ST2	02/07/24 1	521	2562680	4
9310, Alpha/Beta Acti	ivity, liquid "A	s Received'	,										
Alpha	U	2.87	+/-4.96	9.17	+/-4.98	15.0	pCi/L		KP1	02/05/24 1	803	2559936	5
Beta	U	2.38	+/-5.95	10.6	+/-5.96	50.0	pCi/L						
Rad Liquid Scintillation	n Analysis												
906.0M, Tritium Dist,	Liquid "As R	eceived"											
Tritium	U	98.0	+/-140	238	+/-141	300	pCi/L		HB2	02/20/24 0	916	2563918	6
Tc-02-RC-MOD, Tc99	9, Liquid "As I	Received"											
Technetium-99	U	6.70	+/-9.63	16.4	+/-9.66	25.0	pCi/L		GS3	02/20/24 1	040	2564441	7
The following Analytic	al Mathada w		mod.										

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2559993	95.2	(30%-110%)	
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2559991	48.5	(30%-110%)	
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2563688	90	(30%-110%)	
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2562680	96.4	(30%-110%)	
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564441	99.6	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW373UG2-24 Project: FRNP00507 Sample ID: 652906003 Project: FRNP005

Parameter Qualifier Result Uncertainty MDC TPU RL Units PF DF Analyst Date Time Batch Mtd.

Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

#### Surrogate/Tracer Recovery

rest

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

LLC Address:

Collector:

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client

Client Sample ID: Sample ID: Matrix: MW374UG2-24 652906005 WG Collect Date: 25-JAN-24 Receive Date: 26-JAN-24

Project: FRNP00507 Client ID: FRNP005

Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Alpha Spec Analys	sis											
AN-1418 AlphaSpec I	Ra226, Liquid	"As Receiv	ed"									
Radium-226	U	0.381	+/-0.379	0.507	+/-0.380	5.00	pCi/L		CM4	02/10/24 0856	2559993	1
Th-01-RC M, Th Isoto	pes, Liquid ".	As Received	"									
Thorium-230	U	0.657	+/-0.970	1.53	+/-0.978	50.0	pCi/L		EJ1	02/03/24 0926	2559991	2
Thorium-232	U	0.0744	+/-0.530	1.06	+/-0.531		pCi/L					
Rad Gas Flow Proport	ional Countii	ng										
904.0Mod, Ra228, Lie	quid "As Rece	ived"										
Radium-228	U	1.78	+/-2.20	3.74	+/-2.25	4.99	pCi/L		JE1	02/19/24 1100	2563688	3
905.0Mod, Sr90, liqui	id "As Receive	ed"										
Strontium-90	U	-1.64	+/-3.00	5.94	+/-3.00	8.00	pCi/L		ST2	02/07/24 1522	2562680	4
9310, Alpha/Beta Act	ivity, liquid "A	As Received'	,									
Alpha	U	-0.395	+/-3.68	9.11	+/-3.68	15.0	pCi/L		KP1	02/05/24 1803	2559936	5
Beta	U	-2.43	+/-4.58	9.46	+/-4.58	50.0	pCi/L					
Rad Liquid Scintillatio 906.0M, Tritium Dist,	•	eceived"										
Tritium	U	15.3	+/-133	239	+/-133	300	pCi/L		HB2	02/20/24 0947	2563918	6
Tc-02-RC-MOD, Tc9	9, Liquid "As	Received"										
Technetium-99	U	3.19	+/-9.57	16.7	+/-9.58	25.0	pCi/L		GS3	02/20/24 1057	2564441	7
The following Analytic	al Methods v	vere perfori	med									

Method	Description
1	Eichrom Industries, AN-1418
2	DOE EML HASL-300, Th-01-RC Modified
3	EPA 904.0/SW846 9320 Modified
4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
5	EPA 900.0/SW846 9310
6	EPA 906.0 Modified
7	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Trace	r Recovery	Test	Batch ID	Recovery%	Acceptable Limits	
Barium-133 Tr	acer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2559993	96	(30%-110%)	
Thorium-229 T	racer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2559991	94.6	(30%-110%)	
Barium-133 Tr	acer	904.0Mod, Ra228, Liquid "As Received"	2563688	84.8	(30%-110%)	
Strontium Carr	ier	905.0Mod, Sr90, liquid "As Received"	2562680	88.5	(30%-110%)	
Technetium-99	m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2564441	98.1	(30%-110%)	

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

# Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG24-02)

Client Sample ID: MW374UG2-24 Project: FRNP00507 Sample ID: Client ID: FRNP005 652906005

**Parameter Result Uncertainty** Units Qualifier MDC **TPU** RLPF DF Analyst Date Time Batch Mtd. **Acceptable Limits** Batch ID Recovery%

Surrogate/Tracer Recovery

Test

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

# APPENDIX D STATISTICAL ANALYSES AND QUALIFICATION STATEMENT



Finds/Unit: <u>KY8-980-008-982/1</u>

LAB ID: None

# GROUNDWATER STATISTICAL COMMENTS

### Introduction

The statistical analyses conducted on the first quarter 2024 groundwater data collected from the C-746-U Contained Landfill monitoring wells (MWs) were performed in accordance with Permit GSTR0001, Standard Requirement 3, using the U.S. Environmental Protection Agency (EPA) guidance document, *EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (1989). A statistician qualification statement has been provided for this analysis.

The statistical evaluation was conducted separately for the three groundwater systems: the Upper Continental Recharge System (UCRS), the Upper Regional Gravel Aquifer (URGA), and the Lower Regional Gravel Aquifer (LRGA). For each groundwater system, data from wells considered to represent background conditions were compared with test wells (downgradient or sidegradient wells) (Exhibit D.1). The first quarter 2024 data used to conduct the statistical analyses were collected in January 2024. The statistical analyses for this report first used data from the first eight quarters that had been sampled for each parameter to develop the historical background value, beginning with the first two baseline sampling events in 2002, when available. Then a second set of statistical analyses, using the last eight quarters, was run on analytes that had at least one downgradient well that had exceeded the historical background. The sampling dates associated with both the historical and the current background data are listed next to the result in the statistical analysis sheets of this appendix.

### **Statistical Analysis Process**

Constituents of concern that have Kentucky maximum contaminant levels (MCLs) and results that do not exceed their respective MCL are not included in the statistical evaluation. Parameters that have MCLs can be found in 401 KAR 47:030 § 6, Maximum Groundwater Contaminant Levels. For parameters with no established MCL and those parameters that exceed their MCLs, the most recent results are compared to historical background concentrations, as follows: the data are divided into censored and uncensored observations. The one-sided tolerance interval statistical test is conducted only on parameters that have at least one uncensored (detected) observation. The current result is compared to the results of the one-sided tolerance interval statistical test to determine if the current data exceed the historical background concentration calculated using the first eight quarters of data. The tolerance interval statistical analysis is conducted separately for each parameter in each well (no pooling of downgradient data).

For the statistical analysis of pH, a two-sided tolerance interval statistical test is conducted. The test well results are compared to both an upper and lower tolerance limit (TL) to determine if statistically significant deviations in concentrations exist with respect to upgradient (background) well data from the first eight quarters.

Statistical analyses are performed on the first eight quarters of historical background data, not on the data for the current quarter. Once a statistical result is obtained using the background data, the result for the current quarter is compared to that value. If the value is exceeded, the well is considered to have an exceedance of the statistically derived historical background concentration.

Exhibit D.1. Station Identification for Monitoring Wells Analyzed

Station	Type	Groundwater Unit
MW357	TW	URGA
MW358	TW	LRGA
MW359 <sup>a,b</sup>	TW	UCRS
MW360	TW	URGA
MW361	TW	LRGA
MW362ª	TW	UCRS
MW363	TW	URGA
MW364	TW	LRGA
MW365 <sup>a,b</sup>	TW	UCRS
MW366	TW	URGA
MW367	TW	LRGA
MW368 <sup>a,b</sup>	TW	UCRS
MW369	BG	URGA
MW370	BG	LRGA
MW371 <sup>a</sup>	BG	UCRS
MW372	BG	URGA
MW373	BG	LRGA
MW374 <sup>a</sup>	BG	UCRS
MW375 <sup>a</sup>	SG	UCRS
MW376 <sup>a,b</sup>	SG	UCRS
MW377 <sup>a,b</sup>	SG	UCRS

<sup>&</sup>lt;sup>a</sup> The gradients in UCRS wells are downward and, hydrogeologically, UCRS wells are not considered upgradient, downgradient, or sidegradient from the C-746-U Contained Landfill. The UCRS wells identified as upgradient, sidegradient, or downgradient are those wells located in the same general direction as the LRGA and URGA wells considered to be upgradient, sidegradient, or downgradient.

BG: upgradient or background wells

TW: downgradient or test wells

SG: sidegradient wells

For those parameters that are determined to exceed the historical background concentration, a second one-sided tolerance interval statistical test in the case of pH, is conducted. The second one-sided tolerance interval statistical test is conducted to determine whether the current concentration in downgradient wells exceeds the current background, as determined by a comparison against the statistically derived upper TL using the most recent eight quarters of data for the relevant background wells. For the statistical analysis of pH, a two-sided tolerance interval statistical test is conducted, if required. The test well pH results are compared to both an upper and lower TL to determine if the current pH is different from the current background level to a statistically significant level. The tolerance interval statistical analysis is conducted separately for each parameter in each well (no pooling of downgradient data).

Statistical analyses are performed on the last eight quarters of current background data, not on the data for the current quarter. Once a statistical result is obtained using the background data, the result for the current quarter is compared to that value. If the value is exceeded, the well has an exceedance of the statistically derived current background concentration.

<sup>&</sup>lt;sup>b</sup> Well was dry this quarter, and a groundwater sample could not be collected.

A stepwise list of the one-sided tolerance interval statistical procedure applied to the data is summarized below.<sup>1</sup>

- 1. The TL is calculated for the background data (first using the first eight quarters, then using the last eight quarters, if required).
  - For each parameter, the background data are used to establish a baseline. On this data set, the mean (X) and the standard deviation (S) are computed.
  - The data set is checked for normality using coefficient of variation (CV). If  $CV \le 1.0$ , then the data are assumed to be normally distributed. Data sets with CV > 1.0 are assumed to be log-normally distributed; for data sets with CV > 1.0, the data are log-transformed and analyzed.
  - The factor (K) for one-sided upper TL with 95% minimum coverage is determined (Table 5, Appendix B, EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance, 1989) based on the number of background data points.
  - The one-sided upper TL is calculated using the following equation:

$$TL = X + (K \times S)$$

2. Each observation from downgradient wells is compared to the calculated one-sided upper TL in Step 1. If an observation value exceeds the TL, then there is statistically significant evidence that the well concentration exceeds the historical background.

# **Type of Data Used**

Exhibit D.1 presents the upgradient or background wells (identified as "BG"), the downgradient or test wells (identified as "TW"), and the sidegradient wells (identified as "SG") for the C-746-U Contained Landfill. Exhibit D.2 presents the parameters from the available data set for which a statistical test was performed using the one-sided tolerance interval.

Exhibits D.3, D.4, and D.5 list the number of analyses (observations), nondetects (censored observations), and detects (uncensored observations), by parameter in the UCRS, the URGA, and the LRGA, respectively. Those parameters displayed with bold-face type indicate the one-sided tolerance interval statistical test was performed. The data presented in Exhibits D.3, D.4, and D.5 were collected during the current quarter, first quarter 2024. The observations are representative of the current quarter data. Background data are presented in Attachments D1 and D2. The sampling dates associated with background data are listed next to the result in Attachments D1 and D2. When field duplicate data are available, the higher of the two readings is retained for further evaluation. When a data point has been rejected following data validation or data assessment, this result is not used, and the next available data point is used for the background or current quarter data.

<sup>&</sup>lt;sup>1</sup> For pH, two-sided TLs (upper and lower) were calculated with an adjusted K factor using the following equations: upper  $TL = X + (K \times S)$ 

lower  $TL = X - (K \times S)$ 

Exhibit D.2. List of Parameters Tested Using the One-Sided Upper Tolerance Level Test with Historical Background

Parameters
Acetone
Aluminum
Boron
Bromide
Calcium
Chemical Oxygen Demand (COD)
Chloride
Cobalt
Conductivity
Copper
Dissolved Oxygen
Dissolved Solids
Iron
Magnesium
Manganese
Methylene Chloride
Molybdenum
Nickel
Oxidation-Reduction Potential <sup>a</sup>
Polychlorinated Biphenyl (PCB), Total
PCB-1254
PCB-1260
$ m pH^b$
Potassium
Sodium
Sulfate
Technetium-99
Total Organic Carbon (TOC)
Total Organic Halides (TOX)
Vanadium
Zinc
Deduction Detential calibrated as Eh

<sup>&</sup>lt;sup>a</sup> Oxidation-Reduction Potential calibrated as Eh.
<sup>b</sup> For pH, the test well results were compared to both an upper and lower TL to determine if the current result differs to a statistically significant degree from the historical background values.

Exhibit D.3. Summary of Censored, and Uncensored Data—UCRS

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	4	4	0	No
1,1,2,2-Tetrachloroethane	4	4	0	No
1,1,2-Trichloroethane	4	4	0	No
1,1-Dichloroethane	4	4	0	No
1,2,3-Trichloropropane	4	4	0	No
1,2-Dibromo-3-chloropropane	4	4	0	No
1,2-Dibromoethane	4	4	0	No
1,2-Dichlorobenzene	4	4	0	No
1,2-Dichloropropane	4	4	0	No
2-Butanone	4	4	0	No
2-Hexanone	4	4	0	No
4-Methyl-2-pentanone	4	4	0	No
Acetone	4	4	0	No
Acrolein	4	4	0	No
Acrylonitrile	4	4	0	No
Aluminum	4	0	4	Yes
Antimony	4	4	0	No
Beryllium	4	4	0	No
Boron	4	2	2	Yes
Bromide	4	3	1	Yes
Bromochloromethane	4	4	0	No
Bromodichloromethane	4	4	0	No
Bromoform		4		
	4		0	No
Bromomethane	4	4	0	No
Calcium	4	0	4	Yes
Carbon disulfide	4	4	0	No
COD	4	4	0	No
Chloride	4	1	3	Yes
Chlorobenzene	4	4	0	No
Chloroethane	4	4	0	No
Chloroform	4	4	0	No
Chloromethane	4	4	0	No
cis-1,2-Dichloroethene	4	4	0	No
cis-1,3-Dichloropropene	4	4	0	No
Cobalt	4	2	2	Yes
Conductivity	4	0	4	Yes
Copper	4	0	4	Yes
Cyanide	4	4	0	No
Dibromochloromethane	4	4	0	No
Dibromomethane	4	4	0	No
Dimethylbenzene, Total	4	4	0	No
Dissolved Oxygen	4	0	4	Yes
Dissolved Solids	4	0	4	Yes
Ethylbenzene	4	4	0	No
Iodide	4	4	0	No
Iodomethane	4	4	0	No
Iron	4	0	4	Yes
Magnesium	4	0	4	Yes
Manganese	4	0	4	Yes
Methylene chloride	4	4	0	No
Molybdenum	4	1	3	Yes

Exhibit D.3. Summary of Censored, and Uncensored Data—UCRS (Continued)

Parameters	Observations	Censored	Uncensored	Statistical
		Observation	Observation	Analysis?
Nickel	4	2	2	Yes
Oxidation-Reduction Potential	4	0	4	Yes
PCB, Total	4	4	0	No
PCB-1016	4	4	0	No
PCB-1221	4	4	0	No
PCB-1232	4	4	0	No
PCB-1242	4	4	0	No
PCB-1248	4	4	0	No
PCB-1254	4	4	0	No
PCB-1260	4	4	0	No
PCB-1268	4	4	0	No
рН	4	0	4	Yes
Potassium	4	0	4	Yes
Radium-226	4	4	0	No
Rhodium	4	4	0	No
Sodium	4	0	4	Yes
Styrene	4	4	0	No
Sulfate	4	0	4	Yes
Tantalum	4	4	0	No
Technetium-99	4	4	0	No
Tetrachloroethene	4	4	0	No
Thallium	4	4	0	No
Thorium-230	4	4	0	No
Toluene	4	4	0	No
TOC	4	0	4	Yes
TOX	4	0	4	Yes
trans-1,2-Dichloroethene	4	4	0	No
trans-1,3-Dichloropropene	4	4	0	No
trans-1,4-Dichloro-2-Butene	4	4	0	No
Trichlorofluoromethane	4	4	0	No
Vanadium	4	2	2	Yes
Vinyl Acetate	4	4	0	No
Zinc	4	3	1	Yes

**Bold** denotes parameters with at least one uncensored observation.

Exhibit D.4. Summary of Censored, and Uncensored Data—URGA

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	6	6	0	No
1,1,2,2-Tetrachloroethane	6	6	0	No
1,1,2-Trichloroethane	6	6	0	No
1,1-Dichloroethane	6	6	0	No
1,2,3-Trichloropropane	6	6	0	No
1,2-Dibromo-3-chloropropane	6	6	0	No
1,2-Dibromoethane	6	6	0	No
1,2-Dichlorobenzene	6	6	0	No
1,2-Dichloropropane	6	6	0	No
2-Butanone	6	6	0	No
2-Butanone 2-Hexanone	6	6	0	No
4-Methyl-2-pentanone	6	6	0	No
Acetone	6	5	1	Yes
Acrolein	6	6	0	No
Acrylonitrile	6	6	0	No
· · · · · · · · · · · · · · · · · · ·			2	
Aluminum	6	4	0	Yes No
Antimony		6	0	
Beryllium	6	6		No
Boron	6	0	6	Yes
Bromide	6	1	5	Yes
Bromochloromethane	6	6	0	No
Bromodichloromethane	6	6	0	No
Bromoform	6	6	0	No
Bromomethane	6	6	0	No
Calcium	6	0	6	Yes
Carbon disulfide	6	6	0	No
COD	6	6	0	No
Chloride	6	1	5	Yes
Chlorobenzene	6	6	0	No
Chloroethane	6	6	0	No
Chloroform	6	6	0	No
Chloromethane	6	6	0	No
cis-1,2-Dichloroethene	6	6	0	No
cis-1,3-Dichloropropene	6	6	0	No
Cobalt	6	3	3	Yes
Conductivity	6	0	6	Yes
Copper	6	0	6	Yes
Cyanide	6	6	0	No
Dibromochloromethane	6	6	0	No
Dibromomethane	6	6	0	No
Dimethylbenzene, Total	6	6	0	No
Dissolved Oxygen	6	0	6	Yes
Dissolved Solids	6	0	6	Yes
Ethylbenzene	6	6	0	No
Iodide	6	6	0	No
Iodomethane	6	6	0	No
Iron	6	0	6	Yes
Magnesium	6	0	6	Yes
Manganese	6	0	6	Yes
Methylene chloride	6	5	1	Yes
Molybdenum	6	5	1	Yes

Exhibit D.4. Summary of Censored, and Uncensored Data—URGA (Continued)

Parameters	Observations	Censored	Uncensored	Statistical
		Observation	Observation	Analysis?
Nickel	6	1	5	Yes
Oxidation-Reduction Potential	6	0	6	Yes
PCB, Total	6	6	0	No
PCB-1016	6	6	0	No
PCB-1221	6	6	0	No
PCB-1232	6	6	0	No
PCB-1242	6	6	0	No
PCB-1248	6	6	0	No
PCB-1254	6	6	0	No
PCB-1260	6	6	0	No
PCB-1268	6	6	0	No
рН	6	0	6	Yes
Potassium	6	0	6	Yes
Radium-226	6	6	0	No
Rhodium	6	6	0	No
Sodium	6	0	6	Yes
Styrene	6	6	0	No
Sulfate	6	0	6	Yes
Tantalum	6	6	0	No
Technetium-99	6	3	3	Yes
Tetrachloroethene	6	6	0	No
Thallium	6	6	0	No
Thorium-230	6	6	0	No
Toluene	6	6	0	No
TOC	6	0	6	Yes
TOX	6	1	5	Yes
trans-1,2-Dichloroethene	6	6	0	No
trans-1,3-Dichloropropene	6	6	0	No
trans-1,4-Dichloro-2-Butene	6	6	0	No
Trichlorofluoromethane	6	6	0	No
Vanadium	6	5	1	Yes
Vinyl Acetate	6	6	0	No
Zinc	6	5	1	Yes

**Bold** denotes parameters with at least one uncensored observation.

Exhibit D.5. Summary of Censored, and Uncensored Data—LRGA

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	6	6	0	No
1,1,2,2-Tetrachloroethane	6	6	0	No
1,1,2-Trichloroethane	6	6	0	No
1,1-Dichloroethane	6	6	0	No
1,2,3-Trichloropropane	6	6	0	No
1,2-Dibromo-3-chloropropane	6	6	0	No
1,2-Dibromoethane	6	6	0	No
1,2-Dichlorobenzene	6	6	0	No
1,2-Dichloropropane	6	6	0	No
2-Butanone	6	6	0	No
2-Hexanone	6	6	0	No
4-Methyl-2-pentanone	6	6	0	No
Acetone	6	6	0	No
Acrolein	6	6	0	No
Acrylonitrile	6	6	0	No
Aluminum	6	5	1	Yes
Antimony	6	6	0	No
Beryllium	6	6	0	No
Boron	6	0	6	Yes
Bromide	6	1	5	Yes
Bromochloromethane	6	6	0	No
Bromodichloromethane	6	6	0	No
Bromoform	6	6	0	No
Bromomethane	6	6	0	No
Calcium	6	0	6	Yes
Carbon disulfide	6	6	0	No
COD	6	5	1	Yes
Chloride	6	1	5	Yes
Chlorobenzene	6	6	0	No
Chloroethane	6	6	0	No
Chloroform	6	6	0	No
Chloromethane	6	6	0	No
cis-1,2-Dichloroethene	6	6	0	No
cis-1,3-Dichloropropene	6	6	0	No
Cobalt	6	3	3	Yes
Conductivity	6	0	6	Yes
Copper	6	0	6	Yes
Cyanide	6	6	0	No
Dibromochloromethane	6	6	0	No
Dibromomethane	6	6	0	No
Dimethylbenzene, Total	6	6	0	No
Dissolved Oxygen	6	0	6	Yes
Dissolved Solids	6	0	6	Yes
Ethylbenzene	6	6	0	No
Iodide	6	6	0	No
Iodomethane	6	6	0	No
Iron	6	0	6	Yes
Magnesium	6	0	6	Yes
Manganese	6	1	5	Yes
Methylene chloride	6	6	0	No
Molybdenum	6	5	1	Yes

Exhibit D.5. Summary of Censored, and Uncensored Data—LRGA (Continued)

Parameters	Observations	Censored	Uncensored	Statistical
		Observation	Observation	Analysis?
Nickel	6	3	3	Yes
Oxidation-Reduction Potential	6	0	6	Yes
PCB, Total	6	5	1	Yes
PCB-1016	6	6	0	No
PCB-1221	6	6	0	No
PCB-1232	6	6	0	No
PCB-1242	6	6	0	No
PCB-1248	6	6	0	No
PCB-1254	6	5	1	Yes
PCB-1260	6	5	1	Yes
PCB-1268	6	6	0	No
рН	6	0	6	Yes
Potassium	6	0	6	Yes
Radium-226	6	6	0	No
Rhodium	6	6	0	No
Sodium	6	0	6	Yes
Styrene	6	6	0	No
Sulfate	6	0	6	Yes
Tantalum	6	6	0	No
Technetium-99	6	4	2	Yes
Tetrachloroethene	6	6	0	No
Thallium	6	6	0	No
Thorium-230	6	6	0	No
Toluene	6	6	0	No
TOC	6	1	5	Yes
TOX	6	2	4	Yes
trans-1,2-Dichloroethene	6	6	0	No
trans-1,3-Dichloropropene	6	6	0	No
trans-1,4-Dichloro-2-Butene	6	6	0	No
Trichlorofluoromethane	6	6	0	No
Vanadium	6	5	1	Yes
Vinyl Acetate	6	6	0	No
Zinc	6	2	4	Yes

**Bold** denotes parameters with at least one uncensored observation.

# **Discussion of Results from Historical Background Comparison**

For the UCRS, URGA, and LRGA, the concentrations of this quarter were compared to the results of the one-sided tolerance interval test calculated using historical background and are presented in Attachment D1. The statistician qualification statement is presented in Attachment D3. For the UCRS, URGA, and LRGA, the test was applied to 24, 27, and 29 parameters, respectively, including those listed in bold print in Exhibits D.3, D.4, and D.5, which includes those constituents that exceeded their MCL. A summary of exceedances when compared to statistically derive historical upgradient background by well number is shown in Exhibit D.6.

### **UCRS**

This quarter's results identified historical background exceedances for magnesium, oxidation-reduction potential, and sulfate.

# **URGA**

This quarter's results identified historical background exceedances for calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, and sulfate.

### **LRGA**

This quarter's results identified historical background exceedances for calcium, dissolved oxygen, nickel, oxidation-reduction potential, and technetium-99.

# **Statistical Summary**

Summaries of the results of the statistical tests conducted on data obtained from wells in the UCRS, the URGA, and in the LRGA in comparison to historical data are presented in Exhibit D.7, Exhibit D.8, and Exhibit D.9, respectively.

**Exhibit D.6. Summary of Exceedances of Statistically Derived Historical Background Concentrations** 

UCRS	URGA	LRGA
MW362: Oxidation-Reduction Potential*	MW357: Oxidation-Reduction Potential*	MW358: Nickel and Oxidation-Reduction Potential*
MW371: Magnesium and Oxidation-Reduction Potential*	MW360: Oxidation-Reduction Potential*	<b>MW361:</b> Oxidation-Reduction Potential* and Technetium-99
MW374: Oxidation-Reduction Potential* and Sulfate	MW363: Oxidation-Reduction Potential*	MW364: Oxidation-Reduction Potential* and Technetium-99
MW375: Oxidation-Reduction Potential* and Sulfate	MW366: Oxidation-Reduction Potential*	MW367: Oxidation-Reduction Potential*
	MW369: Oxidation-Reduction Potential*	MW370: Dissolved Oxygen and Oxidation-Reduction Potential*
	MW372: Calcium, Conductivity,	MW373: Calcium and
	Dissolved Solids, Magnesium,	Oxidation-Reduction Potential*
	Oxidation-Reduction Potential,* and Sulfate	

<sup>\*</sup>Oxidation-Reduction Potential calibrated as Eh.

Exhibit D.7. Test Summaries for Qualified Parameters for Historical Background—UCRS

Parameter	Performed Test	CV Normality Test <sup>a</sup>	Results of Tolerance Interval Test Conducted
Aluminum	Tolerance Interval	2.08	No exceedance of statistically derived historical background concentration.
Boron	Tolerance Interval	1.24	No exceedance of statistically derived historical background concentration.
Bromide	Tolerance Interval	0.34	No exceedance of statistically derived historical background concentration.
Calcium	Tolerance Interval	0.40	No exceedance of statistically derived historical background concentration.
Chloride	Tolerance Interval	0.95	No exceedance of statistically derived historical background concentration.
Cobalt	Tolerance Interval	1.31	No exceedance of statistically derived historical background concentration.
Conductivity	Tolerance Interval	0.45	No exceedance of statistically derived historical background concentration.
Copper	Tolerance Interval	1.27	No exceedance of statistically derived historical background concentration.
Dissolved Oxygen	Tolerance Interval	0.55	No exceedance of statistically derived historical background concentration.
Dissolved Solids	Tolerance Interval	0.42	No exceedance of statistically derived historical background concentration.
Iron	Tolerance Interval	0.98	No exceedance of statistically derived historical background concentration.
Magnesium	Tolerance Interval	0.27	Current results exceed statistically derived historical background concentration in MW371.
Manganese	Tolerance Interval	0.89	No exceedance of statistically derived historical background concentration.
Molybdenum	Tolerance Interval	1.65	No exceedance of statistically derived historical background concentration.
Nickel	Tolerance Interval	0.98	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential <sup>b</sup>	Tolerance Interval	3.54	Current results exceed statistically derived historical background concentration in MW362, MW371, MW374, and MW375.
рН	Tolerance Interval	0.04	No exceedance of statistically derived historical background concentration.
Potassium	Tolerance Interval	0.72	No exceedance of statistically derived historical background concentration.
Sodium	Tolerance Interval	0.40	No exceedance of statistically derived historical background concentration.
Sulfate	Tolerance Interval	0.49	Current results exceed statistically derived historical background concentration in MW374 and MW375.
TOC	Tolerance Interval	1.38	No exceedance of statistically derived historical background concentration.
TOX	Tolerance Interval	1.08	No exceedance of statistically derived historical background concentration.

Exhibit D.7. Test Summaries for Qualified Parameters for Historical Background—UCRS (Continued)

Parameter	Performed Test	CV Normality Test <sup>a</sup>	Results of Tolerance Interval Test Conducted
Vanadium	Tolerance Interval	1.32	No exceedance of statistically derived historical background concentration.
Zinc	Tolerance Interval	1.38	No exceedance of statistically derived historical background concentration.

CV: coefficient of variation

a If CV > 1.0, used log-transformed data.
b Oxidation-Reduction Potential calibrated as Eh.

Exhibit D.8. Test Summaries for Qualified Parameters for Historical Background—URGA

Parameter	Performed Test	CV Normality Test <sup>a</sup>	Results of Tolerance Interval Test Conducted
Acetone	Tolerance Interval	3.88	No exceedance of statistically derived historical background concentration.
Aluminum	Tolerance Interval	1.24	No exceedance of statistically derived historical background concentration.
Boron	Tolerance Interval	0.84	No exceedance of statistically derived historical background concentration.
Bromide	Tolerance Interval	0.00	No exceedance of statistically derived historical background concentration.
Calcium	Tolerance Interval	0.29	Current results exceed statistically derived historical background concentration in MW372.
Chloride	Tolerance Interval	0.10	No exceedance of statistically derived historical background concentration.
Cobalt	Tolerance Interval	0.84	No exceedance of statistically derived historical background concentration.
Conductivity	Tolerance Interval	0.12	Current results exceed statistically derived historical background concentration in MW372.
Copper	Tolerance Interval	0.40	No exceedance of statistically derived historical background concentration.
Dissolved Oxygen	Tolerance Interval	0.76	No exceedance of statistically derived historical background concentration.
Dissolved Solids	Tolerance Interval	0.16	Current results exceed statistically derived historical background concentration in MW372.
Iron	Tolerance Interval	0.95	No exceedance of statistically derived historical background concentration.
Magnesium	Tolerance Interval	0.27	Current results exceed statistically derived historical background concentration in MW372.
Manganese	Tolerance Interval	0.66	No exceedance of statistically derived historical background concentration.
Methylene Chloride	Tolerance Interval	0.36	No exceedance of statistically derived historical background concentration.
Molybdenum	Tolerance Interval	1.20	No exceedance of statistically derived historical background concentration.
Nickel	Tolerance Interval	0.91	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential <sup>b</sup>	Tolerance Interval	1.26	Current results exceed statistically derived historical background concentration in MW357, MW360, MW363, MW366, MW369, and MW372.
рН	Tolerance Interval	0.03	No exceedance of statistically derived historical background concentration.
Potassium	Tolerance Interval	0.29	No exceedance of statistically derived historical background concentration.
Sodium	Tolerance Interval	0.26	No exceedance of statistically derived historical background concentration.

Exhibit D.8. Test Summaries for Qualified Parameters for Historical Background—URGA (Continued)

Parameter	Performed Test	CV Normality Test <sup>a</sup>	Results of Tolerance Interval Test Conducted
Sulfate	Tolerance Interval	0.75	Current results exceed statistically derived historical background concentration in MW372.
Technetium-99	Tolerance Interval	0.87	No exceedance of statistically derived historical background concentration.
TOC	Tolerance Interval	1.23	No exceedance of statistically derived historical background concentration.
TOX	Tolerance Interval	0.95	No exceedance of statistically derived historical background concentration.
Vanadium	Tolerance Interval	0.26	No exceedance of statistically derived historical background concentration.
Zinc	Tolerance Interval	1.49	No exceedance of statistically derived historical background concentration.

CV: coefficient of variation

a If CV > 1.0, used log-transformed data.

b Oxidation-Reduction Potential calibrated as Eh.

Exhibit D.9. Test Summaries for Qualified Parameters for Historical Background—LRGA

Parameter	Performed Test	CV Normality Test <sup>a</sup>	Results of Tolerance Interval Test Conducted
Aluminum	Tolerance Interval	2.78	No exceedance of statistically derived historical background concentration.
Boron	Tolerance Interval	0.68	No exceedance of statistically derived historical background concentration.
Bromide	Tolerance Interval	0.00	No exceedance of statistically derived historical background concentration.
Calcium	Tolerance Interval	0.31	Current results exceed statistically derived historical background concentration in MW373.
COD	Tolerance Interval	0.59	No exceedance of statistically derived historical background concentration.
Chloride	Tolerance Interval	0.16	No exceedance of statistically derived historical background concentration.
Cobalt	Tolerance Interval	1.16	No exceedance of statistically derived historical background concentration.
Conductivity	Tolerance Interval	0.26	No exceedance of statistically derived historical background concentration.
Copper	Tolerance Interval	0.40	No exceedance of statistically derived historical background concentration.
Dissolved Oxygen	Tolerance Interval	0.83	Current results exceed statistically derived historical background concentration in MW370.
Dissolved Solids	Tolerance Interval	0.30	No exceedance of statistically derived historical background concentration.
Iron	Tolerance Interval	0.96	No exceedance of statistically derived historical background concentration.
Magnesium	Tolerance Interval	0.34	No exceedance of statistically derived historical background concentration.
Manganese	Tolerance Interval	0.62	No exceedance of statistically derived historical background concentration.
Molybdenum	Tolerance Interval	1.20	No exceedance of statistically derived historical background concentration.
Nickel	Tolerance Interval	0.90	Current results exceed statistically derived historical background concentration in MW358.
Oxidation-Reduction Potential <sup>b</sup>	Tolerance Interval	1.31	Current results exceed statistically derived historical background concentration in MW358, MW361, MW364, MW367, MW370, and MW373.
PCB, Total	Tolerance Interval	1.00	No exceedance of statistically derived historical background concentration.
PCB-1254	Tolerance Interval	1.41	No exceedance of statistically derived historical background concentration.
PCB-1260	Tolerance Interval	1.62	No exceedance of statistically derived historical background concentration.
pН	Tolerance Interval	0.03	No exceedance of statistically derived historical background concentration.
Potassium	Tolerance Interval	0.18	No exceedance of statistically derived historical background concentration.
Sodium	Tolerance Interval	0.30	No exceedance of statistically derived historical background concentration.
Sulfate	Tolerance Interval	1.59	No exceedance of statistically derived historical background concentration.
Technetium-99	Tolerance Interval	1.73	Current results exceed statistically derived historical background concentration in MW361 and MW364.
TOC	Tolerance Interval	1.96	No exceedance of statistically derived historical background concentration.
TOX	Tolerance Interval	0.98	No exceedance of statistically derived historical background concentration.

Exhibit D.9. Test Summaries for Qualified Parameters for Historical Background—LRGA (Continued)

Parameter	Performed Test	CV Normality Test <sup>a</sup>	Results of Tolerance Interval Test Conducted
Vanadium	Tolerance Interval	0.32	No exceedance of statistically derived historical background concentration.
Zinc	Tolerance Interval	0.67	No exceedance of statistically derived historical background concentration.

CV: coefficient of variation

a If CV > 1.0, used log-transformed data.
b Oxidation-Reduction Potential calibrated as Eh.

# **Discussion of Results from Current Background Comparison**

For concentrations in wells in the UCRS, URGA, and LRGA that exceeded the TL test using historical background, the concentrations were compared to the results of the one-sided tolerance interval test compared to current background, and are presented in Attachment D2. The statistician qualification statement is presented in Attachment D3. For the UCRS, URGA, and LRGA, the test was applied to 3, 6, and 5 parameters, respectively, because these parameter concentrations exceeded the historical background TL.

### **UCRS**

Because gradients in the UCRS are downward (vertical), there are no hydrogeologically downgradient UCRS wells. It should be noted; however, that none of the UCRS wells exceeded the current TL this quarter.

# **URGA**

This quarter's results showed that none of the URGA wells exceeded the current TL this quarter.

# **LRGA**

This quarter's results showed statistically significant exceedances of current background TL for nickel, oxidation-reduction potential, and technetium-99 in downgradient LRGA wells.

### **Statistical Summary**

Summaries of the statistical tests conducted on data obtained from wells in the UCRS, the URGA, and the LRGA are presented in Exhibit D.10, Exhibit D.11, and Exhibit D.12, respectively.

Exhibit D.10. Test Summaries for Qualified Parameters for Current Background—UCRS

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Magnesium	Tolerance Interval	0.53	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Oxidation-Reduction Potential*	Tolerance Interval	0.20	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Sulfate	Tolerance Interval	0.80	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.

CV: coefficient of variation

<sup>\*</sup>Oxidation-Reduction Potential calibrated as Eh.

Exhibit D.11. Test Summaries for Qualified Parameters for Current Background—URGA

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Calcium	Tolerance Interval	0.61	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Conductivity	Tolerance Interval	0.36	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Dissolved Solids	Tolerance Interval	0.41	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Magnesium	Tolerance Interval	0.56	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Oxidation-Reduction Potential*	Tolerance Interval	0.08	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Sulfate	Tolerance Interval	0.92	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.

CV: coefficient of variation
\*Oxidation-Reduction Potential calibrated as Eh.

Exhibit D.12. Test Summaries for Qualified Parameters for Current Background—LRGA

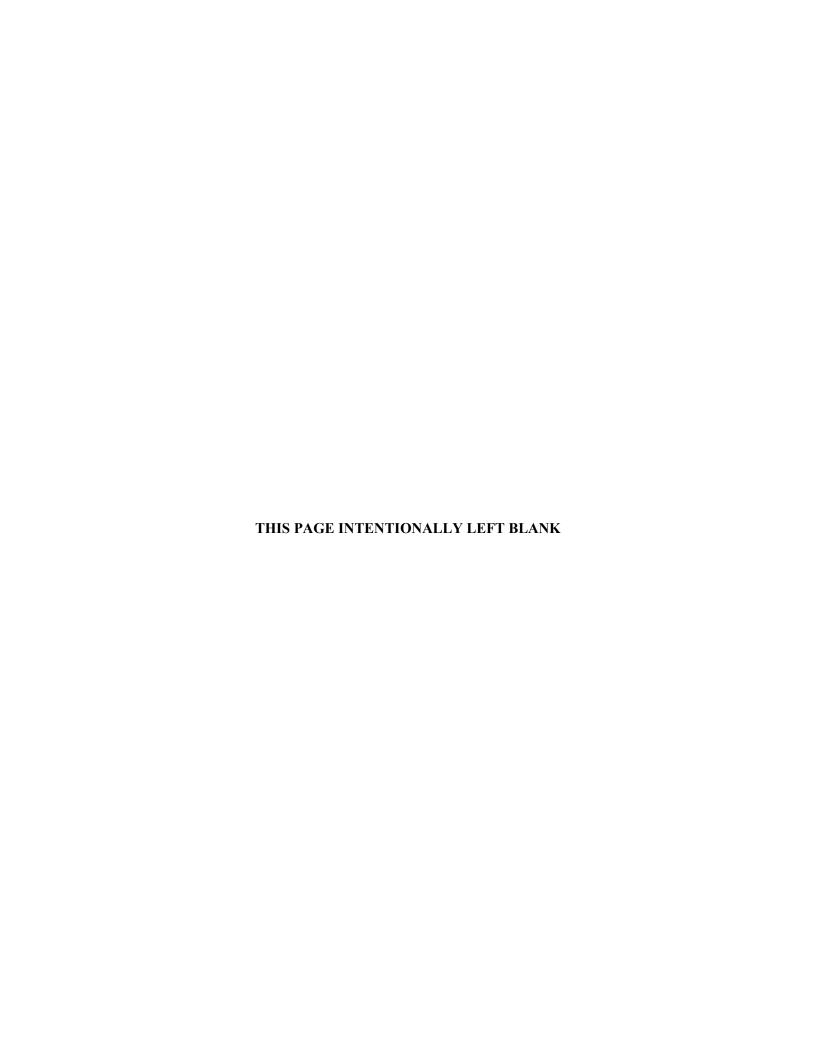
Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Calcium	Tolerance Interval	0.42	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Dissolved Oxygen	Tolerance Interval	0.34	None of the test wells exceeded the upper TL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Nickel	Tolerance Interval	0.47	MW358 exceeded the upper TL, which is evidence of elevated concentration with respect to current background data.
Oxidation-Reduction Potential*	Tolerance Interval	0.09	MW364 and MW370 exceeded the upper TL, which is evidence of elevated concentration with respect to current background data.
Technetium-99	Tolerance Interval	0.47	MW361 and MW364 exceeded the upper TL, which is evidence of elevated concentration with respect to current background data.

CV: coefficient of variation
\*Oxidation-Reduction Potential calibrated as Eh.



# **ATTACHMENT D1**

# COMPARISON OF CURRENT DATA TO ONE-SIDED UPPER TOLERANCE INTERVAL TEST CALCULATED USING HISTORICAL BACKGROUND DATA



#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Aluminum UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 3.300S = 6.859 CV(1)=2.078 K factor\*\*= 2.523

TL(1)= 2.06E+01 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = -0.371S = 1.678

CV(2)=-4.521 K factor\*\*= 2.523 TL(2)=3.86E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.24E+00	8.06E-01
4/22/2002	2.00E-01	-1.61E+00
7/15/2002	2.00E-01	-1.61E+00
10/8/2002	2.00E-01	-1.61E+00
1/8/2003	2.00E-01	-1.61E+00
4/3/2003	2.00E-01	-1.61E+00
7/9/2003	2.00E-01	-1.61E+00
10/6/2003	2.00E-01	-1.61E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 3.06E+00
Date Collected	Result	` /
Date Collected 10/8/2002	Result 2.13E+01	3.06E+00
Date Collected 10/8/2002 1/7/2003	Result 2.13E+01 2.00E+01	3.06E+00 3.00E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.13E+01 2.00E+01 4.11E+00	3.06E+00 3.00E+00 1.41E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.13E+01 2.00E+01 4.11E+00 1.41E+00	3.06E+00 3.00E+00 1.41E+00 3.44E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.13E+01 2.00E+01 4.11E+00 1.41E+00 1.09E+00	3.06E+00 3.00E+00 1.41E+00 3.44E-01 8.62E-02
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003 1/6/2004	Result 2.13E+01 2.00E+01 4.11E+00 1.41E+00 1.09E+00 8.54E-01	3.06E+00 3.00E+00 1.41E+00 3.44E-01 8.62E-02 -1.58E-01

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result $>$ TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	5.30E-01	N/A	-6.35E-01	NO
MW371	Upgradient	Yes	2.40E-01	N/A	-1.43E+00	NO
MW374	Upgradient	Yes	7.50E-02	N/A	-2.59E+00	NO
MW375	Sidegradient	Yes	2.66E-02	N/A	-3.63E+00	NO

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** UNITS: mg/L Boron

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 0.650S = 0.805 CV(1)=1.238 K factor\*\*= 2.523

TL(1)= 2.68E+00 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = -1.034S = 1.030

CV(2)=-0.996 K factor\*\*= 2.523 TL(2)=1.56E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.00E+00	6.93E-01
4/22/2002	2.00E+00	6.93E-01
7/15/2002	2.00E+00	6.93E-01
10/8/2002	2.00E-01	-1.61E+00
1/8/2003	2.00E-01	-1.61E+00
4/3/2003	2.00E-01	-1.61E+00
7/9/2003	2.00E-01	-1.61E+00
10/6/2003	2.00E-01	-1.61E+00
Well Number:	MW374	
		LN(Result)
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
Well Number: Date Collected 10/8/2002	MW374  Result 2.00E+00	LN(Result) 6.93E-01
Well Number: Date Collected 10/8/2002 1/7/2003	MW374  Result 2.00E+00 2.00E-01	LN(Result) 6.93E-01 -1.61E+00
Well Number: Date Collected 10/8/2002 1/7/2003 4/2/2003	MW374  Result 2.00E+00 2.00E-01 2.00E-01	LN(Result) 6.93E-01 -1.61E+00 -1.61E+00
Well Number:  Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	MW374  Result 2.00E+00 2.00E-01 2.00E-01 2.00E-01	LN(Result) 6.93E-01 -1.61E+00 -1.61E+00 -1.61E+00
Well Number:  Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	MW374  Result 2.00E+00 2.00E-01 2.00E-01 2.00E-01 2.00E-01	LN(Result) 6.93E-01 -1.61E+00 -1.61E+00 -1.61E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	1.39E-02	N/A	-4.28E+00	NO
MW371	Upgradient	No	9.84E-03	N/A	-4.62E+00	N/A
MW374	Upgradient	Yes	1.60E-02	N/A	-4.14E+00	NO
MW375	Sidegradient	No	1.11E-02	N/A	-4.50E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5 S

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison Bromide** UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

CV(1)=0.340 K factor\*\*= 2.523 TL(1)= 2.59E+00 LL(1)=N/A**Statistics-Background Data** X = 1.394S = 0.474**Statistics-Transformed** X = 0.279S = 0.332CV(2)=1.190 K factor\*\*= 2.523 TL(2)=1.12E+00 LL(2)=N/A

**Background Data** 

### Historical Background Data from **Upgradient Wells with Transformed Result**

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.00E+00	0.00E+00
4/22/2002	1.00E+00	0.00E+00
7/15/2002	1.00E+00	0.00E+00
10/8/2002	1.00E+00	0.00E+00
1/8/2003	1.00E+00	0.00E+00
4/3/2003	1.00E+00	0.00E+00
7/9/2003	1.00E+00	0.00E+00
10/6/2003	1.00E+00	0.00E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 7.42E-01
Date Collected	Result	
Date Collected 10/8/2002	Result 2.10E+00	7.42E-01
Date Collected 10/8/2002 1/7/2003	Result 2.10E+00 2.10E+00	7.42E-01 7.42E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.10E+00 2.10E+00 1.90E+00	7.42E-01 7.42E-01 6.42E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.10E+00 2.10E+00 1.90E+00 1.00E+00	7.42E-01 7.42E-01 6.42E-01 0.00E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.10E+00 2.10E+00 1.90E+00 1.00E+00 1.90E+00	7.42E-01 7.42E-01 6.42E-01 0.00E+00 6.42E-01

### Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t No	2.00E-01	N/A	-1.61E+00	N/A
MW371	Upgradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW374	Upgradient	Yes	4.88E-01	NO	-7.17E-01	N/A
MW375	Sidegradient	No	2.00E-01	N/A	-1.61E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5 S

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Calcium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**S**= 13.637 CV(1)=0.400 K factor\*\*= 2.523 TL(1)=6.85E+01 LL(1)=N/A**Statistics-Background Data** X = 34.100**Statistics-Transformed CV(2)**=0.103 **K factor**\*\*= 2.523 X = 3.466S = 0.356TL(2) = 4.36E + 00 LL(2) = N/A

**Background Data** 

#### Historical Background Data from **Upgradient Wells with Transformed Result**

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.72E+01	2.84E+00
4/22/2002	2.24E+01	3.11E+00
7/15/2002	2.55E+01	3.24E+00
10/8/2002	2.64E+01	3.27E+00
1/8/2003	2.72E+01	3.30E+00
4/3/2003	3.03E+01	3.41E+00
7/9/2003	2.59E+01	3.25E+00
10/6/2003	2.70E+01	3.30E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
		LN(Result) 4.21E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 6.73E+01	4.21E+00
Date Collected 10/8/2002 1/7/2003	Result 6.73E+01 6.06E+01	4.21E+00 4.10E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 6.73E+01 6.06E+01 4.72E+01	4.21E+00 4.10E+00 3.85E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 6.73E+01 6.06E+01 4.72E+01 3.47E+01	4.21E+00 4.10E+00 3.85E+00 3.55E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 6.73E+01 6.06E+01 4.72E+01 3.47E+01 3.71E+01	4.21E+00 4.10E+00 3.85E+00 3.55E+00 3.61E+00

### Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	Yes	1.60E+01	NO	2.77E+00	N/A
MW371	Upgradient	Yes	5.68E+01	NO	4.04E+00	N/A
MW374	Upgradient	Yes	2.47E+01	NO	3.21E+00	N/A
MW375	Sidegradient	Yes	1.29E+01	NO	2.56E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Chloride UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 91.300
 S= 86.959
 CV(1)=0.952
 K factor\*\*= 2.523
 TL(1)= 3.11E+02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= 3.620
 S= 1.590
 CV(2)=0.439
 K factor\*\*= 2.523
 TL(2)= 7.63E+00 LL(2)=N/A 

### Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
7/15/2002	8.30E+00	2.12E+00
10/8/2002	7.60E+00	2.03E+00
1/8/2003	7.70E+00	2.04E+00
4/3/2003	8.80E+00	2.17E+00
7/9/2003	8.10E+00	2.09E+00
10/6/2003	8.60E+00	2.15E+00
1/7/2004	7.60E+00	2.03E+00
4/6/2004	7.60E+00	2.03E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
	1,1,1,0,7,	LN(Result) 5.29E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 1.99E+02	5.29E+00
Date Collected 10/8/2002 1/7/2003	Result 1.99E+02 2.00E+02	5.29E+00 5.30E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 1.99E+02 2.00E+02 1.72E+02	5.29E+00 5.30E+00 5.15E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 1.99E+02 2.00E+02 1.72E+02 1.79E+02	5.29E+00 5.30E+00 5.15E+00 5.19E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 1.99E+02 2.00E+02 1.72E+02 1.79E+02 1.76E+02	5.29E+00 5.30E+00 5.15E+00 5.19E+00 5.17E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1	1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	3.96E+00	) NO	1.38E+00	N/A
MW371	Upgradient	Yes	4.06E+00	) NO	1.40E+00	N/A
MW374	Upgradient	No	4.48E+01	N/A	3.80E+00	N/A
MW375	Sidegradient	Yes	3.09E+00	) NO	1.13E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Cobalt UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.007
 S= 0.009
 CV(1)=1.314
 K factor\*\*= 2.523
 TL(1)= 3.12E-02
 LL(1)=N/A

 Statistics-Transformed
 X= -5.843
 S= 1.392
 CV(2)=-0.238
 K factor\*\*= 2.523
 TL(2)= -2.33E+00 LL(2)=N/A

Background Data

### Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.50E-02	-3.69E+00
4/22/2002	2.50E-02	-3.69E+00
7/15/2002	2.50E-02	-3.69E+00
10/8/2002	1.00E-03	-6.91E+00
1/8/2003	1.00E-03	-6.91E+00
4/3/2003	1.00E-03	-6.91E+00
7/9/2003	1.00E-03	-6.91E+00
10/6/2003	1.00E-03	-6.91E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
	1.1 , .	LN(Result) -4.61E+00
Date Collected	Result	, ,
Date Collected 10/8/2002	Result 1.00E-02	-4.61E+00
Date Collected 10/8/2002 1/7/2003	Result 1.00E-02 1.00E-02	-4.61E+00 -4.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 1.00E-02 1.00E-02 1.00E-02	-4.61E+00 -4.61E+00 -4.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 1.00E-02 1.00E-02 1.00E-02 1.61E-03	-4.61E+00 -4.61E+00 -4.61E+00 -6.43E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 1.00E-02 1.00E-02 1.00E-02 1.61E-03 1.00E-03	-4.61E+00 -4.61E+00 -4.61E+00 -6.43E+00 -6.91E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	4.22E-04	N/A	-7.77E+00	NO
MW371	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW374	Upgradient	Yes	6.62E-04	N/A	-7.32E+00	NO
MW375	Sidegradient	No	1.00E-03	N/A	-6.91E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Conductivity UNITS: umho/cm

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 918.744 S = 417.257 CV(1) = 0.454 K factor\*\*= 2.523

TL(1)= 1.97E+03 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = 6.705S = 0.550

CV(2)=0.082 K factor\*\*= 2.523 TL(2)=8.09E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	5.41E+02	6.29E+00
4/22/2002	6.43E+02	6.47E+00
7/15/2002	6.32E+02	6.45E+00
10/8/2002	6.31E+02	6.45E+00
1/8/2003	6.80E+02	6.52E+00
4/3/2003	7.49E+02	6.62E+00
7/9/2003	7.34E+02	6.60E+00
10/6/2003	7.53E+02	6.62E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 6.91E+00
Date Collected	Result	` ,
Date Collected 3/18/2002	Result 1.01E+03	6.91E+00
Date Collected 3/18/2002 10/8/2002	Result 1.01E+03 1.68E+03	6.91E+00 7.43E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003	Result 1.01E+03 1.68E+03 1.72E+03	6.91E+00 7.43E+00 7.45E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003 4/2/2003	Result 1.01E+03 1.68E+03 1.72E+03 1.72E+02	6.91E+00 7.43E+00 7.45E+00 5.15E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 1.01E+03 1.68E+03 1.72E+03 1.72E+02 1.23E+03	6.91E+00 7.43E+00 7.45E+00 5.15E+00 7.12E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)	2 LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	6.03E+02	2 NO	6.40E+00	N/A
MW371	Upgradient	Yes	7.00E+02	NO NO	6.55E+00	N/A
MW374	Upgradient	Yes	6.94E+02	NO NO	6.54E+00	N/A
MW375	Sidegradient	Yes	3.34E+02	NO NO	5.81E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5 S

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Copper UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.056 S= 0.072 CV(1)=1.275 K factor\*\*= 2.523 TL(1)=2.37E-01 LL(1)=N/A 

 Statistics-Transformed
 X= -3.395 S= 0.915 CV(2)=-0.270 K factor\*\*= 2.523 TL(2)=-1.09E+00 LL(2)=N/A 

Background Data

Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.50E-02	-3.69E+00
4/22/2002	2.50E-02	-3.69E+00
7/15/2002	5.00E-02	-3.00E+00
10/8/2002	2.00E-02	-3.91E+00
1/8/2003	2.00E-02	-3.91E+00
4/3/2003	2.00E-02	-3.91E+00
7/9/2003	2.00E-02	-3.91E+00
10/6/2003	2.00E-02	-3.91E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) -1.61E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 2.00E-01	-1.61E+00
Date Collected 10/8/2002 1/7/2003	Result 2.00E-01 2.00E-01	-1.61E+00 -1.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.00E-01 2.00E-01 2.00E-01	-1.61E+00 -1.61E+00 -1.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.00E-01 2.00E-01 2.00E-01 2.00E-02	-1.61E+00 -1.61E+00 -1.61E+00 -3.91E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.00E-01 2.00E-01 2.00E-01 2.00E-02 2.00E-02	-1.61E+00 -1.61E+00 -1.61E+00 -3.91E+00 -3.91E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	1.90E-03	N/A	-6.27E+00	NO
MW371	Upgradient	Yes	1.15E-03	N/A	-6.77E+00	NO
MW374	Upgradient	Yes	6.64E-04	N/A	-7.32E+00	NO
MW375	Sidegradient	Yes	6.52E-04	N/A	-7.34E+00	NO

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison Dissolved Oxygen** UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 1.138S = 0.621 CV(1)=0.546 K factor\*\*= 2.523

TL(1)= 2.70E+00 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = -0.013S = 0.577  $CV(2)=-43.069 \text{ K factor**}= 2.523 \quad TL(2)=1.44E+00 \text{ LL(2)}=N/A$ 

# Historical Background Data from **Upgradient Wells with Transformed Result**

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.26E+00	8.15E-01
4/22/2002	1.15E+00	1.40E-01
7/15/2002	9.40E-01	-6.19E-02
10/8/2002	7.40E-01	-3.01E-01
1/8/2003	2.62E+00	9.63E-01
4/3/2003	1.50E+00	4.05E-01
7/9/2003	1.66E+00	5.07E-01
10/6/2003	1.28E+00	2.47E-01
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) -5.11E-01
Date Collected	Result	
Date Collected 3/18/2002	Result 6.00E-01	-5.11E-01
Date Collected 3/18/2002 10/8/2002	Result 6.00E-01 6.70E-01	-5.11E-01 -4.00E-01
Date Collected 3/18/2002 10/8/2002 1/7/2003	Result 6.00E-01 6.70E-01 2.30E-01	-5.11E-01 -4.00E-01 -1.47E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003 4/2/2003	Result 6.00E-01 6.70E-01 2.30E-01 6.50E-01	-5.11E-01 -4.00E-01 -1.47E+00 -4.31E-01
Date Collected 3/18/2002 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 6.00E-01 6.70E-01 2.30E-01 6.50E-01 9.20E-01	-5.11E-01 -4.00E-01 -1.47E+00 -4.31E-01 -8.34E-02

#### Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

# **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	1.06E+00	) NO	5.83E-02	N/A
MW371	Upgradient	Yes	1.97E+00	) NO	6.78E-01	N/A
MW374	Upgradient	Yes	2.20E+00	) NO	7.88E-01	N/A
MW375	Sidegradient	Yes	6.00E-01	NO	-5.11E-01	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison Dissolved Solids** UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 590.000 S = 248.068 CV(1) = 0.420 K factor\*\* = 2.523

TL(1)= 1.22E+03 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = 6.308S = 0.383

CV(2)=0.061 K factor\*\*= 2.523 TL(2)=7.27E+00 LL(2)=N/A

# Historical Background Data from **Upgradient Wells with Transformed Result**

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.74E+02	5.61E+00
4/22/2002	4.09E+02	6.01E+00
7/15/2002	4.18E+02	6.04E+00
10/8/2002	4.24E+02	6.05E+00
1/8/2003	4.31E+02	6.07E+00
4/3/2003	4.44E+02	6.10E+00
7/9/2003	4.45E+02	6.10E+00
10/6/2003	4.38E+02	6.08E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 7.04E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 1.14E+03	7.04E+00
Date Collected 10/8/2002 1/7/2003	Result 1.14E+03 1.10E+03	7.04E+00 7.00E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 1.14E+03 1.10E+03 8.63E+02	7.04E+00 7.00E+00 6.76E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 1.14E+03 1.10E+03 8.63E+02 6.82E+02	7.04E+00 7.00E+00 6.76E+00 6.53E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 1.14E+03 1.10E+03 8.63E+02 6.82E+02 5.89E+02	7.04E+00 7.00E+00 6.76E+00 6.53E+00 6.38E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	Yes	3.25E+02	2 NO	5.78E+00	N/A
MW371	Upgradient	Yes	4.16E+02	NO NO	6.03E+00	N/A
MW374	Upgradient	Yes	3.93E+02	NO NO	5.97E+00	N/A
MW375	Sidegradient	Yes	2.01E+02	NO NO	5.30E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Iron UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 6.612
 S= 6.487
 CV(1)=0.981
 K factor\*\*= 2.523
 TL(1)= 2.30E+01 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 1.363 S= 1.147 CV(2)=0.841 K factor\*\*= 2.523 TL(2)= 4.26E+00 LL(2)=N/A

### Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.31E+00	2.70E-01
4/22/2002	9.13E-01	-9.10E-02
7/15/2002	8.81E-01	-1.27E-01
10/8/2002	3.86E+00	1.35E+00
1/8/2003	1.88E+00	6.31E-01
4/3/2003	3.18E+00	1.16E+00
7/9/2003	4.84E-01	-7.26E-01
10/6/2003	2.72E+00	1.00E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
		LN(Result) 3.14E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 2.30E+01	3.14E+00
Date Collected 10/8/2002 1/7/2003	Result 2.30E+01 1.39E+01	3.14E+00 2.63E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.30E+01 1.39E+01 1.40E+01	3.14E+00 2.63E+00 2.64E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.30E+01 1.39E+01 1.40E+01 1.42E+01	3.14E+00 2.63E+00 2.64E+00 2.65E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.30E+01 1.39E+01 1.40E+01 1.42E+01 7.92E+00	3.14E+00 2.63E+00 2.64E+00 2.65E+00 2.07E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	4.35E-01	NO	-8.32E-01	N/A
MW371	Upgradient	Yes	2.00E-01	NO	-1.61E+00	N/A
MW374	Upgradient	Yes	8.54E-01	NO	-1.58E-01	N/A
MW375	Sidegradient	Yes	6.70E-02	NO	-2.70E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Magnesium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

**S**= 3.019 X = 11.347

CV(1)=0.266 K factor\*\*= 2.523

TL(1)= 1.90E+01 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = 2.401S = 0.237

CV(2)=0.099 K factor\*\*= 2.523 TL(2)=3.00E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	7.10E+00	1.96E+00
4/22/2002	9.77E+00	2.28E+00
7/15/2002	1.04E+01	2.34E+00
10/8/2002	1.02E+01	2.32E+00
1/8/2003	1.07E+01	2.37E+00
4/3/2003	1.19E+01	2.48E+00
7/9/2003	1.08E+01	2.38E+00
10/6/2003	1.09E+01	2.39E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 3.00E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 2.00E+01	3.00E+00
Date Collected 10/8/2002 1/7/2003	Result 2.00E+01 1.61E+01	3.00E+00 2.78E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.00E+01 1.61E+01 1.31E+01	3.00E+00 2.78E+00 2.57E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.00E+01 1.61E+01 1.31E+01 1.03E+01	3.00E+00 2.78E+00 2.57E+00 2.33E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.00E+01 1.61E+01 1.31E+01 1.03E+01 1.11E+01	3.00E+00 2.78E+00 2.57E+00 2.33E+00 2.41E+00

Dry/Partially Dry Wells

Well No. Gradient MW359 Downgradient MW365 Downgradient MW368 Downgradient MW376 Sidegradient MW377 Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

**Current Quarter Data** 

Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	7.63E+00	) NO	2.03E+00	N/A
MW371	Upgradient	Yes	2.03E+01	YES	3.01E+00	N/A
MW374	Upgradient	Yes	6.28E+00	) NO	1.84E+00	N/A
MW375	Sidegradient	Yes	5.02E+00	) NO	1.61E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

Wells with Exceedances

MW371

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** UNITS: mg/L Manganese

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

CV(1)=0.894 K factor\*\*= 2.523 **TL(1)=** 8.09E-01 **LL(1)=**N/A **Statistics-Background Data** X = 0.248S = 0.222**Statistics-Transformed** X = -1.873S = 1.068CV(2)=-0.570 K factor\*\*= 2.523 TL(2)=8.21E-01 LL(2)=N/A

**Background Data** 

# Historical Background Data from **Upgradient Wells with Transformed Result**

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	6.30E-02	-2.76E+00
4/22/2002	6.70E-02	-2.70E+00
7/15/2002	7.40E-02	-2.60E+00
10/8/2002	5.21E-02	-2.95E+00
1/8/2003	3.85E-02	-3.26E+00
4/3/2003	5.51E-02	-2.90E+00
7/9/2003	5.46E-02	-2.91E+00
10/6/2003	5.43E-02	-2.91E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
		LN(Result) -5.18E-01
Date Collected	Result	
Date Collected 10/8/2002	Result 5.96E-01	-5.18E-01
Date Collected 10/8/2002 1/7/2003	Result 5.96E-01 5.65E-01	-5.18E-01 -5.71E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 5.96E-01 5.65E-01 6.75E-01	-5.18E-01 -5.71E-01 -3.93E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 5.96E-01 5.65E-01 6.75E-01 3.97E-01	-5.18E-01 -5.71E-01 -3.93E-01 -9.24E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 5.96E-01 5.65E-01 6.75E-01 3.97E-01 3.12E-01	-5.18E-01 -5.71E-01 -3.93E-01 -9.24E-01 -1.16E+00

### Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	Yes	9.17E-03	NO	-4.69E+00	N/A
MW371	Upgradient	Yes	9.17E-03	NO	-4.69E+00	N/A
MW374	Upgradient	Yes	1.98E-01	NO	-1.62E+00	N/A
MW375	Sidegradient	Yes	5.49E-03	NO	-5.20E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Molybdenum UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.006
 S= 0.010
 CV(1)=1.650
 K factor\*\*= 2.523
 TL(1)= 2.99E-02
 LL(1)=N/A

 Statistics-Transformed
 X= -6.108
 S= 1.239
 CV(2)=-0.203
 K factor\*\*= 2.523
 TL(2)= -2.98E+00 LL(2)=N/A

Background Data

# Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.50E-02	-3.69E+00
4/22/2002	2.50E-02	-3.69E+00
7/15/2002	2.50E-02	-3.69E+00
10/8/2002	1.00E-03	-6.91E+00
1/8/2003	1.21E-03	-6.72E+00
4/3/2003	1.00E-03	-6.91E+00
7/9/2003	1.11E-03	-6.80E+00
10/6/2003	1.00E-03	-6.91E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
	1.1 , .	LN(Result) -6.11E+00
Date Collected	Result	, ,
Date Collected 10/8/2002	Result 2.22E-03	-6.11E+00
Date Collected 10/8/2002 1/7/2003	Result 2.22E-03 2.01E-03	-6.11E+00 -6.21E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.22E-03 2.01E-03 1.59E-03	-6.11E+00 -6.21E+00 -6.44E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.22E-03 2.01E-03 1.59E-03 2.42E-03	-6.11E+00 -6.21E+00 -6.44E+00 -6.02E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.22E-03 2.01E-03 1.59E-03 2.42E-03 1.00E-03	-6.11E+00 -6.21E+00 -6.44E+00 -6.02E+00 -6.91E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Da
--------------------

Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	Yes	4.47E-04	N/A	-7.71E+00	NO
MW371	Upgradient	Yes	2.82E-04	N/A	-8.17E+00	NO
MW374	Upgradient	Yes	3.30E-04	N/A	-8.02E+00	NO
MW375	Sidegradient	No	1.00E-03	N/A	-6.91E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison Nickel** UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 0.023S = 0.022

CV(1)=0.980 K factor\*\*= 2.523

TL(1)=7.82E-02 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = -4.349S = 1.109

CV(2)=-0.255 K factor\*\*= 2.523 TL(2)=-1.55E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	5.00E-02	-3.00E+00
4/22/2002	5.00E-02	-3.00E+00
7/15/2002	5.00E-02	-3.00E+00
10/8/2002	1.24E-02	-4.39E+00
1/8/2003	5.00E-03	-5.30E+00
4/3/2003	5.00E-03	-5.30E+00
7/9/2003	5.00E-03	-5.30E+00
10/6/2003	5.00E-03	-5.30E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) -3.00E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 5.00E-02	-3.00E+00
Date Collected 10/8/2002 1/7/2003	Result 5.00E-02 5.00E-02	-3.00E+00 -3.00E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 5.00E-02 5.00E-02 5.00E-02	-3.00E+00 -3.00E+00 -3.00E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 5.00E-02 5.00E-02 5.00E-02 7.94E-03	-3.00E+00 -3.00E+00 -3.00E+00 -4.84E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 5.00E-02 5.00E-02 5.00E-02 7.94E-03 5.00E-03	-3.00E+00 -3.00E+00 -3.00E+00 -4.84E+00 -5.30E+00

Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	Yes	1.32E-03	NO	-6.63E+00	N/A
MW371	Upgradient	Yes	1.36E-03	NO	-6.60E+00	N/A
MW374	Upgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW375	Sidegradient	No	2.00E-03	N/A	-6.21E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison Oxidation-Reduction Potential UNITS:** mV

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

**S**= 78.889 X = 22.281

CV(1)=3.541 K factor\*\*= 2.523

TL(1)= 2.21E+02 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = 3.642S = 1.729

CV(2)=0.475 K factor\*\*= 2.523 TL(2)=5.11E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	7.50E+01	4.32E+00
4/22/2002	1.65E+02	5.11E+00
7/15/2002	6.50E+01	4.17E+00
4/3/2003	-1.90E+01	#Func!
7/9/2003	1.14E+02	4.74E+00
10/6/2003	-2.20E+01	#Func!
1/7/2004	2.05E+01	3.02E+00
4/6/2004	1.13E+02	4.73E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
	1,1,,,,,,	LN(Result) 4.91E+00
Date Collected	Result	,
Date Collected 3/18/2002	Result 1.35E+02	4.91E+00
Date Collected 3/18/2002 4/2/2003	Result 1.35E+02 -5.60E+01	4.91E+00 #Func!
Date Collected 3/18/2002 4/2/2003 7/9/2003	Result 1.35E+02 -5.60E+01 -6.80E+01	4.91E+00 #Func! #Func!
Date Collected 3/18/2002 4/2/2003 7/9/2003 10/7/2003	Result 1.35E+02 -5.60E+01 -6.80E+01 -5.00E+01	4.91E+00 #Func! #Func! #Func!
Date Collected 3/18/2002 4/2/2003 7/9/2003 10/7/2003 1/6/2004	Result 1.35E+02 -5.60E+01 -6.80E+01 -5.00E+01 -8.50E+01	4.91E+00 #Func! #Func! #Func!

Dry	/Pai	tially	Dry	Wells
		· · · · · · · · · · · · · · · · · · ·	- J	11 0113

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	4.37E+02	2 N/A	6.08E+00	YES
MW371	Upgradient	Yes	4.52E+02	2 N/A	6.11E+00	YES
MW374	Upgradient	Yes	4.55E+02	2 N/A	6.12E+00	YES
MW375	Sidegradient	Yes	3.73E+02	2 N/A	5.92E+00	YES

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

Wells with Exceedances

MW362 MW371 MW374

MW375

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison pH UNITS: Std Unit UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 6.619 S= 0.295 CV(1)=0.045 K factor\*\*= 2.904 TL(1)=7.48E+00 LL(1)=5.76E+00 

 Statistics-Transformed Background Data
 X= 1.889 S= 0.046 CV(2)=0.024 K factor\*\*= 2.904 TL(2)=2.02E+00 LL(2)=1.75E+00 

### Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	6.30E+00	1.84E+00
4/22/2002	6.50E+00	1.87E+00
7/15/2002	6.50E+00	1.87E+00
10/8/2002	6.60E+00	1.89E+00
1/8/2003	6.60E+00	1.89E+00
4/3/2003	6.90E+00	1.93E+00
7/9/2003	6.70E+00	1.90E+00
10/6/2003	7.00E+00	1.95E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
		LN(Result) 1.75E+00
Date Collected	Result	` ,
Date Collected 3/18/2002	Result 5.75E+00	1.75E+00
Date Collected 3/18/2002 10/8/2002	Result 5.75E+00 6.60E+00	1.75E+00 1.89E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003	Result 5.75E+00 6.60E+00 6.82E+00	1.75E+00 1.89E+00 1.92E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003 4/2/2003	Result 5.75E+00 6.60E+00 6.82E+00 6.86E+00	1.75E+00 1.89E+00 1.92E+00 1.93E+00
Date Collected 3/18/2002 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 5.75E+00 6.60E+00 6.82E+00 6.86E+00 6.70E+00	1.75E+00 1.89E+00 1.92E+00 1.93E+00 1.90E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### Current Quarter Data

Well No.	Gradient	Detected?		Result >TL( Result <ll(< th=""><th>, , ,</th><th>LN(Result) &gt;TL(2)? LN(Result) <ll(2)?< th=""></ll(2)?<></th></ll(<>	, , ,	LN(Result) >TL(2)? LN(Result) <ll(2)?< th=""></ll(2)?<>
MW362	Downgradien	t Yes	6.90E+00	) NO	1.93E+00	N/A
MW371	Upgradient	Yes	6.54E+00	) NO	1.88E+00	N/A
MW374	Upgradient	Yes	6.70E+00	) NO	1.90E+00	N/A
MW375	Sidegradient	Yes	6.40E+00	) NO	1.86E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison Potassium** UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 1.262S = 0.907 CV(1)=0.718 K factor\*\*= 2.523

TL(1)=3.55E+00 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = -0.023S = 0.752  $CV(2)=-32.218 \text{ K factor**}= 2.523 \quad TL(2)=1.87E+00 \text{ LL(2)}=N/A$ 

# Historical Background Data from **Upgradient Wells with Transformed Result**

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.00E+00	6.93E-01
4/22/2002	2.00E+00	6.93E-01
7/15/2002	2.00E+00	6.93E-01
10/8/2002	4.08E-01	-8.96E-01
1/8/2003	3.84E-01	-9.57E-01
4/3/2003	3.68E-01	-1.00E+00
7/9/2003	5.87E-01	-5.33E-01
10/6/2003	3.82E-01	-9.62E-01
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 1.11E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 3.04E+00	1.11E+00
Date Collected 10/8/2002 1/7/2003	Result 3.04E+00 2.83E+00	1.11E+00 1.04E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 3.04E+00 2.83E+00 2.00E+00	1.11E+00 1.04E+00 6.93E-01
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 3.04E+00 2.83E+00 2.00E+00 1.09E+00	1.11E+00 1.04E+00 6.93E-01 8.62E-02
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 3.04E+00 2.83E+00 2.00E+00 1.09E+00 8.02E-01	1.11E+00 1.04E+00 6.93E-01 8.62E-02 -2.21E-01

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	3.75E-01	NO	-9.81E-01	N/A
MW371	Upgradient	Yes	3.96E-01	NO	-9.26E-01	N/A
MW374	Upgradient	Yes	4.21E-01	NO	-8.65E-01	N/A
MW375	Sidegradient	Yes	2.50E-01	NO	-1.39E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Sodium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 183.063 S = 73.222

CV(1)=0.400 K factor\*\*= 2.523

TL(1)=3.68E+02 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = 5.146S = 0.356

CV(2)=0.069 K factor\*\*= 2.523 TL(2)=6.04E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

337 11 37 1	1.000.071	
Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.29E+02	4.86E+00
4/22/2002	1.31E+02	4.88E+00
7/15/2002	1.27E+02	4.84E+00
10/8/2002	1.23E+02	4.81E+00
1/8/2003	1.28E+02	4.85E+00
4/3/2003	1.44E+02	4.97E+00
7/9/2003	1.26E+02	4.84E+00
10/6/2003	1.20E+02	4.79E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
	1.1	LN(Result) 5.82E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 3.36E+02	5.82E+00
Date Collected 10/8/2002 1/7/2003	Result 3.36E+02 3.29E+02	5.82E+00 5.80E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 3.36E+02 3.29E+02 2.87E+02	5.82E+00 5.80E+00 5.66E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 3.36E+02 3.29E+02 2.87E+02 1.81E+02	5.82E+00 5.80E+00 5.66E+00 5.20E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 3.36E+02 3.29E+02 2.87E+02 1.81E+02 1.82E+02	5.82E+00 5.80E+00 5.66E+00 5.20E+00 5.20E+00

Dry/Pa	rtially	7 Drv	Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

# **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >Tl	L(1)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	1.04E+02	. NO	4.64E+00	N/A
MW371	Upgradient	Yes	9.81E+01	NO	4.59E+00	N/A
MW374	Upgradient	Yes	1.28E+02	NO	4.85E+00	N/A
MW375	Sidegradient	Yes	5.57E+01	NO	4.02E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Sulfate UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 6.469
 S= 3.153 CV(1)=0.487
 K factor\*\*= 2.523 TL(1)= 1.44E+01 LL(1)=N/A

 Statistics-Transformed
 X= 1.794 S= 0.357 CV(2)=0.199 K factor\*\*= 2.523 TL(2)= 2.69E+00 LL(2)=N/A

Background Data

### Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.63E+01	2.79E+00
4/22/2002	8.60E+00	2.15E+00
7/15/2002	6.70E+00	1.90E+00
10/8/2002	5.00E+00	1.61E+00
1/8/2003	5.00E+00	1.61E+00
4/3/2003	5.00E+00	1.61E+00
7/9/2003	5.00E+00	1.61E+00
10/6/2003	5.00E+00	1.61E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
	1.1	LN(Result) 1.61E+00
Date Collected	Result	` ,
Date Collected 10/8/2002	Result 5.00E+00	1.61E+00
Date Collected 10/8/2002 1/7/2003	Result 5.00E+00 5.00E+00	1.61E+00 1.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 5.00E+00 5.00E+00 5.00E+00	1.61E+00 1.61E+00 1.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 5.00E+00 5.00E+00 5.00E+00 5.60E+00	1.61E+00 1.61E+00 1.61E+00 1.72E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 5.00E+00 5.00E+00 5.00E+00 5.60E+00 5.00E+00	1.61E+00 1.61E+00 1.61E+00 1.72E+00 1.61E+00

# Dry/Partially Dry Wells

Gradient
Downgradient
Downgradient
Downgradient
Sidegradient
Sidegradient

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

# Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	1.25E+01	l NO	2.53E+00	N/A
MW371	Upgradient	Yes	9.84E+00	) NO	2.29E+00	N/A
MW374	Upgradient	Yes	1.54E+01	YES	2.73E+00	N/A
MW375	Sidegradient	Yes	2.27E+01	l YES	3.12E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

Wells with Exceedances

MW374 MW375

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Total Organic Carbon (TOC) UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data X = 17.631 S = 24.314 CV(1) = 1.379 K factor\*\*= 2.523 TL(1) = 7.90E+01 LL(1) = N/A

Statistics-Transformed Background Data

X = 2.318 S = 0.979 CV(2) = 0.422 K factor\*\*= 2.523 TL(2) = 4.79E + 00 LL(2) = N/A

# Historical Background Data from Upgradient Wells with Transformed Result

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.11E+01	2.41E+00
4/22/2002	7.00E+00	1.95E+00
7/15/2002	4.10E+00	1.41E+00
10/8/2002	6.00E+00	1.79E+00
1/8/2003	5.30E+00	1.67E+00
4/3/2003	5.30E+00	1.67E+00
7/9/2003	2.90E+00	1.06E+00
10/6/2003	3.20E+00	1.16E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
		LN(Result) 4.50E+00
Date Collected	Result	` ,
Date Collected 10/8/2002	Result 9.00E+01	4.50E+00
Date Collected 10/8/2002 1/7/2003	Result 9.00E+01 6.40E+01	4.50E+00 4.16E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 9.00E+01 6.40E+01 2.50E+01	4.50E+00 4.16E+00 3.22E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 9.00E+01 6.40E+01 2.50E+01 1.60E+01	4.50E+00 4.16E+00 3.22E+00 2.77E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 9.00E+01 6.40E+01 2.50E+01 1.60E+01 1.30E+01	4.50E+00 4.16E+00 3.22E+00 2.77E+00 2.56E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	1.48E+00	N/A	3.92E-01	NO
MW371	Upgradient	Yes	1.94E+00	N/A	6.63E-01	NO
MW374	Upgradient	Yes	2.50E+00	N/A	9.16E-01	NO
MW375	Sidegradient	Yes	7.20E-01	N/A	-3.29E-01	NO

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Total Organic Halides (TOX) UNITS: ug/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 214.094 S = 231.089 CV(1) = 1.079 K factor\*\* = 2.523

TL(1)= 7.97E+02 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = 4.867S = 1.065

CV(2)=0.219 K factor\*\*= 2.523 TL(2)=7.55E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

*** ** *		
Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	5.00E+01	3.91E+00
4/22/2002	1.05E+02	4.65E+00
7/15/2002	7.00E+01	4.25E+00
10/8/2002	5.20E+01	3.95E+00
1/8/2003	2.02E+01	3.01E+00
4/3/2003	1.04E+02	4.64E+00
7/9/2003	3.42E+01	3.53E+00
10/6/2003	4.61E+01	3.83E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) 6.81E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 9.03E+02	6.81E+00
Date Collected 10/8/2002 1/7/2003	Result 9.03E+02 5.39E+02	6.81E+00 6.29E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 9.03E+02 5.39E+02 2.95E+02	6.81E+00 6.29E+00 5.69E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 9.03E+02 5.39E+02 2.95E+02 2.72E+02	6.81E+00 6.29E+00 5.69E+00 5.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 9.03E+02 5.39E+02 2.95E+02 2.72E+02 1.97E+02	6.81E+00 6.29E+00 5.69E+00 5.61E+00 5.28E+00

# Dry/Partially Dry Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t Yes	6.20E+00	N/A	1.82E+00	NO
MW371	Upgradient	Yes	7.32E+00	N/A	1.99E+00	NO
MW374	Upgradient	Yes	2.67E+01	N/A	3.28E+00	NO
MW375	Sidegradient	Yes	7.58E+00	N/A	2.03E+00	NO

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5 S

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Vanadium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 0.055S = 0.072

CV(1)=1.319 K factor\*\*= 2.523

**TL(1)=** 2.37E-01 **LL(1)=**N/A

**Statistics-Transformed Background Data** 

X = -3.438S = 0.912

CV(2)=-0.265 K factor\*\*= 2.523 TL(2)=-1.14E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	2.50E-02	-3.69E+00
4/22/2002	2.50E-02	-3.69E+00
7/15/2002	2.50E-02	-3.69E+00
10/8/2002	2.00E-02	-3.91E+00
1/8/2003	2.00E-02	-3.91E+00
4/3/2003	2.00E-02	-3.91E+00
7/9/2003	2.00E-02	-3.91E+00
10/6/2003	2.00E-02	-3.91E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) -1.61E+00
Date Collected	Result	` /
Date Collected 10/8/2002	Result 2.00E-01	-1.61E+00
Date Collected 10/8/2002 1/7/2003	Result 2.00E-01 2.00E-01	-1.61E+00 -1.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.00E-01 2.00E-01 2.00E-01	-1.61E+00 -1.61E+00 -1.61E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.00E-01 2.00E-01 2.00E-01 2.00E-02	-1.61E+00 -1.61E+00 -1.61E+00 -3.91E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.00E-01 2.00E-01 2.00E-01 2.00E-02 2.00E-02	-1.61E+00 -1.61E+00 -1.61E+00 -3.91E+00 -3.91E+00

Dry/Partially	Dry	Wells

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW362	Downgradient	t No	6.09E-03	N/A	-5.10E+00	N/A
MW371	Upgradient	Yes	3.67E-03	N/A	-5.61E+00	NO
MW374	Upgradient	Yes	3.80E-03	N/A	-5.57E+00	NO
MW375	Sidegradient	No	2.00E-02	N/A	-3.91E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5 S

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

#### C-746-U First Quarter 2024 Statistical Analysis **Historical Background Comparison** Zinc UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 0.060S = 0.083

CV(1)=1.380 K factor\*\*= 2.523

TL(1)= 2.70E-01 LL(1)=N/A

**Statistics-Transformed Background Data** 

X = -3.259S = 0.840

CV(2)=-0.258 K factor\*\*= 2.523 TL(2)=-1.14E+00 LL(2)=N/A

Historical Background Data from **Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
3/18/2002	1.00E-01	-2.30E+00
4/22/2002	1.00E-01	-2.30E+00
7/15/2002	1.00E-01	-2.30E+00
10/8/2002	2.50E-02	-3.69E+00
1/8/2003	3.50E-02	-3.35E+00
4/3/2003	3.50E-02	-3.35E+00
7/9/2003	3.76E-02	-3.28E+00
10/6/2003	2.00E-02	-3.91E+00
Well Number:	MW374	
Well Number:  Date Collected	MW374 Result	LN(Result)
		LN(Result) -3.69E+00
Date Collected	Result	
Date Collected 10/8/2002	Result 2.50E-02	-3.69E+00
Date Collected 10/8/2002 1/7/2003	Result 2.50E-02 3.50E-01	-3.69E+00 -1.05E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003	Result 2.50E-02 3.50E-01 3.50E-02	-3.69E+00 -1.05E+00 -3.35E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003	Result 2.50E-02 3.50E-01 3.50E-02 2.00E-02	-3.69E+00 -1.05E+00 -3.35E+00 -3.91E+00
Date Collected 10/8/2002 1/7/2003 4/2/2003 7/9/2003 10/7/2003	Result 2.50E-02 3.50E-01 3.50E-02 2.00E-02 2.00E-02	-3.69E+00 -1.05E+00 -3.35E+00 -3.91E+00 -3.91E+00

Day.	Dar		. Dw	Wells
DI y/	1 ai	uan	у ріу	VV C115

Well No.	Gradient
MW359	Downgradient
MW365	Downgradient
MW368	Downgradient
MW376	Sidegradient
MW377	Sidegradient

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)?	2 LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t No	2.00E-02	N/A	-3.91E+00	N/A
MW371	Upgradient	Yes	4.98E-03	N/A	-5.30E+00	NO
MW374	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW375	Sidegradient	No	2.00E-02	N/A	-3.91E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution. CV

Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

Mean, X = (sum of background results)/(count of background results)

Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Acetone UNITS: ug/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 372.563
 S= 1447.319 CV(1)=3.885
 K factor\*\*= 2.523
 TL(1)= 4.02E+03 LL(1)=N/A

 Statistics-Transformed
 X= 2.736
 S= 1.603
 CV(2)=0.586
 K factor\*\*= 2.523
 TL(2)= 6.78E+00 LL(2)=N/A

Background Data

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 5.00E+00 1.61E+00 4/22/2002 1.00E+01 2.30E+00 7/15/2002 1.40E+01 2.64E+00 10/8/2002 1.00E+01 2.30E+00 1/8/2003 1.00E+01 2.30E+00 1.00E+01 4/3/2003 2.30E+00 7/8/2003 1.00E+01 2.30E+00 10/6/2003 5.80E+03 8.67E+00Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 1.40E+01 2.64E+00 4/23/2002 1.00E+01 2.30E+00 1.00E+01 7/16/2002 2.30E+00 10/8/2002 1.00E+01 2.30E+00 1/7/2003 1.00E+01 2.30E+00 4/2/2003 1.00E+01 2.30E+00 7/9/2003 1.80E+01 2.89E+00 1.00E+01 10/7/2003 2.30E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW360	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW363	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW366	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW369	Upgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW372	Upgradient	Yes	3.63E+00	N/A	1.29E+00	NO
3.7/4 D	1, 11, 10, 1	. T. D	1 . 11		1 . 1:1 .:	

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Aluminum UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.625 S= 0.774 CV(1)=1.239 K factor\*\*= 2.523 TL(1)=2.58E+00 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -0.973 S= 0.935 CV(2)=-0.961 K factor\*\*= 2.523 TL(2)=1.39E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.55E-01 -1.37E+00 4/22/2002 2.00E-01 -1.61E+00 7/15/2002 3.22E-01 -1.13E+00 10/8/2002 2.00E-01 -1.61E+00 2.00E-01 1/8/2003 -1.61E+00 4/3/2003 2.00E-01 -1.61E+00 7/8/2003 2.00E-01 -1.61E+00 10/6/2003 6.89E-01 -3.73E-01 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.61E+00 9.59E-01 4/23/2002 2.00E-01 -1.61E+00 1.14E+00 7/16/2002 1.31E-01 10/8/2002 8.62E-01 -1.49E-01 1/7/2003 2.32E+00 8.42E-01 4/2/2003 2.00E-01 -1.61E+00 7/9/2003 2.00E-01 -1.61E+00 2.00E-01 10/7/2003 -1.61E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Data						
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW360	Downgradient	Yes	3.75E-02	N/A	-3.28E+00	NO
MW363	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW366	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW369	Upgradient	Yes	5.73E-02	N/A	-2.86E+00	NO
MW372	Upgradient	No	5.00E-02	N/A	-3.00E+00	N/A
						_

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Boron UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.985
 S= 0.825
 CV(1)=0.838
 K factor\*\*= 2.523
 TL(1)= 3.07E+00
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= -0.430
 S= 0.990
 CV(2)=-2.302
 K factor\*\*= 2.523
 TL(2)= 2.07E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.00E+00 6.93E-01 4/22/2002 2.00E+00 6.93E-01 7/15/2002 2.00E+00 6.93E-01 10/8/2002 2.00E-01 -1.61E+00 2.00E-01 1/8/2003 -1.61E+00 4/3/2003 2.00E-01 -1.61E+00 7/8/2003 2.00E-01 -1.61E+00 10/6/2003 2.00E-01 -1.61E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.00E+00 6.93E-01 4/23/2002 2.00E+00 6.93E-01 2.00E+00 7/16/2002 6.93E-01 10/8/2002 4.92E-01 -7.09E-01 1/7/2003 4.92E-01 -7.09E-01 4/2/2003 6.00E-01 -5.11E-01 7/9/2003 5.70E-01 -5.62E-01 10/7/2003 6.04E-01 -5.04E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TI	L(1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	t Yes	3.78E-01	NO	-9.73E-01	N/A
MW360	Downgradient	t Yes	3.73E-02	NO	-3.29E+00	N/A
MW363	Downgradient	t Yes	2.14E-02	NO	-3.84E+00	N/A
MW366	Downgradient	t Yes	8.71E-02	NO	-2.44E+00	N/A
MW369	Upgradient	Yes	2.39E-02	NO	-3.73E+00	N/A
MW372	Upgradient	Yes	1.38E+00	) NO	3.22E-01	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Bromide UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data X = 1.000 S = 0.000 CV(1) = 0.000 K factor\*\*= 2.523 TL(1) = 1.00E+00 LL(1) = N/A Statistics-Transformed X = 0.000 S = 0.000 CV(2) = #Num! K factor\*\*= 2.523 TL(2) = 0.00E+00 LL(2) = N/A Background Data

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 1.00E+00 0.00E+004/22/2002 1.00E+00 0.00E+007/15/2002 1.00E+00 0.00E+0010/8/2002 1.00E+00 0.00E+001/8/2003 1.00E+00 0.00E+001.00E+00 4/3/2003 0.00E+007/8/2003 1.00E+00 0.00E+001.00E+00 10/6/2003 0.00E+00Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 1.00E+00 0.00E+004/23/2002 1.00E+00 0.00E+001.00E+00 7/16/2002 0.00E+0010/8/2002 1.00E+00 0.00E+001/7/2003 1.00E+00 0.00E+004/2/2003 1.00E+00 0.00E+007/9/2003 1.00E+00 0.00E+001.00E+00 10/7/2003 0.00E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >T	L(1)? LN(Result)	LN(Result) >TL(2			
MW357	Downgradient	Yes	3.62E-01	NO	-1.02E+00	N/A			
MW360	Downgradient	t Yes	1.63E-01	NO	-1.81E+00	N/A			
MW363	Downgradient	t No	2.00E-01	N/A	-1.61E+00	N/A			
MW366	Downgradient	t Yes	5.71E-01	NO	-5.60E-01	N/A			
MW369	Upgradient	Yes	3.62E-01	NO	-1.02E+00	N/A			
MW372	Upgradient	Yes	4.92E-01	NO	-7.09E-01	N/A			
3.7/4 D	1, 11 ,16 1 3	T D	1 . 11		1 1 1 1 1 1	1			

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Calcium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 32.763	<b>S</b> = 9.391	<b>CV(1)=</b> 0.287	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 5.65E+01 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X=</b> 3.449	<b>S</b> = 0.299	<b>CV(2)=</b> 0.087	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 4.20E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.95E+01 3.38E+00 4/22/2002 2.98E+01 3.39E+00 7/15/2002 2.53E+01 3.23E+00 2.19E+01 10/8/2002 3.09E+00 2.09E+01 1/8/2003 3.04E+00 4/3/2003 2.22E+01 3.10E+00 7/8/2003 2.29E+01 3.13E+00 10/6/2003 2.17E+01 3.08E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 4.15E+01 3.73E+00 4/23/2002 4.36E+01 3.78E+00 4.04E+01 7/16/2002 3.70E+0010/8/2002 3.88E+01 3.66E+00 4.11E+01 1/7/2003 3.72E+004/2/2003 4.29E+01 3.76E+007/9/2003 3.51E+01 3.56E+0010/7/2003 4.66E+01 3.84E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >T	L(1)? LN(Result)	LN(Result) >TL(2)			
MW357	Downgradient	Yes	2.47E+01	l NO	3.21E+00	N/A			
MW360	Downgradient	t Yes	1.86E+01	l NO	2.92E+00	N/A			
MW363	Downgradient	Yes	2.11E+01	l NO	3.05E+00	N/A			
MW366	Downgradient	t Yes	3.32E+01	l NO	3.50E+00	N/A			
MW369	Upgradient	Yes	1.64E+01	l NO	2.80E+00	N/A			
MW372	Upgradient	Yes	7.14E+01	YES	4.27E+00	N/A			
N/A - Resu	lts identified as l	Non-Detects	during lab	oratory anal	vsis or data validatio	n and were not			

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW372

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Chloride UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 44.119
 S= 4.554 CV(1)=0.103
 K factor\*\*= 2.523 TL(1)= 5.56E+01 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 3.782 S= 0.099 CV(2)=0.026 K factor\*\*= 2.523 TL(2)= 4.03E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 7/15/2002 4.83E+01 3.88E+00 10/8/2002 4.77E+01 3.86E+00 4.57E+01 1/8/2003 3.82E+00 4/3/2003 4.74E+01 3.86E+007/8/2003 5.59E+01 4.02E+00 10/6/2003 4.74E+01 3.86E+00 1/7/2004 4.55E+01 3.82E+00 4/7/2004 4.34E+01 3.77E+00 Well Number: MW372 Date Collected Result LN(Result) 7/16/2002 3.98E+01 3.68E+00 10/8/2002 4.10E+01 3.71E+00 3.94E+01 1/7/2003 3.67E+004/2/2003 3.92E+01 3.67E+00 7/9/2003 3.98E+01 3.68E+00 10/7/2003 4.00E+01 3.69E+00 1/5/2004 4.34E+01 3.77E+00 4.20E+01 4/5/2004 3.74E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)		
MW357	Downgradient	Yes	3.17E+01	l NO	3.46E+00	N/A		
MW360	Downgradient	Yes	7.06E+00	) NO	1.95E+00	N/A		
MW363	Downgradient	Yes	2.11E+01	l NO	3.05E+00	N/A		
MW366	Downgradient	Yes	3.89E+01	l NO	3.66E+00	N/A		
MW369	Upgradient	Yes	2.77E+01	l NO	3.32E+00	N/A		
MW372	Upgradient	No	3.79E+01	l N/A	3.63E+00	N/A		
3.T/4 D	1, 11, 10, 1, 3	T D	1 . 11			1		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Cobalt UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.025 S= 0.021 CV(1)=0.845 K factor\*\*= 2.523 TL(1)=7.73E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -4.090 S= 1.006 CV(2)=-0.246 K factor\*\*= 2.523 TL(2)=-1.55E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.50E-02 -3.69E+00 4/22/2002 2.50E-02 -3.69E+00 7/15/2002 2.50E-02 -3.69E+00 10/8/2002 9.38E-03 -4.67E+00 5.48E-03 1/8/2003 -5.21E+00 4/3/2003 5.87E-03 -5.14E+00 7/8/2003 5.41E-02 -2.92E+00 10/6/2003 6.89E-02 -2.68E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 2.50E-02 7/16/2002 -3.69E+00 10/8/2002 1.58E-03 -6.45E+00 1/7/2003 1.47E-02 -4.22E+00 4/2/2003 1.16E-02 -4.46E+00 7/9/2003 6.53E-02 -2.73E+00 10/7/2003 7.88E-03 -4.84E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW360	Downgradient	Yes	9.85E-04	NO	-6.92E+00	N/A
MW363	Downgradient	Yes	8.78E-04	NO	-7.04E+00	N/A
MW366	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW369	Upgradient	Yes	4.83E-03	NO	-5.33E+00	N/A
MW372	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
NI/A D	.14. : 1 4: 6" . 1 N	.T D.44.		4 1	4 . 4 11 . 4 . 4	1

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Conductivity UNITS: umho/cm URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 482.856
 S= 57.603
 CV(1)=0.119
 K factor\*\*= 2.523
 TL(1)= 6.28E+02
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 6.173
 S= 0.123
 CV(2)=0.020
 K factor\*\*= 2.523
 TL(2)= 6.48E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 3.88E+02 5.96E+00 4/22/2002 4.04E+02 6.00E+007/15/2002 3.94E+02 5.98E+00 10/8/2002 4.03E+02 6.00E+00 5.20E+02 1/8/2003 6.25E+00 4/3/2003 4.87E+02 6.19E+007/8/2003 4.78E+02 6.17E+00 4.76E+02 10/6/2003 6.17E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 5.08E+02 6.23E+00 4/23/2002 5.01E+02 6.22E+00 5.07E+02 7/16/2002 6.23E+00 10/8/2002 4.95E+02 6.20E+00 5.09E+02 1/7/2003 6.23E+00 4/2/2003 5.15E+02 6.24E+00 7/9/2003 5.76E+02 6.36E+00 10/7/2003 5.65E+02 6.34E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >Tl	L(1)? LN(Result)	LN(Result) >TL	(2)		
MW357	Downgradient	t Yes	4.11E+02	2 NO	6.02E+00	N/A			
MW360	Downgradient	t Yes	3.84E+02	2 NO	5.95E+00	N/A			
MW363	Downgradient	t Yes	3.73E+02	2 NO	5.92E+00	N/A			
MW366	Downgradient	t Yes	4.84E+02	2 NO	6.18E+00	N/A			
MW369	Upgradient	Yes	3.41E+02	2 NO	5.83E+00	N/A			
MW372	Upgradient	Yes	7.27E+02	2 YES	6.59E+00	N/A			
N/A - Resu	N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not								

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW372

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Copper UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.025 S= 0.010 CV(1)=0.400 K factor\*\*= 2.523 TL(1)= 5.02E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -3.742 S= 0.307 CV(2)=-0.082 K factor\*\*= 2.523 TL(2)=-2.97E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.50E-02 -3.69E+00 4/22/2002 2.50E-02 -3.69E+00 7/15/2002 5.00E-02 -3.00E+00 10/8/2002 2.00E-02 -3.91E+00 2.00E-02 1/8/2003 -3.91E+00 4/3/2003 2.00E-02 -3.91E+00 7/8/2003 2.00E-02 -3.91E+00 10/6/2003 2.00E-02 -3.91E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 5.00E-02 7/16/2002 -3.00E+00 10/8/2002 2.00E-02 -3.91E+00 1/7/2003 2.00E-02 -3.91E+00 4/2/2003 2.00E-02 -3.91E+00 7/9/2003 2.00E-02 -3.91E+00 2.00E-02 -3.91E+00 10/7/2003

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >TL	(1)? LN(Result)	LN(Result) >TL(2)			
MW357	Downgradient	Yes	1.08E-03	NO	-6.83E+00	N/A			
MW360	Downgradient	Yes	1.67E-03	NO	-6.39E+00	N/A			
MW363	Downgradient	Yes	8.51E-04	NO	-7.07E+00	N/A			
MW366	Downgradient	Yes	9.66E-04	NO	-6.94E+00	N/A			
MW369	Upgradient	Yes	1.70E-03	NO	-6.38E+00	N/A			
MW372	Upgradient	Yes	1.46E-03	NO	-6.53E+00	N/A			
NI/A Pagu	ulta identified on 1	Van Dataata	during lab	aratary analy	raia or data validatio	n and ware not			

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Dissolved Oxygen UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 1.781	<b>S</b> = 1.351	CV(1) = 0.759	K factor**= 2.523	<b>TL(1)=</b> 5.19E+00 <b>LL(1)=</b> N/A
Statistics-Transformed Rackground Data	<b>X</b> = 0.228	<b>S</b> = 1.065	<b>CV(2)</b> =4.665	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 2.92E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 5.41E+00 1.69E+00 4/22/2002 1.57E+00 4.51E-01 7/15/2002 8.00E-01 -2.23E-01 10/8/2002 1.09E+00 8.62E-02 2.69E+00 9.90E-01 1/8/2003 4/3/2003 2.04E+00 7.13E-01 7/8/2003 1.19E+00 1.74E-01 10/6/2003 1.78E+00 5.77E-01 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 3.89E+00 1.36E+00 4/23/2002 5.00E-02 -3.00E+00 7/16/2002 1.33E+00 2.85E-01 10/8/2002 2.66E+00 9.78E-01 4.00E-01 1/7/2003 -9.16E-01 4/2/2003 9.10E-01 -9.43E-02 7/9/2003 1.42E+00 3.51E-01 10/7/2003 1.26E+00 2.31E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	4.20E+00	NO	1.44E+00	N/A
MW360	Downgradient	Yes	1.99E+00	NO	6.88E-01	N/A
MW363	Downgradient	Yes	1.30E+00	NO	2.62E-01	N/A
MW366	Downgradient	Yes	2.66E+00	NO	9.78E-01	N/A
MW369	Upgradient	Yes	2.42E+00	NO	8.84E-01	N/A
MW372	Upgradient	Yes	1.70E+00	NO	5.31E-01	N/A
						_

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Dissolved Solids UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 285.188
 S= 44.908
 CV(1)=0.157
 K factor\*\*= 2.523
 TL(1)= 3.98E+02
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 5.640
 S= 0.175
 CV(2)=0.031
 K factor\*\*= 2.523
 TL(2)= 6.08E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 1.73E+02 5.15E+00 4/22/2002 2.46E+02 5.51E+00 7/15/2002 2.32E+02 5.45E+00 10/8/2002 2.75E+02 5.62E+00 2.69E+02 1/8/2003 5.59E+00 4/3/2003 2.50E+02 5.52E+00 7/8/2003 2.95E+02 5.69E+00 10/6/2003 2.76E+02 5.62E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.95E+02 5.69E+00 4/23/2002 3.22E+02 5.77E+00 3.29E+02 7/16/2002 5.80E+00 10/8/2002 2.90E+02 5.67E+00 1/7/2003 3.16E+02 5.76E+00 4/2/2003 3.11E+02 5.74E+00 7/9/2003 3.47E+02 5.85E+00 3.37E+02 10/7/2003 5.82E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result Re	esult >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	2.11E+02	NO	5.35E+00	N/A
MW360	Downgradient	Yes	2.21E+02	NO	5.40E+00	N/A
MW363	Downgradient	Yes	2.02E+02	NO	5.31E+00	N/A
MW366	Downgradient	Yes	2.78E+02	NO	5.63E+00	N/A
MW369	Upgradient	Yes	1.89E+02	NO	5.24E+00	N/A
MW372	Upgradient	Yes	4.38E+02	YES	6.08E+00	N/A
N/A Pagu	ilte identified as N	Jon Detects	during labore	itory analysis	or data validatio	on and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW372

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Iron UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 7.385	<b>S</b> = 6.991	<b>CV(1)=</b> 0.947	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 2.50E+01 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = 1.358	<b>S</b> = 1.323	<b>CV(2)=</b> 0.974	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 4.70E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 6.56E-01 -4.22E-01 4/22/2002 6.95E-01 -3.64E-01 7/15/2002 7.10E+00 1.96E+00 10/8/2002 2.15E+01 3.07E+001/8/2003 1.85E+01 2.92E+00 4/3/2003 1.49E+01 2.70E+007/8/2003 1.13E+01 2.42E+00 10/6/2003 1.49E+01 2.70E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 5.95E+00 1.78E+00 4/23/2002 7.92E-01 -2.33E-01 7/16/2002 1.78E+00 5.77E-01 10/8/2002 7.76E-01 -2.54E-01 3.55E+00 1.27E+00 1/7/2003 4/2/2003 5.02E+00 1.61E+00 7/9/2003 1.00E+01 2.30E+00 10/7/2003 7.33E-01 -3.11E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >	TL(1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	5.43E-02	NO	-2.91E+00	N/A
MW360	Downgradient	t Yes	9.16E-02	NO	-2.39E+00	N/A
MW363	Downgradient	Yes	7.34E-02	NO	-2.61E+00	N/A
MW366	Downgradient	Yes	1.21E-01	NO	-2.11E+00	N/A
MW369	Upgradient	Yes	1.07E-01	NO	-2.23E+00	N/A
MW372	Upgradient	Yes	8.69E-02	NO	-2.44E+00	N/A
3.7/4 B	1 1					

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Magnesium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data X = 12.864 S = 3.505 CV(1) = 0.272 K factor\*\*= 2.523 TL(1) = 2.17E+01 LL(1) = N/A Statistics-Transformed X = 2.517 S = 0.290 CV(2) = 0.115 K factor\*\*= 2.523 TL(2) = 3.25E+00 LL(2) = N/A Background Data

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 1.14E+01 2.43E+00 4/22/2002 1.20E+01 2.48E+00 7/15/2002 1.00E+01 2.30E+00 10/8/2002 8.62E+00 2.15E+00 7.89E+00 1/8/2003 2.07E+004/3/2003 7.97E+00 2.08E+00 7/8/2003 1.03E+01 2.33E+00 10/6/2003 9.14E+00 2.21E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 1.57E+01 2.75E+00 4/23/2002 1.66E+01 2.81E+00 1.54E+01 7/16/2002 2.73E+00 10/8/2002 1.58E+01 2.76E+00 1/7/2003 1.58E+01 2.76E+00 4/2/2003 1.64E+01 2.80E+00 7/9/2003 1.52E+01 2.72E+00 10/7/2003 1.76E+01 2.87E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	1.20E+01	NO	2.48E+00	N/A
MW360	Downgradient	Yes	9.29E+00	) NO	2.23E+00	N/A
MW363	Downgradient	Yes	9.43E+00	) NO	2.24E+00	N/A
MW366	Downgradient	Yes	1.45E+01	NO	2.67E+00	N/A
MW369	Upgradient	Yes	7.13E+00	) NO	1.96E+00	N/A
MW372	Upgradient	Yes	2.51E+01	YES	3.22E+00	N/A
N/A Pagu	Ita identified on N	Jon Dotoote	during lob	aratary analysis	ia or data validatio	n and ware not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances MW372

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Manganese UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.413
 S= 0.274
 CV(1)=0.664
 K factor\*\*= 2.523
 TL(1)= 1.11E+00
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= -1.226
 S= 1.008
 CV(2)=-0.822
 K factor\*\*= 2.523
 TL(2)= 1.32E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 3.40E-02 -3.38E+00 4/22/2002 6.20E-02 -2.78E+00 7/15/2002 4.36E-01 -8.30E-01 10/8/2002 8.67E-01 -1.43E-01 8.28E-01 1/8/2003 -1.89E-01 4/3/2003 6.72E-01 -3.97E-01 7/8/2003 3.21E-01 -1.14E+00 10/6/2003 7.14E-01 -3.37E-01 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.05E-01 -1.58E+00 4/23/2002 3.45E-01 -1.06E+00 2.10E-01 7/16/2002 -1.56E+00 10/8/2002 5.39E-02 -2.92E+00 1/7/2003 5.37E-01 -6.22E-01 4/2/2003 4.15E-01 -8.79E-01 7/9/2003 6.54E-01 -4.25E-01 -1.37E+00 10/7/2003 2.54E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >	TL(1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	5.91E-03	NO	-5.13E+00	N/A
MW360	Downgradient	t Yes	9.32E-03	NO	-4.68E+00	N/A
MW363	Downgradient	Yes	1.12E-01	NO	-2.19E+00	N/A
MW366	Downgradient	t Yes	1.65E-02	NO	-4.10E+00	N/A
MW369	Upgradient	Yes	5.80E-03	NO	-5.15E+00	N/A
MW372	Upgradient	Yes	1.99E-03	NO	-6.22E+00	N/A
3.7/4 B	1 1					

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Methylene chloride UNITS: ug/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 5.438	<b>S</b> = 1.931	<b>CV(1)=</b> 0.355	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 1.03E+01 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X=</b> 1.639	<b>S</b> = 0.345	<b>CV(2)=</b> 0.211	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 2.51E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.00E+00 6.93E-01 4/22/2002 5.00E+00 1.61E+00 7/15/2002 1.00E+01 2.30E+00 10/8/2002 5.00E+00 1.61E+00 5.00E+00 1/8/2003 1.61E+00 4/3/2003 5.00E+00 1.61E+00 7/8/2003 5.00E+00 1.61E+00 10/6/2003 5.00E+00 1.61E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 5.00E+00 1.61E+00 4/23/2002 5.00E+00 1.61E+00 1.00E+01 7/16/2002 2.30E+00 10/8/2002 5.00E+00 1.61E+00 1/7/2003 5.00E+00 1.61E+00 4/2/2003 5.00E+00 1.61E+00 7/9/2003 5.00E+00 1.61E+00 5.00E+00 10/7/2003 1.61E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW360	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW363	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW366	Downgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW369	Upgradient	No	5.00E+00	N/A	1.61E+00	N/A
MW372	Upgradient	Yes	1.35E+00	NO	3.00E-01	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Molybdenum UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.010
 S= 0.012
 CV(1)=1.199
 K factor\*\*= 2.523
 TL(1)= 4.03E-02 LL(1)=N/A

 Statistics-Transformed Background Data
 X= -5.698
 S= 1.607
 CV(2)=-0.282
 K factor\*\*= 2.523
 TL(2)= -1.64E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.50E-02 -3.69E+00 4/22/2002 2.50E-02 -3.69E+00 7/15/2002 2.50E-02 -3.69E+00 10/8/2002 1.00E-03 -6.91E+00 1/8/2003 1.00E-03 -6.91E+00 1.00E-03 4/3/2003 -6.91E+00 7/8/2003 1.00E-03 -6.91E+00 1.00E-03 10/6/2003 -6.91E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 2.50E-02 7/16/2002 -3.69E+00 10/8/2002 1.00E-03 -6.91E+00 1/7/2003 1.00E-03 -6.91E+00 4/2/2003 1.00E-03 -6.91E+00 7/9/2003 1.05E-03 -6.86E+00 1.00E-03 -6.91E+00 10/7/2003

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	t No	1.00E-03	N/A	-6.91E+00	N/A
MW360	Downgradient	t No	1.00E-03	N/A	-6.91E+00	N/A
MW363	Downgradient	t No	1.00E-03	N/A	-6.91E+00	N/A
MW366	Downgradient	t No	1.00E-03	N/A	-6.91E+00	N/A
MW369	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW372	Upgradient	Yes	2.68E-04	N/A	-8.22E+00	NO
37/4 B	1 1				4 . 4.4	

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Nickel UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.024 S= 0.021 CV(1)=0.910 K factor\*\*= 2.523 TL(1)=7.77E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -4.246 S= 1.075 CV(2)=-0.253 K factor\*\*= 2.523 TL(2)=-1.53E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 5.00E-02 -3.00E+00 4/22/2002 5.00E-02 -3.00E+00 7/15/2002 5.00E-02 -3.00E+00 10/8/2002 5.00E-03 -5.30E+00 5.00E-03 1/8/2003 -5.30E+00 4/3/2003 5.00E-03 -5.30E+00 7/8/2003 1.30E-02 -4.34E+00 10/6/2003 1.04E-02 -4.57E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 5.00E-02 -3.00E+00 -3.00E+00 4/23/2002 5.00E-02 5.00E-02 7/16/2002 -3.00E+00 10/8/2002 5.00E-03 -5.30E+00 1/7/2003 5.00E-03 -5.30E+00 4/2/2003 5.00E-03 -5.30E+00 7/9/2003 1.90E-02 -3.96E+00 5.00E-03 10/7/2003 -5.30E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW360	Downgradient	Yes	6.78E-04	NO	-7.30E+00	N/A
MW363	Downgradient	Yes	4.45E-02	NO	-3.11E+00	N/A
MW366	Downgradient	Yes	9.91E-04	NO	-6.92E+00	N/A
MW369	Upgradient	Yes	2.94E-03	NO	-5.83E+00	N/A
MW372	Upgradient	Yes	6.27E-04	NO	-7.37E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Oxidation-Reduction Potential UNITS: mV URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 74.563
 S= 94.243
 CV(1)=1.264 K factor\*\*= 2.523
 TL(1)=3.12E+02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= 4.554
 S= 0.784
 CV(2)=0.172 K factor\*\*= 2.523
 TL(2)=5.37E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.15E+02 5.37E+00 4/22/2002 1.10E+02 4.70E+00 7/15/2002 2.00E+01 3.00E+00 1/8/2003 -5.00E+00 #Func! 4/3/2003 -1.80E+01 #Func! -6.70E+01 7/8/2003 #Func! 10/6/2003 -1.00E+00 #Func! 4.01E+00 1/7/2004 5.50E+01 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.10E+02 5.35E+00 4/23/2002 6.50E+01 4.17E+00 7/16/2002 2.15E+02 5.37E+00 10/8/2002 1.85E+02 5.22E+00 1/7/2003 4.50E+01 3.81E+00 4/2/2003 6.50E+01 4.17E+00 7/9/2003 -3.90E+01 #Func! 1.38E+02 4.93E+00 10/7/2003

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

Current	Quarter Data						
Well No.	Gradient	Detected?	Result 1	Result >TL	(1)? LN(Result)	LN(Result) >7	ΓL(2)
MW357	Downgradient	Yes	4.51E+02	N/A	6.11E+00	YES	
MW360	Downgradient	Yes	4.80E+02	N/A	6.17E+00	YES	
MW363	Downgradient	Yes	3.63E+02	N/A	5.89E+00	YES	
MW366	Downgradient	Yes	3.48E+02	N/A	5.85E+00	YES	
MW369	Upgradient	Yes	4.23E+02	N/A	6.05E+00	YES	
MW372	Upgradient	Yes	4.83E+02	N/A	6.18E+00	YES	
M/A Dagg	lta idamtified on 1	Van Dataat	مامل مستسيدات		aia am data validatia		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

Wells with Exceedances
MW357
MW360
MW363
MW366
MW369
MW372

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison pH UNITS: Std Unit URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 6.274	<b>S</b> = 0.194	<b>CV(1)=</b> 0.031	<b>K factor**=</b> 2.904	<b>TL(1)=</b> 6.84E+00 <b>LL(1)=</b> 5.71E+00
Statistics-Transformed	<b>X=</b> 1.836	<b>S</b> = 0.031	<b>CV(2)=</b> 0.017	<b>K factor**=</b> 2.904	<b>TL(2)=</b> 1.93E+00 <b>LL(2)=</b> 1.75E+00

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 6.10E+00 1.81E+00 4/22/2002 6.10E+001.81E+00 7/15/2002 6.10E+00 1.81E+00 6.50E+00 10/8/2002 1.87E+00 6.50E+00 1/8/2003 1.87E+00 4/3/2003 6.60E+001.89E+00 7/8/2003 6.50E+00 1.87E+00 10/6/2003 6.50E+00 1.87E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 6.10E+00 1.81E+00 4/23/2002 6.12E+00 1.81E+00 6.10E+00 7/16/2002 1.81E+00 10/8/2002 6.06E+001.80E+00 6.26E+00 1/7/2003 1.83E+00 4/2/2003 6.15E+00 1.82E+00 7/9/2003 6.30E+00 1.84E+00 10/7/2003 6.40E+00 1.86E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter	Data

~

Well No.	Gradient	Detected?	Result	Result >TL(1)? Result <ll(1)?< th=""><th>LN(Result)</th><th>LN(Result) &gt;TL(2)? LN(Result) <ll(2)?< th=""></ll(2)?<></th></ll(1)?<>	LN(Result)	LN(Result) >TL(2)? LN(Result) <ll(2)?< th=""></ll(2)?<>
MW357	Downgradien	t Yes	6.08E+0	0 NO	1.81E+00	N/A
MW360	Downgradien	t Yes	6.11E+0	0 NO	1.81E+00	N/A
MW363	Downgradien	t Yes	6.13E+0	0 NO	1.81E+00	N/A
MW366	Downgradien	t Yes	6.10E+0	0 NO	1.81E+00	N/A
MW369	Upgradient	Yes	6.13E+0	0 NO	1.81E+00	N/A
MW372	Upgradient	Yes	6.07E+0	0 NO	1.80E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Potassium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 1.663	<b>S</b> = 0.488	<b>CV(1)=</b> 0.293	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 2.89E+00 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = 0.456	<b>S</b> = 0.362	<b>CV(2)=</b> 0.794	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 1.37E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.00E+00 6.93E-01 4/22/2002 2.21E+00 7.93E-01 7/15/2002 2.00E+00 6.93E-01 10/8/2002 9.66E-01 -3.46E-02 7.27E-01 1/8/2003 -3.19E-01 4/3/2003 8.00E-01 -2.23E-01 7/8/2003 1.62E+00 4.82E-01 10/6/2003 1.14E+00 1.31E-01 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 2.04E+00 7.13E-01 4/23/2002 2.03E+00 7.08E-01 2.00E+00 7/16/2002 6.93E-01 10/8/2002 1.54E+00 4.32E-01 1/7/2003 1.88E+00 6.31E-01 4/2/2003 2.09E+00 7.37E-01 7/9/2003 1.78E+00 5.77E-01 1.79E+00 10/7/2003 5.82E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	1.69E+00	) NO	5.25E-01	N/A
MW360	Downgradient	Yes	7.59E-01	NO	-2.76E-01	N/A
MW363	Downgradient	Yes	2.07E+00	) NO	7.28E-01	N/A
MW366	Downgradient	Yes	1.93E+00	) NO	6.58E-01	N/A
MW369	Upgradient	Yes	5.64E-01	NO	-5.73E-01	N/A
MW372	Upgradient	Yes	2.12E+00	) NO	7.51E-01	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Sodium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 45.100
 S= 11.875
 CV(1)=0.263
 K factor\*\*= 2.523
 TL(1)= 7.51E+01
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 3.780
 S= 0.242
 CV(2)=0.064
 K factor\*\*= 2.523
 TL(2)= 4.39E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 3.57E+01 3.58E+00 4/22/2002 3.76E+01 3.63E+00 7/15/2002 4.24E+01 3.75E+00 10/8/2002 6.69E+01 4.20E+00 6.79E+01 4.22E+00 1/8/2003 4/3/2003 6.18E+01 4.12E+00 7/8/2003 4.56E+01 3.82E+00 10/6/2003 5.91E+01 4.08E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 3.72E+01 3.62E+00 4/23/2002 3.86E+01 3.65E+00 7/16/2002 3.56E+01 3.57E+00 10/8/2002 3.75E+01 3.62E+00 1/7/2003 3.41E+01 3.53E+00 4/2/2003 3.44E+01 3.54E+00 7/9/2003 4.41E+01 3.79E+00 4.31E+01 10/7/2003 3.76E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL	(1)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	4.51E+01	l NO	3.81E+00	N/A
MW360	Downgradient	t Yes	6.24E+01	l NO	4.13E+00	N/A
MW363	Downgradient	t Yes	3.84E+01	l NO	3.65E+00	N/A
MW366	Downgradient	t Yes	4.78E+01	l NO	3.87E+00	N/A
MW369	Upgradient	Yes	5.12E+01	l NO	3.94E+00	N/A
MW372	Upgradient	Yes	6.08E+01	l NO	4.11E+00	N/A
N/A - Recu	ilte identified as l	Non-Detects	during lab	oratory analy	reie or data validatio	n and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Sulfate UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 45.031
 S= 33.919
 CV(1)=0.753
 K factor\*\*= 2.523
 TL(1)= 1.31E+02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= 3.420
 S= 0.981
 CV(2)=0.287
 K factor\*\*= 2.523
 TL(2)= 5.89E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 1.55E+01 2.74E+00 4/22/2002 1.58E+01 2.76E+007/15/2002 1.38E+01 2.62E+00 10/8/2002 6.90E+00 1.93E+00 1/8/2003 1.05E+01 2.35E+00 4/3/2003 1.05E+01 2.35E+00 7/8/2003 1.09E+01 2.39E+00 10/6/2003 1.63E+01 2.79E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 7.17E+01 4.27E+00 4/23/2002 7.47E+01 4.31E+00 7.41E+01 7/16/2002 4.31E+00 10/8/2002 7.05E+01 4.26E+00 1/7/2003 7.58E+01 4.33E+00 4/2/2003 8.18E+01 4.40E+00 7/9/2003 8.36E+01 4.43E+00 8.81E+01 10/7/2003 4.48E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.87E+01	NO	3.66E+00	N/A
MW360	Downgradient	Yes	1.22E+01	NO	2.50E+00	N/A
MW363	Downgradient	Yes	2.84E+01	NO	3.35E+00	N/A
MW366	Downgradient	Yes	4.91E+01	NO	3.89E+00	N/A
MW369	Upgradient	Yes	8.49E+00	NO	2.14E+00	N/A
MW372	Upgradient	Yes	1.48E+02	YES	5.00E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW372

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Technetium-99 UNITS: pCi/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 20.821
 S= 18.044 CV(1)=0.867
 K factor\*\*= 2.523 TL(1)= 6.63E+01 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 2.770 S= 1.150 CV(2)=0.415
 K factor\*\*= 2.523 TL(2)= 3.97E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 4.17E+01 3.73E+00 4/22/2002 5.31E+01 3.97E+00 7/15/2002 1.81E+01 2.90E+00 10/8/2002 1.64E+01 2.80E+00 3.49E+00 1/8/2003 1.25E+00 4/3/2003 9.34E+00 2.23E+00 7/8/2003 1.75E+01 2.86E+00 1.70E+01 10/6/2003 2.83E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 4.48E+01 3.80E+00 -2.21E-01 4/23/2002 8.02E-01 1.98E+01 2.99E+00 7/16/2002 10/8/2002 4.61E+01 3.83E+00 1/7/2003 -9.73E-01 #Func! 4/2/2003 9.07E+00 2.20E+00 7/9/2003 0.00E+00#Func! 3.69E+01 3.61E+00 10/7/2003

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	2 LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	1.86E+01	N/A	2.92E+00	N/A
MW360	Downgradient	No	5.52E+00	N/A	1.71E+00	N/A
MW363	Downgradient	No	6.56E+00	N/A	1.88E+00	N/A
MW366	Downgradient	Yes	6.23E+01	NO	4.13E+00	N/A
MW369	Upgradient	Yes	6.27E+01	NO	4.14E+00	N/A
MW372	Upgradient	Yes	3.89E+01	NO	3.66E+00	N/A
NI/A Dans		J D-44-	4	4	1.4 11.1.41	4

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Total Organic Carbon (TOC) UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 3.513	<b>S</b> = 4.307	<b>CV(1)=</b> 1.226	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 1.44E+01 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = 0.851	<b>S</b> = 0.828	<b>CV(2)=</b> 0.973	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 2.94E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 1.70E+00 5.31E-01 4/22/2002 1.60E+00 4.70E-01 7/15/2002 3.10E+00 1.13E+00 10/8/2002 1.77E+01 2.87E+00 9.00E+00 1/8/2003 2.20E+00 4/3/2003 4.00E+00 1.39E+00 7/8/2003 4.90E+00 1.59E+00 10/6/2003 2.40E+00 8.75E-01 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 1.00E+00 0.00E+004/23/2002 1.20E+00 1.82E-01 1.00E+00 7/16/2002 0.00E+0010/8/2002 1.00E+00 0.00E+001/7/2003 1.60E+00 4.70E-01 4/2/2003 1.50E+00 4.05E-01 7/9/2003 3.00E+00 1.10E+00 1.50E+00 10/7/2003 4.05E-01

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	t Yes	6.21E-01	N/A	-4.76E-01	NO
MW360	Downgradient	t Yes	1.25E+00	N/A	2.23E-01	NO
MW363	Downgradient	t Yes	1.26E+00	N/A	2.31E-01	NO
MW366	Downgradient	t Yes	6.20E-01	N/A	-4.78E-01	NO
MW369	Upgradient	Yes	7.69E-01	N/A	-2.63E-01	NO
MW372	Upgradient	Yes	1.02E+00	N/A	1.98E-02	NO
3.7/4 B	1 1				1 . 1:1 .:	

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Total Organic Halides (TOX) UNITS: ug/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 67.963
 S= 64.316
 CV(1)=0.946 K factor\*\*= 2.523
 TL(1)=2.30E+02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= 3.772
 S= 1.023
 CV(2)=0.271 K factor\*\*= 2.523
 TL(2)=6.35E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 5.00E+01 3.91E+00 4/22/2002 5.00E+01 3.91E+00 7/15/2002 8.10E+01 4.39E+00 10/8/2002 2.02E+02 5.31E+00 1.77E+02 1/8/2003 5.18E+00 4/3/2003 9.31E+01 4.53E+00 7/8/2003 1.75E+01 2.86E+00 10/6/2003 3.75E+01 3.62E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 1.84E+02 5.21E+00 4/23/2002 5.00E+01 3.91E+00 5.00E+01 7/16/2002 3.91E+00 10/8/2002 5.00E+01 3.91E+00 1/7/2003 1.00E+01 2.30E+00 4/2/2003 1.27E+01 2.54E+00 7/9/2003 1.00E+01 2.30E+00 10/7/2003 1.26E+01 2.53E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	1.00E+01	l N/A	2.30E+00	N/A
MW360	Downgradient	Yes	4.24E+00	) NO	1.44E+00	N/A
MW363	Downgradient	Yes	8.74E+00	) NO	2.17E+00	N/A
MW366	Downgradient	Yes	3.68E+00	) NO	1.30E+00	N/A
MW369	Upgradient	Yes	2.10E+01	l NO	3.04E+00	N/A
MW372	Upgradient	Yes	1.09E+01	l NO	2.39E+00	N/A
N/A - Recu	Its identified as N	Jon Detecto	during lab	orotory analysis	e or data validatio	n and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Vanadium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.024 S= 0.006 CV(1)=0.259 K factor\*\*= 2.523 TL(1)=3.91E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -3.771 S= 0.223 CV(2)=-0.059 K factor\*\*= 2.523 TL(2)=-3.21E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 2.50E-02 -3.69E+00 4/22/2002 2.70E-02 -3.61E+00 7/15/2002 2.50E-02 -3.69E+00 10/8/2002 2.00E-02 -3.91E+00 2.00E-02 1/8/2003 -3.91E+00 4/3/2003 2.00E-02 -3.91E+00 7/8/2003 2.00E-02 -3.91E+00 10/6/2003 2.00E-02 -3.91E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 3.90E-02 -3.24E+00 -3.30E+00 4/23/2002 3.70E-02 2.50E-02 7/16/2002 -3.69E+00 10/8/2002 2.00E-02 -3.91E+00 1/7/2003 2.00E-02 -3.91E+00 4/2/2003 2.00E-02 -3.91E+00 7/9/2003 2.00E-02 -3.91E+00 2.00E-02 -3.91E+00 10/7/2003

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	5.04E-03	N/A	-5.29E+00	N/A
MW360	Downgradient	No	5.52E-03	N/A	-5.20E+00	N/A
MW363	Downgradient	No	5.11E-03	N/A	-5.28E+00	N/A
MW366	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW369	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW372	Upgradient	Yes	5.73E-03	NO	-5.16E+00	N/A
NI/A D	1, 11, 200 1 3	J D	1 1 1 1		1.4 11.1.4	1 .

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Zinc UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.116
 S= 0.173
 CV(1)=1.490
 K factor\*\*= 2.523
 TL(1)= 5.52E-01
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= -2.729
 S= 1.014
 CV(2)=-0.371
 K factor\*\*= 2.523
 TL(2)= -1.72E-01
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 3/18/2002 1.00E-01 -2.30E+00 4/22/2002 1.00E-01 -2.30E+00 7/15/2002 1.00E-01 -2.30E+00 10/8/2002 2.50E-02 -3.69E+00 3.50E-02 1/8/2003 -3.35E+00 4/3/2003 3.50E-02 -3.35E+00 7/8/2003 2.00E-02 -3.91E+00 10/6/2003 2.00E-02 -3.91E+00 Well Number: MW372 Date Collected Result LN(Result) 3/19/2002 7.25E-01 -3.22E-01 -2.30E+00 4/23/2002 1.00E-01 1.00E-01 7/16/2002 -2.30E+00 10/8/2002 2.50E-02 -3.69E+00 1/7/2003 3.50E-02 -3.35E+00 4/2/2003 3.50E-02 -3.35E+00 7/9/2003 2.00E-01 -1.61E+00 2.00E-01 10/7/2003 -1.61E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW360	Downgradient	Yes	3.35E-03	N/A	-5.70E+00	NO
MW363	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW366	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW369	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW372	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
NI/A D	1, 11, 416, 1, 3	J D	1 1 1 1		1.4 11.1.41	1 .

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Aluminum UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 2.026 S= 5.626 CV(1)=2.777 K factor\*\*= 2.523 TL(1)=1.62E+01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -0.803 S= 1.380 CV(2)=-1.718 K factor\*\*= 2.523 TL(2)=2.68E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 4.66E+00 1.54E+00 4/23/2002 2.00E-01 -1.61E+00 7/15/2002 2.00E-01 -1.61E+00 10/8/2002 2.00E-01 -1.61E+00 2.00E-01 1/8/2003 -1.61E+00 4/3/2003 2.00E-01 -1.61E+00 7/9/2003 2.00E-01 -1.61E+00 10/6/2003 2.00E-01 -1.61E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 2.27E+01 3.12E+00 4/23/2002 1.46E+00 3.78E-01 2.53E-01 7/16/2002 -1.37E+00 10/8/2002 4.82E-01 -7.30E-01 1/7/2003 6.08E-01 -4.98E-01 4/2/2003 4.46E-01 -8.07E-01 7/9/2003 2.00E-01 -1.61E+00 2.00E-01 10/7/2003 -1.61E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	5.85E-02	N/A	-2.84E+00	NO
MW361	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW364	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW367	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW370	Upgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW373	Upgradient	No	5.00E-02	N/A	-3.00E+00	N/A
N/A Pagu	ilte identified as N	Jon Detecto	during lab	orotory analysis	or data validatio	on and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Boron UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 1.140 S= 0.780 CV(1)=0.684 K factor\*\*= 2.523 TL(1)=3.11E+00 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -0.235 S= 1.006 CV(2)=-4.287 K factor\*\*= 2.523 TL(2)=2.30E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 2.00E+00 6.93E-01 4/23/2002 2.00E+00 6.93E-01 7/15/2002 2.00E+00 6.93E-01 10/8/2002 2.00E-01 -1.61E+00 2.00E-01 1/8/2003 -1.61E+00 4/3/2003 2.00E-01 -1.61E+00 7/9/2003 2.00E-01 -1.61E+00 10/6/2003 2.00E-01 -1.61E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 2.00E+00 6.93E-01 4/23/2002 2.00E+00 6.93E-01 2.00E+00 7/16/2002 6.93E-01 10/8/2002 7.90E-01 -2.36E-01 1/7/2003 8.07E-01 -2.14E-01 4/2/2003 1.13E+00 1.22E-01 7/9/2003 1.28E+00 2.47E-01 10/7/2003 1.24E+00 2.15E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TI	L(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	t Yes	1.35E-01	NO	-2.00E+00	N/A
MW361	Downgradient	t Yes	1.98E-01	NO	-1.62E+00	N/A
MW364	Downgradient	t Yes	1.74E-01	NO	-1.75E+00	N/A
MW367	Downgradient	t Yes	2.32E-02	NO	-3.76E+00	N/A
MW370	Upgradient	Yes	1.27E-01	NO	-2.06E+00	N/A
MW373	Upgradient	Yes	2.22E+00	) NO	7.98E-01	N/A
				_		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Bromide UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data X = 1.000 S = 0.000 CV(1) = 0.000 K factor\*\*= 2.523 TL(1) = 1.00E+00 LL(1) = N/A Statistics-Transformed X = 0.000 S = 0.000 CV(2) = #Num! K factor\*\*= 2.523 TL(2) = 0.00E+00 LL(2) = N/A Background Data

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.00E+00 0.00E+004/23/2002 1.00E+00 0.00E+007/15/2002 1.00E+00 0.00E+0010/8/2002 1.00E+00 0.00E+001/8/2003 1.00E+00 0.00E+001.00E+00 4/3/2003 0.00E+007/9/2003 1.00E+00 0.00E+001.00E+00 10/6/2003 0.00E+00Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.00E+00 0.00E+004/23/2002 1.00E+00 0.00E+001.00E+00 7/16/2002 0.00E+0010/8/2002 1.00E+00 0.00E+001/7/2003 1.00E+00 0.00E+004/2/2003 1.00E+00 0.00E+007/9/2003 1.00E+00 0.00E+001.00E+00 10/7/2003 0.00E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL	(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	t Yes	2.14E-01	NO	-1.54E+00	N/A
MW361	Downgradient	t Yes	4.81E-01	NO	-7.32E-01	N/A
MW364	Downgradient	t Yes	5.72E-01	NO	-5.59E-01	N/A
MW367	Downgradient	t No	2.00E-01	N/A	-1.61E+00	N/A
MW370	Upgradient	Yes	5.98E-01	NO	-5.14E-01	N/A
MW373	Upgradient	Yes	2.02E-01	NO	-1.60E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Calcium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 43.413
 S= 13.444
 CV(1)=0.310
 K factor\*\*= 2.523
 TL(1)= 7.73E+01
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 3.723
 S= 0.323
 CV(2)=0.087
 K factor\*\*= 2.523
 TL(2)= 4.54E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 3.48E+01 3.55E+00 4/23/2002 4.34E+01 3.77E+007/15/2002 3.32E+01 3.50E+00 10/8/2002 2.92E+01 3.37E+00 3.13E+01 1/8/2003 3.44E+00 4/3/2003 3.24E+01 3.48E+00 7/9/2003 2.29E+01 3.13E+00 10/6/2003 2.80E+01 3.33E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 6.19E+01 4.13E+00 4/23/2002 5.92E+01 4.08E+00 4.76E+01 7/16/2002 3.86E+00 10/8/2002 4.61E+01 3.83E+00 1/7/2003 4.92E+01 3.90E+00 4/2/2003 5.78E+01 4.06E+007/9/2003 5.27E+01 3.96E+00 6.49E+01 10/7/2003 4.17E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)			
MW358	Downgradient	Yes	3.34E+01	NO	3.51E+00	N/A			
MW361	Downgradient	Yes	3.49E+01	NO	3.55E+00	N/A			
MW364	Downgradient	Yes	3.37E+01	NO	3.52E+00	N/A			
MW367	Downgradient	Yes	1.31E+01	NO	2.57E+00	N/A			
MW370	Upgradient	Yes	3.00E+01	NO	3.40E+00	N/A			
MW373	Upgradient	Yes	8.40E+01	YES	4.43E+00	N/A			
NI/A D	1, 11, 200 1 3	J D	1 1 1 1	1 1	1 4 111 41	1 4			

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW373

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Chemical Oxygen Demand (COD) UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 41.938	<b>S</b> = 24.732	<b>CV(1)=</b> 0.590	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 1.04E+02 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = 3.658	<b>S</b> = 0.339	<b>CV(2)=</b> 0.093	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 4.51E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 3.50E+01 3.56E+00 4/23/2002 1.34E+02 4.90E+00 7/15/2002 3.50E+01 3.56E+00 10/8/2002 3.50E+01 3.56E+00 3.50E+01 1/8/2003 3.56E+00 4/3/2003 3.50E+01 3.56E+00 7/9/2003 3.50E+01 3.56E+00 10/6/2003 3.50E+01 3.56E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 3.50E+01 3.56E+00 4/23/2002 4.70E+01 3.85E+00 3.50E+01 7/16/2002 3.56E+00 10/8/2002 3.50E+01 3.56E+00 3.50E+01 1/7/2003 3.56E+00 4/2/2003 3.50E+01 3.56E+007/9/2003 3.50E+01 3.56E+003.50E+01 10/7/2003 3.56E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data													
Well No.	Gradient	Detected?	Result	Result >TL	(1)? LN(Result)	LN(Result) >TL(2)							
MW358	Downgradient	Yes	1.28E+01	l NO	2.55E+00	N/A							
MW361	Downgradient	t No	2.00E+01	l N/A	3.00E+00	N/A							
MW364	Downgradient	t No	2.00E+01	l N/A	3.00E+00	N/A							
MW367	Downgradient	t No	2.00E+01	l N/A	3.00E+00	N/A							
MW370	Upgradient	No	2.00E+01	l N/A	3.00E+00	N/A							
MW373	Upgradient	No	2.00E+01	l N/A	3.00E+00	N/A							
N/A - Resu	lts identified as l	Non-Detects	during lab	N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not									

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Chloride UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 45.919	S = 7.524	<b>CV(1)=</b> 0.164	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 6.49E+01 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = 3.814	<b>S</b> = 0.165	<b>CV(2)=</b> 0.043	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 4.23E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 7/15/2002 5.55E+01 4.02E+00 10/8/2002 5.36E+01 3.98E+00 5.29E+01 1/8/2003 3.97E+00 4/3/2003 5.36E+01 3.98E+00 7/9/2003 5.19E+01 3.95E+00 10/6/2003 5.30E+01 3.97E+00 1/7/2004 5.30E+01 3.97E+00 4/7/2004 5.16E+01 3.94E+00 Well Number: MW373 Date Collected Result LN(Result) 7/16/2002 4.06E+01 3.70E+00 10/8/2002 3.88E+01 3.66E+00 3.90E+01 1/7/2003 3.66E+004/2/2003 3.84E+01 3.65E+00 7/9/2003 3.81E+01 3.64E+0010/7/2003 3.80E+01 3.64E+00 1/6/2004 3.79E+01 3.63E+00 4/7/2004 3.88E+01 3.66E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >T	L(1)? LN(Result)	LN(Result) >TL(2
MW358	Downgradient	t Yes	1.65E+01	NO	2.80E+00	N/A
MW361	Downgradient	t Yes	3.79E+01	NO	3.63E+00	N/A
MW364	Downgradient	t Yes	3.72E+01	NO	3.62E+00	N/A
MW367	Downgradient	t Yes	6.65E+00	) NO	1.89E+00	N/A
MW370	Upgradient	Yes	4.01E+01	NO	3.69E+00	N/A
MW373	Upgradient	No	3.13E+01	N/A	3.44E+00	N/A
3.T/4 D	1. 11 1	NT D	1 . 11	. 1		1

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Cobalt UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X = 0.027 S = 0.032 CV(1) = 1.165 K factor\*\*= 2.523
 TL(1) = 1.08E-01 LL(1) = N/A 

 Statistics-Transformed Background Data
 X = -4.058 S = 1.011 CV(2) = -0.249 K factor\*\*= 2.523
 TL(2) = -1.51E+00 LL(2) = N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 7/15/2002 2.50E-02 -3.69E+00 10/8/2002 1.74E-02 -4.05E+00 1.05E-02 1/8/2003 -4.56E+00 4/3/2003 9.31E-03 -4.68E+00 7/9/2003 1.37E-01 -1.99E+00 10/6/2003 4.63E-02 -3.07E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 2.50E-02 -3.69E+00 4/23/2002 3.40E-02 -3.38E+00 2.50E-02 7/16/2002 -3.69E+00 10/8/2002 4.11E-03 -5.49E+00 1/7/2003 3.44E-03 -5.67E+00 4/2/2003 3.68E-03 -5.60E+00 7/9/2003 4.05E-02 -3.21E+00 10/7/2003 8.43E-03 -4.78E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.69E-02	N/A	-3.62E+00	NO
MW361	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW364	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW367	Downgradient	Yes	6.68E-03	N/A	-5.01E+00	NO
MW370	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW373	Upgradient	Yes	5.01E-04	N/A	-7.60E+00	NO
NI/A Dogg	ilte identified as N	Ion Dotoote	during lab	arotary analyzaia	ar data validatio	n and ware not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Conductivity UNITS: umho/cm LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 608.719
 S= 156.157
 CV(1)=0.257
 K factor\*\*= 2.523
 TL(1)= 1.00E+03
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 6.380
 S= 0.260
 CV(2)=0.041
 K factor\*\*= 2.523
 TL(2)= 7.04E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 4.06E+02 6.01E+00 4/23/2002 5.43E+02 6.30E+00 7/15/2002 4.76E+02 6.17E+00 10/8/2002 4.41E+02 6.09E+00 4.86E+02 1/8/2003 6.19E+004/3/2003 4.66E+02 6.14E+00 7/9/2003 4.79E+02 6.17E+00 4.35E+02 10/6/2003 6.08E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 6.61E+02 6.49E+00 4/23/2002 8.01E+02 6.69E+00 7.74E+02 7/16/2002 6.65E+0010/8/2002 6.80E+02 6.52E+00 1/7/2003 6.87E+026.53E+00 4/2/2003 7.63E+02 6.64E+00 7/9/2003 8.28E+02 6.72E+00 8.14E+02 10/7/2003 6.70E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >T	L(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	5.04E+02	2 NO	6.22E+00	N/A
MW361	Downgradient	Yes	5.15E+02	NO NO	6.24E+00	N/A
MW364	Downgradient	Yes	4.71E+02	NO NO	6.15E+00	N/A
MW367	Downgradient	Yes	2.77E+02	NO NO	5.62E+00	N/A
MW370	Upgradient	Yes	4.37E+02	2 NO	6.08E+00	N/A
MW373	Upgradient	Yes	9.09E+02	NO NO	6.81E+00	N/A
N/A Pagu	ilte identified of l	Von Detecto	during lab	orotory anal	veie or data validatio	n and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Copper UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 0.025	<b>S</b> = 0.010	<b>CV(1)=</b> 0.399	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 5.03E-02 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = -3.739	<b>S</b> = 0.308	<b>CV(2)=</b> -0.082	K factor**= 2.523	TL(2)= -2.96E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 7/15/2002 5.00E-02 -3.00E+00 10/8/2002 2.00E-02 -3.91E+00 2.00E-02 1/8/2003 -3.91E+00 4/3/2003 2.00E-02 -3.91E+00 7/9/2003 2.00E-02 -3.91E+00 10/6/2003 2.00E-02 -3.91E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 2.60E-02 -3.65E+00 4/23/2002 2.50E-02 -3.69E+00 5.00E-02 7/16/2002 -3.00E+00 10/8/2002 2.00E-02 -3.91E+00 2.00E-02 -3.91E+00 1/7/2003 4/2/2003 2.00E-02 -3.91E+00 7/9/2003 2.00E-02 -3.91E+00 2.00E-02 10/7/2003 -3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >7	TL(1)? LN(Result)	LN(Result) >TL(2)			
MW358	Downgradient	Yes	8.41E-04	NO	-7.08E+00	N/A			
MW361	Downgradient	Yes	8.33E-04	NO	-7.09E+00	N/A			
MW364	Downgradient	Yes	1.10E-03	NO	-6.81E+00	N/A			
MW367	Downgradient	Yes	7.75E-04	NO	-7.16E+00	N/A			
MW370	Upgradient	Yes	1.81E-03	NO	-6.31E+00	N/A			
MW373	Upgradient	Yes	1.16E-03	NO	-6.76E+00	N/A			
3.7/4 B									

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Dissolved Oxygen UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 1.387 S= 1.153 CV(1)=0.831 K factor\*\*= 2.523 TL(1)=4.30E+00 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -0.115 S= 1.207 CV(2)=-10.514 K factor\*\*= 2.523 TL(2)=2.93E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 4.32E+00 1.46E+00 4/23/2002 1.24E+00 2.15E-01 7/15/2002 7.50E-01 -2.88E-01 10/8/2002 9.40E-01 -6.19E-02 3.08E+00 1/8/2003 1.12E+00 4/3/2003 1.45E+00 3.72E-01 7/9/2003 1.22E+00 1.99E-01 10/6/2003 1.07E+00 6.77E-02 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 3.04E+00 1.11E+00 4/23/2002 3.00E-02 -3.51E+00 2.30E-01 7/16/2002 -1.47E+00 10/8/2002 8.60E-01 -1.51E-01 1/7/2003 2.10E-01 -1.56E+00 4/2/2003 1.19E+00 1.74E-01 7/9/2003 1.10E+00 9.53E-02 10/7/2003 1.46E+00 3.78E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data									
Well No.	Gradient	Detected?	Result	Result >TL(1)	)? LN(Result)	LN(Result) >TL(2)			
MW358	Downgradient	Yes	6.90E-01	NO	-3.71E-01	N/A			
MW361	Downgradient	Yes	3.26E+00	) NO	1.18E+00	N/A			
MW364	Downgradient	Yes	3.97E+00	) NO	1.38E+00	N/A			
MW367	Downgradient	Yes	1.43E+00	) NO	3.58E-01	N/A			
MW370	Upgradient	Yes	4.65E+00	YES	1.54E+00	N/A			
MW373	Upgradient	Yes	1.30E+00	) NO	2.62E-01	N/A			

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW370

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Dissolved Solids UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 356.188
 S= 106.752 CV(1)=0.300
 K factor\*\*= 2.523 TL(1)= 6.26E+02 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 5.831 S= 0.311 CV(2)=0.053 K factor\*\*= 2.523 TL(2)= 6.62E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 2.36E+02 5.46E+00 4/23/2002 3.37E+02 5.82E+00 7/15/2002 2.66E+02 5.58E+00 10/8/2002 2.40E+02 5.48E+00 2.82E+02 1/8/2003 5.64E+00 4/3/2003 2.38E+02 5.47E+00 7/9/2003 2.48E+02 5.51E+00 10/6/2003 2.24E+02 5.41E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 4.27E+02 6.06E+00 4/23/2002 5.07E+02 6.23E+00 4.64E+02 7/16/2002 6.14E+0010/8/2002 4.08E+02 6.01E+00 1/7/2003 4.04E+02 6.00E+004/2/2003 4.50E+02 6.11E+00 7/9/2003 4.87E+02 6.19E+00 4.81E+02 10/7/2003 6.18E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.42E+02	NO	5.49E+00	N/A
MW361	Downgradient	Yes	2.92E+02	NO	5.68E+00	N/A
MW364	Downgradient	Yes	2.64E+02	NO	5.58E+00	N/A
MW367	Downgradient	Yes	1.22E+02	NO	4.80E+00	N/A
MW370	Upgradient	Yes	2.35E+02	NO	5.46E+00	N/A
MW373	Upgradient	Yes	5.36E+02	NO	6.28E+00	N/A
N/A Pagu	ilte identified as N	Jon Detecto	during labo	vrotory analycic	vr data validatio	on and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Iron UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X=</b> 9.230	<b>S</b> = 8.841	<b>CV(1)=</b> 0.958	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 3.15E+01 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X=</b> 1.942	<b>S</b> = 0.713	<b>CV(2)=</b> 0.367	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 3.74E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 9.34E+00 2.23E+00 4/23/2002 4.33E+00 1.47E+00 7/15/2002 3.52E+00 1.26E+00 10/8/2002 7.45E+00 2.01E+00 7.04E+00 1/8/2003 1.95E+00 4/3/2003 4.64E+00 1.53E+00 7/9/2003 1.58E+01 2.76E+00 10/6/2003 6.49E+00 1.87E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 3.76E+01 3.63E+00 4/23/2002 1.90E+01 2.94E+00 7/16/2002 1.07E+012.37E+00 10/8/2002 3.75E+00 1.32E+00 3.87E+00 1/7/2003 1.35E+00 4/2/2003 3.50E+00 1.25E+00 7/9/2003 7.72E+00 2.04E+00 10/7/2003 2.93E+00 1.08E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data						
Well No.	Gradient	Detected?	Result	Result >	ΓL(1)? LN(Result)	LN(Result) >TL	(2)
MW358	Downgradient	t Yes	1.49E+01	NO	2.70E+00	N/A	
MW361	Downgradient	t Yes	3.79E-02	NO	-3.27E+00	N/A	
MW364	Downgradient	t Yes	5.89E-02	NO	-2.83E+00	N/A	
MW367	Downgradient	t Yes	7.08E+00	NO	1.96E+00	N/A	
MW370	Upgradient	Yes	3.76E-02	NO	-3.28E+00	N/A	
MW373	Upgradient	Yes	8.72E-02	NO	-2.44E+00	N/A	
3.7/4 D	1				4 . 4 . 4 . 4		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Magnesium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 17.544
 S= 5.911 CV(1)=0.337
 K factor\*\*= 2.523 TL(1)= 3.25E+01 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 2.810 S= 0.343 CV(2)=0.122 K factor\*\*= 2.523 TL(2)= 3.68E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.21E+01 2.49E+00 4/23/2002 1.51E+01 2.71E+00 7/15/2002 1.24E+01 2.52E+00 10/8/2002 1.22E+01 2.50E+00 1.15E+01 1/8/2003 2.44E+00 4/3/2003 1.23E+01 2.51E+00 7/9/2003 1.00E+01 2.30E+00 10/6/2003 1.21E+01 2.49E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 2.48E+01 3.21E+00 4/23/2002 2.27E+01 3.12E+00 1.88E+01 7/16/2002 2.93E+00 10/8/2002 2.11E+01 3.05E+00 1/7/2003 1.99E+01 2.99E+00 4/2/2003 2.55E+01 3.24E+00 7/9/2003 2.33E+01 3.15E+00 2.69E+01 10/7/2003 3.29E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)		
MW358	Downgradient	Yes	1.95E+01	NO	2.97E+00	N/A		
MW361	Downgradient	Yes	1.71E+01	NO	2.84E+00	N/A		
MW364	Downgradient	Yes	1.48E+01	NO	2.69E+00	N/A		
MW367	Downgradient	Yes	7.44E+00	) NO	2.01E+00	N/A		
MW370	Upgradient	Yes	1.35E+01	NO	2.60E+00	N/A		
MW373	Upgradient	Yes	2.99E+01	NO	3.40E+00	N/A		
M/A Dagg	lta idantified on l	Jan Datasta	ما دا د منسرداد	t	a am data rralidatia	d ********		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Manganese UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data X = 1.080 S = 0.674 CV(1) = 0.624 K factor\*\*= 2.523 TL(1) = 2.78E+00 LL(1) = N/A Statistics-Transformed X = -0.114 S = 0.658 CV(2) = -5.762 K factor\*\*= 2.523 TL(2) = 1.55E+00 LL(2) = N/A Background Data

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 2.44E-01 -1.41E+00 4/23/2002 1.82E+00 5.99E-01 7/15/2002 1.22E+00 1.99E-01 10/8/2002 9.88E-01 -1.21E-02 7.29E-01 1/8/2003 -3.16E-01 4/3/2003 6.37E-01 -4.51E-01 7/9/2003 2.51E+00 9.20E-01 4.88E-02 10/6/2003 1.05E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 3.55E-01 -1.04E+00 4/23/2002 2.16E+00 7.70E-01 1.39E+00 7/16/2002 3.29E-01 10/8/2002 7.17E-01 -3.33E-01 1/7/2003 5.87E-01 -5.33E-01 4/2/2003 5.45E-01 -6.07E-01 7/9/2003 1.76E+00 5.65E-01 5.70E-01 10/7/2003 -5.62E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result R	esult >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.55E+00	NO	9.36E-01	N/A
MW361	Downgradient	No	3.12E-03	N/A	-5.77E+00	N/A
MW364	Downgradient	Yes	3.90E-03	NO	-5.55E+00	N/A
MW367	Downgradient	Yes	1.38E+00	NO	3.22E-01	N/A
MW370	Upgradient	Yes	1.68E-03	NO	-6.39E+00	N/A
MW373	Upgradient	Yes	5.93E-02	NO	-2.83E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Molybdenum UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.010 S= 0.012 CV(1)=1.198 K factor\*\*= 2.523 TL(1)=4.03E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -5.693 S= 1.604 CV(2)=-0.282 K factor\*\*= 2.523 TL(2)=-1.65E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 7/15/2002 2.50E-02 -3.69E+00 1.13E-03 10/8/2002 -6.79E+00 1.00E-03 1/8/2003 -6.91E+00 4/3/2003 1.00E-03 -6.91E+00 7/9/2003 1.00E-03 -6.91E+00 10/6/2003 1.00E-03 -6.91E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 2.50E-02 -3.69E+00 4/23/2002 2.50E-02 -3.69E+00 2.50E-02 7/16/2002 -3.69E+00 10/8/2002 1.00E-03 -6.91E+00 1/7/2003 1.00E-03 -6.91E+00 4/2/2003 1.00E-03 -6.91E+00 7/9/2003 1.00E-03 -6.91E+00 1.00E-03 -6.91E+00 10/7/2003

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL	(1)? LN(Result)	LN(Result) >TL	(2)	
MW358	Downgradient	Yes	4.28E-04	N/A	-7.76E+00	NO		
MW361	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A		
MW364	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A		
MW367	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A		
MW370	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A		
MW373	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A		
AT/A D	1 1							

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Nickel UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.024 S= 0.022 CV(1)=0.901 K factor\*\*= 2.523 TL(1)= 7.82E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -4.239 S= 1.087 CV(2)=-0.256 K factor\*\*= 2.523 TL(2)=-1.50E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 5.00E-02 -3.00E+00 4/23/2002 5.00E-02 -3.00E+00 7/15/2002 5.00E-02 -3.00E+00 10/8/2002 5.00E-03 -5.30E+00 5.00E-03 1/8/2003 -5.30E+00 4/3/2003 5.00E-03 -5.30E+00 7/9/2003 2.64E-02 -3.63E+00 9.71E-03 10/6/2003 -4.63E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 5.00E-02 -3.00E+00 -3.00E+00 4/23/2002 5.00E-02 5.00E-02 7/16/2002 -3.00E+00 10/8/2002 5.00E-03 -5.30E+00 1/7/2003 5.00E-03 -5.30E+00 4/2/2003 5.00E-03 -5.30E+00 7/9/2003 1.12E-02 -4.49E+00 5.00E-03 -5.30E+00 10/7/2003

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL(1)	)? LN(Result)	LN(Result) >TL(2)		
MW358	Downgradient	Yes	9.07E-02	YES	-2.40E+00	N/A		
MW361	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A		
MW364	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A		
MW367	Downgradient	Yes	2.44E-03	NO	-6.02E+00	N/A		
MW370	Upgradient	No	2.00E-03	N/A	-6.21E+00	N/A		
MW373	Upgradient	Yes	1.64E-03	NO	-6.41E+00	N/A		
NI/A Pagu	lta identified on N	Jon Dotoote	during lab	orotory onolygic	or data validatio	n and ware not		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

Wells with Exceedances

MW358

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Oxidation-Reduction Potential UNITS: mV LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 46.688
 S= 60.986
 CV(1)=1.306
 K factor\*\*= 2.523
 TL(1)= 2.01E+02 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 3.829
 S= 1.151
 CV(2)=0.301
 K factor\*\*= 2.523
 TL(2)= 4.94E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.40E+02 4.94E+00 4/23/2002 -1.50E+01 #Func! 7/15/2002 5.00E+00 1.61E+00 4/3/2003 4.90E+01 3.89E+00 7/9/2003 -3.50E+01 #Func! 4.00E+01 10/6/2003 3.69E+00 1/7/2004 1.01E+02 4.62E+00 1.05E+02 4/7/2004 4.65E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.40E+02 4.94E+00 4/23/2002 -2.00E+01 #Func! 1.00E+01 2.30E+00 10/8/2002 1/7/2003 1.00E+01 2.30E+00 4/2/2003 6.70E+01 4.20E+00 7/9/2003 -2.90E+01 #Func! 10/7/2003 1.27E+02 4.84E+00 5.20E+01 1/6/2004 3.95E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

	Current	Quarter Data						
	Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >	>TL(2)
,	MW358	Downgradient	Yes	1.67E+02	N/A	5.12E+00	YES	
	MW361	Downgradient	t Yes	3.20E+02	N/A	5.77E+00	YES	
	MW364	Downgradient	Yes	5.20E+02	N/A	6.25E+00	YES	
	MW367	Downgradient	t Yes	2.95E+02	N/A	5.69E+00	YES	
	MW370	Upgradient	Yes	5.30E+02	N/A	6.27E+00	YES	
	MW373	Upgradient	Yes	4.93E+02	N/A	6.20E+00	YES	
	NI/A D	1, 11, 200 1 3	T D	1 1 1 1	, , ,	1 / 1:1 /	1 4	

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

Wells with	Exceedances
MW358	

MW361 MW364

MW367

MW370

MW373

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison PCB, Total UNITS: ug/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.280
 S= 0.281
 CV(1)=1.005 K factor\*\*= 2.523
 TL(1)=9.89E-01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -1.516
 S= 0.593
 CV(2)=-0.391 K factor\*\*= 2.523
 TL(2)=-2.01E-02 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.00E+00 0.00E+004/23/2002 1.70E-01 -1.77E+00 7/15/2002 1.70E-01 -1.77E+00 7/9/2003 1.70E-01 -1.77E+00 10/6/2003 1.88E-01 -1.67E+00 7/13/2004 1.80E-01 -1.71E+00 7/20/2005 1.80E-01 -1.71E+00 4/5/2006 1.80E-01 -1.71E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.00E+00 0.00E+004/23/2002 1.70E-01 -1.77E+00 1.70E-01 7/16/2002 -1.77E+00 7/9/2003 1.90E-01 -1.66E+00 10/7/2003 1.70E-01 -1.77E+00 7/14/2004 1.80E-01 -1.71E+00 7/26/2005 1.80E-01 -1.71E+00 1.80E-01 4/5/2006 -1.71E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL(	(1)? LN(Result)	LN(Result) >TL(2)		
MW358	Downgradient	No	1.05E-01	N/A	-2.25E+00	N/A		
MW361	Downgradient	Yes	1.50E-01	N/A	-1.90E+00	NO		
MW364	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A		
MW367	Downgradient	No	1.07E-01	N/A	-2.23E+00	N/A		
MW370	Upgradient	No	1.07E-01	N/A	-2.23E+00	N/A		
MW373	Upgradient	No	1.04E-01	N/A	-2.26E+00	N/A		
3.7/4 D	1, 11, 10, 1	T D	1 . 11		1 1 1 1 1 1			

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison PCB-1254 UNITS: ug/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.218 S= 0.307 CV(1)=1.414 K factor\*\*= 2.523 TL(1)=9.93E-01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -2.017 S= 0.852 CV(2)=-0.423 K factor\*\*= 2.523 TL(2)=1.34E-01 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.00E+00 0.00E+004/23/2002 1.30E-01 -2.04E+00 7/15/2002 1.30E-01 -2.04E+00 7/9/2003 1.70E-01 -1.77E+00 10/6/2003 1.00E-01 -2.30E+00 7.00E-02 7/13/2004 -2.66E+00 7/20/2005 7.00E-02 -2.66E+00 4/5/2006 7.00E-02 -2.66E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.00E+00 0.00E+00-2.04E+00 4/23/2002 1.30E-01 1.30E-01 7/16/2002 -2.04E+00 7/9/2003 1.70E-01 -1.77E+00 10/7/2003 1.00E-01 -2.30E+00 7/14/2004 7.00E-02 -2.66E+00 7/26/2005 7.00E-02 -2.66E+00 7.00E-02 4/5/2006 -2.66E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL(	1)? LN(Result)	LN(Result) >TL(2)		
MW358	Downgradient	t No	1.05E-01	N/A	-2.25E+00	N/A		
MW361	Downgradient	t Yes	7.97E-02	N/A	-2.53E+00	NO		
MW364	Downgradient	t No	1.00E-01	N/A	-2.30E+00	N/A		
MW367	Downgradient	t No	1.07E-01	N/A	-2.23E+00	N/A		
MW370	Upgradient	No	1.07E-01	N/A	-2.23E+00	N/A		
MW373	Upgradient	No	1.04E-01	N/A	-2.26E+00	N/A		
NT/A D	1, 11, 10, 1 3	T D	1 . 11	4 1	. 17 1117	1 4		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison PCB-1260 UNITS: ug/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.195 S= 0.316 CV(1)=1.619 K factor\*\*= 2.523 TL(1)=9.91E-01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -2.266 S= 0.946 CV(2)=-0.418 K factor\*\*= 2.523 TL(2)=1.22E-01 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.00E+00 0.00E+004/23/2002 9.00E-02 -2.41E+00 7/15/2002 9.00E-02 -2.41E+00 7/9/2003 9.00E-02 -2.41E+00 10/6/2003 8.00E-02 -2.53E+00 7/13/2004 5.00E-02 -3.00E+00 7/20/2005 5.00E-02 -3.00E+00 1.70E-01 4/5/2006 -1.77E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.00E+00 0.00E+004/23/2002 9.00E-02 -2.41E+00 9.00E-02 7/16/2002 -2.41E+00 7/9/2003 9.00E-02 -2.41E+00 10/7/2003 8.00E-02 -2.53E+00 7/14/2004 5.00E-02 -3.00E+00 7/26/2005 5.00E-02 -3.00E+00 5.00E-02 -3.00E+00 4/5/2006

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current Quarter Data								
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)		
MW358	Downgradient	No	1.05E-01	N/A	-2.25E+00	N/A		
MW361	Downgradient	Yes	7.02E-02	N/A	-2.66E+00	NO		
MW364	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A		
MW367	Downgradient	No	1.07E-01	N/A	-2.23E+00	N/A		
MW370	Upgradient	No	1.07E-01	N/A	-2.23E+00	N/A		
MW373	Upgradient	No	1.04E-01	N/A	-2.26E+00	N/A		
M/A Page	Ita identified as N	Van Dataata	during lab	aratary analyzaia	or data validatio	en and ware not		

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison pH UNITS: Std Unit LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 6.283	<b>S</b> = 0.159	<b>CV(1)=</b> 0.025	<b>K factor**=</b> 2.904	<b>TL(1)=</b> 6.74E+00 <b>LL(1)=</b> 5.82E+00
Statistics-Transformed Background Data	<b>X</b> = 1.837	<b>S</b> = 0.025	<b>CV(2)=</b> 0.014	<b>K factor**=</b> 2.904	<b>TL(2)=</b> 1.91E+00 <b>LL(2)=</b> 1.76E+00

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 6.30E+00 1.84E+00 4/23/2002 6.40E+001.86E+00 7/15/2002 6.30E+00 1.84E+00 10/8/2002 6.30E+00 1.84E+00 6.40E+00 1/8/2003 1.86E+00 4/3/2003 6.50E+00 1.87E+00 7/9/2003 6.30E+00 1.84E+00 10/6/2003 6.50E+00 1.87E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 6.00E+00 1.79E+00 4/23/2002 6.30E+00 1.84E+00 7/16/2002 6.45E+00 1.86E+00 10/8/2002 6.18E+00 1.82E+00 6.35E+00 1/7/2003 1.85E+00 4/2/2003 6.14E+00 1.81E+00 7/9/2003 6.10E+00 1.81E+00 6.00E+00 10/7/2003 1.79E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

ırrent Quarter Data
---------------------

Well No.	Gradient	Detected?	Result	Result >TL(1)? Result <ll(1)?< th=""><th>LN(Result)</th><th>LN(Result) &gt;TL(2)? LN(Result) <ll(2)?< th=""></ll(2)?<></th></ll(1)?<>	LN(Result)	LN(Result) >TL(2)? LN(Result) <ll(2)?< th=""></ll(2)?<>
MW358	Downgradient	Yes	6.34E+0	0 NO	1.85E+00	N/A
MW361	Downgradient	Yes	6.03E+0	0 NO	1.80E+00	N/A
MW364	Downgradient	Yes	6.04E+0	0 NO	1.80E+00	N/A
MW367	Downgradient	Yes	5.94E+0	0 NO	1.78E+00	N/A
MW370	Upgradient	Yes	6.20E+0	0 NO	1.82E+00	N/A
MW373	Upgradient	Yes	6.03E+0	0 NO	1.80E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Potassium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 2.823	S = 0.522	<b>CV(1)=</b> 0.185	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 4.14E+00 <b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X=</b> 1.024	<b>S</b> = 0.167	<b>CV(2)=</b> 0.163	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 1.45E+00 <b>LL(2)=</b> N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 3.22E+00 1.17E+00 4/23/2002 3.43E+00 1.23E+00 7/15/2002 2.98E+00 1.09E+00 10/8/2002 2.46E+00 9.00E-01 2.41E+00 1/8/2003 8.80E-01 4/3/2003 2.43E+00 8.88E-01 7/9/2003 2.44E+00 8.92E-01 10/6/2003 2.48E+00 9.08E-01 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 4.34E+00 1.47E+00 4/23/2002 3.04E+00 1.11E+00 2.93E+00 7/16/2002 1.08E+00 10/8/2002 2.30E+00 8.33E-01 2.45E+00 8.96E-01 1/7/2003 4/2/2003 2.70E+00 9.93E-01 7/9/2003 2.68E+00 9.86E-01 10/7/2003 2.88E+00 1.06E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >	TL(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	t Yes	3.28E+00	) NO	1.19E+00	N/A
MW361	Downgradient	t Yes	2.55E+00	) NO	9.36E-01	N/A
MW364	Downgradient	t Yes	1.98E+00	) NO	6.83E-01	N/A
MW367	Downgradient	t Yes	2.70E+00	) NO	9.93E-01	N/A
MW370	Upgradient	Yes	2.55E+00	) NO	9.36E-01	N/A
MW373	Upgradient	Yes	2.62E+00	) NO	9.63E-01	N/A
3.7/4 B						

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Sodium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 51.544 S= 15.227 CV(1)=0.295 K factor\*\*= 2.523 TL(1)=9.00E+01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= 3.906 S= 0.272 CV(2)=0.070 K factor\*\*= 2.523 TL(2)=4.59E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 3.18E+01 3.46E+00 4/23/2002 5.00E+01 3.91E+00 7/15/2002 4.47E+01 3.80E+00 10/8/2002 4.00E+01 3.69E+00 4.46E+01 1/8/2003 3.80E+00 4/3/2003 4.19E+01 3.74E+007/9/2003 4.00E+01 3.69E+00 10/6/2003 3.81E+01 3.64E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 4.34E+01 3.77E+00 4/23/2002 7.98E+01 4.38E+00 8.77E+01 7/16/2002 4.47E+00 10/8/2002 6.16E+01 4.12E+00 1/7/2003 5.93E+01 4.08E+00 4/2/2003 6.21E+01 4.13E+00 7/9/2003 5.01E+01 3.91E+00 4.96E+01 10/7/2003 3.90E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >	TL(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.46E+01	NO	3.54E+00	N/A
MW361	Downgradient	t Yes	4.94E+01	NO	3.90E+00	N/A
MW364	Downgradient	Yes	4.46E+01	NO	3.80E+00	N/A
MW367	Downgradient	t Yes	1.57E+01	NO	2.75E+00	N/A
MW370	Upgradient	Yes	4.72E+01	NO	3.85E+00	N/A
MW373	Upgradient	Yes	6.37E+01	NO	4.15E+00	N/A
3.T/4 D	1 1				4 . 4 . 4	

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Sulfate UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 122.381
 S= 195.095
 CV(1)=1.594
 K factor\*\*= 2.523
 TL(1)= 6.15E+02
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 3.985
 S= 1.323
 CV(2)=0.332
 K factor\*\*= 2.523
 TL(2)= 7.32E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.74E+01 2.86E+00 4/23/2002 3.79E+01 3.63E+00 7/15/2002 1.57E+01 2.75E+00 10/8/2002 1.34E+01 2.60E+00 1.44E+01 1/8/2003 2.67E+004/3/2003 1.81E+01 2.90E+00 7/9/2003 9.60E+00 2.26E+00 10/6/2003 1.65E+01 2.80E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.63E+02 5.10E+00 4/23/2002 8.10E+02 6.70E+00 1.09E+02 7/16/2002 4.70E+0010/8/2002 1.11E+02 4.71E+00 1/7/2003 1.14E+02 4.73E+00 4/2/2003 1.33E+02 4.89E+00 7/9/2003 1.82E+02 5.20E+00 1.93E+02 10/7/2003 5.26E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1)	? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	t Yes	2.76E+01	N/A	3.32E+00	NO
MW361	Downgradient	t Yes	8.30E+01	N/A	4.42E+00	NO
MW364	Downgradient	Yes	6.82E+01	N/A	4.22E+00	NO
MW367	Downgradient	t Yes	1.95E+01	N/A	2.97E+00	NO
MW370	Upgradient	Yes	1.93E+01	N/A	2.96E+00	NO
MW373	Upgradient	Yes	1.94E+02	N/A	5.27E+00	NO
NI/A D	1, 11, 20, 1, 3	M D	1 . 11	1 1	1.4 11.1.4	1 .

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Technetium-99 UNITS: pCi/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 7.655
 S= 13.274 CV(1)=1.734
 K factor\*\*= 2.523 TL(1)= 4.11E+01 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 1.946 S= 0.939 CV(2)=0.483 K factor\*\*= 2.523 TL(2)= 3.83E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.08E+01 2.38E+00 4/23/2002 8.53E+00 2.14E+00 7/15/2002 5.09E+00 1.63E+00 10/8/2002 4.78E+00 1.56E+00 -5.12E+00 #Func! 1/8/2003 4/3/2003 5.11E+00 1.63E+00 7/9/2003 4.25E+00 1.45E+00 10/6/2003 6.54E+00 1.88E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.65E+01 2.80E+00 4/23/2002 3.49E+00 1.25E+00 7/16/2002 1.42E+00 3.51E-01 10/8/2002 -6.06E+00 #Func! 1/7/2003 -8.41E+00 #Func! 4/2/2003 2.63E+01 3.27E+00 7/9/2003 3.06E+00 1.12E+00 10/7/2003 4.62E+01 3.83E+00

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

#Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

	Current	Quarter Data					
	Well No.	Gradient	Detected?	Result Re	esult >TL(1)	? LN(Result)	LN(Result) >TL(2)
,	MW358	Downgradient	No	1.75E+01	N/A	2.86E+00	N/A
	MW361	Downgradient	Yes	5.43E+01	N/A	3.99E+00	YES
	MW364	Downgradient	Yes	4.81E+01	N/A	3.87E+00	YES
	MW367	Downgradient	No	-6.79E+00	N/A	#Error	N/A
	MW370	Upgradient	No	1.03E+01	N/A	2.33E+00	N/A
	MW373	Upgradient	No	6.70E+00	N/A	1.90E+00	N/A
	NI/A D		J D.44.			4.41:4.4:.	

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

### **Conclusion of Statistical Analysis on Historical Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to historical background data.

Wells with Exceedances

MW361 MW364

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Total Organic Carbon (TOC) UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 6.169
 S= 12.072
 CV(1)=1.957 K factor\*\*= 2.523
 TL(1)=3.66E+01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= 1.069
 S= 1.014
 CV(2)=0.948 K factor\*\*= 2.523
 TL(2)=3.63E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.20E+00 1.82E-01 4/23/2002 4.30E+00 1.46E+00 7/15/2002 2.60E+00 9.56E-01 10/8/2002 2.30E+00 8.33E-01 3.00E+00 1/8/2003 1.10E+00 4/3/2003 1.20E+00 1.82E-01 7/9/2003 2.60E+00 9.56E-01 10/6/2003 1.70E+00 5.31E-01 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.10E+00 9.53E-02 4/23/2002 1.75E+01 2.86E+00 4.90E+01 7/16/2002 3.89E+00 10/8/2002 2.90E+00 1.06E+00 1/7/2003 3.90E+00 1.36E+00 4/2/2003 2.50E+00 9.16E-01 7/9/2003 1.70E+00 5.31E-01 1.20E+00 10/7/2003 1.82E-01

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	4.70E+00	) N/A	1.55E+00	NO
MW361	Downgradient	Yes	7.29E-01	N/A	-3.16E-01	NO
MW364	Downgradient	Yes	4.97E-01	N/A	-6.99E-01	NO
MW367	Downgradient	No	2.00E+00	) N/A	6.93E-01	N/A
MW370	Upgradient	Yes	8.05E-01	N/A	-2.17E-01	NO
MW373	Upgradient	Yes	1.37E+00	) N/A	3.15E-01	NO
N/A - Recu	ulte identified on N	Von Detecto	during lab	orotory analysis	or data validatio	n and were not

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Total Organic Halides (TOX) UNITS: ug/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 79.819
 S= 78.470
 CV(1)=0.983
 K factor\*\*= 2.523
 TL(1)= 2.78E+02
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 3.971
 S= 0.950
 CV(2)=0.239
 K factor\*\*= 2.523
 TL(2)= 6.37E+00
 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 5.00E+01 3.91E+00 4/23/2002 2.28E+02 5.43E+00 7/15/2002 8.80E+01 4.48E+00 10/8/2002 5.80E+01 4.06E+00 7.24E+01 1/8/2003 4.28E+00 4/3/2003 2.66E+013.28E+00 7/9/2003 1.64E+01 2.80E+00 10/6/2003 3.11E+01 3.44E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 5.00E+01 3.91E+00 4/23/2002 2.76E+02 5.62E+00 1.77E+02 7/16/2002 5.18E+00 10/8/2002 7.60E+01 4.33E+00 1/7/2003 4.59E+01 3.83E+00 4/2/2003 5.78E+01 4.06E+00 7/9/2003 1.00E+01 2.30E+00 1.39E+01 10/7/2003 2.63E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL	(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	8.66E+00	) NO	2.16E+00	N/A
MW361	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW364	Downgradient	Yes	5.24E+00	) NO	1.66E+00	N/A
MW367	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW370	Upgradient	Yes	1.44E+01	NO	2.67E+00	N/A
MW373	Upgradient	Yes	1.43E+01	NO	2.66E+00	N/A
AT/A D	1 1					

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Vanadium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.024 S= 0.008 CV(1)=0.324 K factor\*\*= 2.523 TL(1)=4.44E-02 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -3.749 S= 0.265 CV(2)=-0.071 K factor\*\*= 2.523 TL(2)=-3.08E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 3.50E-02 -3.35E+00 4/23/2002 3.30E-02 -3.41E+00 7/15/2002 2.50E-02 -3.69E+00 10/8/2002 2.00E-02 -3.91E+00 2.00E-02 1/8/2003 -3.91E+00 4/3/2003 2.00E-02 -3.91E+00 7/9/2003 2.00E-02 -3.91E+00 10/6/2003 2.00E-02 -3.91E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 4.80E-02 -3.04E+00 4/23/2002 2.50E-02 -3.69E+00 2.50E-02 7/16/2002 -3.69E+00 10/8/2002 2.00E-02 -3.91E+00 1/7/2003 2.00E-02 -3.91E+00 4/2/2003 2.00E-02 -3.91E+00 7/9/2003 2.00E-02 -3.91E+00 2.00E-02 -3.91E+00 10/7/2003

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(1	1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	No	4.76E-03	N/A	-5.35E+00	N/A
MW361	Downgradient	No	4.88E-03	N/A	-5.32E+00	N/A
MW364	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW367	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW370	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW373	Upgradient	Yes	7.15E-03	NO	-4.94E+00	N/A
3.7/4 B	1 1					•

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

## C-746-U First Quarter 2024 Statistical Analysis Historical Background Comparison Zinc UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is evidence of an exceedance of the statistically-derived historical background concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.055 S= 0.037 CV(1)=0.673 K factor\*\*= 2.523 TL(1)=1.47E-01 LL(1)=N/A 

 Statistics-Transformed Background Data
 X= -3.131 S= 0.691 CV(2)=-0.221 K factor\*\*= 2.523 TL(2)=-1.39E+00 LL(2)=N/A 

Historical Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 3/17/2002 1.00E-01 -2.30E+00 4/23/2002 1.00E-01 -2.30E+00 7/15/2002 1.00E-01 -2.30E+00 10/8/2002 2.50E-02 -3.69E+00 3.50E-02 1/8/2003 -3.35E+00 4/3/2003 3.50E-02 -3.35E+00 7/9/2003 2.00E-02 -3.91E+00 10/6/2003 2.00E-02 -3.91E+00 Well Number: MW373 Date Collected Result LN(Result) 3/18/2002 1.00E-01 -2.30E+00 -2.30E+00 4/23/2002 1.00E-01 1.00E-01 7/16/2002 -2.30E+00 10/8/2002 2.50E-02 -3.69E+00 1/7/2003 3.50E-02 -3.35E+00 4/2/2003 3.50E-02 -3.35E+00 7/9/2003 2.34E-02 -3.76E+00 2.00E-02 10/7/2003 -3.91E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter Data					
Well No.	Gradient	Detected?	Result	Result >TL(	(1)? LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	t Yes	8.26E-03	NO	-4.80E+00	N/A
MW361	Downgradient	t No	2.00E-02	N/A	-3.91E+00	N/A
MW364	Downgradient	t Yes	1.59E-02	NO	-4.14E+00	N/A
MW367	Downgradient	t Yes	1.09E-02	NO	-4.52E+00	N/A
MW370	Upgradient	Yes	3.33E-03	NO	-5.70E+00	N/A
MW373	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A

N/A - Results identified as Non-Detects during laboratory analysis or data validation and were not included in the statistical evaluation. Additionally for parameters that have MCLs, where the result for a well did not exceed the MCL value, that well was not included in the statistical evaluation.

#### **Conclusion of Statistical Analysis on Historical Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from historical background concentrations to a statistically-significant level.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

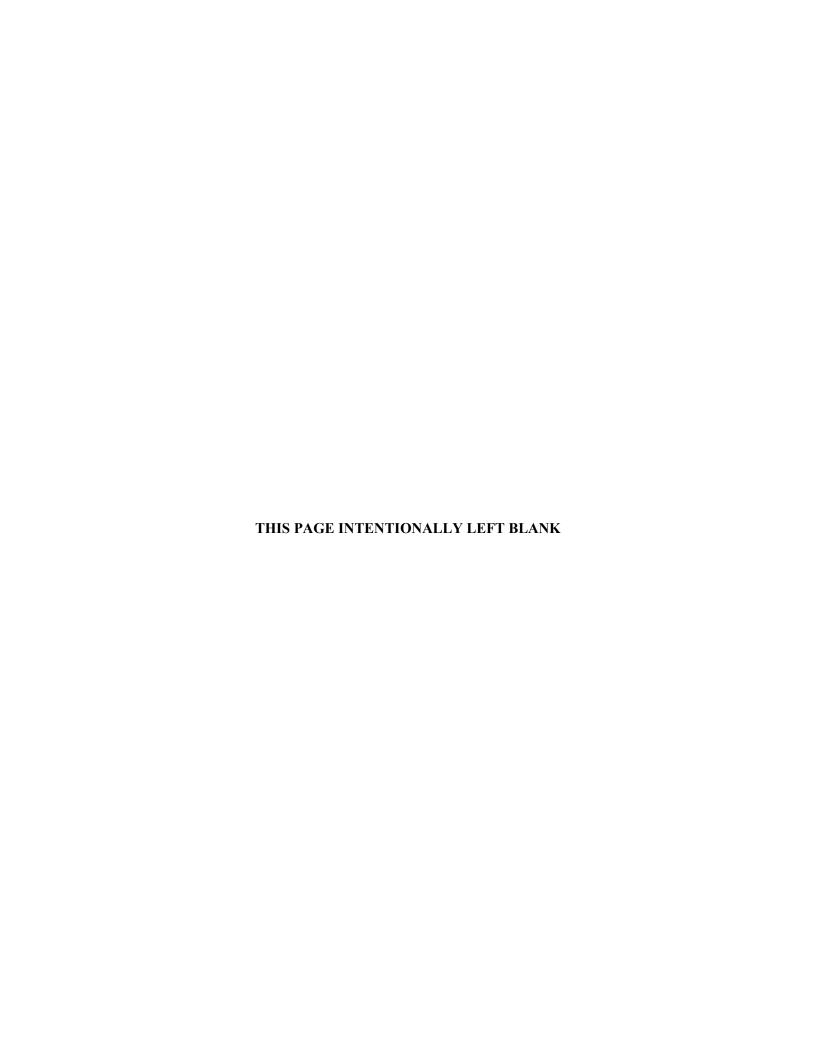
TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **ATTACHMENT D2**

# COMPARISON OF CURRENT DATA TO ONE-SIDED UPPER TOLERANCE INTERVAL TEST CALCULATED USING CURRENT BACKGROUND DATA



### **Current Background Comparison**

Magnesium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 10.413
 S= 5.510
 CV(1)=0.529
 K factor\*\*= 2.523
 TL(1)= 2.43E+01
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 2.216
 S= 0.514
 CV(2)=0.232
 K factor\*\*= 2.523
 TL(2)= 3.51E+00
 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW371 Date Collected Result LN(Result) 1/12/2022 1.79E+01 2.88E+00 4/12/2022 8.52E+00 2.14E+00 7/14/2022 1.45E+01 2.67E+00 10/11/2022 1.84E+01 2.91E+00 1/19/2023 1.95E+01 2.97E+00 4/25/2023 9.13E+00 2.21E+00 7/25/2023 1.45E+01 2.67E+0010/11/2023 1.73E+01 2.85E+00 Well Number: MW374 Date Collected Result LN(Result) 1/13/2022 5.62E+00 1.73E+00 4/12/2022 5.25E+00 1.66E+00 7/14/2022 5.96E+00 1.79E+00 10/11/2022 6.14E+00 1.81E+00 1/19/2023 5.88E+00 1.77E+00 4/25/2023 6.31E+00 1.84E+00 5.79E+00 7/25/2023 1.76E+00 10/11/2023 5.90E+00 1.77E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

**UCRS** 

Current	<b>Ouarter</b>	Data

W	Vell No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
_ N	MW371	Ungradient	Yes	2.03E+0	1 NO	3.01E±00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### Current Background Comparison

**Oxidation-Reduction Potential** 

**UCRS** 

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**UNITS: mV** 

Statistics-Background Data	<b>X</b> = 355.313	3 <b>S</b> = 72.739	<b>CV(1)=</b> 0.205	<b>K factor**=</b> 2.523	TL(1)= 5.39E+02 LL(1)=N/A
Statistics-Transformed Background Data	<b>X</b> = 5.846	<b>S</b> = 0.262	<b>CV(2)</b> =0.045	K factor**= 2.523	<b>TL(2)=</b> 6.51E+00 <b>LL(2)=</b> N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW371 Date Collected Result LN(Result) 1/12/2022 3.89E+02 5.96E+00 4/12/2022 3.75E+02 5.93E+00 7/14/2022 3.78E+02 5.93E+00 4.09E+02 10/11/2022 6.01E+00 1/19/2023 4.20E+02 6.04E+00 4/25/2023 4.04E+02 6.00E+00 7/25/2023 3.72E+02 5.92E+00 10/11/2023 3.76E+02 5.93E+00 Well Number: MW374 Date Collected Result LN(Result) 1/13/2022 1.92E+02 5.26E+00 4/12/2022 3.53E+02 5.87E+00 7/14/2022 3.45E+02 5.84E+00 10/11/2022 3.30E+02 5.80E+00 1/19/2023 1.72E+02 5.15E+00 4/25/2023 4.21E+02 6.04E+00 3.51E+02 7/25/2023 5.86E+00 10/11/2023 3.98E+02 5.99E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	<b>Ouarter</b>	Data
Cultunt	Quarter	Data

Well No.	Gradient	Detected?	Result	Result $>$ TL(1)?	LN(Result)	LN(Result) >TL(2)
MW362	Downgradien	t Yes	4.37E+0	2 NO	6.08E+00	N/A
MW371	Upgradient	Yes	4.52E+0	2 NO	6.11E+00	N/A
MW374	Upgradient	Yes	4.55E+0	2 NO	6.12E+00	N/A
MW375	Sidegradient	Yes	3.73E+0	2 NO	5.92E+00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Sulfate UNITS: mg/L UCRS

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 22.650	<b>S</b> = 18.037	<b>CV(1)=</b> 0.796	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 6.82E+01	<b>LL(1)=</b> N/A
Statistics-Transformed Background Data	<b>X</b> = 2.937	<b>S</b> = 0.553	<b>CV(2)</b> =0.188	<b>K factor**=</b> 2.523	<b>TL(2)</b> = 4.33E+00	<b>LL(2)=</b> N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number:	MW371	
Date Collected	Result	LN(Result)
1/12/2022	1.43E+01	2.66E+00
4/12/2022	7.54E+01	4.32E+00
7/14/2022	2.87E+01	3.36E+00
10/11/2022	1.18E+01	2.47E+00
1/19/2023	1.20E+01	2.48E+00
4/25/2023	5.69E+01	4.04E+00
7/25/2023	2.86E+01	3.35E+00
10/11/2023	1.58E+01	2.76E+00
Well Number:	MW374	
Well Number: Date Collected	MW374 Result	LN(Result)
		LN(Result) 2.52E+00
Date Collected	Result	
Date Collected 1/13/2022	Result 1.24E+01	2.52E+00
Date Collected 1/13/2022 4/12/2022	Result 1.24E+01 1.64E+01	2.52E+00 2.80E+00
Date Collected 1/13/2022 4/12/2022 7/14/2022	Result 1.24E+01 1.64E+01 1.67E+01	2.52E+00 2.80E+00 2.82E+00
Date Collected 1/13/2022 4/12/2022 7/14/2022 10/11/2022	Result 1.24E+01 1.64E+01 1.67E+01 1.32E+01	2.52E+00 2.80E+00 2.82E+00 2.58E+00
Date Collected 1/13/2022 4/12/2022 7/14/2022 10/11/2022 1/19/2023	Result 1.24E+01 1.64E+01 1.67E+01 1.32E+01 1.39E+01	2.52E+00 2.80E+00 2.82E+00 2.58E+00 2.63E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter D	)ata
-------------------	------

Well No.	Gradient	Detected?	Result	Result $>$ TL(1)?	LN(Result)	LN(Result) >TL(2)
MW374	Upgradient	Yes	1.54E+0	l NO	2.73E+00	N/A
MW375	Sidegradient	Yes	2.27E+0	l NO	3.12E+00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Calcium UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X=</b> 39.331	<b>S</b> = 24.117	<b>CV(1)=</b> 0.613	<b>K factor**=</b> 2.523	TL(1)= 1.00E+02 LL(1)=N/A
Statistics-Transformed Background Data	<b>X</b> = 3.455	<b>S</b> = 0.704	<b>CV(2)</b> =0.204	<b>K factor**=</b> 2.523	TL(2)= 5.23E+00 LL(2)=N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW369 Date Collected Result LN(Result) 1/12/2022 1.63E+01 2.79E+004/12/2022 1.65E+01 2.80E+00 7/14/2022 1.57E+01 2.75E+00 1.60E+01 10/11/2022 2.77E+00 1/19/2023 1.60E+01 2.77E+00 4/24/2023 1.60E+01 2.77E+00 7/25/2023 1.57E+01 2.75E+00 10/11/2023 1.60E+01 2.77E+00 Well Number: MW372 Date Collected Result LN(Result) 1/13/2022 6.70E+01 4.20E+00 4/12/2022 6.11E+01 4.11E+00 7/14/2022 6.26E+01 4.14E+00 10/11/2022 6.22E+01 4.13E+00 1/19/2023 6.06E+01 4.10E+00 4/25/2023 6.20E+01 4.13E+00 7/25/2023 6.10E+01 4.11E+00 10/11/2023 6.46E+01 4.17E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Quarter	Data
---------	---------	------

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Ungradient	Yes	7.14E±0	1 NO	4.27E±00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Conductivity UNITS: umho/cm

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 570.875
 S= 206.229
 CV(1)=0.361
 K factor\*\*= 2.523
 TL(1)= 1.09E+03
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 6.282
 S= 0.376
 CV(2)=0.060
 K factor\*\*= 2.523
 TL(2)= 7.23E+00
 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 1/12/2022 3.59E+02 5.88E+00 4/12/2022 3.78E+02 5.93E+00 7/14/2022 3.71E+02 5.92E+00 4.85E+02 10/11/2022 6.18E+00 1/19/2023 3.59E+02 5.88E+00 4/24/2023 3.75E+02 5.93E+00 7/25/2023 3.50E+02 5.86E+00 10/11/2023 3.45E+02 5.84E+00 Well Number: MW372 Date Collected Result LN(Result) 1/13/2022 7.52E+02 6.62E+00 4/12/2022 7.38E+02 6.60E+007/14/2022 7.15E+02 6.57E+00 10/11/2022 9.14E+02 6.82E+001/19/2023 7.54E+02 6.63E+00 4/25/2023 7.33E+02 6.60E+00 7.59E+02 7/25/2023 6.63E+00 10/11/2023 7.47E+02 6.62E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

**URGA** 

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Unoradient	Yes	7 27E+0	2 NO	6.59E±00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

**Dissolved Solids** UNITS: mg/L **URGA** 

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**Statistics-Background Data** 

X = 324.563 S = 132.044 CV(1) = 0.407

**K** factor\*\*= 2.523

TL(1) = 6.58E + 02 LL(1) = N/A

**Statistics-Transformed Background Data** 

S = 0.430X = 5.698CV(2) = 0.076 K factor\*\*= 2.523

TL(2)=6.78E+00 LL(2)=N/A

**Current Background Data from Upgradient** Wells with Transformed Result

Well Number: MW369 Date Collected Result LN(Result) 1/12/2022 2.00E+02 5.30E+00 4/12/2022 2.34E+02 5.46E+00 7/14/2022 1.96E+02 5.28E+00 2.12E+02 10/11/2022 5.36E+00 1/19/2023 1.86E+02 5.23E+00 4/24/2023 1.93E+02 5.26E+00 7/25/2023 1.75E+02 5.16E+00 10/11/2023 1.92E+02 5.26E+00

Well Number: MW372 Date Collected Result LN(Result) 1/13/2022 5.06E+02 6.23E+00 4/12/2022 4.57E+02 6.12E+007/14/2022 4.61E+02 6.13E+00 10/11/2022 4.55E+02 6.12E+00 4.28E+02 1/19/2023 6.06E+004/25/2023 4.28E+02 6.06E+00 4.23E+02 7/25/2023 6.05E+00 10/11/2023 4.47E+02 6.10E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current Quarter Data

V	Vell No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
-	MW372	Ungradient	Yes	4 38E+0	2 NO	6.08E±00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5 S
- TL Upper Tolerance Limit, TL = X + (K \* S), Mean, X = (sum of background results)/(count of background results)
- LL Lower Tolerance Limit, LL = X (K \* S)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Magnesium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X=</b> 14.421	<b>S</b> = 8.016	<b>CV(1)=</b> 0.556	<b>K factor**=</b> 2.523	<b>TL(1)=</b> 3.46E+01	LL(1)=N/A
Statistics-Transformed Background Data	<b>X</b> = 2.498	<b>S</b> = 0.621	<b>CV(2)</b> =0.248	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 4.06E+00	<b>LL(2)=</b> N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW369 Date Collected LN(Result) Result 1/12/2022 6.84E+00 1.92E+00 4/12/2022 6.89E+00 1.93E+00 7/14/2022 6.84E+00 1.92E+00 10/11/2022 6.84E+00 1.92E+00 1/19/2023 6.56E+00 1.88E+00 4/24/2023 6.87E+00 1.93E+00 7/25/2023 6.17E+001.82E+00 10/11/2023 6.42E+00 1.86E+00 Well Number: MW372 Date Collected Result LN(Result) 1/13/2022 2.28E+01 3.13E+00 4/12/2022 2.20E+01 3.09E+007/14/2022 2.27E+01 3.12E+00 10/11/2022 2.17E+013.08E+00 1/19/2023 2.19E+01 3.09E+00 4/25/2023 2.35E+01 3.16E+00 7/25/2023 2.11E+01 3.05E+00 10/11/2023 2.16E+01 3.07E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

**URGA** 

	Current	Ouarter	Data
--	---------	---------	------

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Ungradient	Yes	2.51E±0	1 NO	3.22E±00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

**Oxidation-Reduction Potential** 

URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

**UNITS: mV** 

Statistics-Background Data	<b>X</b> = 406.625 <b>S</b> = 34.469	<b>CV(1)=</b> 0.085	<b>K factor**=</b> 2.523	TL(1)= 4.94E+02 LL(1)=N/A
Statistics-Transformed Background Data	<b>X</b> = 6.005 <b>S</b> = 0.084	<b>CV(2)=</b> 0.014	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 6.22E+00 <b>LL(2)=</b> N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW369 Date Collected LN(Result) Result 1/12/2022 3.92E+02 5.97E+00 4/12/2022 3.82E+02 5.95E+00 7/14/2022 4.20E+02 6.04E+00 10/11/2022 4.06E+02 6.01E+00 1/19/2023 4.80E+02 6.17E+00 4/24/2023 4.39E+02 6.08E+00 7/25/2023 4.06E+02 6.01E+00 10/11/2023 3.85E+02 5.95E+00 Well Number: MW372 Date Collected Result LN(Result) 1/13/2022 3.76E+02 5.93E+00 4.02E+02 4/12/2022 6.00E+007/14/2022 4.02E+02 6.00E+00 10/11/2022 4.16E+02 6.03E+004.03E+02 1/19/2023 6.00E+00 4/25/2023 4.70E+02 6.15E+00 3.87E+02 7/25/2023 5.96E+00 10/11/2023 3.40E+02 5.83E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Ouarter	Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradien	t Yes	4.51E+02	2 NO	6.11E+00	N/A
MW360	Downgradien	t Yes	4.80E+02	2 NO	6.17E+00	N/A
MW363	Downgradien	t Yes	3.63E+02	2 NO	5.89E+00	N/A
MW366	Downgradien	t Yes	3.48E+02	2 NO	5.85E+00	N/A
MW369	Upgradient	Yes	4.23E+02	2 NO	6.05E+00	N/A
MW372	Upgradient	Yes	4.83E+02	2 NO	6.18E+00	N/A

### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Sulfate UNITS: mg/L URGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X=</b> 75.220	<b>S</b> = 69.494	<b>CV(1)=</b> 0.924	<b>K factor**=</b> 2.523	TL(1)= 2.51E+02 LL(1)=N/A
Statistics-Transformed Background Data	<b>X</b> = 3.521	<b>S</b> = 1.484	<b>CV(2)</b> =0.422	<b>K factor**=</b> 2.523	TL(2)= 7.27E+00 LL(2)=N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW369 Date Collected Result LN(Result) 1/12/2022 7.80E+002.05E+00 4/12/2022 8.93E+00 2.19E+00 7/14/2022 8.16E+00 2.10E+00 8.07E+00 10/11/2022 2.09E+00 1/19/2023 7.93E+00 2.07E+00 4/24/2023 7.00E+00 1.95E+00 7/25/2023 7.91E+00 2.07E+0010/11/2023 8.72E+00 2.17E+00 Well Number: MW372 Date Collected Result LN(Result) 1/13/2022 1.45E+02 4.98E+00 4/12/2022 1.44E+02 4.97E+00 7/14/2022 1.45E+02 4.98E+00 10/11/2022 1.31E+02 4.88E+00 1/19/2023 1.35E+02 4.91E+00 4/25/2023 1.51E+02 5.02E+00 1.45E+02 7/25/2023 4.98E+00 10/11/2023 1.43E+02 4.96E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Unoradient	Ves	1.48E±03	2 NO	5.00E±00	N/A

### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Calcium UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	<b>X</b> = 49.381	<b>S</b> = 20.747	<b>CV(1)=</b> 0.420	<b>K factor**=</b> 2.523	TL(1)= 1.02E+02 LL(1)=N/A
Statistics-Transformed Background Data	<b>X</b> = 3.812	<b>S</b> = 0.437	<b>CV(2)=</b> 0.115	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 4.91E+00 <b>LL(2)=</b> N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW370 Date Collected Result LN(Result) 1/12/2022 3.00E+01 3.40E+00 4/12/2022 3.05E+01 3.42E+00 7/14/2022 2.92E+01 3.37E+00 10/11/2022 2.89E+01 3.36E+00 1/19/2023 3.05E+01 3.42E+00 4/24/2023 3.09E+01 3.43E+00 7/25/2023 2.93E+01 3.38E+00 10/11/2023 2.90E+01 3.37E+00 Well Number: MW373 Date Collected Result LN(Result) 1/13/2022 6.72E+01 4.21E+00 4/12/2022 6.28E+01 4.14E+00 7/14/2022 6.28E+01 4.14E+00 10/11/2022 6.56E+01 4.18E+00 1/19/2023 6.46E+01 4.17E+00 4/25/2023 7.11E+01 4.26E+00 7.87E+01 7/25/2023 4.37E+00 10/11/2023 7.90E+01 4.37E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Ouarter	Data
Current	Quarter	Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW373	Ungradient	Yes	8.40E+0	1 NO	4.43E±00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Dissolved Oxygen UNITS: mg/L

LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 3.268	<b>S</b> = 1.122	<b>CV(1)=</b> 0.343	<b>K</b> factor**= 2.523	<b>TL(1)=</b> 6.10E+00 <b>LL</b> (	(1)=N/A
Statistics-Transformed Background Data	<b>X=</b> 1.125	<b>S</b> = 0.362	<b>CV(2)</b> =0.322	<b>K factor**=</b> 2.523	TL(2)= 2.04E+00 LL(	(2)=N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW370 Date Collected Result LN(Result) 1/12/2022 4.36E+00 1.47E+00 4/12/2022 3.45E+00 1.24E+00 7/14/2022 4.73E+00 1.55E+00 10/11/2022 4.80E+00 1.57E+00 1/19/2023 4.00E+00 1.39E+00 4/24/2023 4.26E+00 1.45E+00 7/25/2023 4.01E+00 1.39E+00 10/11/2023 4.64E+00 1.53E+00 Well Number: MW373 Date Collected Result LN(Result) 1/13/2022 2.72E+00 1.00E+00 4/12/2022 2.79E+00 1.03E+00 7/14/2022 2.42E+00 8.84E-01 10/11/2022 2.31E+00 8.37E-01 1/19/2023 2.11E+00 7.47E-01 4/25/2023 2.00E+00 6.93E-01 1.69E+00 7/25/2023 5.25E-01 10/11/2023 2.00E+00 6.93E-01

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Current	Ouarter	Data
Current	Quarter	Data

Į	Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
	MW370	Ungradient	Yes	4.65E±0	0 NO	1.54E±00	N/A

### **Conclusion of Statistical Analysis on Current Data**

None of the test wells exceeded the Upper Tolerance Limit, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically-significant level.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Nickel UNITS: mg/L LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 0.001
 S= 0.001
 CV(1)=0.472
 K factor\*\*= 2.523
 TL(1)= 3.14E-03
 LL(1)=N/A

 Statistics-Transformed Background Data
 X= -6.653
 S= 0.474
 CV(2)=-0.071
 K factor\*\*= 2.523
 TL(2)= -5.46E+00
 LL(2)=N/A

**Current Background Data from Upgradient Wells with Transformed Result** 

Well Number: MW370 Date Collected Result LN(Result) 1/12/2022 7.92E-04 -7.14E+00 4/12/2022 8.34E-04 -7.09E+00 7/14/2022 9.09E-04 -7.00E+00 1.00E-03 -6.91E+00 10/11/2022 1/19/2023 7.91E-04 -7.14E+00 4/24/2023 2.00E-03 -6.21E+00 7/25/2023 7.52E-04 -7.19E+00 10/11/2023 2.00E-03 -6.21E+00 Well Number: MW373 Date Collected Result LN(Result) 1/13/2022 2.48E-03 -6.00E+00 4/12/2022 7.96E-04 -7.14E+00 7/14/2022 2.66E-03 -5.93E+00 10/11/2022 2.18E-03 -6.13E+00 1/19/2023 1.45E-03 -6.54E+00 4/25/2023 8.29E-04 -7.10E+00 -6.39E+00 7/25/2023 1.68E-03 10/11/2023 1.79E-03 -6.33E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

**Current Quarter Data** 

Well No. Gradient Detected? Result Result >TL(1)? LN(Result) LN(Result) >TL(2)

MW358 Downgradient Yes 9.07E-02 YES -2.40E+00 N/A

#### **Conclusion of Statistical Analysis on Current Data**

Wells with Exceedances
MW358

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to current background data.

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

- S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$
- TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X (K \* S)
- X Mean, X = (sum of background results)/(count of background results)

<sup>\*\*</sup> Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/, 2009.

### UNITS: mV

**Current Background Comparison** 

**Oxidation-Reduction Potential** 

LRGA

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

 Statistics-Background Data
 X= 402.000 S= 37.370 CV(1)=0.093
 K factor\*\*= 2.523 TL(1)= 4.96E+02 LL(1)=N/A

 Statistics-Transformed Background Data
 X= 5.992 S= 0.093 CV(2)=0.016
 K factor\*\*= 2.523 TL(2)= 6.23E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW370 Date Collected Result LN(Result) 1/12/2022 4.02E+02 6.00E+00 4/12/2022 3.90E+02 5.97E+00 7/14/2022 4.15E+02 6.03E+00 4.27E+02 10/11/2022 6.06E+001/19/2023 4.68E+02 6.15E+00 4/24/2023 4.60E+02 6.13E+00 7/25/2023 3.88E+02 5.96E+00 10/11/2023 3.27E+02 5.79E+00 Well Number: MW373 Date Collected Result LN(Result) 1/13/2022 3.76E+02 5.93E+00 4/12/2022 3.99E+02 5.99E+00 7/14/2022 3.82E+02 5.95E+00 10/11/2022 4.01E+02 5.99E+00 3.99E+02 1/19/2023 5.99E+00 4/25/2023 4.57E+02 6.12E+00 3.84E+02 7/25/2023 5.95E+00 10/11/2023 3.57E+02 5.88E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

#### **Current Quarter Data**

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradien	t Yes	1.67E+0	2 NO	5.12E+00	N/A
MW361	Downgradien	t Yes	3.20E+0	2 NO	5.77E+00	N/A
MW364	Downgradien	t Yes	5.20E+02	2 YES	6.25E+00	N/A
MW367	Downgradien	t Yes	2.95E+0	2 NO	5.69E+00	N/A
MW370	Upgradient	Yes	5.30E+02	2 YES	6.27E+00	N/A
MW373	Upgradient	Yes	4.93E+0	2 NO	6.20E+00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to current background data.

Wells with Exceedances

MW364 MW370

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

\*\* Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

### **Current Background Comparison**

Technetium-99 UNITS: pCi/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well. For pH only, the current test well results are compared to the TL and LL. If the test well result for pH exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Statistics-Background Data	X = 17.513	<b>S</b> = 8.151	CV(1) = 0.465	K factor**= 2.523	<b>TL(1)=</b> 3.81E+01	LL(1)=N/A
Statistics-Transformed Background Data	<b>X=</b> 2.876	<b>S</b> = 0.356	<b>CV(2)</b> =0.124	<b>K factor**=</b> 2.523	<b>TL(2)=</b> 3.42E+00	<b>LL(2)=</b> N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number:	MW370	
Date Collected	Result	LN(Result)
1/12/2022	2.56E+01	3.24E+00
4/12/2022	2.34E+01	3.15E+00
7/14/2022	2.40E+01	3.18E+00
10/11/2022	2.09E+01	3.04E+00
1/19/2023	3.07E+01	3.42E+00
4/24/2023	2.83E+01	3.34E+00
7/25/2023	2.03E+01	3.01E+00
10/11/2023	1.86E+01	2.92E+00
Well Number:	MW373	
Well Number:  Date Collected	MW373 Result	LN(Result)
		LN(Result) 2.42E+00
Date Collected	Result	
Date Collected 1/13/2022	Result 1.12E+01	2.42E+00
Date Collected 1/13/2022 4/12/2022	Result 1.12E+01 1.48E+01	2.42E+00 2.69E+00
Date Collected 1/13/2022 4/12/2022 7/14/2022	Result 1.12E+01 1.48E+01 9.69E+00	2.42E+00 2.69E+00 2.27E+00
Date Collected 1/13/2022 4/12/2022 7/14/2022 10/11/2022	Result 1.12E+01 1.48E+01 9.69E+00 -1.78E+00	2.42E+00 2.69E+00 2.27E+00 #Func!
Date Collected 1/13/2022 4/12/2022 7/14/2022 10/11/2022 1/19/2023	Result 1.12E+01 1.48E+01 9.69E+00 -1.78E+00 1.25E+01	2.42E+00 2.69E+00 2.27E+00 #Func! 2.53E+00

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

LRGA

#Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

Current Quarter Da	ta
--------------------	----

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW361	Downgradien	t Yes	5.43E+0	1 YES	3.99E+00	N/A
MW364	Downgradien	t Yes	4.81E+0	1 YES	3.87E+00	N/A

#### **Conclusion of Statistical Analysis on Current Data**

The test well(s) listed exceeded the Upper Tolerance Limit, which is evidence of elevated concentration with respect to current background data.

Wells with Exceedances

MW361 MW364

NOTE: For UCRS wells, background ("upgradient") wells are those located in the same direction as RGA wells located upgradient from the landfill.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

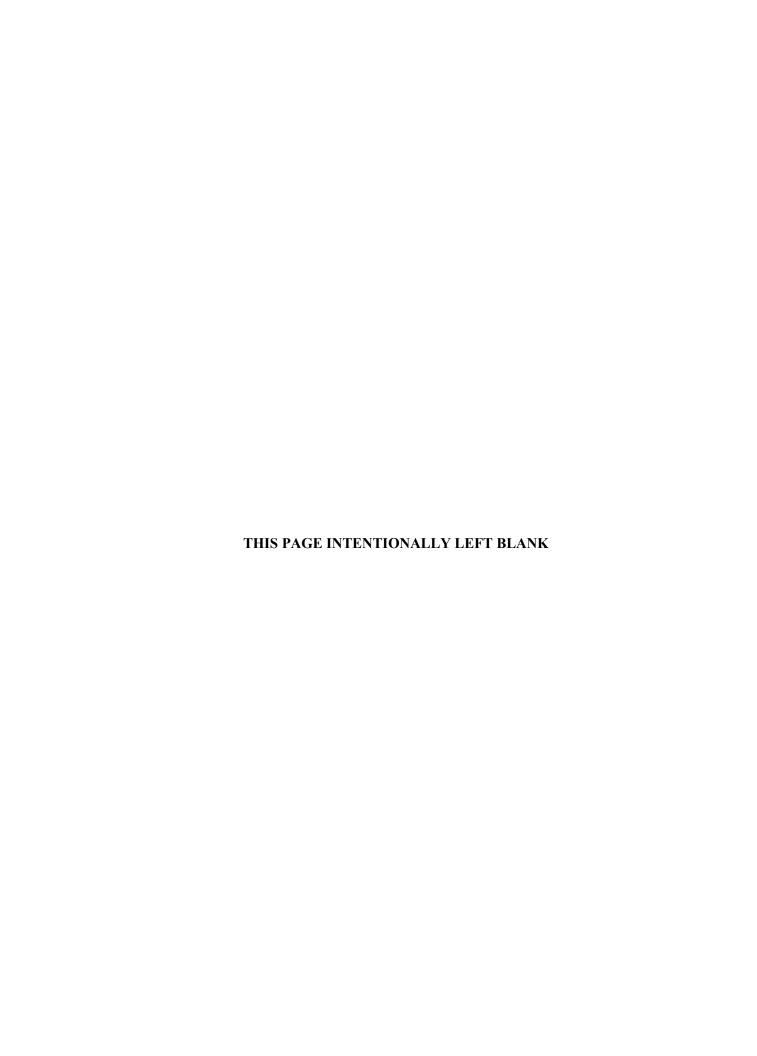
S Standard Deviation,  $S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5$ 

TL Upper Tolerance Limit, TL = X + (K \* S), LL Lower Tolerance Limit, LL = X - (K \* S)

X Mean, X = (sum of background results)/(count of background results)

\*\* Read from Table 5, Appendix B of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance, EPA, 1989, based on total number of background results - The K-factor for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K-factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/,2009.

# ATTACHMENT D3 STATISTICIAN QUALIFICATION STATEMENT





Four Rivers Nuclear Partnership, LLC 5511 Hobbs Road Kevil, KY 42053 www.fourriversnuclearpartnership.com

April 29, 2024

Mr. Dennis Greene Four Rivers Nuclear Partnership, LLC 5511 Hobbs Road Kevil, KY 42053

Dear Mr. Greene:

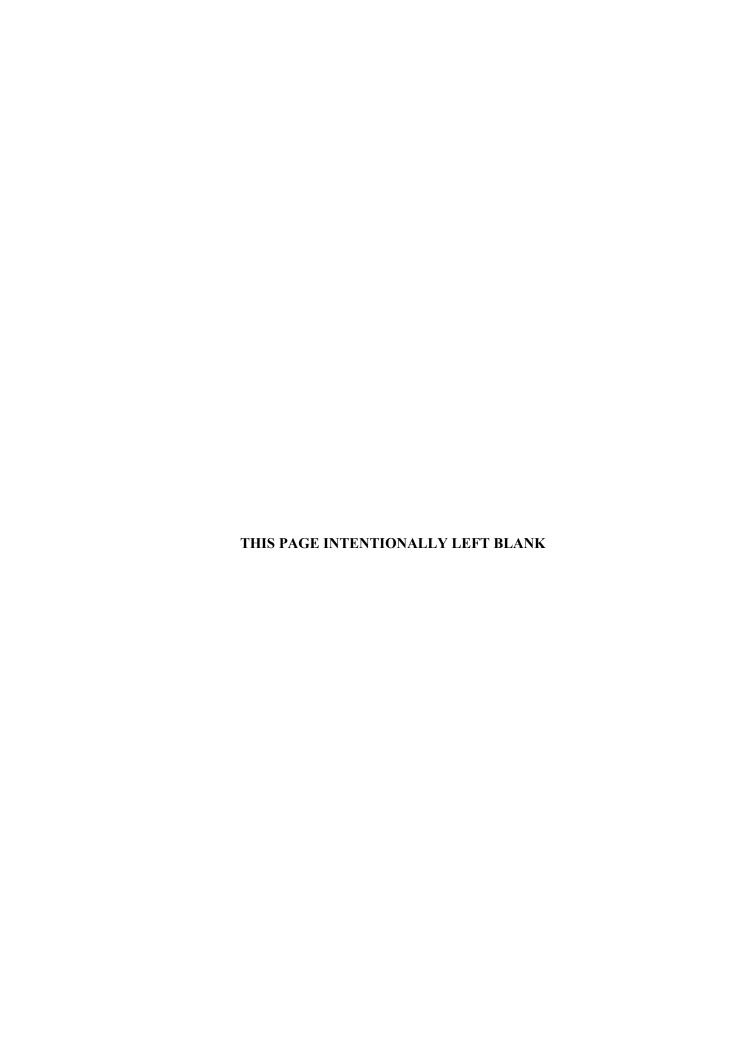
As an Environmental Scientist, with a bachelor's degree in Earth Sciences/Geology, I have over 30 years of experience in reviewing and assessing laboratory analytical results associated with environmental sampling and investigation activities. For the generation of these statistical analyses, my work was reviewed by a qualified independent technical reviewer with Four Rivers Nuclear Partnership, LLC.

For this project, the statistical analyses conducted on the first quarter 2024 monitoring well data collected from the C-746-S&T and C-746-U Landfills were performed in accordance with guidance provided in the U.S. Environmental Protection Agency guidance document, *EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (1989).

Sincerely,

Bryan Smith

Bye Si



# APPENDIX E GROUNDWATER FLOW RATE AND DIRECTION



RESIDENTIAL/CONTAINED—QUARTERLY, 1st CY 2024

Facility: U.S. DOE—Paducah Gaseous Diffusion Plant Permit Number: SW07300014, SW07300015, SW07300045 Finds/Unit: <u>KY8-890-008-982/1</u>

LAB ID: None

For Official Use Only

## GROUNDWATER FLOW RATE AND DIRECTION

Determination of groundwater flow rate and direction of flow in the uppermost aquifer whenever the monitoring wells (MWs) are sampled is a requirement of 401 KAR 48.300, § 11, Groundwater Monitoring Parameters. The uppermost aquifer below the C-746-U Contained Landfill is the Regional Gravel Aquifer (RGA). Water level measurements currently are recorded in several wells at the landfill on a quarterly basis. These measurements were used to plot the potentiometric surface of the RGA for the first quarter 2024 and determine groundwater flow rate and direction.

Water levels during this reporting period were measured on January 22, 2024. As shown on Figure E.1, all UCRS wells had sufficient water to permit water level measurement. UCRS monitoring wells MW359, MW365, MW368, MW376, and MW377 did not have sufficient water for sampling and laboratory analysis during this reporting period.

The UCRS has a strong vertical hydraulic gradient; therefore, the available UCRS wells screened over different elevations are not sufficient for mapping the potentiometric surface. As shown in Table E.1, the RGA data were converted to elevations to plot the potentiometric surfaces within the Upper Regional Gravel Aquifer (URGA) and Lower Regional Gravel Aquifer (LRGA). (At the request of the Commonwealth of Kentucky, the RGA is differentiated into two zones, the URGA and LRGA.) Based on the potentiometric maps (Figures E.2 and E.3), the hydraulic gradients for the URGA and LRGA at the C-746-U Contained Landfill, as measured along the defined groundwater flow directions, were  $5.92 \times 10^{-4}$  ft/ft and  $6.32 \times 10^{-4}$  ft/ft, respectively. Water level measurements in wells at the C-746-U Contained Landfill and in wells of the surrounding region (MW98, MW100, MW125, MW139, MW165A, MW173, MW193, MW197, and MW200), along with the C-746-S&T Landfill wells, were used to contour the general RGA potentiometric surface (Figure E.4). The hydraulic gradient for the RGA, as a whole, in the vicinity of the C-746-U Contained Landfill was  $3.19 \times 10^{-4}$  ft/ft. The hydraulic gradients are shown in Table E.2.

The average linear groundwater flow velocity (v) is determined by multiplying the hydraulic gradient (i) by the hydraulic conductivity (K) [resulting in the specific discharge (q)] and dividing by the effective porosity (n<sub>e</sub>). The RGA hydraulic conductivity values used are reported in the Administrative Application for the New Solid Waste Landfill Permit No. SW07300045NWC1 and range from 425 to 725 ft/day (0.150 to 0.256 cm/s). RGA (both URGA and LRGA) effective porosity is assumed to be 25%. Flow velocities were calculated for the URGA and LRGA using the low and high values for hydraulic conductivity, as shown in the Table E.3.

Groundwater flow beneath the C-746-U Contained Landfill typically trends northeastward toward the Ohio River. As demonstrated on the potentiometric maps for January 2024, the groundwater flow direction in the immediate area of the landfill was to the north.

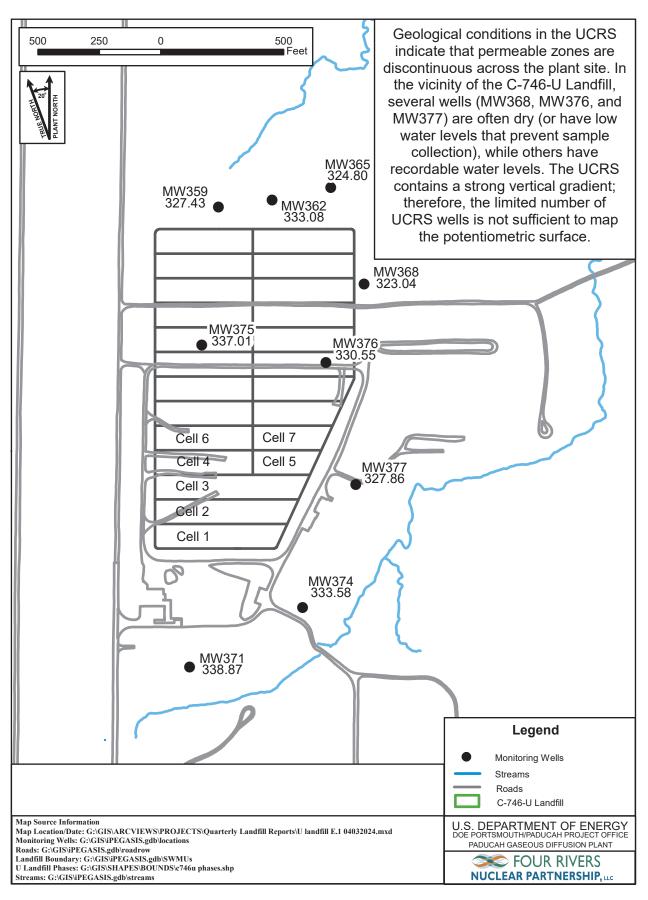


Figure E.1. Potentiometric Measurements of the Upper Continental Recharge System at the C-746-U Landfill, January 22, 2024

Table E.1. C-746-U Contained Landfill First Quarter 2024 (January) Water Levels

			C-746-U Con	tained Landfil	l (January 2	2024) Water	Levels			
							Rav	v Data	*Corre	ected Data
Date	Time	Well	Aquifer	Datum Elev	ВР	Delta BP	DTW	Elev	DTW	Elev
1/22/2024	0.42	1.000.00	IIDCA	(ft amsl)	(in Hg)	(ft H20)	(ft)	(ft amsl)	(ft)	(ft amsl)
1/22/2024	9:43	MW357	URGA	368.77	30.42	0.01	48.20	320.57	48.21	320.56
1/22/2024	9:44	MW358	LRGA	368.92	30.42	0.01	48.34	320.58	48.35	320.57
1/22/2024	9:45	MW359	UCRS	368.91	30.42	0.01	41.47	327.44	41.48	327.43
1/22/2024	9:38	MW360	URGA	362.07	30.42	0.01	41.51	320.56	41.52	320.55
1/22/2024	9:39	MW361	LRGA	361.32	30.42	0.01	40.76	320.56	40.77	320.55
1/22/2024	9:40	MW362	UCRS	361.85	30.42	0.01	28.76	333.09	28.77	333.08
1/22/2024	10:02	MW363	URGA	368.56	30.43	0.00	48.06	320.50	48.06	320.50
1/22/2024	10:04	MW364	LRGA	368.17	30.43	0.00	47.79	320.38	47.79	320.38
1/22/2024	10:03	MW365	UCRS	368.14	30.43	0.00	43.34	324.80	43.34	324.80
1/22/2024	10:09	MW366	URGA	368.95	30.43	0.00	48.36	320.59	48.36	320.59
1/22/2024	10:11	MW367	LRGA	369.37	30.43	0.00	48.78	320.59	48.78	320.59
1/22/2024	10:10	MW368	UCRS	368.98	30.43	0.00	45.94	323.04	45.94	323.04
1/22/2024	10:30	MW369	URGA	364.23	30.43	0.00	42.64	321.59	42.64	321.59
1/22/2024	10:31	MW370	LRGA	365.12	30.43	0.00	43.54	321.58	43.54	321.58
1/22/2024	10:32	MW371	UCRS	364.64	30.43	0.00	25.77	338.87	25.77	338.87
1/22/2024	10:36	MW372	URGA	359.42	30.43	0.00	37.83	321.59	37.83	321.59
1/22/2024	10:37	MW373	LRGA	359.73	30.43	0.00	38.14	321.59	38.14	321.59
1/22/2024	10:38	MW374	UCRS	359.44	30.43	0.00	25.86	333.58	25.86	333.58
1/22/2024	10:21	MW375	UCRS	370.36	30.43	0.00	33.35	337.01	33.35	337.01
1/22/2024	10:23	MW376	UCRS	370.39	30.43	0.00	39.84	330.55	39.84	330.55
1/22/2024	10:02	MW377	UCRS	365.74	30.43	0.00	37.88	327.86	37.88	327.86

30.43

Reference Barometric Pressure

Elev = elevation

amsl = above mean sea level

BP = barometric pressure

DTW = depth to water in feet below datum
URGA = Upper Regional Gravel Aquifer
LRGA = Lower Regional Gravel Aquifer
UCRS = Upper Continental Recharge System
\*Assumes a barometric efficiency of 1.0

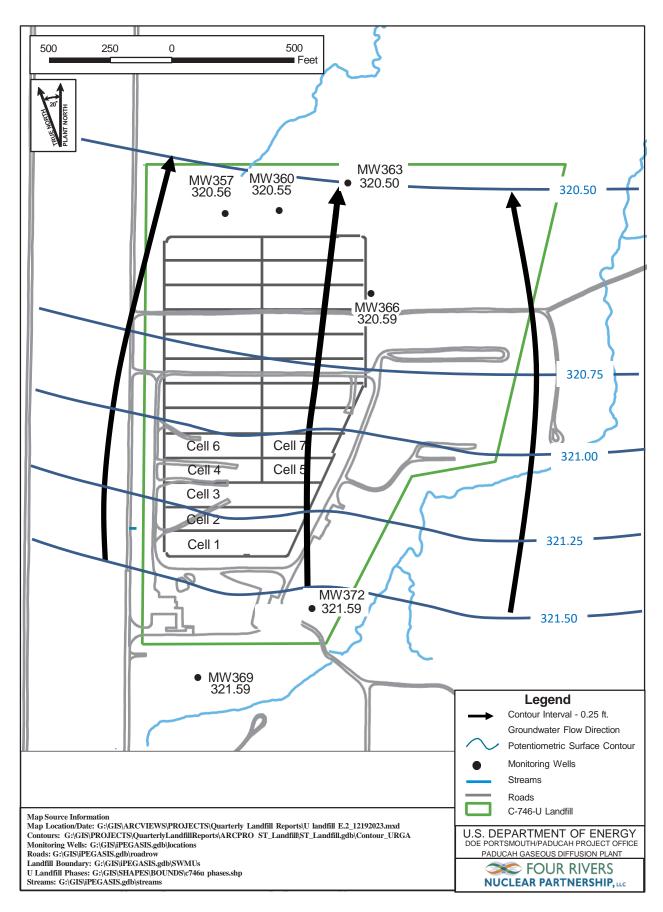


Figure E.2. Potentiometric Surface of the Upper Regional Gravel Aquifer at the C-746-U Landfill, January 22, 2024

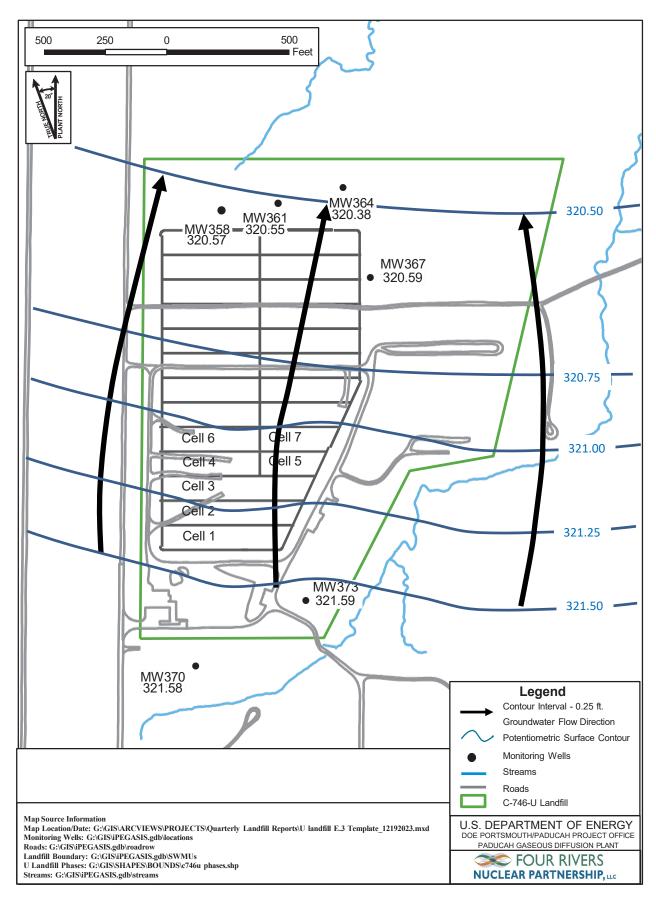


Figure E.3. Potentiometric Surface of the Lower Regional Gravel Aquifer at the C-746-U Landfill, January 22, 2024

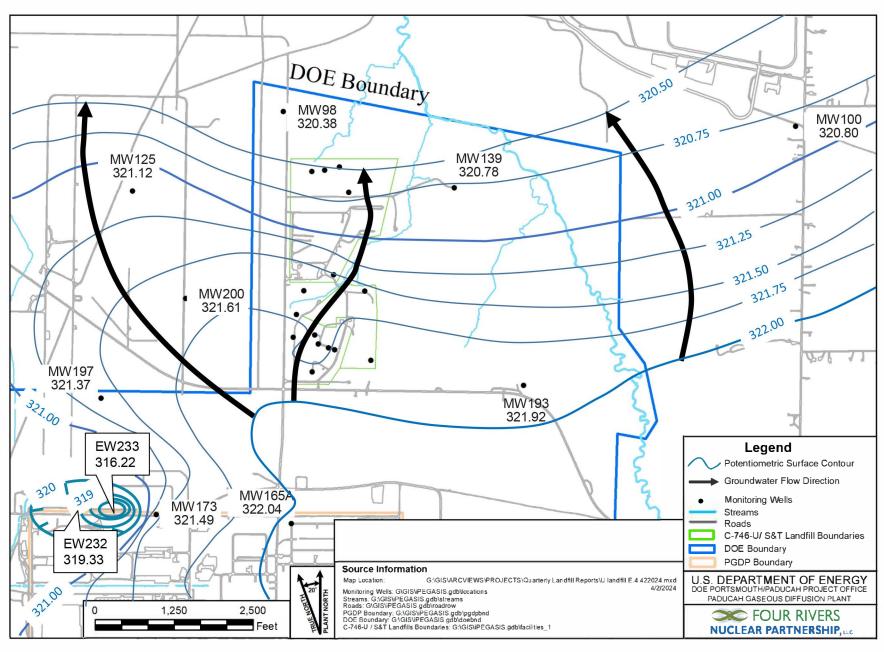


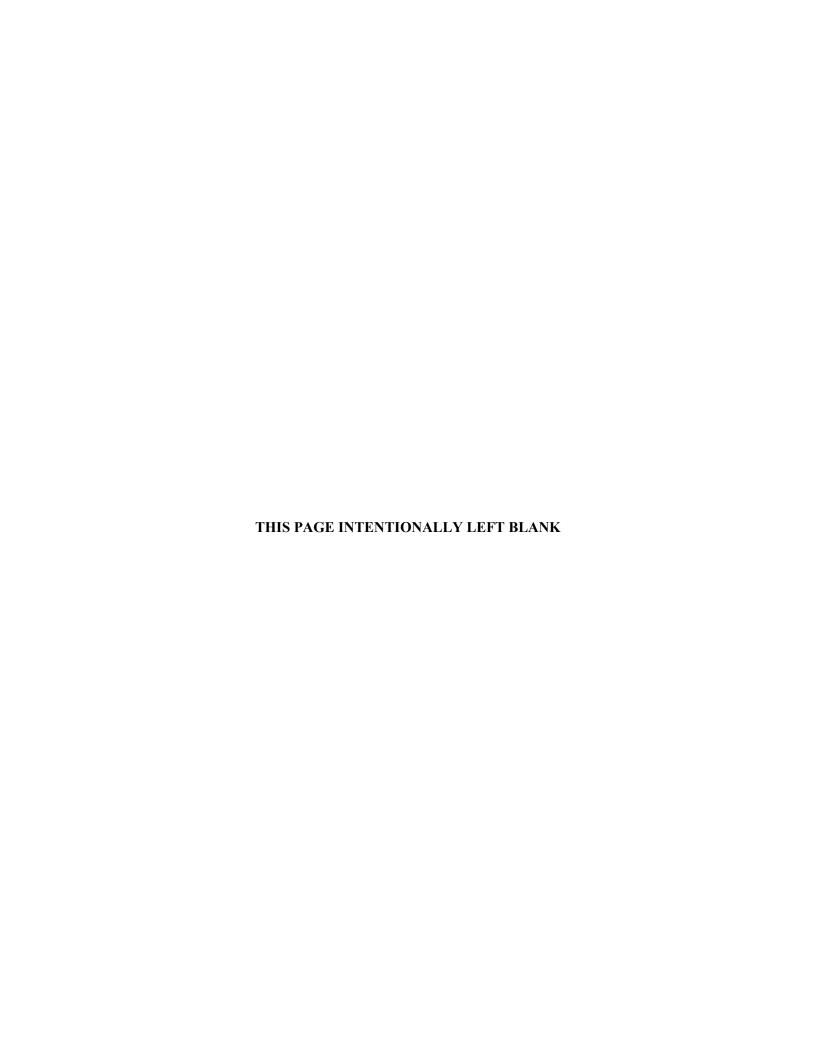
Figure E.4. Vicinity Potentiometric Surface of the Regional Gravel Aquifer, January 22, 2024

Table E.2. C-746-U Contained Landfill Hydraulic Gradients

	ft/ft
Beneath Landfill—Upper RGA	5.92 × 10 <sup>-4</sup>
Beneath Landfill—Lower RGA	6.32 × 10 <sup>-4</sup>
Vicinity	3.19 × 10 <sup>-4</sup>

Table E.3. C-746-U Contained Landfill Groundwater Flow Rate

Hydraulic Co	nductivity (K)	Specifi	c Discharge (q)	Average	Linear Velocity (v)
ft/day	cm/s	ft/day	cm/s	ft/day	cm/s
Upper RGA					
725	0.256	0.429	$1.51 \times 10^{-4}$	1.72	$6.06 \times 10^{-4}$
425	0.150	0.251	$8.88 \times 10^{-5}$	1.01	$3.55 \times 10^{-4}$
Lower RGA					
725	0.256	0.458	$1.62 \times 10^{-4}$	1.83	$6.47 \times 10^{-4}$
425	0.150	0.268	$9.48 \times 10^{-5}$	1.07	$3.79 \times 10^{-4}$



# APPENDIX F NOTIFICATIONS



#### **NOTIFICATIONS**

In accordance with 401 KAR 48:300 § 7, Sampling and Analysis, the notification for parameters that exceed (or did not exceed) the maximum contaminant level (MCL) has been submitted to the Kentucky Division of Waste Management. There were no MCL exceedances in the current reporting period. The parameters submitted are listed on page F-4. The notification for parameters that do not have MCLs, but had statistically significant increased concentrations relative to historical background concentrations, is provided below.

#### **Statistical Analysis of Parameters Notification**

The statistical analyses conducted on the first quarter 2024 groundwater data collected from the C-746-U Landfill monitoring wells were performed in accordance with *Groundwater Monitoring Plan for the Solid Waste Permitted Landfills (C-746-S Residential Landfill, C-746-T Inert Landfill, and C-746-U Contained Landfill) at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (LATA Kentucky 2014).

The following are the permit required parameters in 40 CFR § 302.4, Appendix A, which had statistically significant, increased concentrations relative to historical background concentrations.

	<u>Parameter</u>	Monitoring Well
Upper Continental Recharge System	None	
Upper Regional Gravel Aquifer	None	
Lower Regional Gravel Aquifer	Nickel Technetium-99	MW358 MW361, MW364

NOTE: Although technetium-99 is not cited in 40 CFR § 302.4, Appendix A, Sequential CAS Registry Number List of CERCLA Hazardous Substances, this radionuclide is being reported along with the parameters of this regulation.

2/26/2024

## Four Rivers Nuclear Partnership, LLC PROJECT ENVIRONMENTAL MEASUREMENTS SYSTEM C-746-U LANDFILL

## SOLID WASTE PERMIT NUMBER SW07300014, SW07300015, SW07300045 MAXIMUM CONTAMINANT LEVEL (MCL) EXCEEDANCE REPORT Quarterly Groundwater Sampling

AKGWA	Station	Analysis	Method	Results	Units	MCL
-------	---------	----------	--------	---------	-------	-----

No exceedances reported.

NOTE 1: MCLs are defined in 401 KAR 47:030.

NOTE 2: MW369, MW370, MW372, and MW373 are down-gradient wells for the C-746-S and C-746-T Landfills and upgradient for the C-746-U Landfill. These wells are sampled with the C-746-U Landfill monitoring well network. These wells are reported on the exceedance reports for C-746-S, C-746-T, and C-746-U.

## APPENDIX G CHART OF MCL AND UTL EXCEEDANCES



Gradient  D S S S D D D D D D D D D D D D D D D	Groundwater Flow System	T			1	UCRS							HR	GA					LR	GA		$\neg$
ACETONE  Quarter 4, 2002  Quarter 4, 2002  Quarter 2, 2003  Quarter 2, 2003  Quarter 3, 2004  Quarter 3, 2005  Quarter 4, 2005  Quarter 4, 2005  Quarter 4, 2005  Quarter 4, 2006  Quarter 4, 2007  Quarter 2, 2008  Quarter 4, 2007  Quarter 2, 2010  Quarter 4, 2010  Quarter 4, 2010  Quarter 2, 2010  Quarter 4, 2010  Quarter 2, 2016  Quarter 2, 2016  Quarter 2, 2016  Quarter 2, 2016  Quarter 2, 2017  Quarter 2, 2019  Quarter 2, 201	Gradient	D	S	S				D	U	U	D	D			U	U	D	D			U	U
Quarter 2, 2002 Quarter 1, 2003 Quarter 2, 2004 Quarter 3, 2005 Quarter 2, 2004 Quarter 3, 2005 Quarter 2, 2004 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 200	Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
Quarter 2, 2002 Quarter 1, 2003 Quarter 2, 2004 Quarter 3, 2005 Quarter 2, 2004 Quarter 3, 2005 Quarter 2, 2004 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 200																						
Quarter 4, 2003 Quarter 2, 2003 Quarter 2, 2003 Quarter 2, 2003 Quarter 3, 2003 Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2004 Quarter 2, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2010 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2019 Quarter 2, 201											*	*	*									
Quarter 1, 2003 Quarter 2, 2003 Quarter 3, 2003 Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 ALPHACTIVITY Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2009 ALEMINISH Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2004 Quarter 3, 2004 Quarter 4, 2005 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 3, 2006 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2008 Quarter 4, 2010 Quarter 2, 2010 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2019 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 5, 2010 Quarter	Quarter 4, 2002										*	*	*									
Quarter 2, 2003 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2005 Quarter 3, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 200	Ouarter 1, 2003											*	*									
Quarter 3, 2003 Quarter 4, 2005 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 4, 200		1																				
Quarter 4, 2003 Quarter 3, 2004 Quarter 3, 2005 Quarter 4, 2005 ALPIA KACHVITY ALPIA KACHVITY Quarter 1, 2004 Quarter 3, 2009 ALPIA KACHVITY Quarter 1, 2004 Quarter 3, 2009 ALPIA KACHVITY Quarter 1, 2004 Quarter 3, 2009 ALPIA KACHVITY Quarter 1, 2004 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2007 Quarter 1, 2007 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2001 Quarter 2, 2000 Quarter 3, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 2, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 4, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 3, 2000 Quarter 4, 2000 Quarter 2, 2000 Quarter 3, 2000 Quarter 4, 2000 Qua		*						*			*					*			*			
Quarter 3, 2004 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2004 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2001 Quarter 2, 2010 Quarter 2, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2018 Quarter 3, 2019 Quarter 2, 2019 Quarter 2, 2018 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020	Quarter 4, 2003						*	*				*			*							
Quarter 1, 2005  ALPHA ACTIVITY  Quarter 2, 2004  Quarter 2, 2009  ALMINISM  Quarter 3, 2009  ALMINISM  Quarter 3, 2009  ALMINISM  Quarter 3, 2004  Quarter 3, 2004  Quarter 4, 2005  Quarter 2, 2004  Quarter 4, 2006  Quarter 4, 2007  Quarter 4, 2008  Quarter 4, 2008  Quarter 4, 2008  Quarter 4, 2009  Quarter 1, 2010  Quarter 4, 2010  Quarter 4, 2010  Quarter 4, 2010  Quarter 4, 2011  Quarter 4, 2015  Quarter 4, 2017  Quarter 4, 2017  Quarter 4, 2017  Quarter 4, 2018  Quarter 4, 2018  Quarter 4, 2019  Quarter 4, 2020  Quarter 4,												_					*					
Quarter 1, 2005																	-					$\vdash$
ALPHA ACTIVITY Quarter 2, 2004 Quarter 2, 2009 Quarter 3, 2009  AL IMNISM  BETAACTIVITY Quarter 3, 2009  AL IMNISM  BETAACTIVITY Quarter 3, 2004 Quarter 3, 2004 Quarter 4, 2005 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2006 Quarter 4, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 2008 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 2, 2008 Quarter 4, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 2, 2008 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 1, 2010 Quarter 2, 2011 Quarter 3, 2012 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2017 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2010 Quarter 4, 20	Quarter 4, 2005	1																				$\vdash$
Quarter 1, 2004 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 1, 2004 Quarter 1, 2004 Quarter 2, 2005 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2009 Quarter 2, 2008 Quarter 2, 2008 Quarter 3, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2009 Quarter 2, 2010 Quarter 3, 2010 Quarter 2, 201	ALPHA ACTIVITY						т.															
Quarter 2, 2009  ALUNINUM  Quarter 3, 2003  BETA ACTIVITY  Quarter 1, 2004  Quarter 2, 2004  Quarter 2, 2004  Quarter 2, 2004  Quarter 2, 2005  Quarter 1, 2006  Quarter 1, 2006  Quarter 1, 2006  Quarter 2, 2007  Quarter 2, 2009  Quarter 2, 2010  Quarter 2, 2011  Quarter 2, 2011  Quarter 2, 2012  Quarter 2, 2013  Quarter 2, 2015  Quarter 2, 2015  Quarter 2, 2018  Quarter 2, 2018  Quarter 2, 2019  Quarter 2, 2020  Quarter 2, 2020																						
Quarter 3, 2009 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 200		1					_				_						_			_		-
## ## ## ## ## ## ## ## ## ## ## ## ##	Quarter 2, 2004	1									_						_			_		$\vdash$
Quarter 2, 2003 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2005 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 201	Quarter 3, 2009						-															
BETA ACTIVITY   Quarter 1, 2004   Quarter 2, 2004   Quarter 3, 2004   Quarter 4, 2004   Quarter 4, 2005   Quarter 1, 2006   Quarter 1, 2006   Quarter 1, 2006   Quarter 2, 2006   Quarter 3, 2006   Quarter 2, 2007   Quarter 2, 2008   Quarter 2, 2009   Quarter 2, 2010   Quarter 2, 2010   Quarter 2, 2010   Quarter 2, 2011   Quarter 4, 2013   Quarter 4, 2013   Quarter 4, 2015   Quarter 2, 2016   Quarter 2, 2017   Quarter 2, 2017   Quarter 4, 2018   Quarter 4, 2019   Quarter 4, 201	ALUMINUM											-14										
Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 3, 2008 Quarter 3, 2008 Quarter 4, 2008 Quarter 4, 2009 Quarter 4, 2010 Quarter 5, 201												*										-
Quarter 2, 2004 Quarter 4, 2004 Quarter 4, 2005 Quarter 1, 2006 Quarter 1, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 1, 2006 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2009 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2009 Quarter 2, 2010 Quarter 2, 201																_						
Quarter 4, 2004 Quarter 4, 2005 Quarter 2, 2006 Quarter 1, 2007 Quarter 1, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2001 Quarter 4, 200	Quarter 1, 2004															_						$\vdash$
Quarter 4, 2004 Quarter 1, 2005 Quarter 1, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 4, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 2, 2009 Quarter 4, 2010 Quarter 4, 2020 Quarter 4, 202																						_
Quarter 4, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 1, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 3, 2007 Quarter 3, 2008 Quarter 4, 2008 Quarter 3, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 3, 2008 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2010 Quarter 4, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 5, 2010 Quarter 6, 2010 Quarter 6, 2010 Quarter 7, 201		_																		Ш		$\Box$
Quatrer 1, 2006 Quatrer 2, 2006 Quatrer 3, 2006 Quatrer 1, 2006 Quatrer 1, 2006 Quatrer 1, 2007 Quatrer 2, 2007 Quatrer 3, 2007 Quatrer 3, 2007 Quatrer 3, 2007 Quatrer 3, 2007 Quatrer 1, 2008 Quatrer 1, 2008 Quatrer 2, 2008 Quatrer 4, 2008 Quatrer 4, 2008 Quatrer 4, 2008 Quatrer 4, 2009 Quatrer 2, 2009 Quatrer 3, 2009 Quatrer 4, 2010 Quatrer 4, 2020	Quarter 4, 2004	_																				
Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 1, 2007 Quarter 2, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 2, 2008 Quarter 3, 2008 Quarter 2, 2008 Quarter 3, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 3, 2016 Quarter 4, 2016 Quarter 3, 2017 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 5, 2019 Quarter 6, 2020 Quarter 7, 2020																						
Quarter 3, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 3, 2008 Quarter 4, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 5, 2009 Quarter 5, 2009 Quarter 6, 2009 Quarter 6, 2009 Quarter 7, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 5, 2009 Quarter 6, 200																						
Quarter 3, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 3, 2008 Quarter 4, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 5, 2009 Quarter 5, 2009 Quarter 6, 2009 Quarter 6, 2009 Quarter 7, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 5, 2009 Quarter 6, 200	Quarter 2, 2006																					
Quarter 4, 2006 Quarter 2, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2010 Quarter 5, 2010 Quarter 5, 2010 Quarter 6, 2010 Quarter 6, 2010 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2020	Quarter 3, 2006															_						_
Quarter 1, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 1, 2008 Quarter 1, 2008 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2000 Quarter 4, 2001 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2012 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 3, 2016 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 202	Quarter 4, 2006																					
Quarter 2, 2007 Quarter 4, 2007 Quarter 4, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2013 Quarter 3, 2015 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2013 Quarter 3, 2012 Quarter 3, 2013 Quarter 3, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2017 Quarter 3, 2018 Quarter 3, 2019 Quarter 4, 2020 Quarter 3, 2019 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 202	Quarter 1, 2007	T																				
Quarter 3, 2007 Quarter 1, 2008 Quarter 2, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2012 Quarter 4, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2017 Quarter 4, 2016 Quarter 2, 2019 Quarter 4, 2016 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 2, 2020 Quarter 4, 2020 Quarter 2, 2020 Quarter 4, 2020 Quarter 2, 202	Quarter 2, 2007																					
Quarter 4, 2007 Quarter 2, 2008 Quarter 2, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2013 Quarter 1, 2015 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2014 Quarter 4, 2015 Quarter 2, 2017 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2020 Quarter 4, 2020 Quarter 4, 2019 Quarter 2, 2020 Quarter 3, 2019 Quarter 2, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 2, 2020 Quarter 4, 2020 Quarter 2, 2020 Quarter 4, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 202	Ouarter 3, 2007																					
Quarter 1, 2008 Quarter 2, 2008 Quarter 3, 2008 Quarter 4, 2008 Quarter 1, 2009 Quarter 1, 2009 Quarter 2, 2009 Quarter 1, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 2, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 1, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2019 Quarter 3, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 2, 2020 Quarter 4, 2019 Quarter 2, 2020 Quarter 4, 2020	Quarter 4, 2007										1											
Quarter 2, 2008 Quarter 4, 2008 Quarter 1, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 4, 2018 Quarter 4, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 1, 2018 Quarter 1, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 202	Quarter 1, 2007	1																				-
Quarter 3, 2008 Quarter 4, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2000 Quarter 4, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 3, 2017 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 5, 2019 Quarter 4, 2019 Quarter 5, 2019 Quarter 5, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 4, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 6, 2020 Quarter 6, 202		-									-				-	-	-					$\vdash$
Quarter 4, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 2, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 4, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 6, 202		1									_				-	_	-			_		$\vdash$
Quarter 1, 2009 Quarter 2, 2009 Quarter 4, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 3, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2016 Quarter 2, 2017 Quarter 4, 2017 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 6, 202	Quarter 3, 2008	-																				$\vdash$
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2014 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2015 Quarter 1, 2015 Quarter 2, 2015 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2016 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2015 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 3, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 202																				_		ш
Quarter 3, 2009	Quarter 1, 2009										_						_	_				ш
Quarter 4, 2009 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2015 Quarter 1, 2014 Quarter 1, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2015 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 2, 2017 Quarter 1, 2018 Quarter 2, 2019 Quarter 3, 2016 Quarter 4, 2017 Quarter 1, 2018 Quarter 4, 2019 Quarter 4, 2010 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020	Quarter 2, 2009																_	•				ш
Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 4, 2019 Quarter 5, 2019 Quarter 6, 2019 Quarter 6, 2019 Quarter 7, 2010 Quarter 7, 2019 Quarter 7, 2020 Quarter 3, 2020 Quarter 4, 2020 BBOMIDE	Quarter 3, 2009										_					_						ш
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 1, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 1, 2018 Quarter 3, 2016 Quarter 2, 2017 Quarter 1, 2018 Quarter 4, 2017 Quarter 1, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 5, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020	Quarter 4, 2009										•											
Quarter 3, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2010 Quarter 4, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2015 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2015 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2018 Quarter 1, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 202																						ш
Quarter 3, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2010 Quarter 4, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2015 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2015 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2018 Quarter 1, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 202	Quarter 2, 2010																•					
Quarter 2, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 2, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 4, 2020	Quarter 3, 2010										•											
Quarter 4, 2011 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 3, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020	Quarter 4, 2010																					
Quarter 4, 2011 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 3, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020	Quarter 2, 2011																					
Quarter 1, 2012 Quarter 2, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020	Ouarter 4, 2011																					
Quarter 2, 2012 Quarter 3, 2012 Quarter 1, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 4, 2015 Quarter 3, 2016 Quarter 4, 2015 Quarter 4, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 4, 2020	Ouarter 1, 2012																					
Quarter 3, 2012 Quarter 4, 2012 Quarter 5, 2013 Quarter 7, 2013 Quarter 8, 2013 Quarter 1, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 2, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 4, 2018 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020	Ouarter 2, 2012																		W"W			
Quarter 4, 2012 Quarter 1, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020																_			<i>()))</i>			
Quarter 1, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 1, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2016 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 3, 2016 Quarter 4, 2018 Quarter 3, 2016 Quarter 4, 2017 Quarter 3, 2017 Quarter 4, 2018 Quarter 4, 2017 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020	Quarter 5, 2012	1									-											
Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 2, 2015 Quarter 2, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 4, 2020 BROMIDE	Quarter 1 2012	1																				
Quarter 4, 2013 Quarter 1, 2014 Quarter 1, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020		1									_						_			_		
Quarter 1, 2014 Quarter 4, 2014 Quarter 2, 2015 Quarter 2, 2015 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 4, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 2, 2017 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020		$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	<u> </u>	<del>                                     </del>	$\vdash$	$\vdash$	$\vdash$	-	$\vdash$	$\vdash$	<del>                                     </del>	_	$\vdash$	<del>                                     </del>	$\vdash$	$\vdash$	$\vdash$	-
Quarter 4, 2014 Quarter 2, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 BROMIDE	Quarter 4, 2013	┢		-			-	-	-	-	<b>—</b>	-			-		-	-		ш	$\vdash$	$\vdash$
Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 1, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 BROMIDE	Quarter 1, 2014	₩					<u> </u>					<u> </u>				_				ш		$\vdash$
Quarter 2, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 4, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 1, 2019 Quarter 1, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020		₩	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Ь	<u> </u>	<u> </u>	<u> </u>	Ь—	_	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>	ш		$\vdash$
Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 5, 2019 Quarter 6, 2019 Quarter 6, 2019 Quarter 7, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020		_																				
Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 5, 2019 Quarter 6, 2019 Quarter 6, 2019 Quarter 7, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020	Quarter 2, 2015																•					
Quarter 4, 2016 Quarter 2, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 4, 2019 Quarter 5, 2019 Quarter 6, 2019 Quarter 7, 2019 Quarter 8, 2019 Quarter 9, 2019 Quarter 9, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 6, 2020 Quarter 6, 2020 Quarter 7, 2020 Quarter 9, 202	Quarter 4, 2015																					
Quarter 2, 2017 Quarter 3, 2017 Quarter 1, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 1, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 8, 2020 Quarter 9, 202																						
Quarter 2, 2017 Quarter 3, 2017 Quarter 1, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 1, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 8, 2020 Quarter 9, 202	Quarter 4, 2016	L																				
Quarter 3, 2017 Quarter 1, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 8, 2020 Quarter 9, 202	Quarter 2, 2017																					
Quarter 4, 2017	Quarter 3, 2017																					
Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 1, 2019 Quarter 1, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2020 Quarter 3, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 7, 2020 Quarter 8, 2020 Quarter 9, 202																						
Quarter 2, 2018	Ouarter 1, 2018	1																				$\Box$
Quarter 3, 2018	Quarter 2, 2018	1																		Ē	Ē	$\Box$
Quarter 4, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 9, 202	Ouarter 3, 2018	t													ΙĒ						T	$\Box$
Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 7, 2020 Quarter 8, 2020 Quarter 9, 202		t	1	1	1	1		1	1	1			1	1	1			1	1			$\Box$
Quarter 2, 2019		<del>                                     </del>					<b>-</b>	-				<b>-</b>			-	-		-		$\vdash$		-
Quarter 3, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2020 Quarter 6, 2020 Quarter 8, 2020 Quarter 9, 202	Quarter 2 2019	1																				-
Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 BROMIDE		1	-	-	-	-	-	<del>                                     </del>	-	-	<b>—</b>	-	-	-	ŧ	-	<b>—</b>	<del>                                     </del>	-	$\vdash$		-
Quarter 1, 2020		₩	-	-	-	-	<u> </u>	$\vdash$	-	-	Ь_	<u> </u>	-	-	-		<b>—</b>	$\vdash$	-	Н		$\vdash$
Quarter 2, 2020	Quarter 4, 2019	₩					<u> </u>			<b>—</b>	-	<u> </u>				_				Ш		$\vdash$
Quarter 3, 2020	Quarter 1, 2020	₩								-						-					•	$\vdash$
Quarter 4, 2020 ■ ■ BROMIDE		_														L_				Ш		$\Box$
BROMIDE																						
	Quarter 4, 2020	$oldsymbol{ol}}}}}}}}}}}}}}}$																				لــــا
Quarter 2, 2004 *																						
	Quarter 2, 2004													*								

Groundwater Flow System				1	UCRS							UR	GA					LR	GA		-1
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U
Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
CALCIUM																					
Quarter 3, 2003										*											
Quarter 2, 2005																					*
Quarter 3, 2006	_								_						*		-				
Quarter 2, 2008 Quarter 3, 2009															*						
Quarter 4, 2009															*						
Quarter 1, 2010															*						
Quarter 2, 2010															*						
Quarter 3, 2010															*						
Quarter 1, 2011															*						
Quarter 2, 2011															*						ale.
Quarter 3, 2011															*						*
Quarter 4, 2011 Quarter 1, 2012															*						*
Quarter 2, 2012															*						*
Quarter 3, 2012															*						*
Quarter 4, 2012															*						
Quarter 1, 2013															*						*
Quarter 2, 2013															*						
Quarter 3, 2013															*						*
Quarter 4, 2013	-	ш	Щ		ш							-			*			-	ш		
Quarter 2, 2014	-		$\vdash$			-	-		-	-	-		-	-	*	<del>                                     </del>	-			_	*
Quarter 3, 2014 Quarter 4, 2014	-		$\vdash$			<del></del>	-		-	-	<del></del>	-	<del></del>	-	*	1	-	-		_	不
Quarter 2, 2015												<del>                                     </del>			*	1		<del>                                     </del>			-
Quarter 3, 2015	$\vdash$		Н						I			<del>                                     </del>			*	1	<del>                                     </del>	<del>                                     </del>			-
Quarter 4, 2015															*						
Quarter 1, 2016															*						
Quarter 2, 2016															*						
Quarter 2, 2017	*																				
Quarter 1, 2018	*																_				
Quarter 3, 2018	*	$\vdash$	$\vdash$		$\vdash$	<u> </u>	<u> </u>	ىد	_	<u> </u>	_	<u> </u>	_	<u> </u>	_	<b>—</b>		<u> </u>	$\vdash$		
Quarter 3, 2019 Quarter 4, 2019	*	$\vdash$	$\vdash$		$\vdash$	<b>—</b>	<u> </u>	*	<u> </u>	<u> </u>	<b>—</b>	<u> </u>	<b>—</b>	<u> </u>	*	-	_	<u> </u>	$\vdash$		_
Quarter 1, 2020								*							*						
Quarter 2, 2020								*							*						_
Quarter 3, 2020	*							*							*						
Quarter 4, 2020															*						
Quarter 1, 2021															*						
Quarter 2, 2021								*							*						
Quarter 3, 2021															*						
Quarter 4, 2021	_								_						*		-				
Quarter 1, 2022 Quarter 2, 2022															*						
Quarter 3, 2022															*						_
Quarter 4, 2022															*						
Quarter 1, 2023															*						
Quarter 2, 2023															*						
Quarter 3, 2023															*						*
Quarter 4, 2023															*						*
Quarter 1, 2024															*						*
CARBON DISULFIDE Quarter 3, 2003										*											
Quarter 2, 2005							*			-											
Quarter 3, 2005						*	-														
Quarter 4, 2005						*															
Quarter 1, 2006						*															
Quarter 2, 2006						*															
Quarter 3, 2010		*			ш						*	ļ				<u> </u>		ļ	ш		
Quarter 4, 2010	<u> </u>	$\vdash$	$\vdash$		$\vdash$	<u> </u>	<u> </u>		_	<u> </u>	_	<u> </u>	_	*	*	<b>—</b>		<u> </u>	$\vdash$		
Quarter 1, 2011 CHEMICAL OXYGEN DEMA	ND														*						
Quarter 3, 2002	ערייי									*	*	*	*	*	*						
Quarter 4, 2002										*	*		Ė								
Quarter 1, 2003										*	*										
Quarter 2, 2003										*	*	*									
Quarter 3, 2003	*									*	*					*					
Quarter 4, 2003		ш	Ш		ш	*				*	*								ш		
Quarter 3, 2004	<u> </u>		щ	$\vdash$			<u> </u>		-	*	<u> </u>		<u> </u>	<u> </u>	_		<u> </u>		_		
Quarter 3, 2005	-		$\vdash$			*	-		-	*	-		-	-	*	*	-	*	*	_	_
Quarter 4, 2005 Quarter 1, 2006		$\vdash$	H		$\vdash$	*	-			-	-		-	-				*	*	-	
Quarter 1, 2006 Quarter 4, 2016		$\vdash$	Н		$\vdash$													*	_		-
Quarter 1, 2017	$\vdash$		Н						I		*	<del>                                     </del>			I		<del>                                     </del>	<del></del>			-
Quarter 2, 2019												*			*						
Quarter 3, 2019															*						*
Quarter 4, 2019															*						
CHLORIDE																					
Quarter 1, 2006		ш			ш							ļ				<u> </u>		ļ	ш	*	
Quarter 2, 2014															*						
COBALT Operter 3, 2003	*						*			*	*		*	*	*	*	*	*		*	
Quarter 3, 2003 Quarter 1, 2004	f	$\vdash$	Н		$\vdash$		Ť			Ť	Ť		-	*	~	Ť	~	_	$\vdash$	1	-
Quarter 2, 2016														*							
				_					_					_	_					_	

Groundwater Flow System					UCRS	ì						UR	GA					LR	GA		
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U
Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
CONDUCTIVITY																					
Quarter 4, 2002										*											
Quarter 1, 2003										*											
Quarter 2, 2003										*	*										
Quarter 4, 2003										*											
Quarter 1, 2004										*											
Quarter 2, 2004										*											
Quarter 3, 2004										*											
Quarter 1, 2005															*						
Quarter 2, 2005															*						
Quarter 3, 2005						*													*		
Quarter 4, 2005															*			*			
Quarter 1, 2006															*						
Quarter 2, 2006															*						
Quarter 3, 2006															*						
Quarter 1, 2007															*						
Quarter 2, 2007															*						
Quarter 3, 2007															*						
Quarter 4, 2007															*						
Quarter 1, 2008															*						
Quarter 2, 2008															*						
			_	_						_					*				_		_
Quarter 3, 2008										_											-
Quarter 4, 2008	_	<del></del>	$\vdash$	$\vdash$	_	<del></del>	<del></del>	├-	├-	<del>                                     </del>	H	<del></del>	<del></del>	<del></del>	*	<del></del>	<del></del>	<del>                                     </del>	$\vdash$	$\vdash$	$\vdash$
Quarter 1, 2009	<u> </u>	<u> </u>	ш	ш	-	<u> </u>	<u> </u>	├	├	Ь—	$\vdash$	<u> </u>	<u> </u>	<u> </u>	*	<u> </u>	<u> </u>	├	ш	$\vdash \vdash$	<u> </u>
Quarter 2, 2009		<u> </u>	ш	ш		<u> </u>	<u> </u>				<b>—</b>	<u> </u>	<u> </u>	<u> </u>	*	<u> </u>	<u> </u>		ш		_
Quarter 3, 2009	<u> </u>	<u> </u>	ш	ш	-	<u> </u>	<u> </u>	├	├	Ь—	$\vdash$	<u> </u>	<u> </u>	<u> </u>	*	<u> </u>	<u> </u>	├	ш	$\vdash \vdash$	<u> </u>
Quarter 4, 2009		<u> </u>	ш	ш		<u> </u>	<u> </u>	<u> </u>	<u> </u>		Ь.	<u> </u>	<u> </u>	<u> </u>	*	<u> </u>	<u> </u>	<u> </u>	ш		-
Quarter 1, 2010			ш	ш			L	<u> </u>	<u> </u>	Ь	lacksquare			L	*		L	<u> </u>	ш	$\square$	<u> </u>
Quarter 2, 2010			ш	ш											*				ш		
Quarter 3, 2010															*						
Quarter 4, 2010							ш			┕				ш	*		ш				
Quarter 1, 2011		Ľ				Ľ	L					Ľ	Ľ	L	*	Ľ	L	L			L
Quarter 2, 2011															*						
Quarter 3, 2011															*						
Quarter 4, 2011															*						
Quarter 1, 2012														*	*						
Quarter 2, 2012														-	*						
Quarter 3, 2012															*						
			_	_						_									_		_
Quarter 4, 2012															*						
Quarter 1, 2013															*						
Quarter 2, 2013															*						
Quarter 3, 2013															*						
Quarter 4, 2013															*						
Quarter 1, 2014															*						
Quarter 2, 2014															*						
Quarter 3, 2014															*						
Quarter 4, 2014															*						
Quarter 1, 2015															*						
Quarter 2, 2015															*						
Quarter 3, 2015															*						
Quarter 4, 2015															*						
Quarter 1, 2016															*						
Quarter 2, 2016															*						
Quarter 3, 2016															*						
Quarter 2, 2019															*						
															*						
Quarter 3, 2019							_			_				_			_				-
Quarter 4, 2019															*						
Quarter 1, 2020															*						
Quarter 2, 2020		L	ш	ш		L	L	Ь—	Ь—	Ь—	$\vdash$	L	L	L	*	L	L	Ь—	ш		<u> </u>
Quarter 3, 2020			ш	Ш				<u> </u>	<u> </u>	<u> </u>	Щ				*			<u> </u>	Ш		
Quarter 4, 2020															*						
Quarter 1, 2021							ш			┕				ш	*		ш				
Quarter 2, 2021								L	L	L	آللا				*						
Quarter 3, 2021				LT											*				LT		
Quarter 1, 2022		Ľ				Ľ	L					Ľ	Ľ	L	*	Ľ	L	Ľ			L
Quarter 2, 2022															*						
Quarter 3, 2022															*						
Quarter 4, 2022															*						
Quarter 1, 2023			$\Box$												*						
Quarter 2, 2023								t	t						*			t			
Quarter 3, 2023			$\vdash$	$\vdash$						1					*				$\vdash$		
Quarter 4, 2023		<b>-</b>	$\vdash$			<b>-</b>	<b>-</b>					<b>-</b>	<b>-</b>	<b>-</b>	*	<b>-</b>	<b>-</b>				
Quarter 1, 2024		<b>-</b>	$\vdash$			<b>-</b>	<b>-</b>					<b>-</b>	<b>-</b>	<b>-</b>	*	<b>-</b>	<b>-</b>				
DISSOLVED OXYGEN															Ĥ						
					*	J#				*											
Quarter 1, 2003		<u> </u>	$\vdash$	$\vdash$	*	*	<b>—</b>	-	-	*		<u> </u>	<u> </u>	<b>—</b>	$\vdash$	<del></del>	<b>—</b>		$\vdash$		<b>—</b>
Quarter 3, 2003		<del></del>	$\vdash$	$\vdash$		<del></del>	<b>—</b>	-	-	*		<del></del>	<del></del>	<b>—</b>	$\vdash$	<del></del>	<b>—</b>		$\vdash$		<b>—</b>
Quarter 4, 2003	-	<u> </u>	Н	ш	*	<u> </u>	<u> </u>	-	-	<u> </u>	$\vdash$	<u> </u>	<u> </u>	<u> </u>	Н	<u> </u>	<u> </u>	-	ш	$\vdash$	<u> </u>
Quarter 1, 2004		<u> </u>	ш	ш	*	<u> </u>	<u> </u>	al.			<b>—</b>	<u> </u>	<u> </u>	<u> </u>	ш		<u> </u>		ш		_
Quarter 2, 2004		_	ш	ш		_	Ь	*	<u> </u>	<u> </u>	<b>—</b>	_	_	Ь	ш	*	Ь	<u> </u>	ш	$\square$	L
Quarter 1, 2005			ш	ш	*			<u> </u>							ш				ш		
Quarter 2, 2005								*			[										
Quarter 1, 2006					*			L	L	L	آللا										
Quarter 2, 2006				LT	*			*											LT		
Quarter 3, 2006					*			*													
					*				*												
Quarter 4, 2006					*			*													
Quarter 4, 2006 Quarter 2, 2007						_	<del></del>		-	_		_	_	_	-	_	<del></del>	_			
Quarter 2, 2007					*			*	不									ı			
Quarter 2, 2007 Quarter 3, 2007					*			*	*										*		
Quarter 2, 2007 Quarter 3, 2007 Quarter 1, 2008					*														*		
Quarter 2, 2007 Quarter 3, 2007								*	*										*		

Gradiente Well 36 J. S. S. S. D.	Groundwater Flow System	Г				UCRS	•						UR	GA					LR	GA		
DESCRIPTION		D	S	S				D	U	U	D	D			U	U	D	D			U	U
Quarter 1, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2000 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 1, 2011 Quarter 1, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 2, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 201	Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
Quanter 2, 2009 Quanter 1, 2010 Quanter 1, 2010 Quanter 2, 2010 Quanter 2, 2010 Quanter 2, 2010 Quanter 2, 2011 Quanter 2, 2012 Quanter 3, 2013 Quanter 2, 2012 Quanter 3, 2013 Quanter 2, 2012 Quanter 3, 2013 Quanter 2, 2013 Quanter 3, 2013 Quanter 2, 2012 Quanter 3, 2013 Quanter 2, 2013 Quanter 3, 2014 Quanter 3, 2015 Quanter 4, 2013 Quanter 4, 2015 Quanter 4, 2016 Quanter 4, 2017 Quanter 5, 2016 Quanter 6, 2016 Quanter 6, 2017 Quanter 7, 2016 Quanter 7, 2016 Quanter 8, 2017 Quanter 9, 201	DISSOLVED OXYGEN																					
Quarter 2, 2010								*														
Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2011 Quarter 2, 2012 Quarter 2, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2015 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 201						*																
Quarter 2, 2010							*		*	*												
Quarter 2, 2010								*														
Quarter 4, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2012 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2014 Quarter 4, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 2, 2016 Quarter 4, 2017 Quarter 2, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 2, 2017 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2019 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2019 Quarter 2, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2017 Quarter 2, 2018 Quarter 4, 2019 Quarter 4, 2020 Quarter 5, 202									*	*											*	*
Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2012 Quarter 1, 2013 Quarter 2, 2015 Quarter 2, 2017 Quarter 2, 201						*	*															
Quenter 2, 2011 Quenter 1, 2012 Quenter 2, 2013 Quenter 2, 2014 Quenter 2, 2014 Quenter 2, 2014 Quenter 2, 2015 Quenter 2, 2016 Quenter 2, 2017 Quenter 2, 2017 Quenter 2, 2016 Quenter 2, 2017 Quenter 2, 2016 Quenter 2, 2017 Quenter 2, 2018 Quenter 2, 2019 Quenter 2, 2020 Quenter 2, 202								*					*								*	
Ounter 3, 2011 Ounter 2, 2012 Ounter 2, 2012 Ounter 3, 2013 Ounter 3, 2013 Ounter 3, 2013 Ounter 4, 2013 Ounter 4, 2013 Ounter 2, 2014 Ounter 2, 2014 Ounter 3, 2013 Ounter 3, 2013 Ounter 3, 2013 Ounter 4, 2015 Ounter 5, 2016 Ounter 6, 2015 Ounter 7, 2016 Ounter 7, 2017 Ounter	Quarter 1, 2011						*															
Quarter 1, 2012						*		*	*						*							
Quarter 2, 2012							*			_												
Quanter 3, 2012 Quanter 1, 2013 Quanter 2, 2013 Quanter 3, 2014 Quanter 3, 2014 Quanter 3, 2014 Quanter 3, 2015 Quanter 3, 2015 Quanter 4, 2015 Quanter 4, 2015 Quanter 3, 2016 Quanter 4, 2016 Quanter 3, 2017 Quanter 3, 2017 Quanter 3, 2017 Quanter 3, 2018 Quanter 3, 2019 Quanter 4, 2019 Quanter 3, 2018 Quanter 4, 2019 Quanter 4, 2020 Quanter 6, 2020 Quanter 6, 2020 Quanter 7, 2020 Quanter 6, 2020 Quanter 7, 202								*														
Quanter 4, 2012 Quanter 2, 2013 Quanter 2, 2013 Quanter 3, 2014 Quanter 3, 2014 Quanter 4, 2014 Quanter 4, 2014 Quanter 4, 2015 Quanter 3, 2015 Quanter 4, 2016 Quanter 4, 2016 Quanter 4, 2017 Quanter 4, 2019 Quanter 4, 2009 Quanter 6, 2009 Quanter 7, 200		*			*	*			*	*												
Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2015 Quarter 3, 2015 Quarter 2, 2016 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2007 Quarter 4, 200							*															
Quanter 2, 2013	Quarter 4, 2012									*												
Quarter 3, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2015 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2019 Quarter 2, 2020 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2022 Quarter 2, 2022 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2020 Quarter 2, 2021 Quarter 2, 202	Quarter 1, 2013						*			*												
Quanter 4, 2013 Quanter 2, 2014 Quanter 3, 2014 Quanter 3, 2014 Quanter 2, 2015 Quanter 2, 2015 Quanter 3, 2016 Quanter 2, 2015 Quanter 3, 2016 Quanter 2, 2015 Quanter 1, 2016 Quanter 2, 2017 Quanter 3, 2017 Quanter 2, 2017 Quanter 3, 2017 Quanter 3, 2017 Quanter 4, 2017 Quanter 4, 2017 Quanter 4, 2018 Quanter 4, 2019 Quanter 4, 2020 Quanter 6, 2020 Quanter 7, 2020 Quanter 7, 2020 Quanter 6, 2020 Quanter 7, 2020 Quanter 7, 2020 Quanter 7, 202																						
Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2015 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2019 Quarter 2, 2018 Quarter 2, 2019 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2020 Quarter 2, 2000 Quarter 2, 2001 Quarter 2, 200	Quarter 3, 2013	*				*		*	*	*												
Quanter 3, 2014 Quanter 4, 2015 Quanter 2, 2015 Quanter 3, 2015 Quanter 3, 2016 Quanter 2, 2015 Quanter 2, 2015 Quanter 3, 2016 Quanter 2, 2016 Quanter 2, 2016 Quanter 3, 2017 Quanter 4, 2017 Quanter 4, 2018 Quanter 4, 2018 Quanter 3, 2019 Quanter 4, 2010 Quanter 4, 2020 Quanter 4, 2021 Quanter 4, 2022 Quanter 4, 2022 Quanter 4, 2022 Quanter 4, 2023 Quanter 4, 2023 Quanter 6, 2023 Quanter 6, 2023 Quanter 7, 2024 Quanter 7, 2021 Quanter 7, 202										*											*	
Quarter 4, 2014	Quarter 2, 2014								*	*									*			
Quarter 2, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2020 Quarter 1, 2031 Quarter 2, 2032 Quarter 2, 2033 Quarter 2, 2039 Quarter 2, 203	Quarter 3, 2014	*				*	*	*														
Quarter 4, 2015		L	L		L	آللا		L	$ldsymbol{ldsymbol{ol}}}}}}}}}}}$			آللا						L	آللا			اتيا
Quarter 4, 2015								*														
Quarter 4, 2015 Quarter 2, 2016 Quarter 2, 2017 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 1, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2020 Quarter 1, 2020 Quarter 1, 2020 Quarter 1, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 4, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 4, 2020 Quarter 1, 2021 Quarter 4, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 4, 2020 Quarter 4, 2021 Quarter 4, 2021 Quarter 4, 2022 Quarter 4, 2020 Quarter 4, 2022 Quarter 4, 2020 Quarter 1, 2021 Quarter 4, 2020 Quarter 1, 2021 Quarter 2, 2023 Quarter 4, 2009 Quarter 1, 2020 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2009 Quarter 2, 2001 Quarter 2, 200						*			*													
Quarter 1, 2016	Quarter 4, 2015	*					*	*	匚													
Quarter 2, 2016		*						*														
Quarter 1, 2016 Quarter 1, 2017 Quarter 1, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2010 Quarter 4, 2000 Quarter 4, 200		*	*			*	*	*	*	*		Ĺ	Ĺ	Ĺ				Ĺ	Ĺ		*	*
Ounter 1, 2016 Ounter 1, 2017 Ounter 2, 2018 Ounter 2, 2019 Ounter 2, 2020 Ounter 2, 2021 Ounter 2, 2022 Ounter 2, 2022 Ounter 3, 2023 Ounter 3, 2023 Ounter 4, 2022 Ounter 2, 2023 Ounter 3, 2023 Ounter 3, 2023 Ounter 3, 2023 Ounter 4, 2022 Ounter 4, 2023 Ounter 2, 2023 Ounter 2, 2023 Ounter 3, 2023 Ounter 3, 2023 Ounter 4, 2020 Ounter 4, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 3, 2023 Ounter 3, 2023 Ounter 4, 2020 Ounter 4, 2020 Ounter 4, 2020 Ounter 2, 2020 Ounter 3, 2023 Ounter 3, 2023 Ounter 4, 2020 Ounter 4, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 3, 2020 Ounter 3, 2020 Ounter 4, 2020 Ounter 4, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 2, 2020 Ounter 3, 2020 Ounter 2, 2020 Ounter 3, 2020 Ounter						*		*	*					*								
Ounter 1, 2017										*												
Quarter 2, 2017								*						*								
Quarter 2, 2017 Quarter 1, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 2, 2019 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 2, 2000 Quarter 2, 200		*				*	*		*													
Ounter 4, 2017 Ounter 4, 2018 Ounter 2, 2018 Ounter 2, 2018 Ounter 2, 2018 Ounter 3, 2018 Ounter 3, 2018 Ounter 4, 2019 Ounter 4, 2019 Ounter 4, 2019 Ounter 2, 2019 Ounter 2, 2019 Ounter 3, 2019 Ounter 4, 2020 Ounter 5, 2020 Ounter 6, 2020 Ounter 6, 2020 Ounter 6, 2020 Ounter 7, 2020 Ounter 7, 2020 Ounter 7, 2020 Ounter 7, 2020 Ounter 8, 2020 Ounter 9, 2020 Ounter		*	*					*											*			
Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 4, 2022 Quarter 3, 2023 Quarter 4, 2022 Quarter 3, 2023 Quarter 4, 2022 Quarter 4, 2023 Quarter 1, 2024 Quarter 2, 2023 Quarter 1, 2024 Quarter 2, 2023 Quarter 3, 2023 Quarter 2, 2023 Quarter 3, 2023 Quarter 2, 2003 Quarter 3, 2009 Quarter 3, 2009 Quarter 2, 2009 Quarter 2, 2001 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 2, 2001 Quarter 3, 2001 Quarter 3, 2001 Quarter 3, 200																						
Quarter 2, 2018		Г				*			*												*	$\Box$
Ounter 3, 2018  Ounter 1, 2019  Ounter 2, 2019  Ounter 3, 2019  Ounter 3, 2019  Ounter 3, 2019  Ounter 3, 2019  Ounter 1, 2020  Ounter 2, 2021  Ounter 3, 2021  Ounter 3, 2021  Ounter 4, 2021  Ounter 2, 2021  Ounter 2, 2021  Ounter 3, 2021  Ounter 3, 2021  Ounter 4, 2021  Ounter 5, 2021  Ounter 6, 2021  Ounter 7, 2022  Ounter 7, 2022  Ounter 7, 2022  Ounter 7, 2022  Ounter 7, 2023  Ounter 7, 2024  Ounter 7, 2024		Г																				$\Box$
Quarter 1,2019		*																				
Quarter 1, 2019		Ť						-	Ť													
Quarter 2, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 2, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 4, 2022 Quarter 4, 2022 Quarter 4, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2024 Quarter 4, 2022 Quarter 4, 2022 Quarter 4, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2025 Quarter 4, 2022 Quarter 4, 2023 Quarter 2, 2035 Quarter 2, 2035 Quarter 2, 2036 Quarter 2, 2037 Quarter 2, 2039 Quarter 2, 2009 Quarter 3, 2010 Quarter 2, 2009 Quarter 4, 2008 Quarter 3, 2010 Quarter 2, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 3, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2011 Quarter 4, 2010 Quarter 3, 2011 Quarter 3, 2012 Quarter 4, 2010 Quarter 3, 2011 Quarter 3, 2013 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 201						*		*	*													
Quarter 1, 2010 Quarter 1, 2020 Quarter 4, 2021 Quarter 4, 2021 Quarter 2, 2021 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2021 Quarter 4, 2021 Quarter 2, 2021 Quarter 3, 2021  * * * * * * * * * * * * * * * * * * *								т_														
Quarter 1, 2019 Quarter 2, 2020 Quarter 2, 2020 Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 3, 2022 Quarter 4, 2022 Quarter 4, 2022 Quarter 4, 2023 Quarter 4, 2023 Quarter 4, 2003 Quarter 2, 2003 Quarter 2, 2003 Quarter 2, 2003 Quarter 4, 2003 Quarter 4, 2000 Quarter 2, 2000 Quarter 2, 2000 Quarter 4, 2000 Quarter 3, 2001 Quarter 4, 2000 Quarter 3, 2001 Quarter 3, 2001 Quarter 3, 2001 Quarter 3, 2000 Quarter 3, 2000 Quarter 3, 2001 Quarter 3, 2000 Quarter 4, 2000 Quarter 3, 2001 Quarter 4, 2000 Quarter 4, 2000 Quarter 3, 2001 Quarter 3, 2001 Quarter 4, 2001 Quarter 3, 2001 Quarter 4, 2001 Quarter 3, 2001 Quarter 4, 2001 Quarter 4, 2001 Quarter 4, 2001 Quarter 2, 2001 Quarter 3, 2001 Quarter 3, 2001 Quarter 4, 2001 Quarter 2, 2001 Quarter 3, 2001 Quarter 3, 2001 Quarter 4, 2002 Quarter 3, 2001 Quarter 4, 2002 Quarter 3, 2001 Quarter 4, 200		*						*														
Quarter 1, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 3, 2021  * * * * * * * * * * * * * * * * * * *		*							*	-	_						_			_		$\vdash$
Quarter 2, 2020						不	不		*	*	_						_			_		$\vdash$
Quarter 3, 2020						*	*	不		不	_						_			_		$\vdash$
Quarter 4, 2020		*							不													
Quarter 1, 2021 Quarter 2, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 4, 2022 X X X X X X X X X X X X X X X X X X						木	木		1													
Quarter 2, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2022 X X X X X X X X X X X X X X X X X X		*							1													
Quarter 3, 2021						_		_													木	
Marter 4, 2021		-								*											ale.	
Quarter 1, 2022		*					*															
Quarter 2, 2022		-								-				Ale.				ale.				
Quarter 4, 2022										L				*				*			*	
Quarter 4, 2022										*												
Quarter 2, 2023		*				*	*							*				*				
Quarter 3, 2023			*			.1.															*	
Quarter 4, 2023		*				*												*				
Quarter 1, 2024									*													
DISSOLVED SOLIDS			*				*	*														
Quarter 4, 2002 Quarter 1, 2003 Quarter 2, 2003 Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2005 Quarter 4, 2006 Quarter 4, 2006 Quarter 2, 2007 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2012 Quarter 2, 2013 Quarter 1, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2013 Quarter 1, 2012 Quarter 2, 2013 Quarter 1, 2013 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 5, 2012 Quarter 6, 2013 Quarter 7, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013																					*	
Quarter 1, 2003 Quarter 2, 2003 Quarter 3, 2003  ** * * * * Quarter 4, 2003 Quarter 4, 2005 Quarter 1, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 4, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 3, 2010 Quarter 2, 2010 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2013 Quarter 1, 2012 Quarter 2, 2012 Quarter 1, 2012 Quarter 2, 2012 Quarter 1, 2013 Quarter 1, 2012 Quarter 2, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2014 Quarter 2, 2015 Quarter 3, 2016 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 5, 2011 Quarter 6, 2011 Quarter 7, 2012 Quarter 9, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013																						
Quarter 2, 2003		_							<u> </u>											ш		ш
Quarter 4, 2003		<b>└</b>	<u> </u>	L	<u> </u>	<u> </u>	L	<u> </u>	<b></b>	-		<u> </u>			L	L	Ь	<u> </u>	<u> </u>	ш		ш
Quarter 4, 2003 Quarter 3, 2005  ** Quarter 4, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2008 Quarter 1, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2011 Quarter 5, 2011 Quarter 4, 2011 Quarter 5, 2011 Quarter 5, 2011 Quarter 6, 2011 Quarter 6, 2011 Quarter 7, 2012 Quarter 7, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 2, 2013 Quarter 1, 2013 Quarter 1, 2010  ** Quarter 9, 2010  ** Quarter 9, 2011  Quarter 1, 2012  Quarter 2, 2012  Quarter 2, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013  **  Quarter 2, 2013  Quarter 2, 2013  Quarter 2, 2013  Quarter 2, 2013		_						<u> </u>	<u> </u>			<u> </u>								ш		ш
Quarter 3, 2005 Quarter 4, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2008 Quarter 1, 2009 Quarter 1, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013		ـــــ	<u> </u>		<u> </u>	<u> </u>		*	<u> </u>	<u> </u>	_	*	L	L			<u> </u>	<u> </u>	<u> </u>	Ш		ш
Quarter 4, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 4, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2010 Quarter 2, 2011 Quarter 4, 2011 Quarter 5, 2011 Quarter 6, 2011 Quarter 7, 2011 Quarter 7, 2011 Quarter 7, 2011 Quarter 7, 2011 Quarter 8, 2011 Quarter 9, 2012 Quarter 9, 2012 Quarter 9, 2013		<b>└</b>	<u> </u>	L	<u> </u>	<u> </u>	L	<u> </u>	<b></b>	-	*	<u> </u>			L	L	Ь	<u> </u>	<u> </u>	ш	$\square$	ш
Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 1, 2008 Quarter 1, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2010 Quarter 3, 2010 Quarter 2, 2011 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 2, 2013 Quarter 1, 2012 Quarter 2, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013		ـــــ	<u> </u>		<u> </u>	<u> </u>	*	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	L	L			<u> </u>	<u> </u>	<u> </u>	Ш		ш
Quarter 2, 2007 Quarter 4, 2008 Quarter 1, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 5, 2011 Quarter 6, 2011 Quarter 7, 2012 Quarter 9, 2012 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013	Quarter 4, 2006															*						ш
Quarter 4, 2008		_							<u> </u>	Ь										ш		ш
Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2000 Quarter 4, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 2, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013  **																						Ш
Quarter 1, 2009	Quarter 4, 2008	ட						oxdot										oxdot				
Quarter 3, 2009	Quarter 1, 2009	L	L		L	آللا		L	$ldsymbol{ldsymbol{ol}}}}}}}}}}}$			آللا						L	آللا			اتيا
Quarter 3, 2009		$\Box$		L		Ľ	L	Ĺ	Ľ	Ľ		Ľ	Ľ	Ľ	L			Ĺ	Ľ			
Quarter 4, 2009						Ĺ		Ĺ		Ĺ		Ĺ	Ĺ	Ĺ		*		Ĺ	Ĺ			
Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 2, 2013 Quarter 1, 2012 Quarter 2, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013  **  Quarter 4, 2011  Quarter 4, 2012  Quarter 3, 2012  Quarter 4, 2012  Quarter 3, 2013  **  Quarter 4, 2013 Quarter 3, 2013  **  Quarter 4, 2013 Quarter 3, 2013  **  Quarter 3, 2013  **  Quarter 4, 2013 Quarter 3, 2013  **  Quarter 3, 2013		$\Box$	Ľ		Ľ	L			$L^{T}$	$L^{TT}$	Ĺ	L	L	L			Ĺ		L	L		╚
Quarter 2, 2010																						
Quarter 3, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 4, 2012 Quarter 1, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 3, 2013  ** Quarter 3, 2013																						
Quarter 4, 2010 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 3, 2013  ** Quarter 4, 2010  ** Quarter 4, 2010  ** Quarter 4, 2010  ** Quarter 4, 2010  ** Quarter 3, 2010  ** Quarter 4, 2010  ** Quarter 3, 2010  ** Quarter 3, 2013  ** Quarter 3, 2013  ** Quarter 3, 2013																						
Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 4, 2012 Quarter 5, 2013 Quarter 6, 2013 Quarter 7, 2013 Quarter 9, 201																						
Quarter 2, 2011       *         Quarter 3, 2011       *         Quarter 4, 2011       *         Quarter 1, 2012       *         Quarter 2, 2012       *         Quarter 3, 2012       *         Quarter 4, 2012       *         Quarter 1, 2013       *         Quarter 2, 2013       *         Quarter 2, 2013       *         Quarter 3, 2013       *																						М
Quarter 3, 2011		Г																				$\Box$
Quarter 4, 2011     *       Quarter 1, 2012     *       Quarter 2, 2012     *       Quarter 3, 2012     *       Quarter 4, 2012     *       Quarter 4, 2013     *       Quarter 1, 2013     *       Quarter 2, 2013     *       Quarter 3, 2013     *	Ouarter 3, 2011	Г																				$\Box$
Quarter 1, 2012     *       Quarter 2, 2012     *       Quarter 3, 2012     *       Quarter 4, 2012     *       Quarter 1, 2013     *       Quarter 2, 2013     *       Quarter 2, 2013     *       Quarter 3, 2013     *		H	$\vdash$	_	$\vdash$	$\vdash$	_	$\vdash$	<del>                                     </del>	<del>                                     </del>	1	$\vdash$	_	_	_		1	<del>                                     </del>	$\vdash$	$\vdash$		Н
Quarter 2, 2012     *       Quarter 3, 2012     *       Quarter 4, 2012     *       Quarter 1, 2013     *       Quarter 2, 2013     *       Quarter 3, 2013     *		1	<del>                                     </del>		<del>                                     </del>	$\vdash$		<del>                                     </del>	1	_	<del>                                     </del>	$\vdash$	<b>—</b>	<b>—</b>	*		<del>                                     </del>	<del>                                     </del>	$\vdash$	Н	$\vdash$	$\vdash$
Quarter 3, 2012     *       Quarter 4, 2012     *       Quarter 1, 2013     *       Quarter 2, 2013     *       Quarter 3, 2013     *		$\vdash$	$\vdash$	<b>—</b>	$\vdash$	$\vdash$	<b>—</b>	<del>                                     </del>	1	$\vdash$	<b>—</b>	$\vdash$	-	-	-		<b>—</b>	<del>                                     </del>	$\vdash$	$\vdash$	$\vdash$	*
Quarter 4, 2012     *       Quarter 1, 2013     *       Quarter 2, 2013     *       Quarter 3, 2013     *		t						<del>                                     </del>	t	t	1						1	<del>                                     </del>		$\vdash$	$\vdash$	
Quarter 1, 2013		$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	<del>                                     </del>	<del>                                     </del>	-	$\vdash$	$\vdash$	$\vdash$	$\vdash$		-	$\vdash$	$\vdash$	$\vdash$		1
Quarter 2, 2013		$\vdash$	$\vdash$	<u> </u>	$\vdash$	$\vdash$	<u> </u>	<del>                                     </del>	-	$\vdash$	$\vdash$	$\vdash$	-	-	<u> </u>		$\vdash$	<del>                                     </del>	$\vdash$	$\vdash$	$\vdash$	$\vdash$
Quarter 3, 2013 **		$\vdash$	$\vdash$	<u> </u>	$\vdash$	$\vdash$	<u> </u>	<del>                                     </del>	-	$\vdash$	$\vdash$	$\vdash$	-	-	<u> </u>		$\vdash$	<del>                                     </del>	$\vdash$	$\vdash$	$\vdash$	$\vdash$
	Quarter 2, 2013	$\vdash$	├	$\vdash$	├	-	$\vdash$	├	<del>                                     </del>	-	-	-	<del></del>	<del></del>	$\vdash$		-	├	-	$\vdash$		ш
Quarter 4, 2015		$\vdash$	├	$\vdash$	├	-	$\vdash$	├	<del>                                     </del>	-	-	-	<del></del>	<del></del>	$\vdash$		-	├	-	$\vdash$		ш
	Quarter 4, 2013			_			_		_		_		_	_	_	*	_			ш	لبِــا	ш

Groundwater Flow System				1	UCRS							UR	GA					LR	GA		
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U
Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
DISSOLVED SOLIDS Quarter 1, 2014															*						
Quarter 2, 2014															*						
Quarter 4, 2014 Quarter 2, 2015															*						
Quarter 3, 2015															*						
Quarter 4, 2015															*						
Quarter 1, 2016 Quarter 3, 2019															*						
Quarter 4, 2019															*						
Quarter 1, 2020															*						
Quarter 2, 2020 Quarter 3, 2020															*						
Quarter 4, 2020															*						
Quarter 1, 2021															*						
Quarter 2, 2021 Quarter 3, 2021															*						
Quarter 4, 2021															*						
Quarter 1, 2022															*						
Quarter 2, 2022 Quarter 3, 2022															*						
Quarter 4, 2022															*						
Quarter 1, 2023															*						
Quarter 2, 2023 Quarter 3, 2023															*						
Quarter 1, 2024	L						L	L		L					*						
IODIDE																					
Quarter 2, 2003 Quarter 3, 2003	*			<u> </u>		*	H	<u> </u>				*			H		H				
Quarter 4, 2003	-						*			-											H
Quarter 3, 2010						*		*					*				*				
Ouarter 3, 2010																		-			
Quarter 3, 2010 IODOMETHANE																					
Quarter 4, 2003						*															
IRON Overton 4, 2002						*															
Quarter 4, 2002 Quarter 3, 2003						不										*					
Quarter 4, 2003										*						*					
Quarter 1, 2004										*						*					
Quarter 2, 2004 Quarter 3, 2004										*											
Quarter 3, 2005																*					
MAGNESIUM															*						
Quarter 2, 2005 Quarter 3, 2005						*									木						*
Quarter 2, 2006															*						*
Quarter 3, 2006															*						
Quarter 1, 2007 Quarter 2, 2008															*						
Quarter 2, 2009															*						
Quarter 3, 2009															*						
Quarter 4, 2009 Quarter 1, 2010															*						
Quarter 2, 2010															*						
Quarter 3, 2010															*						
Quarter 1, 2011 Quarter 2, 2011															*						
Quarter 3, 2011															*						
Quarter 4, 2011															*						
Quarter 1, 2012 Quarter 2, 2012	H														*						H
Quarter 3, 2012															*						
Quarter 4, 2012 Quarter 1, 2013	-	-	-	-	-	-	-	-	H	-	$\vdash$	-	-	-	*		-	-	$\vdash$		$\blacksquare$
Quarter 1, 2013 Quarter 2, 2013															*						
Quarter 3, 2013															*						
Quarter 4, 2013 Quarter 2, 2014	$\vdash$			_	_	_	<u> </u>	<u> </u>		<u> </u>	H	_			*				H		H
Quarter 4, 2014							E	E		E					*						
Quarter 2, 2015															*						
Quarter 3, 2015 Quarter 4, 2015	⊢			<u> </u>		<u> </u>	H	<u> </u>			*	-			H		H				
Quarter 1, 2016	L	L	L	E	E	E	E	E		E	H	E	L	L	*	L	L	L	H		
Quarter 2, 2016	Ĺ.														*						
Quarter 3, 2016 Quarter 4, 2016	*																				
Quarter 2, 2017	*						E	E		E											
Quarter 3, 2017	*																				
Quarter 1, 2018 Quarter 3, 2018	*			<u> </u>		<u> </u>	H	<u> </u>				-			H		H				
Quarter 3, 2019	*																				
Quarter 4, 2019															*						
Quarter 2, 2020 Quarter 4, 2020	⊢			<u> </u>		<u> </u>	H	<u> </u>			*	-			H		H				
Quarter 1, 2021															*						
Quarter 2, 2021															*						
Quarter 3, 2021 Quarter 4, 2021															*						
Quarter 4, 2021 Quarter 1, 2022															*						$\vdash$
Quarter 2, 2022								Ļ							*						
	•	l						*						<u> </u>	*						
Quarter 3, 2022																					
Quarter 1, 2023								*							*						
								*							*						

Groundwater Flow System Gradient Monitoring Well	1			_	UCDS	,						TID	CA					I D	CA		
	D	S	S	S	UCRS D	D	D	U	U	D	D	UR D	D	U	U	D	D	D	GA D	U	U
A CALIFORNIA TO CII	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
MANGANESE																					
Quarter 3, 2002										*		*									
Quarter 4, 2002	+	*				*	*			*		*		*							
Quarter 2, 2003	+	-				т_	т			*		*		т					-		
Quarter 3, 2003	+	-								*		*	*			*	*	*	*		
	+									*	*	*	*			-	*	*	-		
Quarter 4, 2003	+	-			_					*	*	*	不		_	*	*	*	-		
Quarter 1, 2004	+	-			_		*			*	*	*			_	*	不	*	-		
Quarter 2, 2004	+						*			*	*	*				*		*			
Quarter 3, 2004	+	-			$\vdash$		木				*				$\vdash$				-	-	
Quarter 4, 2004										*		*				*					
Quarter 1, 2005	4									*		*							<u> </u>		
Quarter 2, 2005										*		*									
Quarter 3, 2005										*		*				*					
Quarter 4, 2005										*						*					
Quarter 1, 2006										*											
Quarter 2, 2006							*			*		*									
Quarter 3, 2006										*						*					
Quarter 4, 2006										*											
Quarter 1, 2007										*											
Quarter 2, 2007							*			*											
Quarter 3, 2007	+						*														
Quarter 3, 2008	+						*														
Quarter 4, 2008	+	-					*												-		
Quarter 3, 2009	+-						*														
	+	$\vdash$	$\vdash$	$\vdash$	$\vdash$	-	*	<u> </u>	$\vdash$	$\vdash$	-	$\vdash$	$\vdash$	$\vdash$	$\vdash$	-	$\vdash$	$\vdash$	$\vdash$	$\vdash$	
Quarter 3, 2011	+	-	├	-	Н	<del></del>	*	$\vdash$	├	-	<del></del>	├	├	*	$\vdash$	<del></del>	├	├	-	ш	
Quarter 2, 2016	-	<del>                                     </del>	-		$\vdash$	<del></del>		<b>—</b>	*	_	<del></del>	-	-	*	$\vdash$	<del></del>	-	-	<del>                                     </del>	$\vdash\vdash$	
Quarter 3, 2016	+	$\vdash$	-	-	ш	<u> </u>	<del>                                     </del>	<u> </u>	木	<u> </u>	<u> </u>	-	-	-	ш	<u> </u>	-	-	*	$\vdash$	
Quarter 1, 2022																			*		
NICKEL																					
Quarter 3, 2003	_	-	<u> </u>	<u> </u>	ш		<u> </u>	L	<u> </u>	*		<u> </u>	<u> </u>	<u> </u>	ш		<u> </u>	<u> </u>	Ļ	ш	
Quarter 1, 2022		Ь																	*		
Quarter 4, 2022			تــــــــــــــــــــــــــــــــــــــ	تـــــا			تــــــــــــــــــــــــــــــــــــــ		تــــــــــــــــــــــــــــــــــــــ			تــــــــــــــــــــــــــــــــــــــ	تــــــــــــــــــــــــــــــــــــــ	تــــــــــــــــــــــــــــــــــــــ			تــــــــــــــــــــــــــــــــــــــ	تــــــــــــــــــــــــــــــــــــــ	*	ш	
Quarter 1, 2023		ᆫ					ᅜ	ш		┕									*	آليا	
Quarter 2, 2023																			*		
Quarter 4, 2023												*									
Quarter 1, 2024																			*		
NITRATE AS NITROGEN																					
Quarter 4, 2021																					_
OXIDATION-REDUCTION	POTE	NTIA	I.									_									
Quarter 4, 2002	T	111/1	Ĭ			_					_					_	*		*		
Quarter 1, 2003	+-																*		*		
Quarter 2, 2003	+-																•		*		
	*	-								_									*	$\vdash$	
Quarter 3, 2003	*	-			-					_					$\vdash$				-		
Quarter 4, 2003	4—				*																
Quarter 2, 2004	4												*				*		<u> </u>		*
Quarter 3, 2004					*			*					*	*	*		*			*	*
Quarter 4, 2004												*									*
Quarter 1, 2005																	*			*	*
Quarter 2, 2005								*					*				*			*	
Quarter 3, 2005					*	*		*			*	*	*				*		*	*	*
Quarter 4, 2005		*						*					*				*			*	
Quarter 1, 2006					*			*	*								*				*
Quarter 2, 2006					*		*	*					*				*			*	
Quarter 3, 2006					*			*					*				*			*	
Quarter 4, 2006	+				*		*	_		*		*	*				*			*	*
Quarter 1, 2007	+	*			*			*					*				*			*	*
Quarter 2, 2007	+	-			*								*				*		-	*	*
Quarter 3, 2007	+-				*			*					•				*			*	т
	+-				•			•									*			*	*
Quarter 4, 2007	+							4									木		*		木
Quarter 1, 2008	4-	-			*			*		-14		*	*	ale.				ale.	*	*	Ale.
Quarter 2, 2008	4—				*			*		*			*	*				*		*	*
Quarter 3, 2008	_	<del>                                     </del>			*	<u> </u>	*	*	*	*	<u> </u>	*	*	*	ш	<u> </u>	*	*	*	*	*
Quarter 4, 2008	_	-	<u> </u>	<u> </u>	ш	_	Ļ	*	<u> </u>	*	_	*	*	<u> </u>	ш	_	*	*	-	*	*
Quarter 1, 2009					ш		*	*		*		*	*		ш			*		*	
		1			*		*	*		*		*	*				*	*		*	*
Quarter 2, 2009					*	*	*	*	*	*		*	*	*			*	*	*	*	*
Quarter 2, 2009 Quarter 3, 2009	L	*				*	*	*	*	*		*	*	L			*	*	*	*	*
Quarter 2, 2009		*			_					不						-	*	*		*	
Quarter 2, 2009 Quarter 3, 2009		*			*		*	*		*		Ш	*		Щ.	*					_
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009		*			*	*	*	*		*	*	*	*			*	*	*	*	*	*
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010		*				*	*		*		*	*		*	*			*	*	*	*
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010		*			*	*	*	*		*			*		*	*	*			*	*
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010		*			*	*		*	*	* *	*	*	*	*	*	*	*	*	*	*	
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011		* *			*	*	*	* *	*	* *	*	*	* *	*	*	* *	* * *	*	*	*	*
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 1, 2011 Quarter 2, 2011		* * *			*	* *	*	* * *	*	* * *	*	*	* * *	*	*	* * *	* * *	* *	* * *	* *	* *
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011		* * * *			*	* * *	*	* * *	*	* * * *	* *	* *	* * * *	* * *	*	* * *	* * * * *	* * *	*	* * *	* *
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2019 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011		* * * * * *			*	* * * *	* *	* * * *	* * *	* * * * *	* * *	* * *	* * * * *	* * *	*	* * * *	* * * * * *	* * * *	* * *	* * *	* * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 1, 2011		* * * * * *		٠	*	* * * *	* *	* * * *	* * *	* * * * *	* * *	* * * *	* * * * *	* * * * *	*	* * * *	* * * * * *	* * * * *	* * * *	* * *	* * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012	*	* * * * * * *		*	*	* * * * *	* *	* * * * * *	* * *	* * * * * *	* * *	* * * * *	* * * * * *	* * * * * *	*	* * * * *	* * * * * * *	* * * * * *	* * * *	* * * *	* * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 2, 2012	*	* * * * * * * * * * * * * * * * * * * *		*	*	* * * * * *	* *	* * * * * *	* * * *	* * * * * * *	* * * * *	* * * * * *	* * * * * * * *	* * * * * *	*	* * * * * *	* * * * * * * *	* * * * * * *	* * * * * *	* * * * * *	* * * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012	*	****		*	*	* * * * * * *	* *	* * * * * * *	* * * * *	* * * * * * * *	* * * * *	* * * * * * *	* * * * * * * *	* * * * * * *	*	* * * * * *	* * * * * * * *	* * * * * * * *	* * * *	* * * * * *	* * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2012	*	****		*	*	* * * * * *	* *	* * * * * * * * *	* * * * * *	* * * * * * * * *	* * * * *	* * * * * * *	****	* * * * * * * * *		* * * * * * *	* * * * * * * * *	* * * * * * * *	* * * * * *	* * * * * * *	* * * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 4, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013		*****		*	*	* * * * * * *	* * *	* * * * * * * * * * * * * * * * * * * *	* * * * * *	* * * * * * * * * * * * * * * * * * * *	* * * * * *	* * * * * * * *	*****	* * * * * * * *	*	* * * * * * * *	* * * * * * * * *	****	* * * * * * *	* * * * * * * *	* * * * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2013	*	*****		*	*	* * * * * * * *	* *	* * * * * * * * *	* * * * * *	*****	* * * * *	* * * * * * *	*****	* * * * * * * * *	*	* * * * * * * * *	* * * * * * * * * * * * * * *	*****	* * * * * * *	* * * * * * *	* * * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 2, 2013 Quarter 3, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013		*****		*	*	* * * * * * *	* * *	* * * * * * * * * * * * * * * * * * * *	* * * * * *	* * * * * * * * * * * * * * * * * * * *	* * * * * *	* * * * * * * *	*****	* * * * * * * *	*	* * * * * * * *	* * * * * * * * *	****	* * * * * * *	* * * * * * * *	* * * * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 2, 2013 Quarter 3, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013		*****		*	*	* * * * * * * *	* * *	*****	* * * * * * *	*****	* * * * * *	* * * * * * * * * * * * * * * * * * * *	*****	* * * * * * * * *	*	* * * * * * * * *	* * * * * * * * * * * * * * *	*****	* * * * * * *	* * * * * * * * *	*****
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013		*******		*	*	* * * * * * * *	* * *	*****	* * * * * * * *	*****	* * * * * * *	*****	*****	* * * * * * * * *	**	* * * * * * * * * *	* * * * * * * * * * *	*****	* * * * * * * *	* * * * * * * * * * * * * * * * * * * *	*****
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 1, 2011 Quarter 2, 2011 Quarter 1, 2012 Quarter 2, 2012 Quarter 4, 2012 Quarter 2, 2012 Quarter 2, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 1, 2014	*	******		*	*	* * * * * * * *	**	*****	* * * * * * * * * * * * * * * * * * * *	****	****	*****	*****	* * * * * * * * * * * * * * * *	* *	******	****	*****	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *	*****
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2013 Quarter 3, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2014 Quarter 1, 2014 Quarter 2, 2014 Quarter 2, 2014	*	***		*	*	*****	* * *	*****	* * * * * * * * * * * * * * * * * * * *	******	****	*****	*****	* * * * * * * * * * * * * * * *	* *	******	******	******	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *
Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 4, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 3, 2014	*	***		*	*	*****	* * *	******	* * * * * * * * * * * * * * * * * * * *	******	****	****	*****	*****	***	******	******	******	*****	******	*****
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2011 Quarter 3, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 3, 2014 Quarter 4, 2015	*	****		*	* * *	*****	* * * * *	******	*****	*******	****	****	******	******	***	********	********	*****	*****	********	*****
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 4, 2010 Quarter 4, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 1, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 1, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 4, 2015 Quarter 4, 2015 Quarter 1, 2015 Quarter 1, 2015	*	****		*	* * *	******	* * *	******	*****	*******	*****	******	*******	******	***	*******	********	******	*****	*******	*****
Quarter 2, 2009 Quarter 3, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010 Quarter 3, 2011 Quarter 3, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 1, 2012 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2013 Quarter 1, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 4, 2014 Quarter 3, 2014 Quarter 4, 2015	*	****		*	* * *	*****	* * * * *	******	*****	******	****	****	******	******	***	********	********	*****	*****	********	*****

Groundwater Flow System	_			1	UCRS							UR	GA					LR	GA		
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U
Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
OXIDATION-REDUCTION Po Quarter 1, 2016	OTE:	**	L		*		*	*		*		*	*	*	*	*	*	*	*	*	*
Quarter 2, 2016	*	*			*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*
Quarter 3, 2016	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2016	*	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2017	*	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 2, 2017	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2017	*	*			*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*
Quarter 4, 2017 Quarter 1, 2018	*	*			*	*	*	*	*	*		*	*	*	*	*	*	*		*	*
Quarter 2, 2018	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2018	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2018		*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2019	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 2, 2019	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2019	*	*	_		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2019 Quarter 1, 2020	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 2, 2020	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*
Quarter 3, 2020	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*
Quarter 4, 2020	*	*				*	*	*	*	*	*		*	*	*	*	*	*		*	*
Quarter 1, 2021	*	*			*	*	*	*		*	*	*	*	*	*	*	*	*		*	*
Quarter 2, 2021	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2021	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2021	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2022 Quarter 2, 2022	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 2, 2022 Quarter 3, 2022	*	*		<del>                                     </del>	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2022	ŕ	*			Ė	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2023	L	*				*		*	*	*	*	*	*	*	*	*	*	*		*	*
Quarter 2, 2023	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2023		*				*	*	*	*	*	*	*	*	*	*	*	*	*		*	*
Quarter 4, 2023	<u> </u>	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2024 PCB, TOTAL		*				*		*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2003																	*				
Quarter 3, 2004												*					Ť				
Quarter 3, 2005							*														
Quarter 2, 2006							*														
Quarter 3, 2006							*														
Quarter 1, 2007							*														
Quarter 2, 2007							*														
Quarter 1, 2007							*														
Quarter 1, 2008 Quarter 2, 2008							*											_			_
Quarter 4, 2008							*														
Quarter 3, 2009							*														
Quarter 1, 2010							*														
Quarter 2, 2010							*														
Quarter 4, 2010							*														
PCB-1016 Quarter 3, 2004												*									
Quarter 3, 2004 Quarter 2, 2006							*					*									
Quarter 1, 2007							*					-									
Quarter 2, 2007							*														
Quarter 3, 2007							*														
Quarter 2, 2008							*														
Quarter 4, 2008							*														
Quarter 3, 2009	$\vdash$	<del>                                     </del>					*	<del>                                     </del>	<del>                                     </del>					_						$\vdash$	
Quarter 1, 2010 Quarter 2, 2010		<del>                                     </del>					*	<del>                                     </del>	<del>                                     </del>												
Quarter 4, 2010	t	t					*	t	t											$\vdash$	
PCB-1242							Ė														
Quarter 3, 2006							*					*									
Quarter 4, 2006										*											
Quarter 1, 2008							*			<u> </u>				_	ш		$\Box$				
Quarter 2, 2012							*														
PCB-1248 Quarter 2, 2008							*														
PCB-1260							Ť														
Quarter 2, 2006							*														
pН	L																				
Quarter 3, 2002										*											
Quarter 4, 2002	┖	$ldsymbol{oxedsymbol{oxedsymbol{oxedsymbol{oxedsymbol{eta}}}}$		$ldsymbol{oxed{L}}$			Ľ	$ldsymbol{oxedsymbol{oxedsymbol{oxedsymbol{oxedsymbol{eta}}}}$	$ldsymbol{oxedsymbol{oxedsymbol{oxedsymbol{oxedsymbol{eta}}}}$	*		$ldsymbol{oxed{L}}$	$ldsymbol{oxed{L}}$								
Quarter 1, 2003	1	<u> </u>						<u> </u>	<u> </u>	*											
Quarter 2, 2003 Quarter 3, 2003	*	1					*	1	1	*											
Quarter 4, 2003 Quarter 4, 2003	Ť						*			<u> </u>						*					
Quarter 1, 2004	f						*								Н	*				$\vdash$	
Quarter 3, 2005						*												*	*		
Quarter 4, 2005						*													*		
Quarter 3, 2006																*					
Quarter 2, 2011	<u> </u>	<u> </u>						<u> </u>	<u> </u>	<u> </u>				*	ш						
Quarter 3, 2011	<u> </u>	<u> </u>	-		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>			*	щ		$\vdash$				
Quarter 4, 2011	<del>                                     </del>	<del>                                     </del>	-		<u> </u>	<u> </u>	<u> </u>	<del>                                     </del>	<del>                                     </del>	-	<u> </u>			*	$\vdash$	*	*			-	
Quarter 1, 2012 Quarter 2, 2012	$\vdash$	<del>                                     </del>	<del>                                     </del>	$\vdash$			$\vdash$	<del>                                     </del>	<del>                                     </del>	$\vdash$		*	$\vdash$	_	$\vdash$	*	*		$\vdash$	$\vdash$	
Quarter 1, 2013										*		*				*					
Quarter 3, 2015										Ė							*				
Quarter 2, 2016																				*	*
	1																		_	alle.	
Quarter 3, 2016	_		_				_				_		_	_						*	
Quarter 3, 2016 Quarter 2, 2017																	*			*	

Cusuadayatan Flory System					COD	,						UD	C.			_		T D	C.		
Groundwater Flow System	D	S	S	S	UCR!	D	D	U	U	D	D	D	GA D	U	U	D	D	D	GA D	U	U
Gradient Monitoring Well	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
	300	3/3	370	311	339	302	303	3/1	3/4	300	300	303	331	309	312	307	301	304	336	3/0	3/3
pH										4							4		*		
Quarter 3, 2018					*					*		*					*	*	*		
Quarter 4, 2018		<u> </u>	<u> </u>	<u> </u>								<u> </u>				*		*			
Quarter 3, 2019																*					
Quarter 1, 2021																*		*		*	
Quarter 3, 2021																					*
Quarter 4, 2021																*					*
POTASSIUM																					
Quarter 1, 2014																*					
RADIUM-228																					
Quarter 2, 2005														•							
Quarter 4, 2005		1	1											-				•			
		_	_			-						-						_			
SELENIUM																					
Quarter 4, 2003									•												
SODIUM																					
Quarter 3, 2002										*	*		*								
Quarter 4, 2002										*	*			*							
Quarter 1, 2003										*											
Quarter 2, 2003										*	*										
Quarter 3, 2003											*										
		+	+	-							*	-									
Quarter 1, 2007	$\vdash$	+	+	$\vdash$	-	-	-	-	<del>                                     </del>	<del>                                     </del>	_	$\vdash$	-	JE.	$\vdash$	<b>—</b>	<del>                                     </del>	-	-	-	
Quarter 1, 2012	$\vdash$	₩	₩	$\vdash$	<u> </u>	<u> </u>	-	<u> </u>	$\vdash$	⊢	-	$\vdash$	-	*	<b>.</b>	<u> </u>	$\vdash$	-	-	-	$\vdash$
Quarter 1, 2014	₩	₩	₩	-	_	_	<u> </u>	Ь	<u> </u>	Ь	ـــا	-	<u> </u>	<u> </u>	*	Ь—	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Quarter 3, 2014	_	<u> </u>	<u> </u>								*				ш						
Quarter 4, 2014		Ц_	Ц_								*										
Quarter 4, 2015	ட	┕	┕	┕				L	ᅜ	ᄕ	*	┕				┕	ᅜ				ᄕ
Quarter 1, 2016											*										
Quarter 2, 2016											*										
Quarter 3, 2016	Г										*				$\Box$						
Quarter 4, 2016	t	t	t						<del>                                     </del>	<b>—</b>	*				$\vdash$	1	<del>                                     </del>				
	H	H	H	<del>                                     </del>	<b>-</b>	<b>-</b>		<b>-</b>	-		*	<del>                                     </del>			$\vdash$		-				1
Quarter 1, 2017	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<b>-</b>	<b>-</b>	-	<b>—</b>		-		<del>                                     </del>	-	-	$\vdash$	_		-			_
Quarter 2, 2017	₩	<del>                                     </del>	<del>                                     </del>	<u> </u>	<u> </u>	<u> </u>		<u> </u>			*	<u> </u>			ш						_
Quarter 3, 2017											*										
Quarter 4, 2017											*										
Quarter 1, 2018											*										
Quarter 3, 2018											*										
STRONTIUM-90																					
Quarter 4, 2008																					
SULFATE							_														
							*														
Quarter 1, 2003		-	-	-		*	*	_		_		-				_					
Quarter 2, 2003	*	1	1				不														
Quarter 3, 2003	*					*															
Quarter 4, 2003					*		*														
Quarter 1, 2004					*	*	*														
Quarter 2, 2004					*	*	*														
Quarter 3, 2004					*	*	*														
Quarter 1, 2005					*	*			*												
Quarter 2, 2005		1	1	1	*		*		*			1			*						
Quarter 3, 2005		+	+	-	*	*	*		-			-			-						
Quarter 4, 2005		1	1		ŕ	ŕ	•								*						
Quarter 4, 2003	_	1	1		- 14				14						*						
Quarter 1, 2006				-	*				*			-			_						
Quarter 2, 2006		<u> </u>	<u> </u>	<u> </u>		*	*		*			<u> </u>			*						
Quarter 3, 2006							*														
Quarter 1, 2007							*														
Quarter 2, 2007							*														
Quarter 3, 2007							*														
Quarter 4, 2007	Г	*					Ė								$\Box$						
Quarter 1, 2008	t	*	i –	1	*		*		*			1									
Quarter 2, 2000	H	*	<del>                                     </del>	1	*	*	*	$\vdash$	Ť	<b>—</b>	-	1	-	-	$\vdash$	-	$\vdash$	-	-	-	$\vdash$
Quarter 2, 2008	$\vdash$		+	$\vdash$		_		-	<del>                                     </del>	<del>                                     </del>	-	$\vdash$	-	-	$\vdash$	<b>—</b>	<del>                                     </del>	-	-	-	
Quarter 3, 2008	$\vdash$	*	₩	$\vdash$	*	*	*	<u> </u>	$\vdash$	⊢	-	$\vdash$	-	-	Н	<u> </u>	$\vdash$	-	-	-	$\vdash$
Quarter 4, 2008	⊢	*	₩	<del>                                     </del>	Ь	*	*	Ь.	<b>—</b>	Ь—	<u> </u>	<del>                                     </del>	<u> </u>	<u> </u>	ш	<u> </u>	<b>—</b>	<u> </u>	<u> </u>	<u> </u>	<b>—</b>
Quarter 1, 2009		*	Ь	<u> </u>			*			Ь	<u> </u>	<u> </u>	<u> </u>	<u> </u>		Ь		<u> </u>			
Quarter 2, 2009	ட	*		$oldsymbol{ol}}}}}}}}}}}}}}}}$	*	*	*					$oldsymbol{ol}}}}}}}}}}}}}}}}$									
Quarter 3, 2009		*			*	*	*								*						
Quarter 4, 2009		*			*	*									*						
Quarter 1, 2010		*			*	*	*								*						
Quartel 1, 2010					*	*	*								*						
Quarter 1, 2010 Quarter 2, 2010		*			*	*	*		<del>                                     </del>	<b>—</b>					*	1	<del>                                     </del>				
Quarter 2, 2010		不			÷	*	*	$\vdash$	<del>                                     </del>	<b>—</b>	-	1	-	-	*	-	<del>                                     </del>	_	-	-	$\vdash$
Quarter 2, 2010 Quarter 3, 2010		*				45	*		-		_	-									
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010		*											l		-						
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011		*										-									
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011		* * *			*	*	*								*						
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011		* * *			*	*	*	*							*						
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011		* * * *			*	*	*								*						
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012		* * * * * *				* *	*	*							* *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012	*	* * * *		*	*	*	*		*						*						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 2, 2012	*	* * * * * *		*		* *	*	*	*						* * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012	*	* * * * * * *		*		* * *	*	*	*						* * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012	*	* * * * * * *		*		* * *	*	*	*						* * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 1, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012	*	* * * * * * * *		*		* * *	*	*	*						* * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 2, 2012 Quarter 1, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 1, 2013		* * * * * * * * *			*	* * *	*	*	*						* * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 1, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2012 Quarter 2, 2012 Quarter 2, 2013 Quarter 3, 2013	*	* * * * * * * * * *		*		* * *	*	*	*						* * * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013		******			*	* * *	*	*	*						* * * * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 1, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 1, 2012 Quarter 1, 2013 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2013 Quarter 1, 2014	*	*******			*	* * *	* * *	*	*						* * * * * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 1, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 2, 2012 Quarter 2, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013	*	******			*	* * * *	* * *	*	*						* * * * * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 1, 2014 Quarter 1, 2014 Quarter 1, 2014	*	*******			*	* * *	* * *	*	*						* * * * * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 3, 2011 Quarter 1, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 2, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 1, 2014 Quarter 1, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014	*	**********			*	* * * *	* * *	*	*						* * * * * * * *						
Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010 Quarter 1, 2011 Quarter 2, 2011 Quarter 2, 2011 Quarter 3, 2011 Quarter 4, 2011 Quarter 3, 2012 Quarter 3, 2012 Quarter 3, 2012 Quarter 4, 2012 Quarter 1, 2013 Quarter 1, 2013 Quarter 2, 2013 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2012 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 4, 2013 Quarter 1, 2014 Quarter 1, 2014 Quarter 1, 2014	*	******			*	* * * *	* * *	*	*						* * * * * * * *						

Groundwater Flow System	_			1	UCR					_		UR	GA			1		Į Þ	GA		
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U
Monitoring Well	368	375	376	377	359	362	365	371	374		360	363	357	369	372	367	361	364	358	370	373
SULFATE																					
Quarter 2, 2015	*	*			*		*								*						
Quarter 3, 2015		*			*	*		*							*						
Quarter 4, 2015	*	*	₩		,1.	*	*	*	₩				<u> </u>	<u> </u>	щ		<u> </u>				
Quarter 1, 2016	*	*			*	*	*														
Quarter 2, 2016	*	*	-		*	*	*	-	-												
Quarter 3, 2016	*	*	-		*	*	*	*	-												
Quarter 4, 2016	*	*				*	*	*													
Quarter 1, 2017 Quarter 2, 2017	*	*			*	*	*														
Quarter 3, 2017	*	*			*	*	*		1												
Quarter 4, 2017	Ë	*			<u> </u>	*	*		1												
Quarter 1, 2018	*	*			*	*	*														
Quarter 2, 2018	*	*			*	*	*	*													
Quarter 3, 2018	*	*			*	*	*	*													
Quarter 4, 2018		*				*	*	*													
Quarter 1, 2019	*	*			*	*	*														
Quarter 2, 2019	*	*			*	*	*	*													
Quarter 3, 2019	*	*			*	*	*	*													
Quarter 4, 2019	*	*			*	*	*	*													
Quarter 1, 2020	*	*			*	*	*	*													
Quarter 2, 2020	*	*			*	*	*	*													
Quarter 3, 2020	*	*			*	*	*	*													
Quarter 4, 2020	*	*				*	*	*													
Quarter 1, 2021	*	*	$ldsymbol{oxed}$		*	*	*	*	匸						*	$ldsymbol{oxed}$					
Quarter 2, 2021	*	*			*	*	*	*	$ldsymbol{oxed}$						*	L					
Quarter 3, 2021	*	*	<u> </u>	<u> </u>	*	*	*	*	<b>↓</b>		<u> </u>	<u> </u>			*			<u> </u>	<u> </u>	ш	
Quarter 4, 2021	*	*	<u> </u>	<u> </u>	*	*	*	_	ـــــ	<u> </u>	<u> </u>	<u> </u>	L		*	<u> </u>		<u> </u>	<u> </u>		
Quarter 1, 2022	*	*	<u> </u>	<u> </u>	*	*	*	Ļ	L.		<u> </u>	<u> </u>			*			<u> </u>	<u> </u>	$\square$	
Quarter 2, 2022	*	*	1—	<b>!</b>	*	*	*	*	*	<b>├</b>	<b>!</b>	<b>!</b>	Ь—	<u> </u>	*	<b>!</b>	<u> </u>	<b>!</b>	<b>!</b>		
Quarter 3, 2022	*	*	<del> </del>		*	*	*	*	*	<u> </u>			<u> </u>	_	*		_			-	
Quarter 4, 2022	₩	*	1—	<b>!</b>	<b>!</b>	*	*	<u> </u>	₩	<b>!</b>	<b>!</b>	<b>!</b>	Ь—	<u> </u>	ايبا	<b>!</b>	<u> </u>	<b>!</b>	<b>!</b>		
Quarter 1, 2023		*	<del> </del>			*	41-	J.	<b>.</b>	<u> </u>			<u> </u>	_	*		_			-	
Quarter 2, 2023	*	*	<del>                                     </del>	<u> </u>	*	*	*	*	*	<u> </u>	<u> </u>	<u> </u>	<u> </u>	-	*	<b>—</b>	-	<u> </u>	<u> </u>	$\vdash$	
Quarter 3, 2023	₩	*	1	-	├	*	*	*	*	├	-	-	-	<u> </u>	*	<b>-</b>	<u> </u>	-	-	$\vdash$	
Quarter 4, 2023			-			*	*	*												_	
Quarter 1, 2024		*							*						*						
TECHNETIUM-99																	4	4			
Quarter 4, 2002			1				*		-				*			*	*	*	*		•
Quarter 2, 2003		_	-				*		-				*			*	*	*	*	_	*
Quarter 3, 2003			-						-						_	_	*			-	*
Quarter 4, 2003 Quarter 1, 2004									-						*		*				*
Quarter 1, 2004 Quarter 2, 2004									-						*		*				*
Quarter 3, 2004									1						*						*
Quarter 4, 2004									1						*		*				*
Quarter 3, 2005															-		*				т
Quarter 1, 2006			<b>†</b>												*		_				*
Quarter 2, 2006		*							*						-						*
Quarter 3, 2006		-							<del>                                     </del>												*
Quarter 4, 2006															*						*
Quarter 1, 2007																					*
Quarter 2, 2007													*		*					*	
Quarter 3, 2007															*		*	*			
Quarter 4, 2007										*					*				*		*
Quarter 1, 2008															*					*	*
Quarter 2, 2008							*	*						*		*			*		
Quarter 3, 2008															*						
Quarter 4, 2008		oxdot					oxdot		匸	*							*		*		
Quarter 1, 2009		匚	$ldsymbol{oxed}$		$ldsymbol{oxed}$	$ldsymbol{oxed}$	匚	匚	匸	*						$ldsymbol{oxed}$					
Quarter 2, 2009		匚	$ldsymbol{oxed}$		$ldsymbol{oxed}$	$ldsymbol{oxed}$	匚	匚	匸							$ldsymbol{oxed}$		*			
Quarter 3, 2009		تـــا		$ldsymbol{oxed}$	$ldsymbol{ldsymbol{ldsymbol{eta}}}$	$ldsymbol{ldsymbol{ldsymbol{eta}}}$	تـــا	*	$oldsymbol{ol}}}}}}}}}}}}}}}}}$	*	$ldsymbol{oxed}$	$ldsymbol{oxed}$			*	$ldsymbol{oxed}$		$ldsymbol{oxed}$	$ldsymbol{oxed}$		
Quarter 4, 2009		تـــا		$ldsymbol{oxed}$	$ldsymbol{ldsymbol{ldsymbol{eta}}}$	$ldsymbol{ldsymbol{ldsymbol{eta}}}$	تـــا	تـــا	$oldsymbol{ol}}}}}}}}}}}}}}}}}}$	*	$ldsymbol{oxed}$	$ldsymbol{oxed}$			*	$ldsymbol{oxed}$		*	*		
Quarter 2, 2010			<u> </u>						<u> </u>	*					ш	*	*	*	*		
Quarter 3, 2010	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>		_	<b>↓</b>	*	<u> </u>	<u> </u>			*			<u> </u>	<u> </u>	ш	
Quarter 4, 2010	<u> </u>	١	<b>!</b>	<b>.</b>	<b>—</b>	<b>—</b>			₩	<u> </u>	<b>.</b>	<b>.</b>	<b>.</b>	<u> </u>	ш	-	L.	*	<b>.</b>	$\square$	
Quarter 1, 2011	<u> </u>	*	<b>!</b>	<b>.</b>	<b>—</b>	<b>—</b>			₽	*	<b>.</b>	<b>.</b>	<b>.</b>	<u> </u>	ш	<b>.</b>	*	,	<u></u>	$\Box$	
Quarter 2, 2011	₩	<u> </u>	1—	<b>!</b>	<b>!</b>	<b>!</b>	<u> </u>	<u> </u>	₩	<b>!</b>	<b>!</b>	<b>!</b>	Ь—	<u> </u>	ш	*	*	*	*		
Quarter 1, 2012	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		₩	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ш		*	*	<u> </u>	-	
Quarter 2, 2012	<del>                                     </del>	-	1	-	-	-	-	*	₩	<del>                                     </del>	-	-	-	<u> </u>	H	-	-	*	-	$\vdash$	
Quarter 3, 2012	<del>                                     </del>	-	1	-	-	-	-	-	₩	<del>                                     </del>	-	-	-	<u> </u>	4	-	*	*	-	$\vdash$	
Quarter 4, 2012	₩	<u> </u>	1	-	├	├	<u> </u>	<u> </u>	₩	├	-	-	-	<u> </u>	*	<b>-</b>	<u> </u>	*	-	$\vdash$	*
Quarter 1, 2013	<del> </del>	├	<del>                                     </del>	-	├	├	├	├-	₩	├	-	-	<del></del>	$\vdash$	$\vdash$	-	$\vdash$	*	-	-	*
Quarter 2, 2013	<del>                                     </del>	_	<del>                                     </del>		-	-	_	-	1	*			<u> </u>	-	H	-	-			-	*
Quarter 3, 2013 Quarter 4, 2013	<del>                                     </del>	_	<del>                                     </del>		-	-	_	-	1	*			<u> </u>	-	*	-	*	*		-	*
Quarter 4, 2013 Quarter 1, 2014	1	<del>                                     </del>	1	1	1	1	<del>                                     </del>	<del>                                     </del>	1	1	1	1	-	-	*	<b>-</b>	*	*	1	$\vdash$	*
	1	<b>-</b>	<b>!</b>	1	1	1	<b>-</b>	<b>-</b>	1	1	1	1		<b>—</b>	_		~	*	1	$\vdash$	
		$\vdash$	H		<del>                                     </del>	<del>                                     </del>	$\vdash$	$\vdash$	t								*	*	*	$\vdash$	
Quarter 2, 2014			<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	$\vdash$	$\vdash$	t						*		Ť	<u> </u>	<u> </u>	$\vdash$	
Quarter 2, 2014 Quarter 3, 2014				-	<del>                                     </del>	<del>                                     </del>	$\vdash$	$\vdash$	t						*			*			
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014				l					t	1					_	*		<del>-</del>		$\vdash$	
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015										_	_	_									
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015											l	ı						*	*	*	
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015															*		*	*	*	*	
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2015															*	*	*			*	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 4, 2016															*	*	*	*	*	*	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2016															*	*	*		*	*	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2016										*				*	*		*	*	*	*	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 1, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2016										*				*	*		* *	*	* *	*	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 1, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2016										*				*	*		*	*	*	* *	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 4, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 1, 2017 Quarter 1, 2017										*				*	*		* *	*	* *	* * *	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 1, 2017 Quarter 1, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2017										*				*			* *	* *	* *	* * *	*
Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 4, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 1, 2017 Quarter 1, 2017										*					*		* * *	*	* *	* * *	*

Gradient Monitoring Well	ъ.	-			UCRS		ъ	ŢΤ	ΥT	Г	Р	UR		ΥY	ΥY	ъ	ъ		GA	ΥY	
	D	S 275	S 276	S 277	D 250	D 262	D 265	U 271	U 274	D	D 260	D 262	D 257	U 260	U	D	D 261	D	D	U 270	27
	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	37
FECHNETIUM-99																					
Quarter 2, 2018														*		*				*	╀-
Quarter 3, 2018	₩	<del>                                     </del>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ш	<u> </u>	<u> </u>	_	<u> </u>	<u> </u>	<u> </u>	<u> </u>	*	<b>—</b>	<u>.</u>	<b>.</b>	<u>.</u>	*	1
Quarter 4, 2018															*		*	*	*	*	_
Quarter 1, 2019																*				*	
Quarter 2, 2019														*						*	
Quarter 3, 2019															*			*		*	
Quarter 4, 2019															*		*	*		*	
Quarter 1, 2020															*		*	*		*	
Quarter 2, 2020																*		*	*	*	
Quarter 3, 2020															*		*	*	*	*	Г
Quarter 4, 2020															*		*	*		*	Т
Quarter 1, 2021																				*	H
Quarter 2, 2021	<del>                                     </del>	1								*						*	*	*	*		H
Quarter 3, 2021	<del>                                     </del>	-								-				*	*		-	*	-		H
	<del></del>	-								_				•	-		*	_			+
Quarter 4, 2021	₩	_								-14								*			1
Quarter 1, 2022	_									*							*	*			_
Quarter 2, 2022										*					*			*			
Quarter 3, 2022	_	<u> </u>													*		*	*			L
Quarter 4, 2022							لــــا								*						L
Quarter 1, 2023	$oldsymbol{ol}}}}}}}}}}}}}}}$	تــــــــــــــــــــــــــــــــــــــ					[			*					*	تــــــــــــــــــــــــــــــــــــــ	*	*			上
Quarter 2, 2023	L	L	L	L	L	L	LĪ	L		*	L	L		L	L	L		*	L		L
Quarter 3, 2023		Ĺ	Ĺ	Ĺ	Ĺ	Ĺ		Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	L	*	*	*	Ĺ	Γ
Quarter 4, 2023		1												*			*	*			Γ
Quarter 1, 2024																	*	*			Т
THORIUM-230																	Ė	Ė			Ĺ
Quarter 4, 2015																*					Г
Quarter 2, 2016	t	1	<del>                                     </del>							*				<del>                                     </del>		Ť					t
Quarter 2, 2016 Quarter 4, 2016	*	<b>!</b>	-		<b>-</b>			<b>-</b>		Ť	<b>-</b>	*		-	<b>-</b>	*		<b>-</b>	*		۲
	Ť	1	<del>                                     </del>	-	-	-	$\vdash$	-	-	<b>—</b>	-	-	34	<del>                                     </del>	-	Ť	-	-	-	-	۲
Quarter 4, 2017	₩	<del>                                     </del>			<b>-</b>		<b>—</b>	<b>-</b>	-	ىر	<b>-</b>		*		<b>—</b>	<del></del>	-	<b>-</b>		-	+
Quarter 2, 2018	₩	₩	├	├	<u> </u>	├	$\vdash$	<u> </u>	,14.	*	<u> </u>	├	*	├	<u> </u>	<b>—</b>	├	<u> </u>	├	├	╄
Quarter 2, 2021	-								*												L
TOLUENE																					
Quarter 2, 2014		Ц_			_			_		*	_			*	_			_			┺
TOTAL ORGANIC CARBON																					
Quarter 3, 2002	╙						[]			*	*	*		*							*
Quarter 4, 2002										*	*			*							┎
Quarter 1, 2003											*										
Quarter 3, 2003	*									*	*					*					Г
Quarter 4, 2003										*	*										Т
Quarter 1, 2004											*										H
Quarter 3, 2005	_	1				*				*					*	*			*		H
Quarter 4, 2005	_	1				*												*	*		H
Quarter 1, 2006	<del></del>	-				-												-	*		H
TOTAL ORGANIC HALIDES	_	_																	_		-
										4											
Quarter 4, 2002	₩	_								*											╀
Quarter 1, 2003										*											_
Quarter 2, 2003										*											_
Quarter 1, 2004																*					Ш
TRICHLOROETHENE																					
Quarter 3, 2002																					
Quarter 4, 2002	L		L				آللا		L	L			L	L	•		L			•	L
Quarter 1, 2003																					1
Quarter 2, 2003		1													•						T
	_				_					-											1
	1																				
Quarter 3, 2003	H														_					H	
Quarter 3, 2003 Quarter 4, 2003															I						Ħ
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004															•					Ŧ	H
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004															=					Ē	
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004															•						
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 2, 2005																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 2, 2005 Quarter 3, 2005																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 2, 2005																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 2, 2005 Quarter 3, 2005																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2005 Quarter 1, 2006																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 2, 2005 Quarter 2, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2006 Quarter 1, 2006 Quarter 2, 2006																					H
Quarter 3, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 1, 2005 Quarter 2, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2005 Quarter 1, 2006 Quarter 3, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 4, 2006																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 1, 2005 Quarter 2, 2005 Quarter 2, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 1, 2006																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 4, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 1, 2006 Quarter 1, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2007																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 1, 2005 Quarter 2, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 1, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 3, 2007																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2006 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 1, 2007 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 4, 2007 Quarter 1, 2008 Quarter 2, 2008																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 1, 2005 Quarter 2, 2005 Quarter 2, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 1, 2006 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 1, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 2, 2004 Quarter 3, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 1, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 2, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 1, 2005 Quarter 2, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 4, 2008 Quarter 4, 2009																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 1, 2005 Quarter 2, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 4, 2008 Quarter 4, 2009																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 1, 2006 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 2008 Quarter 1, 2008 Quarter 2, 2008 Quarter 4, 2009 Quarter 4, 2009 Quarter 1, 2009 Quarter 2, 2009																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 2008 Quarter 3, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2009																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 1, 2005 Quarter 2, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 2, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 3, 2007 Quarter 4, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 2, 2009 Quarter 3, 2009																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 4, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2006 Quarter 2, 2006 Quarter 4, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 2008 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009													Ī								
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2003 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 2, 2006 Quarter 2, 2007 Quarter 2, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 3, 2008 Quarter 3, 2008 Quarter 3, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 1, 2009 Quarter 4, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 1, 2010													Ī						-		
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 1, 2006 Quarter 1, 2007 Quarter 3, 2006 Quarter 1, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 2, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 3, 2009 Quarter 1, 2009 Quarter 1, 2010 Quarter 1, 2010 Quarter 1, 2010 Quarter 1, 2010 Quarter 2, 2010																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 2, 2004 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 1, 2007 Quarter 1, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 1, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 3, 2010													Ī								
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2003 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 1, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 2, 2006 Quarter 1, 2006 Quarter 1, 2007 Quarter 2, 2007 Quarter 2, 2007 Quarter 1, 2007 Quarter 2, 2007 Quarter 3, 2008 Quarter 4, 2009 Quarter 1, 2009 Quarter 1, 2009 Quarter 4, 2010 Quarter 3, 2010 Quarter 3, 2010 Quarter 4, 2010													• • •								
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 3, 2004 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2006 Quarter 2, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2006 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 5, 2007 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2008 Quarter 1, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 2, 2009 Quarter 2, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 4, 2011 Quarter 2, 2011																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 2, 2004 Quarter 2, 2005 Quarter 3, 2006 Quarter 2, 2006 Quarter 2, 2006 Quarter 3, 2006 Quarter 3, 2006 Quarter 4, 2006 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 3, 2008 Quarter 1, 2008 Quarter 2, 2008 Quarter 2, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2011																					
Quarter 3, 2003 Quarter 4, 2003 Quarter 1, 2004 Quarter 2, 2004 Quarter 2, 2004 Quarter 3, 2004 Quarter 4, 2004 Quarter 4, 2004 Quarter 3, 2005 Quarter 3, 2005 Quarter 3, 2005 Quarter 4, 2005 Quarter 4, 2005 Quarter 4, 2006 Quarter 2, 2006 Quarter 4, 2007 Quarter 3, 2007 Quarter 3, 2007 Quarter 4, 2007 Quarter 4, 2007 Quarter 2, 2008 Quarter 1, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 4, 2008 Quarter 3, 2009 Quarter 4, 2009 Quarter 3, 2009 Quarter 4, 2009 Quarter 4, 2009 Quarter 2, 2010 Quarter 2, 2010 Quarter 2, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 4, 2011 Quarter 2, 2011 Quarter 4, 2011 Quarter 2, 2011 Quarter 2, 2011																					

Groundwater Flow System Gradient D S S Monitoring Well 368 375 376 TRICHLOROETHENE Quarter 4, 2012 Quarter 4, 2012 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 4, 2014 Quarter 1, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2010 Quarter 4, 2011 Quarter 4, 2011 Quarter 3, 2016 Quarter 4, 2015 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2017 Quarter 4, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 2, 2010 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2010 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2020 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 2, 2022 Quarter 3, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2000	UC	CRS	_						UR	GA					LR	GA		$\neg$
Monitoring Well   368   375   376			D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U
TRICHLOROETHENE Quarter 3, 2012 Quarter 4, 2012 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 4, 2014 Quarter 4, 2016 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2016 Quarter 2, 2015 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 2, 2023 Quarter 3, 2023 Quarter 4, 2003 Quarter 1, 2023 Quarter 4, 2003 Quarter 1, 2023 Quarter 4, 2003 Quarter 4, 2002 Quarter 1, 2023 Quarter 4, 2003 Quarter 4, 2002 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2002 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 4, 2009				365	371	374	366	360	363	357	369	372	367	361	364		370	373
Quarter 3, 2012 Quarter 4, 2012 Quarter 4, 2012 Quarter 4, 2013 Quarter 2, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2014 Quarter 4, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 2, 2014 Quarter 1, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 2, 2015 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 4, 2016 Quarter 1, 2017 Quarter 1, 2017 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 2, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2003 TURBIDITY Quarter 4, 2000 Quarter 4, 2000 Quarter 4, 2002 Quarter 4, 2002 Quarter 4, 2002 Quarter 4, 2003 Quarter 4, 2003 URANIUM Quarter 4, 2006									-					-				
Quarter 4, 2012 Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 2, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2015 Quarter 2, 2016 Quarter 3, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 3, 2017 Quarter 1, 2016 Quarter 3, 2017 Quarter 1, 2018 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2021 Quarter 2, 2021 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2003 Quarter 2, 2003 Quarter 2, 2003 Quarter 3, 2003 Quarter 4, 2000		_	-									▔		_				•
Quarter 1, 2013 Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 1, 2014 Quarter 1, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 3, 2010 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2017 Quarter 3, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 4, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2003 TURBIDITY Quarter 4, 2000 Uarter 4, 2000 Quarter 4, 2002 Quarter 1, 2003 Quarter 4, 2003 URANIUM Quarter 4, 2000 Uarter 1, 2003 URANIUM Quarter 4, 2000 Uarter 4, 2000		$\dashv$	$\dashv$									ī		<del>                                     </del>				Ŧ
Quarter 2, 2013 Quarter 3, 2013 Quarter 3, 2013 Quarter 4, 2013 Quarter 4, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 2, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 3, 2016 Quarter 1, 2016 Quarter 3, 2016 Quarter 1, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2019 Quarter 4, 2017 Quarter 2, 2019 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 4, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 3, 2023 Quarter 4, 2000		-	$\dashv$								_	Ŧ		1				÷
Quarter 3, 2013 Quarter 5, 2013 Quarter 5, 2013 Quarter 7, 2013 Quarter 1, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 3, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2016 Quarter 2, 2017 Quarter 3, 2016 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2018 Quarter 1, 2019 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 2, 2021 Quarter 2, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 2, 2022 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2023 TURBIDITY Quarter 4, 2000 Quarter 1, 2003 Quarter 1, 2003 Quarter 3, 2023 TURBIDITY Quarter 4, 2000 Quarter 4, 2000 Quarter 1, 2003 Quarter 4, 2000 Quarter 1, 2003 Quarter 3, 2023 TURBIDITY Quarter 4, 2000	$\vdash$	-+	-+							Ħ		Ħ						-
Quarter 3, 2013 Quarter 4, 2013 Quarter 1, 2014 Quarter 2, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2015 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 2, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2003 TURBIDITY Quarter 4, 2006  W* Quarter 4, 2006  UANNIUM Quarter 4, 2006  Valuarter 4, 2006  Valuarter 4, 2006  Valuarter 4, 2007  Valuarter 4, 2008  Valuarter 4, 2009  Quarter 1, 2003  Quarter 1, 2003  Quarter 1, 2003  Quarter 1, 2003  Quarter 2, 2023  Quarter 4, 2000  UARNIUM  Quarter 4, 2000  Valuarter 4, 2000	$\vdash$	-+	-+							-		_		Ħ		Η=		_
Quarter 4, 2013 Quarter 1, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 1, 2019 Quarter 1, 2020 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 2, 2022 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2003 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2003 Quarter 4, 2000 Quarter 4, 2000 Quarter 4, 2001 Quarter 4, 2001 Quarter 4, 2002 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2000	$\vdash$	-+	-+											<del>-</del>	-	<b>-</b>		_
Quarter 1, 2014 Quarter 2, 2014 Quarter 3, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 3, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 2, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2000 Quarter 1, 2003 Quarter 4, 2003 Quarter 3, 2023 TURBIDITY Quarter 4, 2006  W** Quarter 4, 2006  URANIUM Quarter 4, 2006  W** Quarter 4, 2006	$\vdash$	-+	-+				_			i		Ħ	_	-			_	÷
Quarter 2, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 3, 2014 Quarter 1, 2015 Quarter 1, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 2, 2017 Quarter 1, 2017 Quarter 2, 2017 Quarter 1, 2017 Quarter 1, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 1, 2020 Quarter 4, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2021 Quarter 2, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2000 Quarter 3, 2021 Quarter 3, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000	$\vdash$	-+	$\dashv$							ŧ		Ŧ				Ħ		÷
Quarter 3, 2014 Quarter 4, 2014 Quarter 4, 2015 Quarter 2, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 3, 2016 Quarter 4, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 4, 2019 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2021 Quarter 5, 2021 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000 Quarter 4, 2001 Quarter 3, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000	$\vdash$	-+	$\dashv$							•		÷				1		
Quarter 4, 2014 Quarter 1, 2015 Quarter 2, 2015 Quarter 3, 2015 Quarter 3, 2015 Quarter 1, 2016 Quarter 1, 2016 Quarter 1, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 3, 2017 Quarter 2, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 1, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 4, 2000 Uarter 4, 2000 Uarter 4, 2001 Uarter 4, 2002 Quarter 1, 2003 Uarter 1, 2003 Uarter 1, 2003 Uarter 1, 2003 Uarter 4, 2000 Uarter 4, 2000 Uarter 4, 2000 Uarter 4, 2000 Uarter 1, 2003 Uarter 4, 2000	$\vdash$	-+					_			_		÷	_	-		1	$\vdash$	_
Quarter 1. 2015 Quarter 2. 2015 Quarter 3. 2015 Quarter 4. 2015 Quarter 4. 2015 Quarter 1. 2016 Quarter 3. 2016 Quarter 3. 2016 Quarter 3. 2016 Quarter 3. 2016 Quarter 2. 2017 Quarter 1. 2017 Quarter 2. 2017 Quarter 2. 2017 Quarter 3. 2017 Quarter 4. 2017 Quarter 4. 2018 Quarter 3. 2018 Quarter 3. 2018 Quarter 3. 2018 Quarter 4. 2018 Quarter 4. 2019 Quarter 2. 2019 Quarter 3. 2019 Quarter 4. 2019 Quarter 4. 2019 Quarter 1. 2019 Quarter 2. 2019 Quarter 3. 2019 Quarter 4. 2019 Quarter 4. 2019 Quarter 3. 2020 Quarter 4. 2020 Quarter 4. 2020 Quarter 3. 2021 Quarter 3. 2021 Quarter 3. 2021 Quarter 1. 2022 Quarter 1. 2022 Quarter 1. 2022 Quarter 1. 2022 Quarter 1. 2023 Quarter 3. 2023 Quarter 4. 2000 Quarter 4. 2000 Quarter 3. 2021 Quarter 3. 2022 Quarter 3. 2023 Quarter 4. 2000	$\vdash$	_	_							_								▝
Quarter 2, 2015 Quarter 3, 2015 Quarter 4, 2015 Quarter 4, 2015 Quarter 1, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 2, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 3, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 1, 2021 Quarter 2, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2000 Quarter 1, 2003 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000 Quarter 4, 2000 Quarter 4, 2001 Quarter 1, 2003 Quarter 3, 2023 Quarter 4, 2000	$oldsymbol{\sqcup}$	<u></u>	_							•								
Quarter 3, 2015 Quarter 4, 2015 Quarter 4, 2016 Quarter 2, 2016 Quarter 2, 2016 Quarter 1, 2017 Quarter 1, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 3, 2018 Quarter 2, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 1, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2003 TURBIDITY Quarter 4, 2000 URANIUM Quarter 4, 2000  W* Quarter 4, 2000  WARNIUM Quarter 4, 2000  WARNIUM Quarter 4, 2000  WARNIUM Quarter 4, 2000  WARNIUM Quarter 4, 2000	$\vdash$	_+								•		•				<u> </u>		
Quarter 4, 2015 Quarter 1, 2016 Quarter 2, 2016 Quarter 3, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 4, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 4, 2017 Quarter 4, 2017 Quarter 4, 2018 Quarter 1, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 1, 2022 Quarter 3, 2023 Quarter 4, 2000 URANIUM Quarter 4, 2006		•																
Quarter 1. 2016 Quarter 2. 2016 Quarter 3. 2016 Quarter 4. 2016 Quarter 4. 2016 Quarter 3. 2017 Quarter 2. 2017 Quarter 3. 2017 Quarter 2. 2017 Quarter 3. 2017 Quarter 1. 2018 Quarter 1. 2018 Quarter 2. 2018 Quarter 2. 2018 Quarter 3. 2019 Quarter 4. 2019 Quarter 4. 2019 Quarter 3. 2019 Quarter 3. 2019 Quarter 3. 2019 Quarter 3. 2019 Quarter 1. 2020 Quarter 1. 2020 Quarter 2. 2020 Quarter 3. 2020 Quarter 4. 2020 Quarter 4. 2020 Quarter 3. 2021 Quarter 3. 2021 Quarter 4. 2021 Quarter 2. 2022 Quarter 3. 2021 Quarter 1. 2022 Quarter 1. 2022 Quarter 1. 2022 Quarter 1. 2022 Quarter 1. 2023 Quarter 2. 2023 Quarter 3. 2023 Quarter 3. 2023 Quarter 4. 2003 Quarter 1. 2003 Quarter 3. 2023 Quarter 4. 2003 Quarter 4. 2000 Quarter 4. 2000 Quarter 1. 2003 Quarter 3. 2023 Quarter 4. 2000	┷									•								
Quarter 2, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 1, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2019 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 2, 2018 Quarter 1, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 2, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 3, 2023 Quarter 4, 2000	للسا		]							•								
Quarter 2, 2016 Quarter 3, 2016 Quarter 4, 2016 Quarter 1, 2017 Quarter 2, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2019 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 2, 2018 Quarter 1, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 2, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 3, 2023 Quarter 4, 2000										•		•						
Quarter 4, 2016 Quarter 1, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2006  # Quarter 4, 2006																		
Quarter 4, 2016 Quarter 1, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2019 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2006  # Quarter 4, 2006		$\neg$	コ							•								
Quarter 1, 2017 Quarter 2, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 1, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2019 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 1, 2020 Quarter 3, 2019 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2000  URANIUM Quarter 4, 2000  #* Quarter 4, 2006																		
Quarter 2, 2017 Quarter 3, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 2, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 2, 2022 Quarter 3, 2022 Quarter 1, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2003 Quarter 1, 2003 Quarter 1, 2003 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000		$\neg$ †	一十															_
Quarter 3, 2017 Quarter 4, 2017 Quarter 1, 2018 Quarter 2, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 1, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 1, 2021 Quarter 1, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2000 URANIUM Quarter 4, 2000  W*		$\dashv$								_								
Quarter 4, 2017 Quarter 1, 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2000	-+	-+	-t									Ŧ		Ħ	ī			Ŧ
Quarter 1. 2018 Quarter 2, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2000 Quarter 4, 2000 Quarter 4, 2000 Quarter 1, 2003 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000	$\vdash$	$\dashv$	$\dashv$				-					=		Ħ	Ħ	-		Ŧ
Quarter 2, 2018 Quarter 3, 2018 Quarter 3, 2018 Quarter 4, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2021 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2003 Quarter 3, 2003 Quarter 3, 2023 Quarter 4, 2003 Quarter 4, 2000	$\vdash$	-+	$\dashv$				-			-	-			1		<b>-</b>		Ť
Quarter 3, 2018 Quarter 4, 2018 Quarter 4, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 5, 2021 Quarter 5, 2021 Quarter 5, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 1, 2023 Quarter 3, 2022 Quarter 1, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2000	$\vdash$	-+	-+				_					Ħ		Ħ			_	÷
Quarter 4, 2018 Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 3, 2019 Quarter 1, 2020 Quarter 1, 2020 Quarter 2, 2020 Quarter 2, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 3, 2021 Quarter 2, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 4, 2000 URANIUM Quarter 4, 2000  #	$\vdash$	-+	$\dashv$				-			•		÷	-	H	÷	-		÷
Quarter 1, 2019 Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2021 Quarter 1, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2003 Quarter 3, 2023 Quarter 4, 2003 Quarter 4, 2000	$\vdash$	-+	$\dashv$				H			-		_			÷			÷
Quarter 2, 2019 Quarter 3, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 3, 2021 Quarter 2, 2021 Quarter 5, 2021 Quarter 5, 2021 Quarter 6, 2021 Quarter 7, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2023 Quarter 4, 2003 Quarter 4, 2000  URANIUM Quarter 4, 2000  #	$\vdash$	-+					H			_		-	_	H	_	-	$\vdash$	_
Quarter 3, 2019 Quarter 4, 2019 Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 2, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2000  URANIUM Quarter 4, 2000  #	$\vdash$	_	_				_					_						_
Quarter 4, 2019 Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2021 Quarter 4, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 3, 2023 Quarter 4, 2003 Quarter 4, 2003 Quarter 4, 2004 Quarter 4, 2005 Quarter 4, 2006	$oldsymbol{\sqcup}$	<b>-</b>	_				•						•			<u> </u>		
Quarter 1, 2020 Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 1, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2000  # Quarter 4, 2000	$oldsymbol{oldsymbol{\sqcup}}$														•			
Quarter 2, 2020 Quarter 3, 2020 Quarter 4, 2020 Quarter 1, 2021 Quarter 1, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2000  URANUM Quarter 4, 2000  Valuater 2, 2003  Valuater 4, 2000																		لب
Quarter 3. 2020           Quarter 4, 2020           Quarter 4, 2021           Quarter 1, 2021           Quarter 2, 2021           Quarter 3, 2021           Quarter 4, 2021           Quarter 1, 2022           Quarter 2, 2022           Quarter 3, 2022           Quarter 1, 2023           Quarter 1, 2023           Quarter 3, 2023           Quarter 3, 2023           Quarter 1, 2003           Quarter 1, 2003           Quarter 1, 2003           URANIUM           Quarter 4, 2006	$oldsymbol{ol}}}}}}}}}}}}}}}}}}$																	
Quarter 4, 2020 Quarter 1, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 3, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2000  # Quarter 4, 2000													•					يصا
Quarter 1, 2021 Quarter 2, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2000  URANUM Quarter 4, 2000  #																		
Quarter 2, 2021 Quarter 3, 2021 Quarter 4, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 3, 2023 Quarter 4, 2003 Quarter 4, 2005 URANIUM Quarter 4, 2006  Quarter 4, 2006																		
Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 1, 2023 Quarter 1, 2003 URANIUM Quarter 4, 2002 Quarter 4, 2006																		
Quarter 3, 2021 Quarter 4, 2021 Quarter 1, 2022 Quarter 2, 2022 Quarter 2, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 2, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 1, 2023 Quarter 1, 2003 URANIUM Quarter 4, 2002 Quarter 4, 2006																		
Quarter 4, 2021 Quarter 1, 2022 Quarter 1, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002  # Quarter 4, 2006																		
Quarter 1, 2022 Quarter 2, 2022 Quarter 3, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002  #		$\neg$	$\neg$															
Quarter 2, 2022 Quarter 3, 2022 Quarter 1, 2023 Quarter 2, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002 Quarter 4, 2006	$\vdash$	$\dashv$	$\dashv$															
Quarter 3, 2022 Quarter 1, 2023 Quarter 1, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002 # Quarter 4, 2006	-	$\dashv$	一											fi				Ŧ
Quarter 1, 2023 Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002 Quarter 4, 2006	-	$\dashv$	$\dashv$											Ħ				_
Quarter 2, 2023 Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002 Quarter 4, 2006	$\vdash$	+	$\dashv$			<del>                                     </del>	<u> </u>						<u> </u>	Ħ	<del>                                     </del>	<del>                                     </del>		
Quarter 3, 2023 TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002 # Quarter 4, 2006	$\vdash$	+	$\dashv$							-	-			⊢				_
TURBIDITY Quarter 1, 2003 URANIUM Quarter 4, 2002  Quarter 4, 2006  **	$\vdash$	+	$\dashv$		-		<b>—</b>	-	-	•		÷	<b>—</b>	$\vdash$		-		$\overline{}$
Quarter 1, 2003  URANIUM  Quarter 4, 2002  Quarter 4, 2006  **								÷		÷		=					=	
URANIUM Quarter 4, 2002																		
Quarter 4, 2002 **  Quarter 4, 2006	$\vdash$		_				*											
Quarter 4, 2006	4																	
	$oldsymbol{oldsymbol{}}$	*	*	*			*	*	*	*	*	*	*		*	*	*	*
ZINC	╙	_					_						_					*
Quarter 3, 2005	السا		T							_				Ш_		*		ַוּ
* Statistical test results indicate an elevated concentration (i.e.	., a statis	stical e	exceed	ance).														

<sup>Statistical test results indicate an elevated concentration (i.e., a statistical exceedanc
MCL Exceedance
Previously reported as an MCL exceedance; however, result was equal to MCL
UCRS Upper Continental Recharge System
URGA Upper Regional Gravel Aquifer
LRGA Lower Regional Gravel Aquifer</sup> 



# APPENDIX H METHANE MONITORING DATA



#### CP3-WM-0017-F04 - C-746-U LANDFILL METHANE MONITORING REPORT

#### PADUCAH GASEOUS DIFFUSION PLANT

Permit #: <u>073-00045</u>

McCracken County, Kentucky

Date:	February 8, 2024	Time:	1300	Monitor:	Michae	el Hideg
Weather Co	onditions: Mostly sunny, App	roximate	ly 65°, humidity: 56%	1		
Monitoring	Equipment: Multi RAE – Ser	ial # 7970				
	Moni	toring Lo	cation			Reading (% LEL)
C-746-U1	Checked at close to gre	ound level				0
C-746-U2	Checked at close to gre	ound level				0
C-746-U-T-14	Checked at close to gre	ound level	Discourse	9-04A		0
C-746-U15	Checked at close to gre	ound level				0
MG1	Checked inside casing					0
MG2	Checked inside casing					0
MG3	Checked inside casing					0
MG4	Checked inside casing					0
Suspect or Problem A					AAAAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	None
Remarks:	N/A					
Performed	by: Vichael Hile, Signa	Me			2/	120/2024
/	Signa	túre				Date

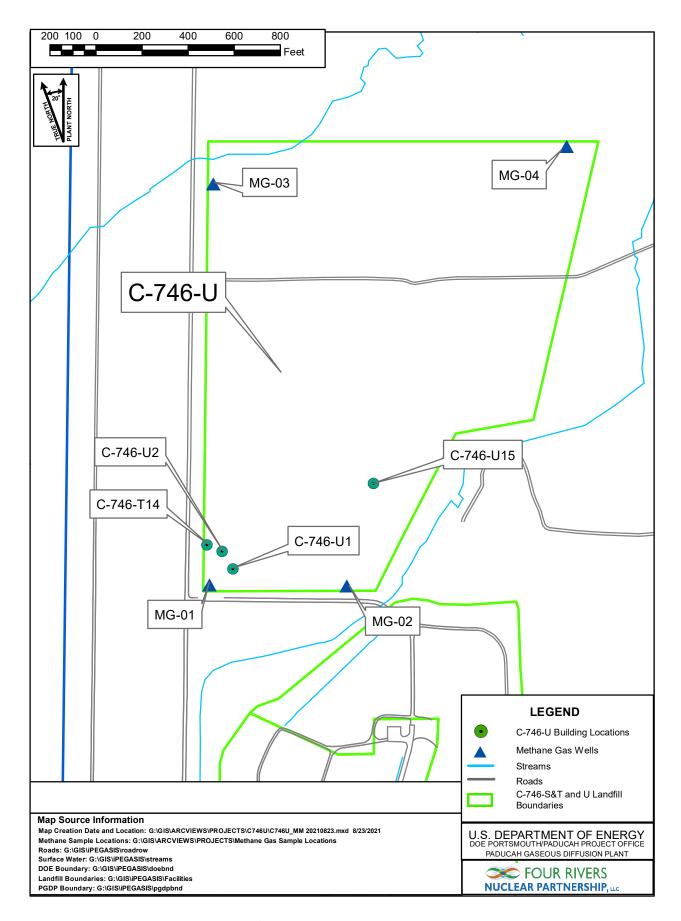


Figure H.1. C-746-U Landfill Methane Monitoring Locations

# APPENDIX I SURFACE WATER ANALYSES AND LABORATORY REPORTS



# Paducah OREIS SURFACE WATER MONITORING REPORT

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: L150 INSTREAM Period: 1st Quarter 2024

SAMPLE ID: L150US2-24 Sample Type: REG

				Reporting	Date	Counting			
Parameter	Qualifier	Result	Units	Limit	Collected	Error (+/-)	TPU	Method	Validation
Chloride	В	2.05	mg/L	0.2	1/9/2024			EPA-300.0	Х
Sulfate		14.9	mg/L	0.4	1/9/2024			EPA-300.0	Х
Conductivity		114	μmhos/cm		1/9/2024				Х
рН		7.44	Std Unit		1/9/2024				Х
Iron		21.5	mg/L	0.1	1/9/2024			EPA-200.8	Х
Sodium		3.59	mg/L	0.25	1/9/2024			EPA-200.8	Х
Uranium		0.00102	mg/L	0.0002	1/9/2024			EPA-200.8	Х
Alpha activity		16.8	pCi/L	9.43	1/9/2024	8.73	9.17	SW846-9310	Х
Beta activity		17.2	pCi/L	13.3	1/9/2024	8.89	9.38	SW846-9310	Х
Dissolved Solids	H*	322	mg/L	10	1/9/2024			EPA-160.1	Х
Suspended Solids	*	276	mg/L	25	1/9/2024			EPA-160.2	Χ
Chemical Oxygen Demand (COD)	J	13.2	mg/L	20	1/9/2024			EPA-410.4	Х
Total Solids		550	mg/L	10	1/9/2024			SM-2540 B 17	Х
Total Organic Carbon (TOC)		4.04	mg/L	1	1/9/2024			SW846-9060A	Х

# Paducah OREIS SURFACE WATER MONITORING REPORT

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: L154 INSTREAM Period: 1st Quarter 2024

SAMPLE ID: L154US2-24 Sample Type: REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride	В	1.39	mg/L	0.2	1/9/2024			EPA-300.0	Х
Sulfate		2.63	mg/L	0.4	1/9/2024			EPA-300.0	Х
Conductivity		89	μmhos/cm		1/9/2024				Х
рН		7.25	Std Unit		1/9/2024				Х
Iron		1.19	mg/L	0.1	1/9/2024			EPA-200.8	Х
Sodium		2	mg/L	0.25	1/9/2024			EPA-200.8	Х
Uranium		0.00104	mg/L	0.0002	1/9/2024			EPA-200.8	Х
Alpha activity	U	6.01	pCi/L	10.6	1/9/2024	6.51	6.6	SW846-9310	Х
Beta activity		15.5	pCi/L	12.2	1/9/2024	8.18	8.59	SW846-9310	Х
Dissolved Solids	*	94	mg/L	10	1/9/2024			EPA-160.1	Х
Suspended Solids	*	19.6	mg/L	5	1/9/2024			EPA-160.2	Х
Chemical Oxygen Demand (COD)		31.8	mg/L	20	1/9/2024			EPA-410.4	Х
Total Solids		112	mg/L	10	1/9/2024			SM-2540 B 17	Х
Total Organic Carbon (TOC)		11.9	mg/L	1	1/9/2024			SW846-9060A	Х

# Paducah OREIS SURFACE WATER MONITORING REPORT

 Facility:
 C-746-U Landfill
 County:
 McCracken
 Permit #:
 SW07300014,SW07300015,SW07300045

Sampling Point: L351 DOWNSTREAM Period: 1st Quarter 2024

SAMPLE ID: L351US2-24 Sample Type: REG

_				Reporting	Date	Counting			
Parameter	Qualifier	Result	Units	Limit	Collected	Error (+/-)	TPU	Method	Validation
Chloride	В	1.33	mg/L	0.2	1/9/2024			EPA-300.0	Χ
Sulfate		3.34	mg/L	0.4	1/9/2024			EPA-300.0	Χ
Conductivity		88	μmhos/cm		1/9/2024				Х
рН		7.39	Std Unit		1/9/2024				Х
Iron		1.36	mg/L	0.1	1/9/2024			EPA-200.8	Х
Sodium		1.79	mg/L	0.25	1/9/2024			EPA-200.8	Х
Uranium		0.00148	mg/L	0.0002	1/9/2024			EPA-200.8	Х
Alpha activity	U	2.99	pCi/L	7.39	1/9/2024	4.25	4.28	SW846-9310	Х
Beta activity		15.9	pCi/L	12.5	1/9/2024	8.35	8.76	SW846-9310	Х
Dissolved Solids	*	89	mg/L	10	1/9/2024			EPA-160.1	Χ
Suspended Solids	*	40	mg/L	5	1/9/2024			EPA-160.2	Х
Chemical Oxygen Demand (COD)		31.8	mg/L	20	1/9/2024			EPA-410.4	Х
Total Solids		136	mg/L	10	1/9/2024			SM-2540 B 17	Х
Total Organic Carbon (TOC)		12.4	mg/L	1	1/9/2024			SW846-9060A	Х

Qualifier	Code Definitions
*	Duplicate analysis not within control limits.
В	Analyte was detected in the associated blank.
Н	Analysis performed outside holding time requirement.
J	Estimated quantitation.
L	LCS and/or LCSD recovery outside of control limits.
L1	LCS/LCSD RPD outside acceptance criteria.
N	Sample spike (MS/MSD) recovery not within control limits
N1	MS/MSD or PS/PSD RPD outside acceptance criteria.
Р	Difference between results from two GC columns outside control limits.
S	Sample surrogate recovery outside acceptance criteria.
Т	Tracer recovery outside control limits of 30-110%.
U	Not detected.
W	Post-digestion spike recovery out of control limits.
W1	Post-digestion spike and post-digestion spike duplicate RPD out of control limits.
Х	Other specific flags and footnotes may be required to properly define the results.
Y1	MS/MSD recovery outside acceptance criteria.
Y2	MS/MSD RPD outside acceptance criteria.

RGA Type	Code Definitions
LRGA	Lower Regional Gravel Aquifer
UCRS	Upper Continental Recharge System
URGA	Upper Regional Gravel Aquifer
NA	Not Applicable.

Sample Ty	pe Code Definitions
REG	Regular
FR	Field Replicate (code used for Field Duplicate)
RI	Equipment Rinsate Blank
FB	Field Blank
ТВ	Trip Blank

Validatio	on Code Definitions
=	Validated result, no additional qualifier necessary
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ	Analyte not detected above the reported detection limit, and the reported detection limit is approximated due to quality deficiency.
Х	Not validated

# ATTACHMENT I1 GEL LABORATORIES CERTIFICATE OF ANALYSIS



2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

FRNP00514

FRNP005

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L150US2-24 Sample ID: 651193001

Matrix: WS

	Collect Date:	09-	JAN-24 09:06	5									
	Receive Date:	10-	JAN-24										
	Collector:	Clie	ent										
						D.Y.	***						
Parameter	Qua	lifier	Result	-	DL	RL	Units	PF	DF	Analy	yst Date	Time Batch	Method
Carbon An	alysis												
9060A, To	tal Organic Carbon	"As R	eceived"										
Total Organic	Carbon Average		4.04	0.	330	1.00	mg/L		1	RM3	01/11/24	0704 2551399	1
Ion Chrom	atography												

Project:

Client ID:

, <del>6</del>												
Total Organic Carbon Average		4.04	0.330	1.00	mg/L		1	RM3	01/11/24	0704	2551399	1
Ion Chromatography												
EPA 300.0 Anions (Chloride	and Sulfa	ate) "As Received"										
Chloride	В	2.05	0.0670	0.200	mg/L		1	TXT1	01/11/24	1332	2551878	2
Sulfate		14.9	0.133	0.400	mg/L		1					
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals	s- Fe Na U	"As Received"										
Iron		21.5	0.0330	0.100	mg/L	1.00	1	RM4	01/19/24	1325	2555006	3
Sodium		3.59	0.0800	0.250	mg/L	1.00	1					
Uranium		0.00102	0.0000670	0.000200	mg/L	1.00	1					
Solids Analysis												
EPA 160.1 Solids, Dissolved	l "As Rece	eived"										
Total Dissolved Solids	$H^*$	322	2.38	10.0	mg/L			ES2	01/17/24	1027	2552500	4
EPA 160.2 Total Suspended	Liq "As R	Received"										
Total Suspended Solids	*	276	5.70	25.0	mg/L			CH6	01/12/24	1605	2552882	5
SM 2540 B Solids, Total "A	s Received	d"										
Total Solids		550	6.29	10.0	mg/L			CH6	01/12/24	1509	2552885	6
Spectrometric Analysis												
EPA 410.4 Chem. Oxygen I	Demand "A	As Received"										
COD	J	13.2	8.95	20.0	mg/L		1	JW2	01/11/24	1609	2551983	7
The following Prep Methods	were per	formed:										
					ъ.				D . 1			

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	AB5	01/18/24	1415	2555005

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L150US2-24 Project: FRNP00514 Sample ID: 651193001 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	cal Methods v	vere performed:							
Method	Description					Analys	st Comments		
1	SW846 9060A	Λ							
2	EPA 300.0								
3	EPA 200.8								
4	EPA 160.1								
5	EPA 160.2								
6	SM 2540B								
7	EPA 410.4								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Project:

Client ID:

Report Date: April 25, 2024

01/12/24 1509 2552885

01/11/24 1610 2551983

CH6

JW2

FRNP00514

FRNP005

Four Rivers Nuclear Partnership, LLC Company:

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

112

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L154US2-24 Sample ID: 651193002

Matrix: WS

Collect Date: 09-JAN-24 09:17 Receive Date: 10-JAN-24 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Carbon Analysis											
9060A, Total Organic C	arbon "As R	eceived"									
Total Organic Carbon Average	e	11.9	0.330	1.00	mg/L		1	RM3	01/11/24	0900 2551399	1
Ion Chromatography											
EPA 300.0 Anions (Chle	oride and Su	lfate) "As Received"									
Chloride	В	1.39	0.0670	0.200	mg/L		1	TXT1	01/11/24	1507 2551878	2
Sulfate		2.63	0.133	0.400	mg/L		1				
Metals Analysis-ICP-Ma	S										
200.8/200.2 MIMICP M	letals- Fe Na	U "As Received"									
Iron		1.19	0.0330	0.100	mg/L	1.00	1	RM4	01/19/24	1340 2555006	3
Sodium		2.00	0.0800	0.250	mg/L	1.00	1				
Uranium		0.00104	0.0000670	0.000200	mg/L	1.00	1				
Solids Analysis											
EPA 160.1 Solids, Disso	olved "As Re	eceived"									
Total Dissolved Solids	*	94.0	2.38	10.0	mg/L			ES2	01/16/24	0804 2552500	4
EPA 160.2 Total Susper	nded Liq "As	Received"									
Total Suspended Solids	*	19.6	1.14	5.00	mg/L			CH6	01/12/24	1605 2552882	5
SM 2540 B Solids, Tota	l "As Receiv	red"									

The following Prep Methods were performed:

EPA 410.4 Chem. Oxygen Demand "As Received"

**Total Solids** 

Spectrometric Analysis

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	AB5	01/18/24	1415	2555005

6.29

8.95

10.0

20.0

mg/L

mg/L

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L154US2-24 Project: FRNP00514 Sample ID: 651193002 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	al Methods w	vere performed:							
Method	Description					Analys	t Comments		
1	SW846 9060A	Λ							
2	EPA 300.0								
3	EPA 200.8								
4	EPA 160.1								
5	EPA 160.2								
6	SM 2540B								
7	EPA 410.4								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Report Date: April 25, 2024

FRNP00514

FRNP005

Four Rivers Nuclear Partnership, LLC Company:

5600 Hobbs Road Address:

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L351US2-24 Sample ID: 651193003

Matrix: WS

Collect Date: 09-JAN-24 08:52 Receive Date: 10-JAN-24

Collec	tor: Clie	ent									
Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Carbon Analysis											
9060A, Total Organ	nic Carbon "As R	eceived"									
Total Organic Carbon A	verage	12.4	0.330	1.00	mg/L		1	RM3	01/11/24	0940 2551399	1
Ion Chromatograph	ny										
EPA 300.0 Anions	(Chloride and Su	lfate) "As Received"									
Chloride	В	1.33	0.0670	0.200	mg/L		1	TXT1	01/11/24	1539 2551878	2
Sulfate		3.34	0.133	0.400	mg/L		1				
Metals Analysis-IC	CP-MS										
200.8/200.2 MIMIO	CP Metals- Fe Na	U "As Received"									
Iron		1.36	0.0330	0.100	mg/L	1.00	1	RM4	01/19/24	1344 2555006	3
Sodium		1.79	0.0800	0.250	mg/L	1.00	1				
Uranium		0.00148	0.0000670	0.000200	mg/L	1.00	1				

Project:

Client ID:

Iron	1.36	0.0330	0.100	mg/L	1.00 I K	M4 01/19/24	1344 2555006	3
Sodium	1.79	0.0800	0.250	mg/L	1.00 1			
Uranium	0.00148	0.0000670	0.000200	mg/L	1.00 1			
Solids Analysis								
EPA 160.1 Solids, Disso	olved "As Received"							
Total Dissolved Solids	* 89.0	2.38	10.0	mg/L	ES	S2 01/16/24	0804 2552500	4
EPA 160.2 Total Susper	nded Liq "As Received"							
Total Suspended Solids	* 40.0	1.14	5.00	mg/L	Cl	H6 01/12/24	1605 2552882	5
SM 2540 B Solids, Tota	al "As Received"							
Total Solids	136	6.29	10.0	mg/L	Cl	H6 01/12/24	1509 2552885	6
Spectrometric Analysis								
EPA 410.4 Chem. Oxyg	gen Demand "As Received"							
COD	31.8	8.95	20.0	mg/L	1 JV	V2 01/11/24	1610 2551983	7
The following Prep Met	thods were performed:							
Method	Description		Analyst	Date	Time	Prep Batch		
EPA 200.2	ICP-MS 200.2 PREP		AB5	01/18/24	1415	2555005		

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 25, 2024

Company: Four Rivers Nuclear Partnership, LLC

Address: 5600 Hobbs Road

Kevil, Kentucky 42053

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L351US2-24 Project: FRNP00514 Sample ID: 651193003 Client ID: FRNP005

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
The following Analytic	al Methods w	vere performed:							
Method	Description					Analys	t Comments		
1	SW846 9060A	Λ							
2	EPA 300.0								
3	EPA 200.8								
4	EPA 160.1								
5	EPA 160.2								
6	SM 2540B								
7	EPA 410.4								

#### **Notes:**

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00514 FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: Sample ID: Matrix: L150US2-24 651193001

WS

Collect Date: 09-JAN-24 Receive Date: 10-JAN-24 Collector: Client

Parameter	Qualifier	Result Un	certainty	MDC		TPU	RL	Units	PF	DF Analys	t Date Time	Batch	Mtd.
Rad Gas Flow Proport GFPC, Gross A/B, lie		0											
Alpha		16.8	+/-8.73	9.43	=	⊦/-9.17	15.0	pCi/L		AW5	01/18/24 1234	2551485	1
Beta		17.2	+/-8.89	13.3	-	⊦/-9.38	50.0	pCi/L					

The following Analytical Methods were performed

Method **Description** 

EPA 900.0/SW846 9310

Surrogate/Tracer Recovery Test Batch ID Recovery% **Acceptable Limits** 

#### **Notes:**

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

L154US2-24 Client Sample ID: Project: FRNP00514 Sample ID: FRNP005 Client ID: 651193002

Matrix: WS

Collect Date: 09-JAN-24 Receive Date: 10-JAN-24 Collector: Client

Parameter	Qualifier	Result Un	certainty	MDC	TPU	RL	Units	PF	DF Anal	st Date	Time	Batch	Mtd.
Rad Gas Flow Propor GFPC, Gross A/B, li		0											
Alpha	U	6.01	+/-6.51	10.6	+/-6.60	15.0	pCi/L		AW:	01/15/24	1357	2551485	1
Beta		15.5	+/-8.18	12.2	+/-8.59	50.0	pCi/L						

The following Analytical Methods were performed

Description 1 EPA 900.0/SW846 9310

Surrogate/Tracer Recovery **Acceptable Limits** Test Batch ID Recovery%

## **Notes:**

Method

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method DL: Detection Limit PF: Prep Factor Lc/LC: Critical Level **RL**: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis

Company: Four Rivers Nuclear Partnership,

Address: LLC

5600 Hobbs Road

Kevil, Kentucky 42053 Report Date: April 25, 2024

Project:

Client ID:

FRNP00514

FRNP005

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly(US24-02)

Client Sample ID: L351US2-24 Sample ID: 651193003

Matrix: WS

Collect Date: 09-JAN-24
Receive Date: 10-JAN-24
Collector: Client

Parameter	Qualifier	Result Un	certainty	MDC	TPU	RL	Units	PF	DF .	Analyst	Date '	Time	Batch	Mtd.
Rad Gas Flow Propo GFPC, Gross A/B,		8												
Alpha	U	2.99	+/-4.25	7.39	+/-4.28	15.0	pCi/L			AW5	01/15/24	1357	2551485	1
Beta		15.9	+/-8.35	12.5	+/-8.76	50.0	pCi/L							

The following Analytical Methods were performed

Method Description

1 EPA 900.0/SW846 9310

Surrogate/Tracer Recovery Test Batch ID Recovery% Acceptable Limits

### Notes:

The MDC is a sample specific MDC.

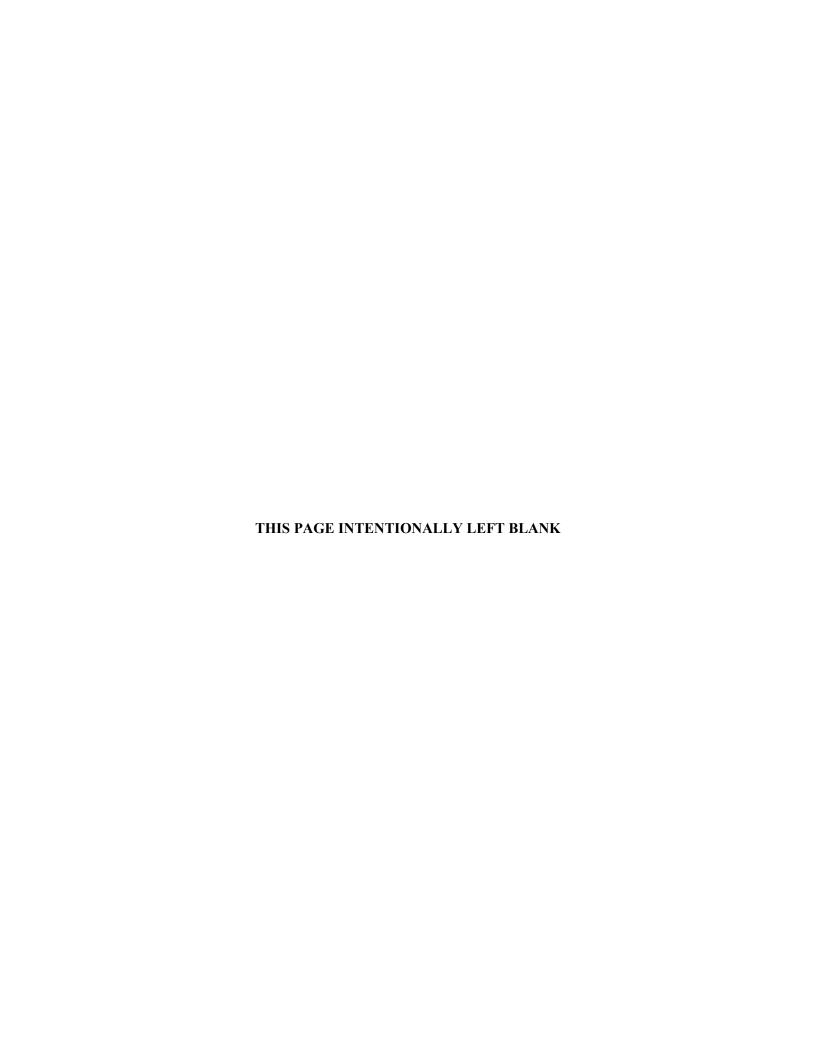
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Mtd.: Method
DL: Detection Limit PF: Prep Factor
Lc/LC: Critical Level RL: Reporting Limit

MDA: Minimum Detectable Activity TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration



# APPENDIX J ANALYTICAL LABORATORY CERTIFICATION





# **Accredited Laboratory**

A2LA has accredited

## GEL LABORATORIES, LLC

Charleston, SC

for technical competence in the field of

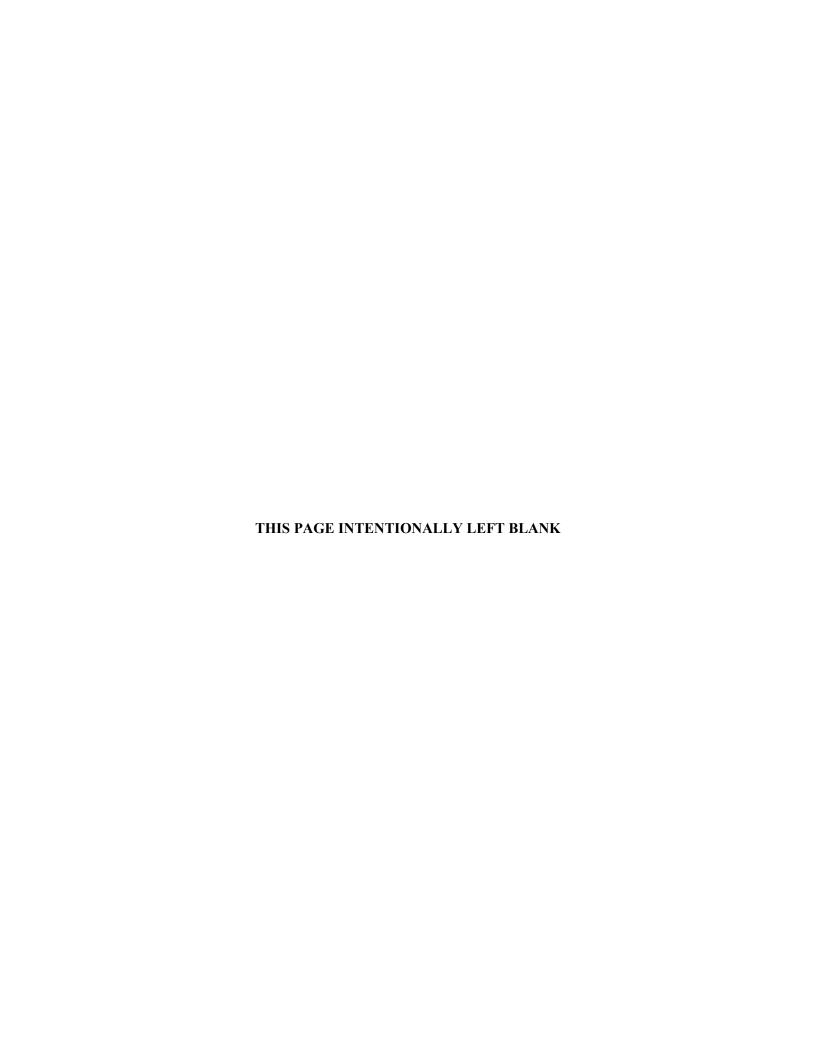
## **Environmental Testing**

In recognition of the successful completion of the A2LA evaluation process that includes an assessment of the laboratory's compliance with ISO/IEC 17025:2017, the 2009 and 2016 TNI Environmental Testing Laboratory Standard, the requirements of the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP), and the requirements of the Department of Energy Consolidated Audit Program (DOECAP) as detailed in Version 5.4 of the DoD/DOE Quality System Manual for Environmental Laboratories (QSM), accreditation is granted to this laboratory to perform recognized EPA methods as defined on the associated A2LA Environmental Scope of Accreditation. This accreditation demonstrates technical competence for this defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 26th day of June 2023.

Mr. Trace McInturff, Vice President, Accreditation Services For the Accreditation Council Certificate Number 2567.01 Valid to June 30, 2025

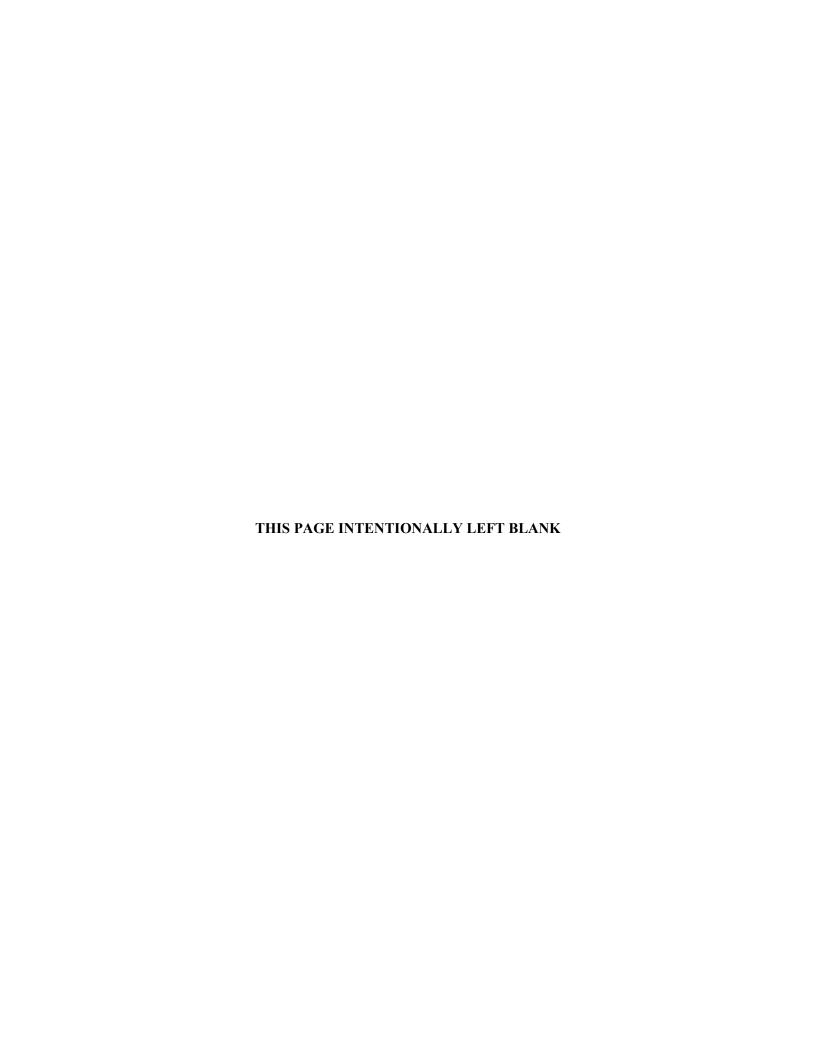


# APPENDIX K LABORATORY ANALYTICAL METHODS

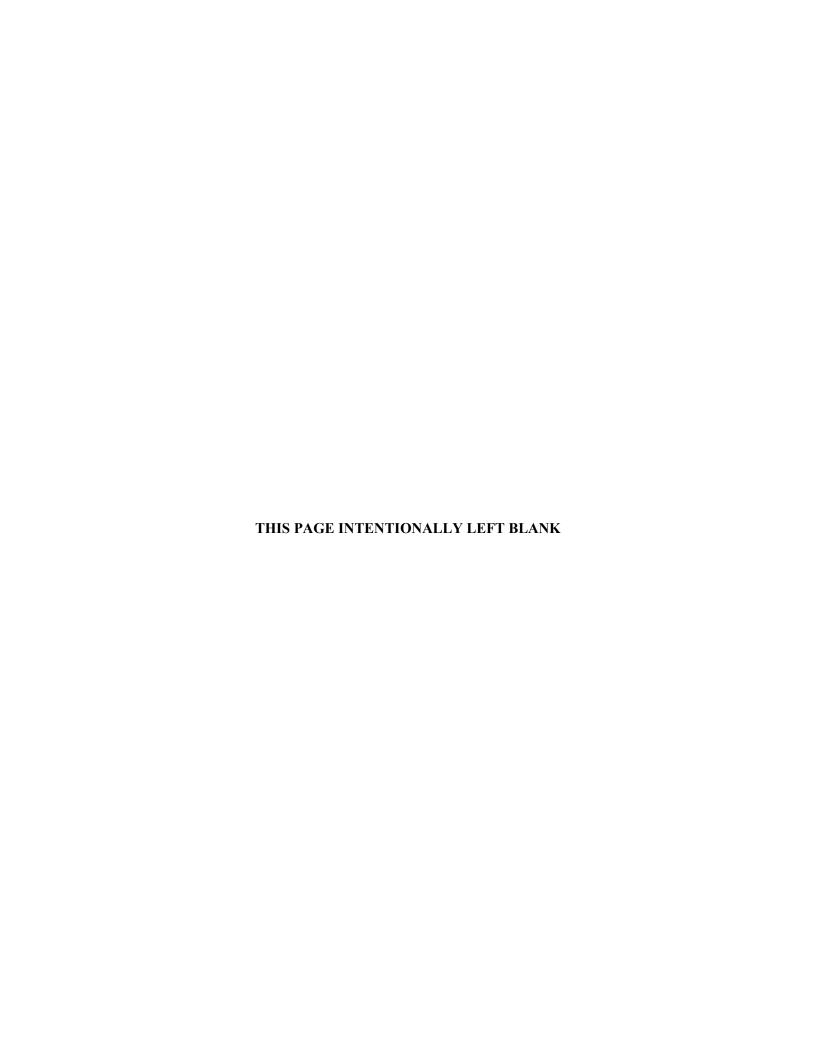


#### LABORATORY ANALYTICAL METHODS

Analytical Method	Preparation Method	Product
SM 2540B		Solids, Total
SW846 8260D		Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer
SW846 8011	SW846 8011 PREP	Analysis of 1,2-Dibromoethane (EDB), 1,2-Dibromo-3-Chloropropane (DBCP) and
		1,2,3-Trichloropropane in Water by GC/ECD Using Methods 504.1 or 8011
SW846 8082A	SW846 3535A	Analysis of Polychlorinated Biphenyls by GC/ECD by ECD
SW846 6020B	SW846 3005A	Determination of Metals by ICP-MS
SW846 7470A	SW846 7470A Prep	Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer
SW846 9060A		Carbon, Total Organic
SW846 9012B	SW846 9010C Distillation	Cyanide, Total
EPA 300.0		Ion Chromatography Iodide
SW846 9056A		Ion Chromatography
EPA 160.1		Solids, Total Dissolved
EPA 160.2		Solids, Total Suspended
EPA 200.8	EPA 200.2	Determination of Metals by ICP-MS
EPA 410.4		COD
Eichrom Industries, AN-1418		AlphaSpec Ra226, Liquid
DOE EML HASL-300, Th-01-RC Modified		Th-01-RC M, Th Isotopes, Liquid
EPA 904.0 Modified		904.0Mod, Ra228, Liquid
SW846 9310		9310, Alpha/Beta Activity, liquid
EPA 905.0 Modified		905.0Mod, Sr90, liquid
DOE EML HASL-300, Tc-02-RC Modified		Tc-02-RC-MOD, Tc99, Liquid
EPA 906.0 Modified		906.0M, Tritium Dist, Liquid
SW846 9020B		Total Organic Halogens (TOX)



# APPENDIX L MICRO-PURGING STABILITY PARAMETERS



# Micro-Purge Stability Parameters for the C-746-U Contained Landfill

			$\overline{}$	/_	/	<del>/_ / /</del>		,	$\overline{}$	<u></u>	
		/	THE STATE OF THE S	gletti,	A GO				July State S	Jiril Jasada	
			7.75	Ş /	Tititit				alto		
		Condi	13	<u>/</u> a -	13%		,	Solding Condition	dig dig di	/so /	330
		alue /	ing /	Jak /	300	√g <b>/</b>		ALIE /		Only /	,d <sup>or</sup>
			§ / &	۶ / پۇ		/		die		, \[ \sigma_{2}	
	Keit	COL	18	1000	Zille /	/	Kerr	Cots	18	Dig.	Turid Curid
MW357						MW358					
Date Collected:1/23/24						Date Collected:1/23/24					
.054	58.7	411	6.16	3.96	0.00	1142	59.1	504	6.39	1.08	0.00
.057	58.4	412	6.10	4.17	0.00	1145	58.9	505	6.35	0.77	0.00
100	58.3	411	6.08	4.20	0.00	1148	58.8	504	6.34	0.69	0.00
MW360						MW361					
Date Collected:1/23/24						Date Collected: 1/23/24					
)801	55.6	382	6.10	2.46	0.00	0911	58.3	515	6.09	3.77	0.00
804	55.7	383	6.12	2.07	0.00	0914	58.1	514	6.04	3.29	0.00
807	55.7	384	6.11	1.99	0.00	0917	58.0	515	6.03	3.26	0.00
MW362						MW363					
Date Collected:1/23/24						Date Collected: 1/23/24					
008	57.8	604	6.86	1.17	3.51	1233	58.9	369	6.20	2.03	0.00
011	57.9	603	6.89	1.04	3.37	1236	58.4	372	6.17	1.37	0.00
014	58.0	603	6.90	1.06	3.16	1239	58.4	373	6.13	1.30	0.00
IW364						MW366					
ate Collected:1/24/24						Date Collected: 1/24/24					
747	58.8	466	6.07	4.99	0.00	0856	60.0	477	6.14	2.68	0.00
750	58.7	470	6.05	4.03	0.00	0859	60.2	480	6.11	2.64	0.00
'53	58.8	471	6.04	3.97	0.00	0902	60.2	484	6.10	2.66	0.00
IW367						MW369					
ate Collected:1/24/24						Date Collected: 1/24/24					
46	60.0	280	5.98	1.99	2.36	1119	60.1	343	6.20	2.33	0.00
149	60.1	278	5.95	1.51	2.04	1122	59.9	342	6.14	2.40	0.00
952	60.2	277	5.94	1.43	1.96	1125	59.8	341	6.13	2.42	0.00
IW370						MW371					
ate Collected: 1/24/24						Date Collected: 1/24/24					
235	61.3	426	6.17	5.31	0.00	1319	62.4	700	6.59	2.44	0.00
238	61.1	430	6.20	4.70	0.00	1322	62.1	699	6.55	2.06	0.00
241	61.1	437	6.20	4.65	0.00	1325	62.0	700	6.54	1.97	0.00
IW372						MW373					
ate Collected:1/25/24						Date Collected: 1/25/24					
958	61.1	729	6.17	1.89	0.00	1040	61.3	904	6.10	3.28	0.00
001	61.2	727	6.11	1.74	0.00	1043	60.9	907	6.06	1.36	0.00
004	61.3	727	6.07	1.70	0.00	1046	60.8	909	6.03	1.30	0.00
IW374						MW375					
ate Collected: 1/25/24						Date Collected:1/24/24					
125	62.1	699	6.73	4.18	5.24	1033	60.1	330	6.47	1.35	0.00
128	62.0	692	6.68	2.25	5.57	1036	60.3	332	6.42	0.65	0.00
1131	62.1	694	6.70	2.20	5.26	1039	60.3	334	6.40	0.60	0.00

