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May 27, 2025

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Dear Mr. Anderson and Mr. Hendricks:

**C-746-U CONTAINED LANDFILL FIRST QUARTER CALENDAR YEAR 2025
(JANUARY–MARCH) COMPLIANCE MONITORING REPORT, PADUCAH
GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, FRNP-RPT-0387/V1,
PERMIT NUMBER SW07300014, SW07300015, SW07300045, AGENCY INTEREST ID
NO. 3059**

The subject report for the first quarter calendar year (CY) 2025 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 2025 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 2025, in accordance with Monitoring Condition GSTR0001, Standard Requirement 5, of the Permit.

If you have any questions or require additional information, please contact Angus MacKelvey at (270) 349-7526.

Sincerely,

APRIL LADD

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April Ladd
Paducah Site Lead
Portsmouth/Paducah Project Office

Enclosure:

C-746-U Contained Landfill First Quarter Calendar Year 2025 (January–March) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, FRNP-RPT-0387/V1

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**C-746-U Contained Landfill
First Quarter Calendar Year 2025
(January–March)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**



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**C-746-U Contained Landfill
First Quarter Calendar Year 2025
(January–March)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**

Date Issued—May 2025

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

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ACRONYMS

<i>CFR</i>	<i>Code of Federal Regulations</i>
COD	chemical oxygen demand
CY	calendar year
<i>KAR</i>	<i>Kentucky Administrative Regulations</i>
KDWM	Kentucky Division of Waste Management
<i>KRS</i>	<i>Kentucky Revised Statutes</i>
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

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1. INTRODUCTION

This report, *C-746-U Contained Landfill First Quarter Calendar Year 2025 (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, 6, and 7. 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 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.

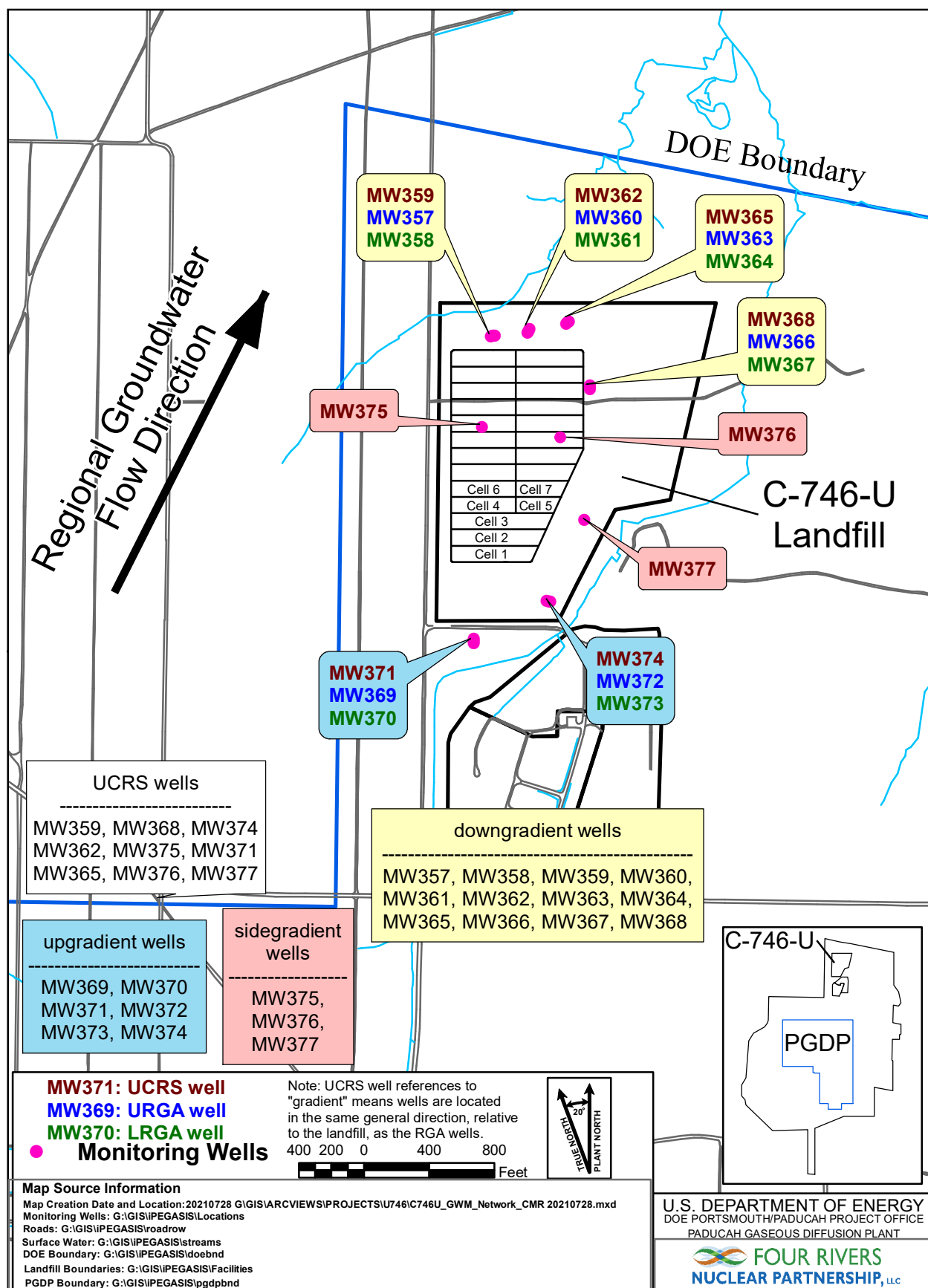


Figure 1. C-746-U Landfill Groundwater Monitoring Well Network

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 2025 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 2025 was conducted on January 27–28, 2025. 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 21–22, 2025, 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 2025, RGA groundwater flow in the area of the landfill was oriented to the north. The hydraulic gradient for the RGA in the vicinity of the C-746-U Contained Landfill in January 2025 was 3.16×10^{-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 5.35×10^{-4} ft/ft and 5.54×10^{-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 9.09×10^{-1} to 1.55 ft/day for the URGA and 9.42×10^{-1} to 1.61 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 January 29, 2025. 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 31, 2025, 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). Additionally, L150 was resampled for sodium and chloride on March 15, 2025. Surface water results are provided in Appendix I.

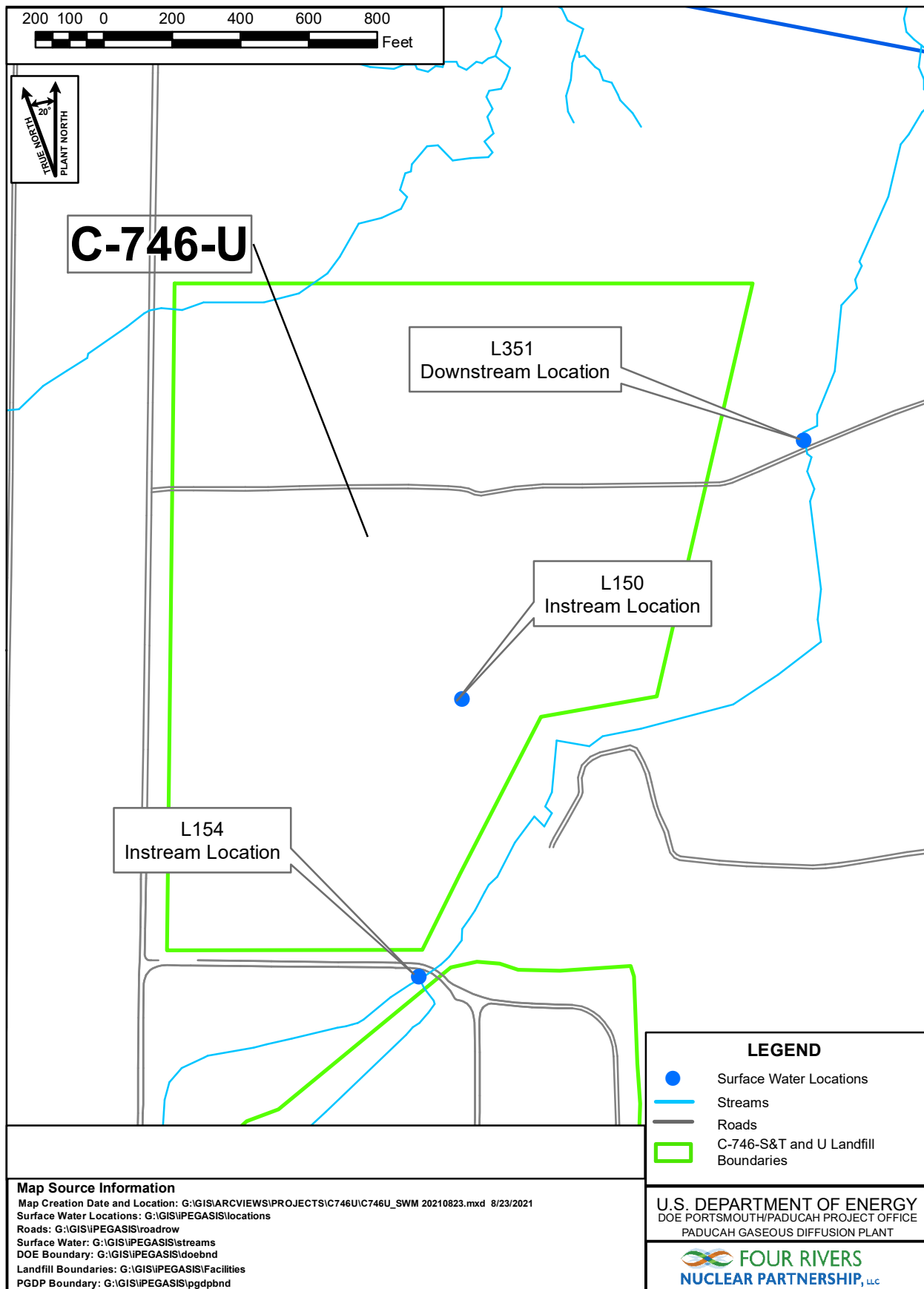


Figure 2. C-746-U Landfill Surface Water Monitoring Locations

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 UTL¹ during the first quarter 2025, 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

A notification of MCL exceedances, or lack of exceedances, was submitted electronically to 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 (Table 2).

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.

Table 2. Exceedances of Statistically Derived Historical Background Concentrations

UCRS ^a	URGA	LRGA
MW359: Dissolved oxygen, oxidation-reduction potential, ^b sulfate, and thorium-230	MW357: Oxidation-reduction potential ^b	MW358: Oxidation-reduction potential ^b
MW362: Dissolved oxygen, oxidation-reduction potential, ^b and sulfate	MW360: Oxidation-reduction potential ^b	MW361: Oxidation-reduction potential ^b and technetium-99
MW365: Dissolved oxygen, oxidation-reduction potential, ^b and sulfate	MW363: Oxidation-reduction potential ^b	MW364: Dissolved oxygen, oxidation-reduction potential, ^b and technetium-99
MW368: Dissolved oxygen, oxidation-reduction potential, ^b and sulfate	MW366: Oxidation-reduction potential ^b and technetium-99	MW367: Oxidation-reduction potential ^b and pH

¹ 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.

Table 2. Exceedances of Statistically Derived Historical Background Concentrations (Continued)

UCRS ^a	URGA	LRGA
MW371: Dissolved oxygen and oxidation-reduction potential ^b	MW369: Oxidation-reduction potential ^b	MW370: Dissolved oxygen and oxidation-reduction potential ^b
MW374: Dissolved oxygen, oxidation-reduction potential, ^b and sulfate	MW372: Calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, ^b and sulfate	MW373: Calcium, magnesium, and oxidation-reduction potential ^b
MW375: Oxidation-reduction potential ^b and sulfate		

^a 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.

^b Oxidation-reduction potential calibrated as Eh.

Sidegradient wells: MW375, MW376, MW377. Downgradient wells: MW357, MW358, MW359, MW360, MW361, MW362, MW363, MW364, MW365, MW366, MW367, MW368. Upgradient wells: MW369, MW370, MW371, MW372, MW373, MW374.

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 Landfill source; therefore, they are Type 1 exceedances—not attributable to the C-746-U Landfill. Except for technetium-99 in LRGA wells MW361 and MW364, and pH in LRGA well MW367, all UTL exceedances reported for this quarter were evaluated and considered to be Type 1 exceedances—not attributable to the C-746-U Landfill.

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

URGA	LRGA
None	MW361: Technetium-99
	MW364: Technetium-99
	MW367: pH

Technetium-99 in downgradient LRGA wells MW361 and MW364, and pH in downgradient LRGA well MW367 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 Landfill.

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

Location	Well ID	Parameter	Sample Size	Alpha ^a	P-value ^b	S ^c	Decision ^d
C-746-U Landfill	MW361	Technetium-99	8	0.05	0.274	7	No trend
	MW364	Technetium-99	8	0.05	0.274	-6	No trend
	MW367	pH	8	0.05	0.138	-10	No trend

^a An alpha of 0.05 represents a 95% confidence interval.

^b The p-value represents the risk of acceptance the H_a hypothesis of a trend, in terms of a percentage.

^c 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.

^d The Mann-Kendall decision operates on two hypotheses; the H₀ and H_a. H₀ assumes there is no trend in the data, whereas H_a assumes either a positive or negative trend.

Note: Statistics were generated using ProUCL.

The statistical evaluation of UCRS concentrations against the current UCRS background UTL identified exceedances of both the historical and current backgrounds for MW359 (thorium-230), MW362 (dissolved oxygen), MW365 (dissolved oxygen and sulfate), and MW368 (sulfate) (Table 5). Because gradients in the UCRS are downward (vertical), there are no hydrogeologically downgradient UCRS wells.

**Table 5. Exceedances of Current Background
UTL in Downgradient UCRS Wells***

UCRS
MW359: Thorium-230
MW362: Dissolved oxygen
MW365: Dissolved oxygen and sulfate
MW368: Sulfate

*In the same direction (relative to the landfill) as RGA wells.

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.

2. DATA EVALUATION/STATISTICAL SYNOPSIS

The statistical analyses conducted on the first quarter 2025 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 6.

Table 6. Monitoring Wells Included in Statistical Analysis^a

UCRS	URGA	LRGA
MW359	MW357	MW358
MW362	MW360	MW361
MW365	MW363	MW364
MW368	MW366	MW367
MW371 ^c	MW369 (background)	MW370 (background)
MW374 ^c	MW372 (background)	MW373 (background)
MW375		
MW376 ^b		
MW377 ^b		

^a Map showing the MW locations is shown on Figure 1.

^b Well had insufficient water to permit a water sample for laboratory analysis.

^c In the same direction (relative to the landfill) as RGA wells considered to be upgradient.

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, 27 parameters, including those with MCLs, required statistical analysis in the UCRS. During the first quarter, dissolved oxygen, oxidation-reduction potential, sulfate, and thorium-230 displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. Current background UTL exceedances were observed in downgradient wells MW359 (thorium-230), MW362 (dissolved oxygen), MW365 (dissolved oxygen and sulfate), and MW368 (sulfate).

2.1.2 Upper Regional Gravel Aquifer

In this quarter, 26 parameters, including those with MCLs, required statistical analysis in the URGA. During the first quarter, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sulfate, and technetium-99 displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. There were no constituents that exceeded the current background UTLs in downgradient URGA wells.

2.1.3 Lower Regional Gravel Aquifer

In this quarter, 24 parameters, including those with MCLs, required statistical analysis in the LRGA. During the first quarter, calcium, dissolved oxygen, magnesium, oxidation-reduction potential, and technetium-99 displayed concentrations that exceeded their respective historical UTL and are listed in Table 2. Technetium-99 exceeded the current background UTL in downgradient LRGA wells MW361 and MW364.

The pH result for downgradient LRGA well MW367 was outside of the two-sided tolerance limit (i.e., below the LTL).

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 are flagged as necessary.

Data validation was performed on 100% of the organic, inorganic, and radiochemical analytical data for groundwater 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 codes 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.

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3. PROFESSIONAL GEOLOGIST AUTHORIZATION

DOCUMENT IDENTIFICATION: *C-746-U Contained Landfill First Quarter Calendar Year 2025
(January–March) Compliance Monitoring Report, Paducah
Gaseous Diffusion Plant, Paducah, Kentucky
(FRNP-RPT-0387/V1)*

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



PG113927
KD 5-20-2025

Kenneth R. Davis
Kenneth R. Davis

PG113927

May 20, 2025
Date

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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.

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APPENDIX A

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

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**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: U.S. DOE–Paducah Gaseous Diffusion Plant Activity: C-746-U Contained Landfill
(As officially shown on DWM Permit Face)

Permit No: SW07300014, Finds/Unit No: _____ Quarter & Year 1st Qtr. CY 2025
SW07300015,
SW07300045

Please check the following as applicable:

_____ Characterization X Quarterly _____ Semiannual _____ Annual _____ Assessment

Please check applicable submittal(s): X Groundwater X Surface Water
_____ Leachate X Methane Monitoring

This form is to be utilized by those sites required by regulation (Kentucky Waste Management Regulations-401 KAR 48:300 and 45:160) or by statute (Kentucky Revised Statutes Chapter 224) to conduct groundwater and surface water monitoring under the jurisdiction of the Division of Waste Management. **You must report any indication of contamination within forty-eight (48) hours of making the determination using statistical analyses, direct comparison, or other similar techniques. Submitting the lab report is NOT considered notification.** Instructions for completing the form are attached. Do not submit the instruction pages.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.

Myrna E. Redfield, Program Manager/Date
Four Rivers Nuclear Partnership, LLC

April Ladd, Paducah Site Lead/Date
U.S. Department of Energy

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APPENDIX B
FACILITY INFORMATION SHEET

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FACILITY INFORMATION SHEET

Sampling Date: Groundwater: January 2025 Surface water: January 2025 Methane: January 2025 County: McCracken Permit Nos. SW07300014,
SW07300015,
SW07300045

Facility Name: U.S. DOE—Paducah Gaseous Diffusion Plant
(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" Longitude: W 88° 47' 55"

OWNER INFORMATION

Facility Owner: U.S. DOE, Joel Bradburne, Manager Phone No: (859) 219-4000
Portsmouth/Paducah Project Office

Contact Person: Bruce Ford Phone No: (270) 441-5357
Director, Environmental Services

Contact Person Title: Four Rivers Nuclear Partnership, LLC

Mailing Address: 5511 Hobbs Road Kevil, Kentucky 42053
Street City/State Zip

SAMPLING PERSONNEL (IF OTHER THAN LANDFILL OR LABORATORY)

Company: Four Rivers Nuclear Partnership, LLC

Contact Person: Chris Skinner Phone No: (270) 441-5675

Mailing Address: 5511 Hobbs Road Kevil, Kentucky 42053
Street City/State Zip

LABORATORY RECORD #1

Laboratory GEL Laboratories, LLC Lab ID No: KY90129

Contact Person: Valerie Davis Phone No: (843) 769-7391

Mailing Address: 2040 Savage Road Charleston, South Carolina 29407
Street City/State Zip

LABORATORY RECORD #2

Laboratory: N/A Lab ID No: N/A

Contact Person: N/A Phone No: N/A

Mailing Address: N/A
Street City/State Zip

LABORATORY RECORD #3

Laboratory: N/A Lab ID No: N/A

Contact Person: N/A Phone No: N/A

Mailing Address: N/A
Street City/State Zip

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APPENDIX C

**GROUNDWATER SAMPLE ANALYSES
AND LABORATORY REPORTS**

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**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW357 **DOWN** **RGA Type:** URGa **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4798 **SAMPLE ID:** MW357UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.348	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	29.1	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.17	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.09	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		34.4	mg/L	1.6	1/27/2025			SW846-9056A	=
Barometric Pressure Reading		30.27	Inches/Hg		1/27/2025				X
Conductivity		388	µmhos/cm		1/27/2025				X
Depth to Water		46.06	ft		1/27/2025				X
Dissolved Oxygen		5.11	mg/L		1/27/2025				X
Eh (approx)		460.2	mV		1/27/2025				X
pH		6.01	Std Unit		1/27/2025				X
Temperature		55.4	deg F		1/27/2025				X
Turbidity		3.3	NTU		1/27/2025				X
Aluminum	J	0.0329	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.0706	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron		0.317	mg/L	0.06	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		24.1	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	J	0.00119	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron	J	0.0654	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		10.3	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese		0.00941	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium		1.64	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		39.7	mg/L	0.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.00397	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.069	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	UJ
PCB-1016	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	UJ

PCB-1221	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1232	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1242	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1248	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1254	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1260	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	UJ
Radium-226	U	1.05	pCi/L	1.59	1/27/2025	1.31	1.31	AN-1418	=
Radium-228	U	3.51	pCi/L	4.47	1/27/2025	2.81	2.95	EPA-904.0-M	=
Strontium-90	U	1.92	pCi/L	2.95	1/27/2025	1.8	1.82	EPA-905.0-M	UJ
Tritium	U	-24.5	pCi/L	174	1/27/2025	82.6	82.6	EPA-906.0-M	=
Technetium-99		36.7	pCi/L	20.6	1/27/2025	13.5	14.3	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.06	pCi/L	2.58	1/27/2025	1.59	1.6	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.178	pCi/L	1.64	1/27/2025	0.597	0.598	HASL 300, Th-01-RC M	=
Alpha activity	U	0.618	pCi/L	6.97	1/27/2025	3.3	3.3	SW846-9310	=
Beta activity		21.9	pCi/L	9.67	1/27/2025	7.55	8.35	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.0191	ug/L	0.0191	1/27/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/27/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene		1.82 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		204 mg/L	10	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	UJ
Total Organic Halides (TOX)	N	58.4 ug/L	10	1/27/2025	SW846-9020B	J
Total Organic Carbon (TOC)	J	0.42 mg/L	2	1/27/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

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

Sampling Point: MW358 **DOWN** **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4799 **SAMPLE ID:** MW358UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.412	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	33.6	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.178	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.934	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		50.8	mg/L	1.6	1/27/2025			SW846-9056A	=
Barometric Pressure Reading		30.18	Inches/Hg		1/27/2025				X
Conductivity		437	µmhos/cm		1/27/2025				X
Depth to Water		46.06	ft		1/27/2025				X
Dissolved Oxygen		0.73	mg/L		1/27/2025				X
Eh (approx)		203.8	mV		1/27/2025				X
pH		6.1	Std Unit		1/27/2025				X
Temperature		57.5	deg F		1/27/2025				X
Turbidity		27.91	NTU		1/27/2025				X
Aluminum	U	0.05	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	J	0.00241	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.0633	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron		0.316	mg/L	0.06	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		31.2	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt		0.00995	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	J	0.000782	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron		3.06	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		14.4	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese		0.773	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	J	0.000292	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel		0.0296	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium		2.61	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		35.3	mg/L	0.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.00664	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.064	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	UJ
PCB-1016	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	UJ

PCB-1221	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	=
PCB-1232	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	=
PCB-1242	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	=
PCB-1248	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	=
PCB-1254	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	=
PCB-1260	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0999	ug/L	0.0999	1/27/2025			SW846-8082A	UJ
Radium-226	U	0.951	pCi/L	1.17	1/27/2025	0.89	0.892	AN-1418	=
Radium-228		5.65	pCi/L	4.69	1/27/2025	3.15	3.47	EPA-904.0-M	=
Strontium-90	U	1.6	pCi/L	4.07	1/27/2025	2.37	2.38	EPA-905.0-M	=
Tritium	U	54.4	pCi/L	183	1/27/2025	103	103	EPA-906.0-M	=
Technetium-99		35.8	pCi/L	21.4	1/27/2025	13.9	14.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.149	pCi/L	3.55	1/27/2025	1.71	1.72	HASL 300, Th-01-RC M	=
Thorium-232	U	0.9	pCi/L	2.42	1/27/2025	1.53	1.53	HASL 300, Th-01-RC M	=
Alpha activity	U	-2.25	pCi/L	7.89	1/27/2025	2.59	2.59	SW846-9310	=
Beta activity		36.7	pCi/L	10	1/27/2025	9.09	11	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.019	ug/L	0.019	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/27/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene		2.36 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		233 mg/L	10	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	=
Total Organic Halides (TOX)	N	93 ug/L	10	1/27/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.704 mg/L	2	1/27/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW359 DOWN **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0981 **SAMPLE ID:** MW359UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	0.652	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.0897	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.524	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		36.4	mg/L	1.6	1/27/2025			SW846-9056A	=
Barometric Pressure Reading		30.29	Inches/Hg		1/27/2025				X
Conductivity		192	µmhos/cm		1/27/2025				X
Depth to Water		33.79	ft		1/27/2025				X
Dissolved Oxygen		5.48	mg/L		1/27/2025				X
Eh (approx)		486.1	mV		1/27/2025				X
pH		5.81	Std Unit		1/27/2025				X
Temperature		54.1	deg F		1/27/2025				X
Turbidity		3.9	NTU		1/27/2025				X
Aluminum		0.0885	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.0215	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron	J	0.0129	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		5.12	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	J	0.00131	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron	J	0.0963	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		2.86	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese	J	0.00125	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	J	0.000983	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium	J	0.105	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		31.5	mg/L	0.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	J	0.00334	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.00369	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.0213	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	UJ
PCB-1016	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	UJ

PCB-1221	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	=
PCB-1232	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	=
PCB-1242	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	=
PCB-1248	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	=
PCB-1254	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	=
PCB-1260	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0976	ug/L	0.0976	1/27/2025			SW846-8082A	UJ
Radium-226	U	0.44	pCi/L	2.09	1/27/2025	1.16	1.16	AN-1418	=
Radium-228		7.43	pCi/L	4.71	1/27/2025	3.39	3.88	EPA-904.0-M	=
Strontium-90	U	0.476	pCi/L	1.92	1/27/2025	1.06	1.07	EPA-905.0-M	=
Tritium	U	60.5	pCi/L	181	1/27/2025	102	103	EPA-906.0-M	=
Technetium-99	U	1.17	pCi/L	20.9	1/27/2025	11.9	11.9	HASL 300, Tc-02-RC M	=
Thorium-230		2.96	pCi/L	2.69	1/27/2025	2.15	2.19	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.172	pCi/L	1.58	1/27/2025	0.572	0.573	HASL 300, Th-01-RC M	=
Alpha activity	U	1.09	pCi/L	4.37	1/27/2025	2.23	2.24	SW846-9310	=
Beta activity	U	7.63	pCi/L	8.83	1/27/2025	5.66	5.8	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.0191	ug/L	0.0191	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/27/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		126 mg/L	10	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	=
Total Organic Halides (TOX)	UN	10 ug/L	10	1/27/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.459 mg/L	2	1/27/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW360 **DOWN** **RGA Type:** URGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4800 **SAMPLE ID:** MW360DUG2-25 **Sample Type:** FR

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	J	0.16	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	5.46	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.222	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.622	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		9.71	mg/L	0.4	1/27/2025			SW846-9056A	=
Aluminum		0.0578	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.193	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron		0.0192	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		18.6	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt		0.00105	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	J	0.00163	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron	J	0.0899	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		7.67	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese		0.0116	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	J	0.00106	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium		0.72	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	J	0.00193	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		58.5	mg/L	1.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	J	0.00533	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.00761	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.193	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	UJ
PCB-1016	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	UJ
PCB-1221	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1232	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1242	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1248	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1254	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1260	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	UJ

Radium-226	U	0.158	pCi/L	0.976	1/27/2025	0.528	0.528	AN-1418	=
Radium-228		4.81	pCi/L	4.66	1/27/2025	3.13	3.37	EPA-904.0-M	=
Strontium-90	U	1.23	pCi/L	3.51	1/27/2025	2.03	2.04	EPA-905.0-M	=
Tritium	U	-69.3	pCi/L	179	1/27/2025	75.7	75.7	EPA-906.0-M	=
Technetium-99	U	-2.84	pCi/L	20.7	1/27/2025	11.6	11.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.31	pCi/L	3.09	1/27/2025	1.55	1.56	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.564	pCi/L	2.45	1/27/2025	0.734	0.735	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.736	pCi/L	5.96	1/27/2025	1.99	1.99	SW846-9310	=
Beta activity	U	0.129	pCi/L	9.72	1/27/2025	5.14	5.14	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.0188	ug/L	0.0188	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/27/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=

trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene	J	0.48 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		184 mg/L	10	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	=
Total Organic Halides (TOX)	N	17.3 ug/L	10	1/27/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.807 mg/L	2	1/27/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW360 **DOWN** **RGA Type:** URGa **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4800 **SAMPLE ID:** MW360UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	J	0.149	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	5.47	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.217	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.624	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		9.74	mg/L	0.4	1/27/2025			SW846-9056A	=
Barometric Pressure Reading		30.27	Inches/Hg		1/27/2025				X
Conductivity		488	µmhos/cm		1/27/2025				X
Depth to Water		39.37	ft		1/27/2025				X
Dissolved Oxygen		2.18	mg/L		1/27/2025				X
Eh (approx)		416.8	mV		1/27/2025				X
pH		6.02	Std Unit		1/27/2025				X
Temperature		54.2	deg F		1/27/2025				X
Turbidity		3.8	NTU		1/27/2025				X
Aluminum		0.0574	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.191	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron		0.018	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		18.6	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt		0.00111	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	J	0.00171	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron	J	0.0936	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		7.69	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese		0.0125	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	J	0.00107	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium		0.723	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	J	0.00166	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		58.3	mg/L	1.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	J	0.00524	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.00814	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.192	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	UJ
PCB-1016	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	UJ

PCB-1221	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	=
PCB-1232	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	=
PCB-1242	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	=
PCB-1248	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	=
PCB-1254	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	=
PCB-1260	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.102	ug/L	0.102	1/27/2025			SW846-8082A	UJ
Radium-226	U	0.152	pCi/L	1.1	1/27/2025	0.569	0.569	AN-1418	=
Radium-228		4.82	pCi/L	4.67	1/27/2025	3.05	3.29	EPA-904.0-M	=
Strontium-90	U	0.272	pCi/L	2.67	1/27/2025	1.44	1.44	EPA-905.0-M	=
Tritium	U	15.9	pCi/L	178	1/27/2025	92.8	92.8	EPA-906.0-M	=
Technetium-99	U	-2.76	pCi/L	20.8	1/27/2025	11.6	11.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.45	pCi/L	3.38	1/27/2025	2.08	2.1	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.456	pCi/L	2.47	1/27/2025	0.781	0.783	HASL 300, Th-01-RC M	=
Alpha activity	U	2.54	pCi/L	6.94	1/27/2025	3.91	3.94	SW846-9310	=
Beta activity	U	2.18	pCi/L	9.96	1/27/2025	5.56	5.57	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.0188	ug/L	0.0188	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/27/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene	J	0.5 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		193 mg/L	10	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	=
Total Organic Halides (TOX)	UN	10 ug/L	10	1/27/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.78 mg/L	2	1/27/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW361 DOWN **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4795 **SAMPLE ID:** MW361UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.469	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	36.8	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.163	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.17	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		77.3	mg/L	2	1/27/2025			SW846-9056A	=
Barometric Pressure Reading		30.27	Inches/Hg		1/27/2025				X
Conductivity		486	µmhos/cm		1/27/2025				X
Depth to Water		38.6	ft		1/27/2025				X
Dissolved Oxygen		3.61	mg/L		1/27/2025				X
Eh (approx)		437.1	mV		1/27/2025				X
pH		5.92	Std Unit		1/27/2025				X
Temperature		54.9	deg F		1/27/2025				X
Turbidity		3.91	NTU		1/27/2025				X
Aluminum	J	0.0324	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.0501	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron		0.184	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		32.9	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	J	0.00149	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron		0.162	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		14.4	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese		0.0276	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	J	0.000632	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium		2.39	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		41.7	mg/L	0.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.00549	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.0485	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	UJ
PCB-1016	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	UJ

PCB-1221	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1232	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1242	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1248	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1254	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
PCB-1260	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.101	ug/L	0.101	1/27/2025			SW846-8082A	UJ
Radium-226	U	0.283	pCi/L	1.15	1/27/2025	0.648	0.649	AN-1418	=
Radium-228	U	3.01	pCi/L	4.74	1/27/2025	2.88	2.98	EPA-904.0-M	=
Strontium-90	U	-1.3	pCi/L	2.88	1/27/2025	1.42	1.42	EPA-905.0-M	=
Tritium	U	79.6	pCi/L	171	1/27/2025	101	102	EPA-906.0-M	=
Technetium-99		54.4	pCi/L	20.9	1/27/2025	14.5	16	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.16	pCi/L	3.13	1/27/2025	1.54	1.54	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.714	pCi/L	2.47	1/27/2025	0.7	0.701	HASL 300, Th-01-RC M	UJ
Alpha activity	U	4.61	pCi/L	7.02	1/27/2025	4.59	4.67	SW846-9310	=
Beta activity		37.7	pCi/L	9.57	1/27/2025	8.86	10.9	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.0191	ug/L	0.0191	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/27/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		230 mg/L	20	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	=
Total Organic Halides (TOX)	N	45.7 ug/L	10	1/27/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.491 mg/L	2	1/27/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

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

Sampling Point: MW362 **DOWN** **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0986 **SAMPLE ID:** MW362UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/27/2025			SW846-9056A	=
Chloride	J	1.74	mg/L	250	1/27/2025			SW846-9056A	=
Fluoride	J	0.541	mg/L	4	1/27/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.333	mg/L	10	1/27/2025			SW846-9056A	=
Sulfate		30.5	mg/L	1.6	1/27/2025			SW846-9056A	=
Barometric Pressure Reading		30.24	Inches/Hg		1/27/2025				X
Conductivity		618	µmhos/cm		1/27/2025				X
Depth to Water		22.78	ft		1/27/2025				X
Dissolved Oxygen		6.97	mg/L		1/27/2025				X
Eh (approx)		440.1	mV		1/27/2025				X
pH		6.97	Std Unit		1/27/2025				X
Temperature		56.8	deg F		1/27/2025				X
Turbidity		183.2	NTU		1/27/2025				X
Aluminum		4.25	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	J	0.00333	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium		0.117	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	J	0.000202	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron		0.0296	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium		19.9	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	J	0.00642	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt		0.00308	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper		0.00761	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron		3.42	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead		0.00404	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium		8.43	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese		0.061	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum		0.00107	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel		0.00385	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium		0.639	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	J	0.000549	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium		125	mg/L	2.5	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium		0.0032	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	J	0.0107	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	J	0.0134	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
Barium, Dissolved		0.0853	mg/L	0.004	1/27/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	UJ
Uranium, Dissolved		0.00291	mg/L	0.0002	1/27/2025			SW846-6020B	J
PCB-1016	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	=

PCB-1221	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	=
PCB-1232	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	=
PCB-1242	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	UJ
PCB-1248	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	=
PCB-1254	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	=
PCB-1260	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0962	ug/L	0.0962	1/27/2025			SW846-8082A	UJ
Radium-226	U	-0.0667	pCi/L	1.09	1/27/2025	0.439	0.439	AN-1418	=
Radium-228	U	2.21	pCi/L	4.74	1/27/2025	2.79	2.85	EPA-904.0-M	=
Strontium-90	U	-0.291	pCi/L	2.34	1/27/2025	1.1	1.1	EPA-905.0-M	=
Tritium	U	50.9	pCi/L	180	1/27/2025	100	101	EPA-906.0-M	=
Technetium-99	U	-8.5	pCi/L	21.3	1/27/2025	11.6	11.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.27	pCi/L	3.2	1/27/2025	1.96	1.97	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.112	pCi/L	2.46	1/27/2025	1.03	1.03	HASL 300, Th-01-RC M	=
Alpha activity	U	1.03	pCi/L	9.05	1/27/2025	4.4	4.41	SW846-9310	=
Beta activity		11.5	pCi/L	8.92	1/27/2025	6.18	6.48	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.0188	ug/L	0.0188	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/27/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ
Dissolved Solids		438 mg/L	20	1/27/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/27/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	J	14 mg/L	20	1/27/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/27/2025	SW846-9012B	=
Total Organic Halides (TOX)	JN	7.46 ug/L	10	1/27/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.99 mg/L	2	1/27/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW363 DOWN **RGA Type:** URGa **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4796 **SAMPLE ID:** MW363UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	12.7	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.21	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	2.52	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		30.1	mg/L	1.6	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/28/2025				X
Conductivity		336	µmhos/cm		1/28/2025				X
Depth to Water		45.7	ft		1/28/2025				X
Dissolved Oxygen		1.01	mg/L		1/28/2025				X
Eh (approx)		448.2	mV		1/28/2025				X
pH		6.02	Std Unit		1/28/2025				X
Temperature		51.6	deg F		1/28/2025				X
Turbidity		2.8	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.106	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		0.0176	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		20.5	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	J	0.000847	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.000757	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	J	0.0346	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		7.88	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.155	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel		0.0112	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		1.78	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		39	mg/L	0.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.109	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1242	J	0.0422	ug/L	0.0967	1/28/2025			SW846-8082A	J
PCB-1248	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	J	0.0422	ug/L	0.0967	1/28/2025			SW846-8082A	J
Radium-226	U	0.344	pCi/L	1.2	1/28/2025	0.7	0.7	AN-1418	=
Radium-228	U	0.983	pCi/L	4.56	1/28/2025	2.54	2.56	EPA-904.0-M	=
Strontium-90	U	2.9	pCi/L	4.36	1/28/2025	2.67	2.71	EPA-905.0-M	=
Tritium	U	30.2	pCi/L	199	1/28/2025	107	108	EPA-906.0-M	=
Technetium-99	U	-5.6	pCi/L	23.4	1/28/2025	13	13	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.51	pCi/L	1.61	1/28/2025	0.954	0.96	HASL 300, Th-01-RC M	UJ
Thorium-232	U	0.0328	pCi/L	1.22	1/28/2025	0.569	0.569	HASL 300, Th-01-RC M	=
Alpha activity	U	2.78	pCi/L	5.14	1/28/2025	3.28	3.31	SW846-9310	UJ
Beta activity	U	6.58	pCi/L	9.45	1/28/2025	5.86	5.96	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0192	ug/L	0.0192	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids		217 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	9.98 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.842 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW364 **DOWN** **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4797 **SAMPLE ID:** MW364UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.466	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	36.4	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.158	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.11	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		65.6	mg/L	2	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.03	Inches/Hg		1/28/2025				X
Conductivity		465	µmhos/cm		1/28/2025				X
Depth to Water		45.42	ft		1/28/2025				X
Dissolved Oxygen		5.85	mg/L		1/28/2025				X
Eh (approx)		438.2	mV		1/28/2025				X
pH		5.85	Std Unit		1/28/2025				X
Temperature		53.7	deg F		1/28/2025				X
Turbidity		1.68	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.0527	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		0.188	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		32.4	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.000766	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		14.1	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	J*	0.00138	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		1.97	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		42.5	mg/L	0.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.0185	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.0581	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	=
PCB-1242	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0962	ug/L	0.0962	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.85	pCi/L	0.999	1/28/2025	0.82	0.822	AN-1418	=
Radium-228	U	2.18	pCi/L	4.55	1/28/2025	2.69	2.74	EPA-904.0-M	=
Strontium-90	U	2.36	pCi/L	4.78	1/28/2025	2.83	2.85	EPA-905.0-M	=
Tritium	U	53.4	pCi/L	199	1/28/2025	111	112	EPA-906.0-M	=
Technetium-99		53.3	pCi/L	22.4	1/28/2025	15.3	16.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.936	pCi/L	1.65	1/28/2025	1.13	1.14	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.118	pCi/L	1.15	1/28/2025	0.425	0.426	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.271	pCi/L	6.57	1/28/2025	2.7	2.7	SW846-9310	UJ
Beta activity		32.4	pCi/L	10.5	1/28/2025	8.83	10.4	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0194	ug/L	0.0194	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	J	0.7 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	274 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	7.88 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.461 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW365 DOWN **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0984 **SAMPLE ID:** MW365UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	1.65	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.355	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.26	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		49.2	mg/L	1.6	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.04	Inches/Hg		1/28/2025				X
Conductivity		384	µmhos/cm		1/28/2025				X
Depth to Water		37.13	ft		1/28/2025				X
Dissolved Oxygen		10.38	mg/L		1/28/2025				X
Eh (approx)		457.9	mV		1/28/2025				X
pH		6.36	Std Unit		1/28/2025				X
Temperature		55.6	deg F		1/28/2025				X
Turbidity		1.98	NTU		1/28/2025				X
Aluminum	J	0.023	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.0772	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron	J	0.00696	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		19.9	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt		0.00141	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper		0.00223	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		9.48	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.00659	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	J	0.000236	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel		0.00485	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium	J	0.26	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		51.3	mg/L	1.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium		0.000206	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.0812	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved		0.000201	mg/L	0.0002	1/28/2025			SW846-6020B	J
PCB-1016	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	=

PCB-1221	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	=
PCB-1232	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	=
PCB-1242	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	=
PCB-1254	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	=
PCB-1260	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.11	ug/L	0.11	1/28/2025			SW846-8082A	UJ
Radium-226	U	-0.0595	pCi/L	1.25	1/28/2025	0.529	0.529	AN-1418	=
Radium-228	U	2.4	pCi/L	3.45	1/28/2025	2.17	2.26	EPA-904.0-M	=
Strontium-90	U	1.47	pCi/L	2.6	1/28/2025	1.56	1.58	EPA-905.0-M	=
Tritium	U	-18.3	pCi/L	197	1/28/2025	97.6	97.7	EPA-906.0-M	=
Technetium-99	U	-10.6	pCi/L	21.9	1/28/2025	11.9	11.9	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.755	pCi/L	2.2	1/28/2025	1.29	1.3	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.0217	pCi/L	0.854	1/28/2025	0.424	0.425	HASL 300, Th-01-RC M	=
Alpha activity	U	-3.56	pCi/L	9.45	1/28/2025	2.9	2.9	SW846-9310	UJ
Beta activity	U	4.12	pCi/L	9.3	1/28/2025	5.45	5.5	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0194	ug/L	0.0194	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	235 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)		21.4 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.31 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW366 DOWN **RGA Type:** URGa **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0982 **SAMPLE ID:** MW366UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.485	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	41.2	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.185	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.954	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		48.6	mg/L	2	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.05	Inches/Hg		1/28/2025				X
Conductivity		484	µmhos/cm		1/28/2025				X
Depth to Water		46.02	ft		1/28/2025				X
Dissolved Oxygen		3.1	mg/L		1/28/2025				X
Eh (approx)		474.2	mV		1/28/2025				X
pH		5.98	Std Unit		1/28/2025				X
Temperature		55	deg F		1/28/2025				X
Turbidity		1.52	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.0969	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		0.0805	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		32.6	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.000555	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		14.2	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	U*	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		1.98	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	J	0.00222	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		49.5	mg/L	0.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.101	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=

PCB-1221	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1232	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1242	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1254	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1260	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.464	pCi/L	0.978	1/28/2025	0.677	0.677	AN-1418	=
Radium-228	U	2.44	pCi/L	4.14	1/28/2025	2.52	2.59	EPA-904.0-M	=
Strontium-90	U	1.18	pCi/L	1.9	1/28/2025	1.16	1.18	EPA-905.0-M	=
Tritium	U	-32.7	pCi/L	201	1/28/2025	97.3	97.3	EPA-906.0-M	=
Technetium-99		87.2	pCi/L	21.9	1/28/2025	16.5	19.7	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.305	pCi/L	1.94	1/28/2025	1.02	1.02	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.0756	pCi/L	1.14	1/28/2025	0.465	0.466	HASL 300, Th-01-RC M	=
Alpha activity	U	-1.72	pCi/L	7.86	1/28/2025	2.92	2.92	SW846-9310	UJ
Beta activity		28.1	pCi/L	13.9	1/28/2025	9.93	10.9	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.019	ug/L	0.019	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	260 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	4.42 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.541 mg/L	2	1/28/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

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

Sampling Point: MW367 DOWN **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4793 **SAMPLE ID:** MW367UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.217	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	15	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.104	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		26.8	mg/L	0.8	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.06	Inches/Hg		1/28/2025				X
Conductivity		272	µmhos/cm		1/28/2025				X
Depth to Water		46.44	ft		1/28/2025				X
Dissolved Oxygen		0.94	mg/L		1/28/2025				X
Eh (approx)		291.9	mV		1/28/2025				X
pH		5.78	Std Unit		1/28/2025				X
Temperature		56.3	deg F		1/28/2025				X
Turbidity		3.5	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	J	0.00206	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.123	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		0.0221	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		15.5	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt		0.00632	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.000468	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron		3.46	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		8.49	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.235	mg/L	0.005	1/28/2025			SW846-6020B	J
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel		0.00209	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		2.95	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		21.5	mg/L	0.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.0104	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.132	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	=

PCB-1221	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	=
PCB-1232	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	=
PCB-1242	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	=
PCB-1254	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	=
PCB-1260	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.104	ug/L	0.104	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.456	pCi/L	1.37	1/28/2025	0.81	0.81	AN-1418	=
Radium-228	U	3.06	pCi/L	4.39	1/28/2025	2.76	2.87	EPA-904.0-M	=
Strontium-90	U	-1.33	pCi/L	2.82	1/28/2025	1.4	1.4	EPA-905.0-M	=
Tritium	U	-34.4	pCi/L	197	1/28/2025	94.7	94.7	EPA-906.0-M	=
Technetium-99	U	1.93	pCi/L	21.7	1/28/2025	12.4	12.4	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.694	pCi/L	1.97	1/28/2025	1.16	1.17	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.113	pCi/L	1.09	1/28/2025	0.403	0.403	HASL 300, Th-01-RC M	=
Alpha activity	U	2.91	pCi/L	9.09	1/28/2025	5.08	5.11	SW846-9310	UJ
Beta activity	U	7.22	pCi/L	9.84	1/28/2025	6.13	6.25	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	J	0.78 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	119 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	U	10 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	U	2 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW368 **DOWN** **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0983 **SAMPLE ID:** MW368UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	2.04	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.246	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		93.8	mg/L	4	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.06	Inches/Hg		1/28/2025				X
Conductivity		554	µmhos/cm		1/28/2025				X
Depth to Water		27.62	ft		1/28/2025				X
Dissolved Oxygen		3.21	mg/L		1/28/2025				X
Eh (approx)		299.8	mV		1/28/2025				X
pH		6.33	Std Unit		1/28/2025				X
Temperature		58.2	deg F		1/28/2025				X
Turbidity		3.72	NTU		1/28/2025				X
Aluminum		0.377	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	J	0.00316	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.0472	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		41.5	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.000514	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron		0.211	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		11.3	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.00682	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	J	0.000669	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		0.466	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		69.2	mg/L	1.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium		0.000201	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	J	0.00421	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.00411	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.0488	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	J	0.000172	mg/L	0.0002	1/28/2025			SW846-6020B	J
PCB-1016	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	=

PCB-1221	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	=
PCB-1232	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	=
PCB-1242	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	=
PCB-1254	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	=
PCB-1260	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.105	ug/L	0.105	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.913	pCi/L	1.02	1/28/2025	0.863	0.865	AN-1418	=
Radium-228		4.73	pCi/L	4.7	1/28/2025	3.11	3.34	EPA-904.0-M	=
Strontium-90	U	0.278	pCi/L	3.43	1/28/2025	1.79	1.79	EPA-905.0-M	=
Tritium	U	57.1	pCi/L	196	1/28/2025	110	111	EPA-906.0-M	=
Technetium-99	U	-4.22	pCi/L	21.2	1/28/2025	11.8	11.8	HASL 300, Tc-02-RC M	=
Thorium-230	U	1.05	pCi/L	1.58	1/28/2025	1.11	1.12	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.0637	pCi/L	0.9	1/28/2025	0.363	0.363	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.764	pCi/L	9.59	1/28/2025	4.21	4.21	SW846-9310	UJ
Beta activity	U	6.66	pCi/L	9.51	1/28/2025	5.89	6	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	292 mg/L	20	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	U	10 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.903 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW369 UP **RGA Type:** URGa **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4820 **SAMPLE ID:** MW369UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.354	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	27.5	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.198	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.989	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		8.48	mg/L	0.4	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.06	Inches/Hg		1/28/2025				X
Conductivity		343	µmhos/cm		1/28/2025				X
Depth to Water		40.4	ft		1/28/2025				X
Dissolved Oxygen		4.72	mg/L		1/28/2025				X
Eh (approx)		463	mV		1/28/2025				X
pH		6.25	Std Unit		1/28/2025				X
Temperature		57	deg F		1/28/2025				X
Turbidity		2.25	NTU		1/28/2025				X
Aluminum		0.0555	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.353	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		0.0153	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		16.2	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt		0.00442	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper		0.00237	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	J	0.0652	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		6.91	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	J*	0.00141	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel		0.00314	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		0.576	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	J	0.00299	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		47.7	mg/L	1.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.00423	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.381	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=
PCB-1242	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=
PCB-1248	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0943	ug/L	0.0943	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.848	pCi/L	2.03	1/28/2025	1.34	1.34	AN-1418	=
Radium-228	U	3.06	pCi/L	4.59	1/28/2025	2.81	2.92	EPA-904.0-M	=
Strontium-90	U	-3.27	pCi/L	5.65	1/28/2025	2.79	2.79	EPA-905.0-M	UJ
Tritium	U	-25.3	pCi/L	197	1/28/2025	96.6	96.6	EPA-906.0-M	=
Technetium-99		52.7	pCi/L	20.7	1/28/2025	14.3	15.7	HASL 300, Tc-02-RC M	=
Thorium-230	U	-0.0119	pCi/L	2.19	1/28/2025	1.04	1.04	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.111	pCi/L	1.07	1/28/2025	0.394	0.394	HASL 300, Th-01-RC M	=
Alpha activity	U	1.34	pCi/L	6.03	1/28/2025	3.12	3.13	SW846-9310	UJ
Beta activity		47.9	pCi/L	9.54	1/28/2025	9.58	12.3	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	J	0.97 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	205 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	U	10 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.657 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW370 UP **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4818 **SAMPLE ID:** MW370UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.551	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	41.5	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.185	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	1.01	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		20.3	mg/L	2	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.04	Inches/Hg		1/28/2025				X
Conductivity		416	µmhos/cm		1/28/2025				X
Depth to Water		41.29	ft		1/28/2025				X
Dissolved Oxygen		6.23	mg/L		1/28/2025				X
Eh (approx)		602	mV		1/28/2025				X
pH		6.28	Std Unit		1/28/2025				X
Temperature		52.9	deg F		1/28/2025				X
Turbidity		46.34	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.209	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		0.0826	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		29.2	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper		0.0036	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		12.9	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	U*	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		2.47	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		45.9	mg/L	0.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.00761	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.226	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1242	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0967	ug/L	0.0967	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.55	pCi/L	0.999	1/28/2025	0.742	0.743	AN-1418	=
Radium-228	U	0.0913	pCi/L	4.12	1/28/2025	2.12	2.12	EPA-904.0-M	=
Strontium-90	U	0.674	pCi/L	2.62	1/28/2025	1.47	1.48	EPA-905.0-M	=
Tritium	U	38.2	pCi/L	203	1/28/2025	111	111	EPA-906.0-M	=
Technetium-99	U	11	pCi/L	20.9	1/28/2025	12.4	12.5	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.565	pCi/L	1.65	1/28/2025	0.985	0.992	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.11	pCi/L	1.07	1/28/2025	0.392	0.393	HASL 300, Th-01-RC M	=
Alpha activity	U	0.42	pCi/L	6.39	1/28/2025	2.74	2.75	SW846-9310	UJ
Beta activity	U	8.43	pCi/L	14.7	1/28/2025	8.81	8.92	SW846-9310	=
1,2-Dibromo-3-chloropropane	US	0.0193	ug/L	0.0193	1/28/2025			SW846-8011	UJ
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene		1.8 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	212 mg/L	10	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)		52.3 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.636 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW371 UP **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4819 **SAMPLE ID:** MW371UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	3.65	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.248	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	U	10	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		10.8	mg/L	0.4	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.05	Inches/Hg		1/28/2025				X
Conductivity		699	µmhos/cm		1/28/2025				X
Depth to Water		25.3	ft		1/28/2025				X
Dissolved Oxygen		5.23	mg/L		1/28/2025				X
Eh (approx)		515	mV		1/28/2025				X
pH		6.75	Std Unit		1/28/2025				X
Temperature		57.4	deg F		1/28/2025				X
Turbidity		1.38	NTU		1/28/2025				X
Aluminum		0.1	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.178	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		48.9	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper		0.00235	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	J	0.0827	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		18.1	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.0104	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	J	0.000435	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	J	0.00134	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		0.376	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		79.7	mg/L	1.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium		0.0015	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.00501	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.191	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved		0.00155	mg/L	0.0002	1/28/2025			SW846-6020B	J
PCB-1016	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	=
PCB-1242	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0983	ug/L	0.0983	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.4	pCi/L	1.05	1/28/2025	0.666	0.666	AN-1418	=
Radium-228	U	1.18	pCi/L	4.09	1/28/2025	2.27	2.29	EPA-904.0-M	=
Strontium-90	U	-0.873	pCi/L	5.76	1/28/2025	2.97	2.97	EPA-905.0-M	=
Tritium	U	-4.58	pCi/L	197	1/28/2025	100	100	EPA-906.0-M	=
Technetium-99	U	-4.09	pCi/L	20.8	1/28/2025	11.6	11.6	HASL 300, Tc-02-RC M	=
Thorium-230	U	-0.262	pCi/L	1.85	1/28/2025	0.723	0.724	HASL 300, Th-01-RC M	UJ
Thorium-232	U	0.176	pCi/L	0.809	1/28/2025	0.556	0.557	HASL 300, Th-01-RC M	=
Alpha activity	U	2.11	pCi/L	7.65	1/28/2025	4.13	4.15	SW846-9310	UJ
Beta activity	U	6.73	pCi/L	12.8	1/28/2025	7.62	7.71	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0189	ug/L	0.0189	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	334 mg/L	20	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	J	3.74 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	1.48 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW372 UP **RGA Type:** URGa **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4808 **SAMPLE ID:** MW372UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.483	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	37.5	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.202	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.903	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		149	mg/L	4	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		29.93	Inches/Hg		1/28/2025				X
Conductivity		758	µmhos/cm		1/28/2025				X
Depth to Water		35.49	ft		1/28/2025				X
Dissolved Oxygen		3.71	mg/L		1/28/2025				X
Eh (approx)		410	mV		1/28/2025				X
pH		6.27	Std Unit		1/28/2025				X
Temperature		60	deg F		1/28/2025				X
Turbidity		2.62	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.0541	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		1.54	mg/L	0.3	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		66.9	mg/L	2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.00162	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		24.3	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	J*	0.00215	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	J	0.000643	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		2.27	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		59.5	mg/L	2.5	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.0594	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	=

PCB-1221	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	=
PCB-1232	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	=
PCB-1242	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	=
PCB-1254	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	=
PCB-1260	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.103	ug/L	0.103	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.143	pCi/L	1.03	1/28/2025	0.538	0.539	AN-1418	=
Radium-228	U	-0.189	pCi/L	4.97	1/28/2025	2.44	2.44	EPA-904.0-M	=
Strontium-90	U	0.214	pCi/L	4.76	1/28/2025	2.52	2.52	EPA-905.0-M	=
Tritium	U	0.0328	pCi/L	199	1/28/2025	102	102	EPA-906.0-M	=
Technetium-99	U	7.82	pCi/L	21.3	1/28/2025	12.5	12.5	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.105	pCi/L	2.05	1/28/2025	0.977	0.979	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.0789	pCi/L	1.2	1/28/2025	0.494	0.495	HASL 300, Th-01-RC M	=
Alpha activity	U	-1.14	pCi/L	7.51	1/28/2025	2.72	2.72	SW846-9310	UJ
Beta activity		24.7	pCi/L	9.41	1/28/2025	7.83	8.81	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene		2.94 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	446 mg/L	20	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)		25.1 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.772 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW373 **UP** **RGA Type:** LRGA **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-4792 **SAMPLE ID:** MW373UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.448	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	30.5	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.204	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.562	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		211	mg/L	8	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.01	Inches/Hg		1/28/2025				X
Conductivity		945	µmhos/cm		1/28/2025				X
Depth to Water		35.81	ft		1/28/2025				X
Dissolved Oxygen		2.08	mg/L		1/28/2025				X
Eh (approx)		428	mV		1/28/2025				X
pH		6.14	Std Unit		1/28/2025				X
Temperature		58.6	deg F		1/28/2025				X
Turbidity		0.99	NTU		1/28/2025				X
Aluminum	U	0.05	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.033	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron		2.47	mg/L	0.3	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		91	mg/L	4	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	J	0.000877	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper		0.00326	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	J	0.0562	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		33.9	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.136	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel		0.00212	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		3.03	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		73.2	mg/L	5	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	J	0.000126	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	J	0.00584	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.0363	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	J	0.000122	mg/L	0.0002	1/28/2025			SW846-6020B	J
PCB-1016	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	=
PCB-1242	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0966	ug/L	0.0966	1/28/2025			SW846-8082A	UJ
Radium-226	U	-0.162	pCi/L	1.24	1/28/2025	0.459	0.46	AN-1418	=
Radium-228	U	0.521	pCi/L	4.63	1/28/2025	2.46	2.46	EPA-904.0-M	=
Strontium-90	U	-0.139	pCi/L	2.47	1/28/2025	1.28	1.28	EPA-905.0-M	=
Tritium	U	82.2	pCi/L	196	1/28/2025	114	115	EPA-906.0-M	=
Technetium-99	U	-6.18	pCi/L	21.6	1/28/2025	11.9	11.9	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.0965	pCi/L	1.75	1/28/2025	0.841	0.843	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.17	pCi/L	1.3	1/28/2025	0.449	0.45	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.183	pCi/L	9.07	1/28/2025	3.75	3.76	SW846-9310	UJ
Beta activity	U	3.62	pCi/L	8.42	1/28/2025	4.92	4.96	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene		2.5 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	562 mg/L	20	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	BN1	35.7 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.953 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: MW374 UP **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0990 **SAMPLE ID:** MW374UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide		0.463	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	42.8	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.2	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.815	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		15.8	mg/L	0.4	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		29.97	Inches/Hg		1/28/2025				X
Conductivity		679	µmhos/cm		1/28/2025				X
Depth to Water		21.37	ft		1/28/2025				X
Dissolved Oxygen		3.52	mg/L		1/28/2025				X
Eh (approx)		382	mV		1/28/2025				X
pH		6.88	Std Unit		1/28/2025				X
Temperature		59.2	deg F		1/28/2025				X
Turbidity		0.37	NTU		1/28/2025				X
Aluminum	J	0.0468	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.124	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron	J	0.0108	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		25.6	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.00104	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron		0.221	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		6.17	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	*	0.0787	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	J	0.000234	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium		0.498	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium		0.00884	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		120	mg/L	1.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium		0.000527	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.135	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved		0.000526	mg/L	0.0002	1/28/2025			SW846-6020B	J
PCB-1016	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	=

PCB-1221	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	=
PCB-1232	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	=
PCB-1242	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	=
PCB-1254	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	=
PCB-1260	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0991	ug/L	0.0991	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.0355	pCi/L	1.3	1/28/2025	0.605	0.605	AN-1418	=
Radium-228	U	0.613	pCi/L	4.95	1/28/2025	2.63	2.63	EPA-904.0-M	=
Strontium-90	U	0.376	pCi/L	2.02	1/28/2025	1.11	1.12	EPA-905.0-M	=
Tritium	U	45.4	pCi/L	195	1/28/2025	107	108	EPA-906.0-M	=
Technetium-99	U	-1.87	pCi/L	18.5	1/28/2025	10.4	10.4	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.41	pCi/L	2.04	1/28/2025	1.1	1.11	HASL 300, Th-01-RC M	UJ
Thorium-232	U	0.199	pCi/L	0.89	1/28/2025	0.62	0.621	HASL 300, Th-01-RC M	=
Alpha activity	U	0.254	pCi/L	8.16	1/28/2025	3.74	3.74	SW846-9310	UJ
Beta activity	U	5.2	pCi/L	8.41	1/28/2025	5.13	5.2	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	338 mg/L	20	1/28/2025	EPA-160.1	=
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	=
Total Organic Halides (TOX)	BN1	46.6 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)		2.04 mg/L	2	1/28/2025	SW846-9060A	=

Paducah OREIS
GROUNDWATER MONITORING REPORT

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

Sampling Point: MW375 SIDE **RGA Type:** UCRS **Period:** 1st Quarter 2025

AKGWA Well Tag #: 8004-0985 **SAMPLE ID:** MW375UG2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Bromide	U	0.2	mg/L	0.2	1/28/2025			SW846-9056A	=
Chloride	J	3.13	mg/L	250	1/28/2025			SW846-9056A	=
Fluoride	J	0.293	mg/L	4	1/28/2025			SW846-9056A	=
Nitrate as Nitrogen	J	0.832	mg/L	10	1/28/2025			SW846-9056A	=
Sulfate		22	mg/L	0.8	1/28/2025			SW846-9056A	=
Barometric Pressure Reading		30.01	Inches/Hg		1/28/2025				X
Conductivity		348	µmhos/cm		1/28/2025				X
Depth to Water		31.51	ft		1/28/2025				X
Dissolved Oxygen		2.57	mg/L		1/28/2025				X
Eh (approx)		428.2	mV		1/28/2025				X
pH		6.35	Std Unit		1/28/2025				X
Temperature		59.3	deg F		1/28/2025				X
Turbidity		1.9	NTU		1/28/2025				X
Aluminum	J	0.0257	mg/L	0.05	1/28/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/28/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Barium	N	0.164	mg/L	0.004	1/28/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/28/2025			SW846-6020B	=
Boron	J	0.00781	mg/L	0.015	1/28/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Calcium		12.8	mg/L	0.2	1/28/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Copper	J	0.000348	mg/L	0.002	1/28/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/28/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Magnesium		5.44	mg/L	0.03	1/28/2025			SW846-6020B	=
Manganese	J*	0.00314	mg/L	0.005	1/28/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Potassium	J	0.263	mg/L	0.3	1/28/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Selenium	J	0.00188	mg/L	0.005	1/28/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/28/2025			SW846-6020B	=
Sodium		51	mg/L	1.25	1/28/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/28/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/28/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/28/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/28/2025			SW846-7470A	=
Barium, Dissolved	N	0.169	mg/L	0.004	1/28/2025			SW846-6020B	J
Chromium, Dissolved	U	0.01	mg/L	0.01	1/28/2025			SW846-6020B	UJ
Uranium, Dissolved	U	0.0002	mg/L	0.0002	1/28/2025			SW846-6020B	UJ
PCB-1016	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=

PCB-1221	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1232	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1242	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	UJ
PCB-1248	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1254	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
PCB-1260	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	UJ
PCB-1268	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.1	ug/L	0.1	1/28/2025			SW846-8082A	UJ
Radium-226	U	0.58	pCi/L	0.979	1/28/2025	0.719	0.72	AN-1418	=
Radium-228	U	3.01	pCi/L	4.02	1/28/2025	2.55	2.66	EPA-904.0-M	=
Strontium-90	U	0.437	pCi/L	5.43	1/28/2025	3.02	3.02	EPA-905.0-M	=
Tritium	U	-4.11	pCi/L	190	1/28/2025	96.8	96.8	EPA-906.0-M	=
Technetium-99	U	-1.42	pCi/L	19.8	1/28/2025	11.2	11.2	HASL 300, Tc-02-RC M	=
Thorium-230	U	0.107	pCi/L	2.14	1/28/2025	1.04	1.04	HASL 300, Th-01-RC M	UJ
Thorium-232	U	-0.0217	pCi/L	0.829	1/28/2025	0.41	0.411	HASL 300, Th-01-RC M	=
Alpha activity	U	4.27	pCi/L	7.32	1/28/2025	4.6	4.66	SW846-9310	UJ
Beta activity	U	2.78	pCi/L	9.76	1/28/2025	5.54	5.56	SW846-9310	=
1,2-Dibromo-3-chloropropane	U	0.0193	ug/L	0.0193	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Ethylbenzene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Iodomethane	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Methylene chloride	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Styrene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Tetrachloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Toluene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Total Xylene	U	3 ug/L	3	1/28/2025	SW846-8260D	=
trans-1,2-Dichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,3-Dichloropropene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Trichloroethene	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Dissolved Solids	*	149 mg/L	10	1/28/2025	EPA-160.1	J
Iodide	U	0.5 mg/L	0.5	1/28/2025	EPA-300.0	=
Chemical Oxygen Demand (COD)	U	20 mg/L	20	1/28/2025	EPA-410.4	=
Cyanide	UN	0.2 mg/L	0.2	1/28/2025	SW846-9012B	UJ
Total Organic Halides (TOX)	J	4.9 ug/L	10	1/28/2025	SW846-9020B	=
Total Organic Carbon (TOC)	J	0.606 mg/L	2	1/28/2025	SW846-9060A	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: QC **Period:** 1st Quarter 2025

AKGWA Well Tag #: N/A **SAMPLE ID:** FB1UG2-25 **Sample Type:** FB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Aluminum	U	0.05	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium	U	0.004	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium	U	0.2	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium	U	0.03	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium	U	0.3	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium	U	0.25	mg/L	0.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
PCB-1016	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	UJ
PCB-1221	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	=
PCB-1232	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	=
PCB-1242	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	=
PCB-1248	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	=
PCB-1254	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	=
PCB-1260	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.0972	ug/L	0.0972	1/27/2025			SW846-8082A	UJ
Radium-226	U	-0.053	pCi/L	1.38	1/27/2025	0.607	0.607	AN-1418	=
Radium-228	U	4.17	pCi/L	4.9	1/27/2025	3.07	3.25	EPA-904.0-M	=
Strontium-90	U	-1.75	pCi/L	3.3	1/27/2025	1.57	1.57	EPA-905.0-M	UJ
Tritium	U	241	pCi/L	258	1/27/2025	161	167	EPA-906.0-M	=
Technetium-99	U	-16.2	pCi/L	22.4	1/27/2025	11.8	11.8	HASL 300, Tc-02-RC M	UJ
Thorium-230	U	0.889	pCi/L	3.02	1/27/2025	1.73	1.74	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.405	pCi/L	2.17	1/27/2025	0.686	0.687	HASL 300, Th-01-RC M	=
Alpha activity	U	-0.812	pCi/L	6.36	1/27/2025	2.42	2.42	SW846-9310	=

Beta activity	U	-0.859	pCi/L	8.34	1/27/2025	4.24	4.24	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.019	ug/L	0.019	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	J	2.53	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/27/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Vinyl chloride	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Iodide	U	0.5	mg/L	0.5	1/27/2025			EPA-300.0	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

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

Sampling Point: QC **Period:** 1st Quarter 2025

AKGWA Well Tag #: N/A **SAMPLE ID:** RI1UG2-25 **Sample Type:** RI

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Aluminum	U	0.05	mg/L	0.05	1/27/2025			SW846-6020B	=
Antimony	U	0.003	mg/L	0.003	1/27/2025			SW846-6020B	=
Arsenic	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Barium	U	0.004	mg/L	0.004	1/27/2025			SW846-6020B	=
Beryllium	U	0.0005	mg/L	0.0005	1/27/2025			SW846-6020B	=
Boron	U	0.015	mg/L	0.015	1/27/2025			SW846-6020B	=
Cadmium	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Calcium	U	0.2	mg/L	0.2	1/27/2025			SW846-6020B	=
Chromium	U	0.01	mg/L	0.01	1/27/2025			SW846-6020B	=
Cobalt	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Copper	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Iron	U	0.1	mg/L	0.1	1/27/2025			SW846-6020B	=
Lead	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Magnesium	U	0.03	mg/L	0.03	1/27/2025			SW846-6020B	=
Manganese	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Molybdenum	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Nickel	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Potassium	U	0.3	mg/L	0.3	1/27/2025			SW846-6020B	=
Rhodium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Selenium	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Silver	U	0.001	mg/L	0.001	1/27/2025			SW846-6020B	=
Sodium	U	0.25	mg/L	0.25	1/27/2025			SW846-6020B	=
Tantalum	U	0.005	mg/L	0.005	1/27/2025			SW846-6020B	=
Thallium	U	0.002	mg/L	0.002	1/27/2025			SW846-6020B	=
Uranium	U	0.0002	mg/L	0.0002	1/27/2025			SW846-6020B	=
Vanadium	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Zinc	U	0.02	mg/L	0.02	1/27/2025			SW846-6020B	=
Mercury	U	0.0002	mg/L	0.0002	1/27/2025			SW846-7470A	=
PCB-1016	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	UJ
PCB-1221	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1232	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1242	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1248	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1254	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
PCB-1260	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	UJ
PCB-1268	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	=
Polychlorinated biphenyl	U	0.1	ug/L	0.1	1/27/2025			SW846-8082A	UJ
Radium-226	U	0.615	pCi/L	1.18	1/27/2025	0.795	0.796	AN-1418	=
Radium-228	U	1.17	pCi/L	4.47	1/27/2025	2.48	2.5	EPA-904.0-M	=
Strontium-90	U	0.428	pCi/L	3.22	1/27/2025	1.79	1.79	EPA-905.0-M	=
Tritium	U	232	pCi/L	268	1/27/2025	165	171	EPA-906.0-M	=
Technetium-99	U	1.59	pCi/L	21.8	1/27/2025	12.5	12.5	HASL 300, Tc-02-RC M	=
Thorium-230	U	-0.795	pCi/L	3.74	1/27/2025	1.37	1.38	HASL 300, Th-01-RC M	=
Thorium-232	U	-0.571	pCi/L	2.77	1/27/2025	0.852	0.853	HASL 300, Th-01-RC M	=
Alpha activity	U	0.679	pCi/L	6.37	1/27/2025	3.01	3.02	SW846-9310	=

Beta activity	U	1.79	pCi/L	10.7	1/27/2025	5.95	5.96	SW846-9310	=
1,2-Dibromo-3-chloropropane	UY2	0.019	ug/L	0.019	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	J	3.22	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/27/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Trichlorofluoromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Vinyl acetate	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Vinyl chloride	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Iodide	U	0.5	mg/L	0.5	1/27/2025			EPA-300.0	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

Facility: C-746-U Landfill

County: McCracken

Permit #: SW07300014,SW07300015,SW07300045

Sampling Point: QC

Period: 1st Quarter 2025

AKGWA Well Tag #: N/A

SAMPLE ID: TB1UG2-25

Sample Type: TB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	UY2	0.0188	ug/L	0.0188	1/27/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Acetone	J	3.29	ug/L	5	1/27/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/27/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Bromomethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Carbon disulfide	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chlorobenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloroethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
Chloroform	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Chloromethane	UY2Q	1	ug/L	1	1/27/2025			SW846-8260D	UJ
cis-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/27/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/27/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/27/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/27/2025			SW846-8260D	=

Trichlorofluoromethane	U	1 ug/L	1	1/27/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/27/2025	SW846-8260D	=
Vinyl chloride	UY2Q	1 ug/L	1	1/27/2025	SW846-8260D	UJ

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

Facility: C-746-U Landfill

County: McCracken

Permit #: SW07300014,SW07300015,SW07300045

Sampling Point: QC

Period: 1st Quarter 2025

AKGWA Well Tag #: N/A

SAMPLE ID: TB2UG2-25

Sample Type: TB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	U	0.0191	ug/L	0.0191	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	J	0.43	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/28/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=

**Paducah OREIS
GROUNDWATER MONITORING REPORT**

Facility: C-746-U Landfill

County: McCracken

Permit #: SW07300014,SW07300015,SW07300045

Sampling Point: QC

Period: 1st Quarter 2025

AKGWA Well Tag #: N/A

SAMPLE ID: TB3UG2-25

Sample Type: TB

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
1,2-Dibromo-3-chloropropane	U	0.019	ug/L	0.019	1/28/2025			SW846-8011	=
1,1,1,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,1-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2,2-Tetrachloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1,2-Trichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,1-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2,3-Trichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dibromoethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,2-Dichloropropane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
1,4-Dichlorobenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
2-Butanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
2-Hexanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
4-Methyl-2-pentanone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acetone	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Acrolein	UQ	5	ug/L	5	1/28/2025			SW846-8260D	UJ
Acrylonitrile	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Benzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromodichloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromoform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Bromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Carbon disulfide	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Carbon tetrachloride	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chlorobenzene	J	0.43	ug/L	1	1/28/2025			SW846-8260D	=
Chloroethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloroform	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Chloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
cis-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromochloromethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Dibromomethane	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Ethylbenzene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Iodomethane	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Methylene chloride	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Styrene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Tetrachloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Toluene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
Total Xylene	U	3	ug/L	3	1/28/2025			SW846-8260D	=
trans-1,2-Dichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
trans-1,3-Dichloropropene	U	1	ug/L	1	1/28/2025			SW846-8260D	=
trans-1,4-Dichloro-2-butene	U	5	ug/L	5	1/28/2025			SW846-8260D	=
Trichloroethene	U	1	ug/L	1	1/28/2025			SW846-8260D	=

Trichlorofluoromethane	U	1 ug/L	1	1/28/2025	SW846-8260D	=
Vinyl acetate	U	5 ug/L	5	1/28/2025	SW846-8260D	=
Vinyl chloride	U	1 ug/L	1	1/28/2025	SW846-8260D	=

Qualifier Code Definitions	
*	Duplicate analysis not within control limits.
B	Analyte was detected in the associated blank.
H	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.
Q	Quality issue exists with instrument calibration.
P	Difference between results from two GC columns outside control limits.
S	Sample surrogate recovery outside acceptance criteria.
T	Tracer recovery outside control limits of 30-110%.
U	Not detected. RADS: Value reported is < MDA and/or TPU.
W	Post-digestion spike recovery out of control limits.
W1	Post-digestion spike and post-digestion spike duplicate RPD out of control limits.
X	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 Type Code Definitions	
REG	Regular
FR	Field Replicate (code used for Field Duplicate)
RI	Equipment Rinsate Blank
FB	Field Blank
TB	Trip Blank

Validation 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.
X	Not validated

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ATTACHMENT C1

GEL LABORATORIES CERTIFICATE OF ANALYSIS

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GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25
Sample ID: 705860001
Matrix: WG
Collect Date: 27-JAN-25
Receive Date: 28-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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

AN-1418 AlphaSpec Ra226, Liquid "As Received"

Radium-226	U	1.05	+/-1.31	1.59	+/-1.31	5.00	pCi/L			CM4	02/06/25	0911	2740572	1
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Th-01-RC M, Th Isotopes, Liquid "As Received"

Thorium-230	U	1.06	+/-1.59	2.58	+/-1.60	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
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Thorium-232	U	-0.178	+/-0.597	1.64	+/-0.598		pCi/L							
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Rad Gas Flow Proportional Counting

904.0Mod, Ra228, Liquid "As Received"

Radium-228	U	3.51	+/-2.81	4.47	+/-2.95	4.99	pCi/L			ST2	02/13/25	1316	2740210	3
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905.0Mod, Sr90, liquid "As Received"

Strontium-90	U	1.92	+/-1.80	2.95	+/-1.82	8.00	pCi/L			HH3	02/12/25	0718	2740229	4
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9310, Alpha/Beta Activity, liquid "As Received"

Alpha	U	0.618	+/-3.30	6.97	+/-3.30	15.0	pCi/L			AH4	02/03/25	1535	2740199	5
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Beta		21.9	+/-7.55	9.67	+/-8.35	50.0	pCi/L							
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Rad Liquid Scintillation Analysis

906.0M, Tritium Dist, Liquid "As Received"

Tritium	U	-24.5	+/-82.6	174	+/-82.6	300	pCi/L			KXA1	02/09/25	0535	2741837	6
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Tc-02-RC-MOD, Tc99, Liquid "As Received"

Technetium-99		36.7	+/-13.5	20.6	+/-14.3	25.0	pCi/L			GS3	02/11/25	2118	2742288	7
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The following Analytical Methods were performed

Method	Description
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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"	2740572	96.8	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	96	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	76.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	87.8	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	94.8	(30%-110%)

GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25

Sample ID: 705860001

Project: FRNP00607

Client ID: FRNP006

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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25

Project: FRNP00607

Sample ID: 705860003

Client ID: FRNP006

Matrix: WG

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

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

AN-1418 AlphaSpec Ra226, Liquid "As Received"

Radium-226	U	0.951	+/-0.890	1.17	+/-0.892	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
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Th-01-RC M, Th Isotopes, Liquid "As Received"

Thorium-230	U	0.149	+/-1.71	3.55	+/-1.72	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
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Thorium-232	U	0.900	+/-1.53	2.42	+/-1.53		pCi/L							
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Rad Gas Flow Proportional Counting

904.0Mod, Ra228, Liquid "As Received"

Radium-228		5.65	+/-3.15	4.69	+/-3.47	4.99	pCi/L			ST2	02/17/25	1030	2740210	3
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905.0Mod, Sr90, liquid "As Received"

Strontium-90	U	1.60	+/-2.37	4.07	+/-2.38	8.00	pCi/L			HH3	02/12/25	0718	2740229	4
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9310, Alpha/Beta Activity, liquid "As Received"

Alpha	U	-2.25	+/-2.59	7.89	+/-2.59	15.0	pCi/L			AH4	02/03/25	1535	2740199	5
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Beta		36.7	+/-9.09	10.0	+/-11.0	50.0	pCi/L							
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Rad Liquid Scintillation Analysis

906.0M, Tritium Dist, Liquid "As Received"

Tritium	U	54.4	+/-103	183	+/-103	300	pCi/L			KXA1	02/09/25	0601	2741837	6
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Tc-02-RC-MOD, Tc99, Liquid "As Received"

Technetium-99		35.8	+/-13.9	21.4	+/-14.6	25.0	pCi/L			GS3	02/11/25	2134	2742288	7
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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"	2740572	102	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	81.6	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	73.7	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	61	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	91.1	(30%-110%)

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25

Sample ID: 705860003

Project: FRNP00607

Client ID: FRNP006

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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25

Project: FRNP00607

Sample ID: 705860005

Client ID: FRNP006

Matrix: WG

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.440	+/-1.16	2.09	+/-1.16	5.00	pCi/L			CM4	02/06/25	0911	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230		2.96	+/-2.15	2.69	+/-2.19	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.172	+/-0.572	1.58	+/-0.573		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228		7.43	+/-3.39	4.71	+/-3.88	4.99	pCi/L			ST2	02/17/25	1030	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.476	+/-1.06	1.92	+/-1.07	8.00	pCi/L			HH3	02/12/25	0718	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	1.09	+/-2.23	4.37	+/-2.24	15.0	pCi/L			AH4	02/03/25	1535	2740199	5
Beta	U	7.63	+/-5.66	8.83	+/-5.80	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	60.5	+/-102	181	+/-103	300	pCi/L			KXA1	02/09/25	0628	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	1.17	+/-11.9	20.9	+/-11.9	25.0	pCi/L			GS3	02/11/25	2151	2742288	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"	2740572	98.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	99.5	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	75.6	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	85.4	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	92.4	(30%-110%)

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25

Project: FRNP00607

Sample ID: 705860005

Client ID: FRNP006

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

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
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5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25

Project: FRNP00607

Sample ID: 705860007

Client ID: FRNP006

Matrix: WG

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.158	+/-0.528	0.976	+/-0.528	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.310	+/-1.55	3.09	+/-1.56	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.564	+/-0.734	2.45	+/-0.735		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228		4.81	+/-3.13	4.66	+/-3.37	4.99	pCi/L			ST2	02/17/25	1030	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	1.23	+/-2.03	3.51	+/-2.04	8.00	pCi/L			HH3	02/12/25	0718	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-0.736	+/-1.99	5.96	+/-1.99	15.0	pCi/L			AH4	02/03/25	1535	2740199	5
Beta	U	0.129	+/-5.14	9.72	+/-5.14	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	-69.3	+/-75.7	179	+/-75.7	300	pCi/L			KXA1	02/09/25	0655	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-2.84	+/-11.6	20.7	+/-11.6	25.0	pCi/L			GS3	02/11/25	2208	2742288	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"	2740572	96	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	95	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	72.8	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	87.8	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	94	(30%-110%)

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25

Sample ID: 705860007

Project: FRNP00607

Client ID: FRNP006

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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25

Project: FRNP00607

Sample ID: 705860009

Client ID: FRNP006

Matrix: WG

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.152	+/-0.569	1.10	+/-0.569	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	1.45	+/-2.08	3.38	+/-2.10	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.456	+/-0.781	2.47	+/-0.783		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228		4.82	+/-3.05	4.67	+/-3.29	4.99	pCi/L			ST2	02/17/25	1031	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.272	+/-1.44	2.67	+/-1.44	8.00	pCi/L			HH3	02/12/25	0713	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	2.54	+/-3.91	6.94	+/-3.94	15.0	pCi/L			AH4	02/03/25	1535	2740199	5
Beta	U	2.18	+/-5.56	9.96	+/-5.57	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	15.9	+/-92.8	178	+/-92.8	300	pCi/L			KXA1	02/09/25	0721	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-2.76	+/-11.6	20.8	+/-11.6	25.0	pCi/L			GS3	02/11/25	2224	2742288	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"	2740572	97.7	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	77.3	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	73.4	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	82.9	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	93.8	(30%-110%)

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25

Project: FRNP00607

Sample ID: 705860009

Client ID: FRNP006

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

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Certificate of Analysis

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25

Project: FRNP00607

Sample ID: 705860011

Client ID: FRNP006

Matrix: WG

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.283	+/-0.648	1.15	+/-0.649	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.160	+/-1.54	3.13	+/-1.54	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.714	+/-0.700	2.47	+/-0.701		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	3.01	+/-2.88	4.74	+/-2.98	4.99	pCi/L			ST2	02/13/25	1316	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	-1.30	+/-1.42	2.88	+/-1.42	8.00	pCi/L			HH3	02/12/25	1349	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	4.61	+/-4.59	7.02	+/-4.67	15.0	pCi/L			AH4	02/03/25	1535	2740199	5
Beta		37.7	+/-8.86	9.57	+/-10.9	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	79.6	+/-101	171	+/-102	300	pCi/L			KXA1	02/09/25	0748	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99		54.4	+/-14.5	20.9	+/-16.0	25.0	pCi/L			GS3	02/11/25	2241	2742288	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"	2740572	98.8	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	94	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	77.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	92.7	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	92.4	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25

Project: FRNP00607

Sample ID: 705860011

Client ID: FRNP006

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

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25

Project: FRNP00607

Sample ID: 705860013

Client ID: FRNP006

Matrix: WG

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	-0.0667	+/-0.439	1.09	+/-0.439	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	1.27	+/-1.96	3.20	+/-1.97	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.112	+/-1.03	2.46	+/-1.03		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	2.21	+/-2.79	4.74	+/-2.85	4.99	pCi/L			ST2	02/13/25	1320	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	-0.291	+/-1.10	2.34	+/-1.10	8.00	pCi/L			HH3	02/12/25	0713	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	1.03	+/-4.40	9.05	+/-4.41	15.0	pCi/L			AH4	02/03/25	1536	2740199	5
Beta		11.5	+/-6.18	8.92	+/-6.48	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	50.9	+/-100	180	+/-101	300	pCi/L			KXA1	02/09/25	0815	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-8.50	+/-11.6	21.3	+/-11.6	25.0	pCi/L			GS3	02/11/25	2258	2742288	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"	2740572	97.1	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	82.1	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	81.4	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	65.9	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	90.4	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25

Project: FRNP00607

Sample ID: 705860013

Client ID: FRNP006

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

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: RI1UG2-25
Sample ID: 705860015
Matrix: WATER
Collect Date: 27-JAN-25
Receive Date: 28-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.615	+/-0.795	1.18	+/-0.796	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	-0.795	+/-1.37	3.74	+/-1.38	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.571	+/-0.852	2.77	+/-0.853		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	1.17	+/-2.48	4.47	+/-2.50	4.99	pCi/L			ST2	02/13/25	1053	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.428	+/-1.79	3.22	+/-1.79	8.00	pCi/L			HH3	02/12/25	0714	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	0.679	+/-3.01	6.37	+/-3.02	15.0	pCi/L			AH4	02/03/25	1536	2740199	5
Beta	U	1.79	+/-5.95	10.7	+/-5.96	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	232	+/-165	268	+/-171	300	pCi/L			KXA1	02/10/25	1735	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	1.59	+/-12.5	21.8	+/-12.5	25.0	pCi/L			GS3	02/11/25	2314	2742288	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"	2740572	96.8	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	82.5	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	76.5	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	85.4	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	89.2	(30%-110%)

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: RI1UG2-25

Sample ID: 705860015

Project: FRNP00607

Client ID: FRNP006

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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: FB1UG2-25

Project: FRNP00607

Sample ID: 705860016

Client ID: FRNP006

Matrix: WATER

Collect Date: 27-JAN-25

Receive Date: 28-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	-0.0530	+/-0.607	1.38	+/-0.607	5.00	pCi/L			CM4	02/05/25	0849	2740572	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.889	+/-1.73	3.02	+/-1.74	50.0	pCi/L			RM3	02/02/25	1124	2740573	2
Thorium-232	U	-0.405	+/-0.686	2.17	+/-0.687		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	4.17	+/-3.07	4.90	+/-3.25	4.99	pCi/L			ST2	02/13/25	1316	2740210	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	-1.75	+/-1.57	3.30	+/-1.57	8.00	pCi/L			HH3	02/12/25	1350	2740229	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-0.812	+/-2.42	6.36	+/-2.42	15.0	pCi/L			AH4	02/03/25	1536	2740199	5
Beta	U	-0.859	+/-4.24	8.34	+/-4.24	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	241	+/-161	258	+/-167	300	pCi/L			KXA1	02/10/25	1817	2741837	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-16.2	+/-11.8	22.4	+/-11.8	25.0	pCi/L			GS3	02/11/25	2331	2742288	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"	2740572	98.7	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2740573	96.2	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2740210	77.1	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2740229	78	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	87.1	(30%-110%)

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: FB1UG2-25

Project: FRNP00607

Sample ID: 705860016

Client ID: FRNP006

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25
Sample ID: 705860001
Matrix: WG
Collect Date: 27-JAN-25 09:33
Receive Date: 28-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0191	0.00860	0.0191	ug/L	0.956	1	LOF	01/28/25	2112	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.420	0.330	2.00	mg/L		1	KB3	02/03/25	2158	2743576	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1320	2740455	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	N	58.4	3.33	10.0	ug/L		1	JS13	02/18/25	1536	2752315	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1213	2739978	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.348	0.0670	0.200	mg/L		1	CH6	01/28/25	1234	2739974	7
Fluoride	J	0.170	0.0330	4.00	mg/L		1					
Chloride	J	29.1	0.268	250	mg/L		4	CH6	01/28/25	1818	2739974	8
Nitrate-N	J	1.09	0.132	10.0	mg/L		4					
Sulfate		34.4	0.532	1.60	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0908	2740505	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	J	0.0329	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1729	2740798	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0706	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		24.1	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	0.00119	0.000300	0.00200	mg/L	1.00	1					

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25
Sample ID: 705860001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron	J	0.0654	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		10.3	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.00941	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		1.64	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		39.7	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	0.00397	0.00330	0.0200	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2151	2740798	11
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1227	2740798	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Boron		0.317	0.0208	0.0600	mg/L	1.00	4	BCD1	02/06/25	1709	2740798	13
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.100	0.0333	0.100	ug/L	0.00100	1	JXM	02/13/25	1532	2749702	14
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 Received"												
Total Dissolved Solids		204	2.38	10.0	mg/L			RR4	01/31/25	1021	2742395	15
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25
Sample ID: 705860001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	16
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1354	2741001	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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25
Sample ID: 705860001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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		1.82	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	UY2Q	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 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25
Sample ID: 705860001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	5.63 ug/L	6.83	82	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.137 ug/L	0.200	68	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.122 ug/L	0.200	61	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	45.3 ug/L	50.0	91	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.7 ug/L	50.0	93	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.0 ug/L	50.0	100	(89%-112%)

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

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Company : Four Rivers Nuclear Partnership, LLC
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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW357UG2-25 Project: FRNP00607
Sample ID: 705860002 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 09:33
Receive Date: 28-JAN-25
Collector: Client

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		0.0690	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1747	2740798	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
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	MW358UG2-25	Project:	FRNP00607
Sample ID:	705860003	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	27-JAN-25 13:25		
Receive Date:	28-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0190	0.00853	0.0190	ug/L	0.948	1	LOF	01/28/25	2252	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.704	0.330	2.00	mg/L		1	KB3	02/03/25	2334	2743576	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1323	2740455	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	N	93.0	3.33	10.0	ug/L		1	JS13	02/18/25	1256	2752315	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1252	2739978	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.412	0.0670	0.200	mg/L		1	CH6	01/28/25	1305	2739974	6
Fluoride	J	0.178	0.0330	4.00	mg/L		1					
Chloride	J	33.6	0.268	250	mg/L		4	CH6	01/28/25	1951	2739974	7
Nitrate-N	J	0.934	0.132	10.0	mg/L		4					
Sulfate		50.8	0.532	1.60	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0916	2740505	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1750	2740798	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00241	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0633	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		31.2	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00995	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.000782	0.000300	0.00200	mg/L	1.00	1					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25
Sample ID: 705860003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron		3.06	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		14.4	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.773	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000292	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.0296	0.000600	0.00200	mg/L	1.00	1					
Potassium		2.61	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		35.3	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	0.00664	0.00330	0.0200	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2212	2740798	10
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1235	2740798	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Boron		0.316	0.0208	0.0600	mg/L	1.00	4	BCD1	02/06/25	1715	2740798	12
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0999	0.0333	0.0999	ug/L	0.000999	1	JXM	02/13/25	1631	2749702	13
Aroclor-1221	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-1232	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-1242	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-1248	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-1254	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-1260	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-1268	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Aroclor-Total	U	0.0999	0.0333	0.0999	ug/L	0.000999	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		233	2.38	10.0	mg/L			RR4	01/31/25	1021	2742395	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25
Sample ID: 705860003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1421	2741001	16
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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25
Sample ID: 705860003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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		2.36	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	UY2Q	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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25
Sample ID: 705860003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A	
14	EPA 160.1	
15	EPA 410.4	
16	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	7.02 ug/L	6.77	104	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.132 ug/L	0.200	66	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.116 ug/L	0.200	58	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	49.3 ug/L	50.0	99	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.5 ug/L	50.0	93	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.6 ug/L	50.0	103	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW358UG2-25 Project: FRNP00607
Sample ID: 705860004 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 13:25
Receive Date: 28-JAN-25
Collector: Client

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		0.0640	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1752	2740798	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
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	MW359UG2-25	Project:	FRNP00607
Sample ID:	705860005	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	27-JAN-25 10:29		
Receive Date:	28-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0191	0.00859	0.0191	ug/L	0.955	1	LOF	01/28/25	2326	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.459	0.330	2.00	mg/L		1	KB3	02/04/25	0006	2743576	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1324	2740455	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	UN	10.0	3.33	10.0	ug/L		1	JS13	02/18/25	1812	2752315	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1304	2739978	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/28/25	1335	2739974	6
Chloride	J	0.652	0.0670	250	mg/L		1					
Fluoride	J	0.0897	0.0330	4.00	mg/L		1					
Nitrate-N	J	0.524	0.132	10.0	mg/L		4	CH6	01/28/25	2022	2739974	7
Sulfate		36.4	0.532	1.60	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0918	2740505	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		0.0885	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1755	2740798	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0215	0.000670	0.00400	mg/L	1.00	1					
Boron	J	0.0129	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		5.12	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					

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25
Sample ID: 705860005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Copper	J	0.00131	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0963	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		2.86	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00125	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.000983	0.000600	0.00200	mg/L	1.00	1					
Potassium	J	0.105	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		31.5	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					
Zinc	J	0.00369	0.00330	0.0200	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2217	2740798	10
Vanadium	J	0.00334	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1236	2740798	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0976	0.0325	0.0976	ug/L	0.000976	1	JXM	02/13/25	1651	2749702	12
Aroclor-1221	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-1232	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-1242	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-1248	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-1254	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-1260	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-1268	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Aroclor-Total	U	0.0976	0.0325	0.0976	ug/L	0.000976	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		126	2.38	10.0	mg/L			RR4	01/31/25	1021	2742395	13
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25
Sample ID: 705860005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	14
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1449	2741001	15
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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25
Sample ID: 705860005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UY2Q	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 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25
Sample ID: 705860005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A	
13	EPA 160.1	
14	EPA 410.4	
15	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.28 ug/L	6.82	92	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.106 ug/L	0.195	54	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.108 ug/L	0.195	56	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	45.8 ug/L	50.0	92	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.0 ug/L	50.0	94	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.3 ug/L	50.0	101	(89%-112%)

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW359UG2-25 Project: FRNP00607
Sample ID: 705860006 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 10:29
Receive Date: 28-JAN-25
Collector: Client

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		0.0213	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1757	2740798	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
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25 Project: FRNP00607
Sample ID: 705860007 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 07:39
Receive Date: 28-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0188	0.00847	0.0188	ug/L	0.942	1	LOF	01/28/25	2359	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.807	0.330	2.00	mg/L		1	KB3	02/04/25	0038	2743576	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1325	2740455	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	N	17.3	3.33	10.0	ug/L		1	JS13	02/18/25	1729	2752315	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1317	2739978	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide	J	0.160	0.0670	0.200	mg/L		1	CH6	01/28/25	1406	2739974	6
Chloride	J	5.46	0.0670	250	mg/L		1					
Fluoride	J	0.222	0.0330	4.00	mg/L		1					
Sulfate		9.71	0.133	0.400	mg/L		1					
Nitrate-N	J	0.622	0.132	10.0	mg/L		4	CH6	01/28/25	2053	2739974	7
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0919	2740505	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		0.0578	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1800	2740798	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.193	0.000670	0.00400	mg/L	1.00	1					
Boron		0.0192	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		18.6	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00105	0.000300	0.00100	mg/L	1.00	1					

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Company : Four Rivers Nuclear Partnership, LLC
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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25
Sample ID: 705860007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Copper	J	0.00163	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0899	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		7.67	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.0116	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.00106	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.720	0.0800	0.300	mg/L	1.00	1					
Selenium	J	0.00193	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	0.00533	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.00761	0.00330	0.0200	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2222	2740798	10
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1238	2740798	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		58.5	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1717	2740798	12
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.101	0.0338	0.101	ug/L	0.00101	1	JXM	02/13/25	1711	2749702	13
Aroclor-1221	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-1232	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-1242	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-1248	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-1254	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-1260	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-1268	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Aroclor-Total	U	0.101	0.0338	0.101	ug/L	0.00101	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		184	2.38	10.0	mg/L			RR4	01/31/25	1021	2742395	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25
Sample ID: 705860007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1516	2741001	16
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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25
Sample ID: 705860007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	0.480	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	UY2Q	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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25
Sample ID: 705860007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.28 ug/L	6.73	93	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.111 ug/L	0.203	55	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.110 ug/L	0.203	54	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	50.2 ug/L	50.0	100	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.1 ug/L	50.0	94	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.4 ug/L	50.0	103	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360DUG2-25 Project: FRNP00607
Sample ID: 705860008 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 07:39
Receive Date: 28-JAN-25
Collector: Client

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		0.193	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1802	2740798	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
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25 Project: FRNP00607
Sample ID: 705860009 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 07:39
Receive Date: 28-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0188	0.00844	0.0188	ug/L	0.938	1	LOF	01/29/25	0033	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.780	0.330	2.00	mg/L		1	KB3	02/04/25	0110	2743576	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1326	2740455	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	UN	10.0	3.33	10.0	ug/L		1	JS13	02/18/25	1937	2752315	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1330	2739978	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide	J	0.149	0.0670	0.200	mg/L		1	CH6	01/28/25	1437	2739974	6
Chloride	J	5.47	0.0670	250	mg/L		1					
Fluoride	J	0.217	0.0330	4.00	mg/L		1					
Sulfate		9.74	0.133	0.400	mg/L		1					
Nitrate-N	J	0.624	0.132	10.0	mg/L		4	CH6	01/28/25	2123	2739974	7
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0921	2740505	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		0.0574	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1805	2740798	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.191	0.000670	0.00400	mg/L	1.00	1					
Boron		0.0180	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		18.6	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00111	0.000300	0.00100	mg/L	1.00	1					

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25
Sample ID: 705860009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Copper	J	0.00171	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0936	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		7.69	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.0125	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.00107	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.723	0.0800	0.300	mg/L	1.00	1					
Selenium	J	0.00166	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	0.00524	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.00814	0.00330	0.0200	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2227	2740798	10
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1240	2740798	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		58.3	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1718	2740798	12
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.102	0.0338	0.102	ug/L	0.00102	1	JXM	02/13/25	1731	2749702	13
Aroclor-1221	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-1232	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-1242	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-1248	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-1254	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-1260	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-1268	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Aroclor-Total	U	0.102	0.0338	0.102	ug/L	0.00102	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		193	2.38	10.0	mg/L			RR4	01/31/25	1021	2742395	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25
Sample ID: 705860009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1544	2741001	16
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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25
Sample ID: 705860009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	0.500	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	UY2Q	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	LOF	01/28/25	1524	2740018
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797

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Company : Four Rivers Nuclear Partnership, LLC
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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25
Sample ID: 705860009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.29 ug/L	6.70	94	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.138 ug/L	0.203	68	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.129 ug/L	0.203	63	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	44.4 ug/L	50.0	89	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	47.3 ug/L	50.0	95	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	49.9 ug/L	50.0	100	(89%-112%)

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

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW360UG2-25 Project: FRNP00607
Sample ID: 705860010 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 07:39
Receive Date: 28-JAN-25
Collector: Client

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		0.192	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1807	2740798	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
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	MW361UG2-25	Project:	FRNP00607
Sample ID:	705860011	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	27-JAN-25 08:44		
Receive Date:	28-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0191	0.00861	0.0191	ug/L	0.957	1	LOF	01/29/25	0106	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.491	0.330	2.00	mg/L		1	KB3	02/04/25	0142	2743576	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1327	2740455	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	N	45.7	3.33	10.0	ug/L		1	JS13	02/18/25	2012	2752315	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1343	2739978	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.469	0.0670	0.200	mg/L		1	CH6	01/28/25	1508	2739974	7
Fluoride	J	0.163	0.0330	4.00	mg/L		1					
Chloride	J	36.8	0.335	250	mg/L		5	CH6	01/28/25	2154	2739974	8
Nitrate-N	J	1.17	0.165	10.0	mg/L		5					
Sulfate		77.3	0.665	2.00	mg/L		5					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0926	2740505	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	J	0.0324	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1810	2740798	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0501	0.000670	0.00400	mg/L	1.00	1					
Boron		0.184	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		32.9	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25
Sample ID: 705860011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Copper	J	0.00149	0.000300	0.00200	mg/L	1.00	1					
Iron		0.162	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		14.4	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.0276	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.000632	0.000600	0.00200	mg/L	1.00	1					
Potassium		2.39	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		41.7	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	0.00549	0.00330	0.0200	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2232	2740798	11
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1242	2740798	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.101	0.0335	0.101	ug/L	0.00101	1	JXM	02/13/25	1751	2749702	13
Aroclor-1221	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-1232	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-1242	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-1248	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-1254	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-1260	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-1268	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Aroclor-Total	U	0.101	0.0335	0.101	ug/L	0.00101	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		230	4.76	20.0	mg/L			RR4	01/31/25	1021	2742395	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Company : Four Rivers Nuclear Partnership, LLC
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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25
Sample ID: 705860011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1611	2741001	16
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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25
Sample ID: 705860011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UY2Q	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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691

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Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25
Sample ID: 705860011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.68 ug/L	6.83	98	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.146 ug/L	0.201	72	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.124 ug/L	0.201	62	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	47.3 ug/L	50.0	95	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.9 ug/L	50.0	94	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.5 ug/L	50.0	103	(89%-112%)

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

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW361UG2-25 Project: FRNP00607
Sample ID: 705860012 Client ID: FRNP006
Matrix: WG
Collect Date: 27-JAN-25 08:44
Receive Date: 28-JAN-25
Collector: Client

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		0.0485	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1818	2740798	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
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	MW362UG2-25	Project:	FRNP00607
Sample ID:	705860013	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	27-JAN-25 12:35		
Receive Date:	28-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0188	0.00846	0.0188	ug/L	0.940	1	LOF	01/29/25	0140	2740021	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	1.99	0.330	2.00	mg/L		1	KB3	02/04/25	0214	2743576	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/29/25	1328	2740455	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	JN	7.46	3.33	10.0	ug/L		1	JS13	02/18/25	2135	2752315	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1422	2739978	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/28/25	1539	2739974	6
Chloride	J	1.74	0.0670	250	mg/L		1					
Fluoride	J	0.541	0.0330	4.00	mg/L		1					
Nitrate-N	J	0.333	0.132	10.0	mg/L		4	CH6	01/28/25	2225	2739974	7
Sulfate		30.5	0.532	1.60	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0927	2740505	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		4.25	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1820	2740798	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00333	0.00200	0.00500	mg/L	1.00	1					
Barium		0.117	0.000670	0.00400	mg/L	1.00	1					
Boron		0.0296	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		19.9	0.0800	0.200	mg/L	1.00	1					
Chromium	J	0.00642	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00308	0.000300	0.00100	mg/L	1.00	1					

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Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25
Sample ID: 705860013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Copper		0.00761	0.000300	0.00200	mg/L	1.00	1					
Iron		3.42	0.0330	0.100	mg/L	1.00	1					
Lead		0.00404	0.000500	0.00200	mg/L	1.00	1					
Magnesium		8.43	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.0610	0.00100	0.00500	mg/L	1.00	1					
Molybdenum		0.00107	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.00385	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.639	0.0800	0.300	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Silver	J	0.000549	0.000300	0.00100	mg/L	1.00	1					
Thallium	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Uranium		0.00320	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	J	0.0107	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.0134	0.00330	0.0200	mg/L	1.00	1					
Beryllium	J	0.000202	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2242	2740798	10
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1245	2740798	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		125	0.800	2.50	mg/L	1.00	10	BCD1	02/06/25	1719	2740798	12
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0962	0.0320	0.0962	ug/L	0.000962	1	JXM	02/18/25	2016	2751900	13
Aroclor-1221	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1232	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1242	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1248	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1254	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1260	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1268	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-Total	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		438	4.76	20.0	mg/L			RR4	01/31/25	1021	2742395	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25
Sample ID: 705860013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	J	14.0	8.95	20.0	mg/L		1	JW2	01/28/25	1547	2740046	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1639	2741001	16
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	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25
Sample ID: 705860013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UY2Q	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	PB1	01/30/25	1430	2740797
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/29/25	1200	2740454
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25
Sample ID: 705860013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	5.71 ug/L	6.72	85	(56%-149%)
4cmx	8082A, PCB Liquids "As Received"	0.135 ug/L	0.192	70	(26%-108%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.0869 ug/L	0.192	45	(30%-135%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.9 ug/L	50.0	98	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.6 ug/L	50.0	93	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.4 ug/L	50.0	101	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW362UG2-25
Sample ID: 705860014
Matrix: WG
Collect Date: 27-JAN-25 12:35
Receive Date: 28-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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		0.0853	0.000670	0.00400	mg/L	1.00	1	BCD1	02/05/25	1823	2740798	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium		0.00291	0.0000670	0.000200	mg/L	1.00	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2740797
EPA 160	Laboratory Filtration	SD	01/29/25	1019	2740014

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
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: RIIUG2-25 Project: FRNP00607
Sample ID: 705860015 Client ID: FRNP006
Matrix: WATER
Collect Date: 27-JAN-25 07:05
Receive Date: 28-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0190	0.00855	0.0190	ug/L	0.950	1	LOF	01/29/25	0213	2740021	1
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1434	2739978	2
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0929	2740505	3
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1825	2740798	4
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium	U	0.00400	0.000670	0.00400	mg/L	1.00	1					
Boron	U	0.0150	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	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					
Magnesium	U	0.0300	0.0100	0.0300	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					
Sodium	U	0.250	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					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2247	2740798	5

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: RI1UG2-25
Sample ID: 705860015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1247	2740798	6
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.100	0.0334	0.100	ug/L	0.00100	1	JXM	02/13/25	1947	2749702	7
Aroclor-1221	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1232	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1242	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1248	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1254	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1260	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1268	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-Total	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1707	2741001	8
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	J	3.22	1.74	5.00	ug/L		1					
Acrolein	UQ	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					

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Certificate of Analysis

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: RI1UG2-25
Sample ID: 705860015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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	UY2Q	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	PB1	01/30/25	1430	2740797
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: RIIUG2-25
Sample ID: 705860015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8011	
2	EPA 300.0	
3	SW846 7470A	
4	SW846 3005A/6020B	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SW846 3535A/8082A	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.52 ug/L	6.78	96	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.139 ug/L	0.201	69	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.122 ug/L	0.201	61	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	45.0 ug/L	50.0	90	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.7 ug/L	50.0	93	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.5 ug/L	50.0	101	(89%-112%)

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: FB1UG2-25 Project: FRNP00607
Sample ID: 705860016 Client ID: FRNP006
Matrix: WATER
Collect Date: 27-JAN-25 07:45
Receive Date: 28-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0190	0.00855	0.0190	ug/L	0.950	1	LOF	01/29/25	0335	2740021	1
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/28/25	1447	2739978	2
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	01/30/25	0931	2740505	3
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	1828	2740798	4
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium	U	0.00400	0.000670	0.00400	mg/L	1.00	1					
Boron	U	0.0150	0.00520	0.0150	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	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					
Magnesium	U	0.0300	0.0100	0.0300	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					
Sodium	U	0.250	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					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BCD1	02/05/25	2250	2740798	5

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: FB1UG2-25
Sample ID: 705860016

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1248	2740798	6
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0972	0.0324	0.0972	ug/L	0.000972	1	JXM	02/13/25	2007	2749702	7
Aroclor-1221	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-1232	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-1242	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-1248	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-1254	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-1260	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-1268	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Aroclor-Total	U	0.0972	0.0324	0.0972	ug/L	0.000972	1					
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1734	2741001	8
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	J	2.53	1.74	5.00	ug/L		1					
Acrolein	UQ	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: FB1UG2-25
Sample ID: 705860016

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
Bromodichloromethane	U	1.00	0.333	1.00	ug/L		1					
Bromoform	U	1.00	0.333	1.00	ug/L		1					
Bromomethane	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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	UY2Q	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	PB1	01/30/25	1430	2740797
SW846 8011 PREP	8011 Prep	LOF	01/28/25	1524	2740018
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	01/29/25	1110	2740504
SW846 3535A	SW3535A PCB SPE Extraction	DXF4	02/13/25	0552	2749691

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: FB1UG2-25
Sample ID: 705860016

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 8011	
2	EPA 300.0	
3	SW846 7470A	
4	SW846 3005A/6020B	
5	SW846 3005A/6020B	
6	SW846 3005A/6020B	
7	SW846 3535A/8082A	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.02 ug/L	6.78	89	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.122 ug/L	0.194	63	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.112 ug/L	0.194	57	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.1 ug/L	50.0	96	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	45.9 ug/L	50.0	92	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.4 ug/L	50.0	101	(89%-112%)

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	TB1UG2-25	Project:	FRNP00607
Sample ID:	705860017	Client ID:	FRNP006
Matrix:	WATER		
Collect Date:	27-JAN-25 07:00		
Receive Date:	28-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	UY2	0.0188	0.00848	0.0188	ug/L	0.942	1	LOF	01/29/25	0408	2740021	1
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	JEB	02/03/25	1801	2741001	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	J	3.29	1.74	5.00	ug/L		1					
Acrolein	UQ	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	UY2Q	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	UY2Q	1.00	0.333	1.00	ug/L		1					
Chloroform	U	1.00	0.333	1.00	ug/L		1					
Chloromethane	UY2Q	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					

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB1UG2-25
Sample ID: 705860017

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	UY2Q	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	LOF	01/28/25	1524	2740018

The following Analytical Methods were performed:

Method	Description	Analyst Comments
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"	6.72 ug/L	6.73	100	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	46.3 ug/L	50.0	93	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	46.9 ug/L	50.0	94	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.5 ug/L	50.0	103	(89%-112%)

Notes:

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Certificate of Analysis

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Company : Four Rivers Nuclear Partnership, LLC
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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB1UG2-25
Sample ID: 705860017

Project: FRNP00607
Client ID: FRNP006

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

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25
Sample ID: 706092001
Matrix: WG
Collect Date: 28-JAN-25
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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

AN-1418 AlphaSpec Ra226, Liquid "As Received"

Radium-226	U	0.344	+/-0.700	1.20	+/-0.700	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
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Th-01-RC M, Th Isotopes, Liquid "As Received"

Thorium-230	U	0.510	+/-0.954	1.61	+/-0.960	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
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Thorium-232	U	0.0328	+/-0.569	1.22	+/-0.569		pCi/L							
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Rad Gas Flow Proportional Counting

904.0Mod, Ra228, Liquid "As Received"

Radium-228	U	0.983	+/-2.54	4.56	+/-2.56	4.99	pCi/L			ST2	02/14/25	0827	2741662	3
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905.0Mod, Sr90, liquid "As Received"

Strontium-90	U	2.90	+/-2.67	4.36	+/-2.71	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
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9310, Alpha/Beta Activity, liquid "As Received"

Alpha	U	2.78	+/-3.28	5.14	+/-3.31	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
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Beta	U	6.58	+/-5.86	9.45	+/-5.96	50.0	pCi/L							
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Rad Liquid Scintillation Analysis

906.0M, Tritium Dist, Liquid "As Received"

Tritium	U	30.2	+/-107	199	+/-108	300	pCi/L			KXA1	02/09/25	1149	2741845	6
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Tc-02-RC-MOD, Tc99, Liquid "As Received"

Technetium-99	U	-5.60	+/-13.0	23.4	+/-13.0	25.0	pCi/L			GS3	02/11/25	2347	2742288	7
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The following Analytical Methods were performed

Method	Description
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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"	2741552	92.2	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	93.7	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	84.4	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	87.8	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	83.2	(30%-110%)

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25

Project: FRNP00607

Sample ID: 706092001

Client ID: FRNP006

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

GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25

Project: FRNP00607

Sample ID: 706092003

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.850	+/-0.820	0.999	+/-0.822	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.936	+/-1.13	1.65	+/-1.14	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
Thorium-232	U	-0.118	+/-0.425	1.15	+/-0.426		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	2.18	+/-2.69	4.55	+/-2.74	4.99	pCi/L			ST2	02/14/25	0824	2741662	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	2.36	+/-2.83	4.78	+/-2.85	8.00	pCi/L			HH3	02/17/25	1030	2751147	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-0.271	+/-2.70	6.57	+/-2.70	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
Beta		32.4	+/-8.83	10.5	+/-10.4	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	53.4	+/-111	199	+/-112	300	pCi/L			KXA1	02/09/25	1215	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99		53.3	+/-15.3	22.4	+/-16.6	25.0	pCi/L			GS3	02/12/25	0004	2742288	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"	2741552	97.3	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	90	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	81.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	100	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	87.4	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25

Project: FRNP00607

Sample ID: 706092003

Client ID: FRNP006

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

GEL LABORATORIES LLC

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5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25

Project: FRNP00607

Sample ID: 706092005

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	-0.0595	+/-0.529	1.25	+/-0.529	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.755	+/-1.29	2.20	+/-1.30	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
Thorium-232	U	-0.0217	+/-0.424	0.854	+/-0.425		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	2.40	+/-2.17	3.45	+/-2.26	4.99	pCi/L			ST2	02/14/25	0813	2741072	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	1.47	+/-1.56	2.60	+/-1.58	8.00	pCi/L			ST2	02/11/25	1737	2741093	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-3.56	+/-2.90	9.45	+/-2.90	15.0	pCi/L			AH4	02/05/25	1426	2741058	5
Beta	U	4.12	+/-5.45	9.30	+/-5.50	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	-18.3	+/-97.6	197	+/-97.7	300	pCi/L			KXA1	02/09/25	1242	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-10.6	+/-11.9	21.9	+/-11.9	25.0	pCi/L			GS3	02/12/25	0021	2742288	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"	2741552	95.3	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	85.8	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741072	79.7	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2741093	95.1	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	89.3	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25

Sample ID: 706092005

Project: FRNP00607

Client ID: FRNP006

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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW366UG2-25

Project: FRNP00607

Sample ID: 706092007

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.464	+/-0.677	0.978	+/-0.677	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.305	+/-1.02	1.94	+/-1.02	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
Thorium-232	U	-0.0756	+/-0.465	1.14	+/-0.466		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	2.44	+/-2.52	4.14	+/-2.59	4.99	pCi/L			ST2	02/14/25	0813	2741072	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	1.18	+/-1.16	1.90	+/-1.18	8.00	pCi/L			ST2	02/11/25	1737	2741093	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-1.72	+/-2.92	7.86	+/-2.92	15.0	pCi/L			AH4	02/05/25	1427	2741058	5
Beta		28.1	+/-9.93	13.9	+/-10.9	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	-32.7	+/-97.3	201	+/-97.3	300	pCi/L			KXA1	02/09/25	1309	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99		87.2	+/-16.5	21.9	+/-19.7	25.0	pCi/L			GS3	02/12/25	0037	2742288	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"	2741552	94.6	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	79.4	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741072	77.6	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2741093	92.7	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	88.6	(30%-110%)

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW366UG2-25

Project: FRNP00607

Sample ID: 706092007

Client ID: FRNP006

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

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25

Project: FRNP00607

Sample ID: 706092009

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.456	+/-0.810	1.37	+/-0.810	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.694	+/-1.16	1.97	+/-1.17	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
Thorium-232	U	-0.113	+/-0.403	1.09	+/-0.403		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	3.06	+/-2.76	4.39	+/-2.87	4.99	pCi/L			ST2	02/14/25	0953	2741072	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	-1.33	+/-1.40	2.82	+/-1.40	8.00	pCi/L			ST2	02/11/25	1737	2741093	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	2.91	+/-5.08	9.09	+/-5.11	15.0	pCi/L			AH4	02/05/25	1427	2741058	5
Beta	U	7.22	+/-6.13	9.84	+/-6.25	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	-34.4	+/-94.7	197	+/-94.7	300	pCi/L			KXA1	02/09/25	1335	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	1.93	+/-12.4	21.7	+/-12.4	25.0	pCi/L			GS3	02/12/25	0054	2742288	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"	2741552	94.9	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	93.4	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741072	78.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2741093	107	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	90.2	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25

Project: FRNP00607

Sample ID: 706092009

Client ID: FRNP006

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

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25

Project: FRNP00607

Sample ID: 706092011

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.913	+/-0.863	1.02	+/-0.865	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	1.05	+/-1.11	1.58	+/-1.12	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
Thorium-232	U	-0.0637	+/-0.363	0.900	+/-0.363		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228		4.73	+/-3.11	4.70	+/-3.34	4.99	pCi/L			ST2	02/14/25	0824	2741662	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.278	+/-1.79	3.43	+/-1.79	8.00	pCi/L			HH3	02/17/25	1320	2751147	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-0.764	+/-4.21	9.59	+/-4.21	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
Beta	U	6.66	+/-5.89	9.51	+/-6.00	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	57.1	+/-110	196	+/-111	300	pCi/L			KXA1	02/09/25	1402	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-4.22	+/-11.8	21.2	+/-11.8	25.0	pCi/L			GS3	02/12/25	0111	2742288	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"	2741552	92.1	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	103	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	80.9	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	90.2	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	91.5	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25

Project: FRNP00607

Sample ID: 706092011

Client ID: FRNP006

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

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25

Project: FRNP00607

Sample ID: 706092013

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.848	+/-1.34	2.03	+/-1.34	5.00	pCi/L			CM4	02/06/25	0911	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	-0.0119	+/-1.04	2.19	+/-1.04	50.0	pCi/L			CM4	02/02/25	1605	2741553	2
Thorium-232	U	-0.111	+/-0.394	1.07	+/-0.394		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	3.06	+/-2.81	4.59	+/-2.92	4.99	pCi/L			ST2	02/14/25	0824	2741662	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	-3.27	+/-2.79	5.65	+/-2.79	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	1.34	+/-3.12	6.03	+/-3.13	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
Beta		47.9	+/-9.58	9.54	+/-12.3	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	-25.3	+/-96.6	197	+/-96.6	300	pCi/L			KXA1	02/09/25	1429	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99		52.7	+/-14.3	20.7	+/-15.7	25.0	pCi/L			GS3	02/12/25	0127	2742288	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"	2741552	93.7	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	97.3	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	83.5	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	105	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	94	(30%-110%)

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25

Project: FRNP00607

Sample ID: 706092013

Client ID: FRNP006

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

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Certificate of Analysis

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5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25

Project: FRNP00607

Sample ID: 706092015

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.550	+/-0.742	0.999	+/-0.743	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.565	+/-0.985	1.65	+/-0.992	50.0	pCi/L			CM4	02/02/25	1606	2741553	2
Thorium-232	U	-0.110	+/-0.392	1.07	+/-0.393		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	0.0913	+/-2.12	4.12	+/-2.12	4.99	pCi/L			ST2	02/14/25	0817	2741072	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.674	+/-1.47	2.62	+/-1.48	8.00	pCi/L			ST2	02/11/25	1732	2741093	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	0.420	+/-2.74	6.39	+/-2.75	15.0	pCi/L			AH4	02/05/25	1427	2741058	5
Beta	U	8.43	+/-8.81	14.7	+/-8.92	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	38.2	+/-111	203	+/-111	300	pCi/L			KXA1	02/09/25	1455	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	11.0	+/-12.4	20.9	+/-12.5	25.0	pCi/L			GS3	02/12/25	0144	2742288	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"	2741552	99.4	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	96.1	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741072	84.4	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2741093	80.5	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	93.1	(30%-110%)

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25

Project: FRNP00607

Sample ID: 706092015

Client ID: FRNP006

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

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Certificate of Analysis

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25

Project: FRNP00607

Sample ID: 706092017

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

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

AN-1418 AlphaSpec Ra226, Liquid "As Received"

Radium-226	U	0.400	+/-0.666	1.05	+/-0.666	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
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Th-01-RC M, Th Isotopes, Liquid "As Received"

Thorium-230	U	-0.262	+/-0.723	1.85	+/-0.724	50.0	pCi/L			CM4	02/02/25	1606	2741553	2
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Thorium-232	U	0.176	+/-0.556	0.809	+/-0.557		pCi/L							
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Rad Gas Flow Proportional Counting

904.0Mod, Ra228, Liquid "As Received"

Radium-228	U	1.18	+/-2.27	4.09	+/-2.29	4.99	pCi/L			ST2	02/14/25	0824	2741662	3
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905.0Mod, Sr90, liquid "As Received"

Strontium-90	U	-0.873	+/-2.97	5.76	+/-2.97	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
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9310, Alpha/Beta Activity, liquid "As Received"

Alpha	U	2.11	+/-4.13	7.65	+/-4.15	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
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Beta	U	6.73	+/-7.62	12.8	+/-7.71	50.0	pCi/L							
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Rad Liquid Scintillation Analysis

906.0M, Tritium Dist, Liquid "As Received"

Tritium	U	-4.58	+/-100	197	+/-100	300	pCi/L			KXA1	02/09/25	1522	2741845	6
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Tc-02-RC-MOD, Tc99, Liquid "As Received"

Technetium-99	U	-4.09	+/-11.6	20.8	+/-11.6	25.0	pCi/L			GS3	02/12/25	0201	2742288	7
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The following Analytical Methods were performed

Method	Description
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1	Eichrom Industries, AN-1418
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2	DOE EML HASL-300, Th-01-RC Modified
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3	EPA 904.0/SW846 9320 Modified
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4	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
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5	EPA 900.0/SW846 9310
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6	EPA 906.0 Modified
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7	DOE EML HASL-300, Tc-02-RC Modified
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Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	AN-1418 AlphaSpec Ra226, Liquid "As Received"	2741552	96.9	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	90.3	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	77.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	82.9	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	92.9	(30%-110%)

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
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5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25

Project: FRNP00607

Sample ID: 706092017

Client ID: FRNP006

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

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25

Project: FRNP00607

Sample ID: 706092019

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.143	+/-0.538	1.03	+/-0.539	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.105	+/-0.977	2.05	+/-0.979	50.0	pCi/L			CM4	02/02/25	1606	2741553	2
Thorium-232	U	-0.0789	+/-0.494	1.20	+/-0.495		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	-0.189	+/-2.44	4.97	+/-2.44	4.99	pCi/L			ST2	02/14/25	0950	2741662	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.214	+/-2.52	4.76	+/-2.52	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	-1.14	+/-2.72	7.51	+/-2.72	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
Beta		24.7	+/-7.83	9.41	+/-8.81	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	0.0328	+/-102	199	+/-102	300	pCi/L			KXA1	02/09/25	1549	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	7.82	+/-12.5	21.3	+/-12.5	25.0	pCi/L			GS3	02/12/25	0217	2742288	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"	2741552	94	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	87.5	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	72.7	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	85.4	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	91.8	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25

Project: FRNP00607

Sample ID: 706092019

Client ID: FRNP006

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

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092021
Matrix: WG
Collect Date: 28-JAN-25
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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

AN-1418 AlphaSpec Ra226, Liquid "As Received"

Radium-226	U	-0.162	+/-0.459	1.24	+/-0.460	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
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Th-01-RC M, Th Isotopes, Liquid "As Received"

Thorium-230	U	0.0965	+/-0.841	1.75	+/-0.843	50.0	pCi/L			CM4	02/02/25	1606	2741553	2
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Thorium-232	U	-0.170	+/-0.449	1.30	+/-0.450		pCi/L							
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Rad Gas Flow Proportional Counting

904.0Mod, Ra228, Liquid "As Received"

Radium-228	U	0.521	+/-2.46	4.63	+/-2.46	4.99	pCi/L			ST2	02/14/25	0818	2741072	3
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905.0Mod, Sr90, liquid "As Received"

Strontium-90	U	-0.139	+/-1.28	2.47	+/-1.28	8.00	pCi/L			ST2	02/12/25	1401	2741093	4
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9310, Alpha/Beta Activity, liquid "As Received"

Alpha	U	-0.183	+/-3.75	9.07	+/-3.76	15.0	pCi/L			AH4	02/05/25	1427	2741058	5
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Beta	U	3.62	+/-4.92	8.42	+/-4.96	50.0	pCi/L							
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Rad Liquid Scintillation Analysis

906.0M, Tritium Dist, Liquid "As Received"

Tritium	U	82.2	+/-114	196	+/-115	300	pCi/L			KXA1	02/09/25	1615	2741845	6
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Tc-02-RC-MOD, Tc99, Liquid "As Received"

Technetium-99	U	-6.18	+/-11.9	21.6	+/-11.9	25.0	pCi/L			GS3	02/12/25	0234	2742288	7
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The following Analytical Methods were performed

Method	Description
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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"	2741552	94.8	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	87.8	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741072	76.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2741093	82.9	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742288	90.5	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25

Project: FRNP00607

Sample ID: 706092021

Client ID: FRNP006

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

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25

Project: FRNP00607

Sample ID: 706092023

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.0355	+/-0.605	1.30	+/-0.605	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.410	+/-1.10	2.04	+/-1.11	50.0	pCi/L			CM4	02/02/25	1606	2741553	2
Thorium-232	U	0.199	+/-0.620	0.890	+/-0.621		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	0.613	+/-2.63	4.95	+/-2.63	4.99	pCi/L			ST2	02/14/25	0953	2741072	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.376	+/-1.11	2.02	+/-1.12	8.00	pCi/L			ST2	02/12/25	1401	2741093	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	0.254	+/-3.74	8.16	+/-3.74	15.0	pCi/L			AH4	02/03/25	1812	2741058	5
Beta	U	5.20	+/-5.13	8.41	+/-5.20	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	45.4	+/-107	195	+/-108	300	pCi/L			KXA1	02/09/25	1642	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-1.87	+/-10.4	18.5	+/-10.4	25.0	pCi/L			GS3	02/13/25	1458	2742289	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"	2741552	95.9	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	82.4	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741072	69.3	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2741093	102	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	92.1	(30%-110%)

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Certificate of Analysis

Company : Four Rivers Nuclear Partnership,
Address : LLC
5600 Hobbs Road

Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25

Sample ID: 706092023

Project: FRNP00607

Client ID: FRNP006

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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Kevil, Kentucky 42053

Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25

Project: FRNP00607

Sample ID: 706092025

Client ID: FRNP006

Matrix: WG

Collect Date: 28-JAN-25

Receive Date: 29-JAN-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>AN-1418 AlphaSpec Ra226, Liquid "As Received"</i>														
Radium-226	U	0.580	+/-0.719	0.979	+/-0.720	5.00	pCi/L			CM4	02/05/25	0851	2741552	1
<i>Th-01-RC M, Th Isotopes, Liquid "As Received"</i>														
Thorium-230	U	0.107	+/-1.04	2.14	+/-1.04	50.0	pCi/L			CM4	02/02/25	1606	2741553	2
Thorium-232	U	-0.0217	+/-0.410	0.829	+/-0.411		pCi/L							
Rad Gas Flow Proportional Counting														
<i>904.0Mod, Ra228, Liquid "As Received"</i>														
Radium-228	U	3.01	+/-2.55	4.02	+/-2.66	4.99	pCi/L			ST2	02/14/25	0824	2741662	3
<i>905.0Mod, Sr90, liquid "As Received"</i>														
Strontium-90	U	0.437	+/-3.02	5.43	+/-3.02	8.00	pCi/L			HH3	02/17/25	1037	2751147	4
<i>9310, Alpha/Beta Activity, liquid "As Received"</i>														
Alpha	U	4.27	+/-4.60	7.32	+/-4.66	15.0	pCi/L			AH4	02/04/25	1501	2741642	5
Beta	U	2.78	+/-5.54	9.76	+/-5.56	50.0	pCi/L							
Rad Liquid Scintillation Analysis														
<i>906.0M, Tritium Dist, Liquid "As Received"</i>														
Tritium	U	-4.11	+/-96.8	190	+/-96.8	300	pCi/L			KXA1	02/09/25	1709	2741845	6
<i>Tc-02-RC-MOD, Tc99, Liquid "As Received"</i>														
Technetium-99	U	-1.42	+/-11.2	19.8	+/-11.2	25.0	pCi/L			GS3	02/13/25	1519	2742289	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"	2741552	96.5	(30%-110%)
Thorium-229 Tracer	Th-01-RC M, Th Isotopes, Liquid "As Received"	2741553	90.8	(30%-110%)
Barium-133 Tracer	904.0Mod, Ra228, Liquid "As Received"	2741662	79.2	(30%-110%)
Strontium Carrier	905.0Mod, Sr90, liquid "As Received"	2751147	110	(30%-110%)
Technetium-99m Tracer	Tc-02-RC-MOD, Tc99, Liquid "As Received"	2742289	85.7	(30%-110%)

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Report Date: April 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25

Project: FRNP00607

Sample ID: 706092025

Client ID: FRNP006

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25
Sample ID: 706092001
Matrix: WG
Collect Date: 28-JAN-25 07:02
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0192	0.00866	0.0192	ug/L	0.962	1	LL2	02/01/25	0456	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.842	0.330	2.00	mg/L		1	KB3	02/04/25	0513	2743576	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1132	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	9.98	3.33	10.0	ug/L		1	JS13	02/24/25	1531	2755225	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1432	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/29/25	1346	2741108	7
Fluoride	J	0.210	0.0330	4.00	mg/L		1					
Chloride	J	12.7	0.268	250	mg/L		4	CH6	01/29/25	2301	2741108	8
Nitrate-N	J	2.52	0.132	10.0	mg/L		4					
Sulfate		30.1	0.532	1.60	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1020	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2015	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.106	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		20.5	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt	J	0.000847	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.000757	0.000300	0.00200	mg/L	1.00	1					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25
Sample ID: 706092001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron	J	0.0346	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		7.88	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.155	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.0112	0.000600	0.00200	mg/L	1.00	1					
Potassium		1.78	0.0800	0.300	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		39.0	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					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1316	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1109	2753044	12
Boron		0.0176	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0967	0.0322	0.0967	ug/L	0.000967	1	JXM	02/18/25	2029	2751900	13
Aroclor-1221	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1232	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1242	J	0.0422	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1248	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1254	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1260	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1268	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-Total	J	0.0422	0.0322	0.0967	ug/L	0.000967	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids		217	2.38	10.0	mg/L			RR4	01/31/25	1021	2742395	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25
Sample ID: 706092001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1416	2744263	16
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					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25
Sample ID: 706092001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	BB2	02/19/25	1105	2753043
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25
Sample ID: 706092001

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	7.11 ug/L	6.87	103	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.146 ug/L	0.193	76	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.148 ug/L	0.193	76	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	50.3 ug/L	50.0	101	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	54.1 ug/L	50.0	108	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	49.7 ug/L	50.0	99	(89%-112%)

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW363UG2-25 Project: FRNP00607
Sample ID: 706092002 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 07:02
Receive Date: 29-JAN-25
Collector: Client

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	N	0.109	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1736	2741839	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	BAJ	02/12/25	1121	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25
Sample ID: 706092003
Matrix: WG
Collect Date: 28-JAN-25 07:50
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0194	0.00871	0.0194	ug/L	0.968	1	LL2	02/01/25	0529	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.461	0.330	2.00	mg/L		1	KB3	02/04/25	0617	2743576	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1133	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	7.88	3.33	10.0	ug/L		1	JS13	02/24/25	1730	2755225	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1536	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.466	0.0670	0.200	mg/L		1	CH6	01/29/25	1416	2741108	7
Fluoride	J	0.158	0.0330	4.00	mg/L		1					
Chloride	J	36.4	0.335	250	mg/L		5	CH6	01/30/25	0034	2741108	8
Nitrate-N	J	1.11	0.165	10.0	mg/L		5					
Sulfate		65.6	0.665	2.00	mg/L		5					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1022	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2017	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0527	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		32.4	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	0.000766	0.000300	0.00200	mg/L	1.00	1					

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25
Sample ID: 706092003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
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					
Magnesium		14.1	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00138	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		1.97	0.0800	0.300	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		42.5	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	0.0185	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1317	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1111	2753044	12
Boron		0.188	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0962	0.0320	0.0962	ug/L	0.000962	1	JXM	02/18/25	2041	2751900	13
Aroclor-1221	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1232	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1242	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1248	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1254	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1260	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-1268	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Aroclor-Total	U	0.0962	0.0320	0.0962	ug/L	0.000962	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	274	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25
Sample ID: 706092003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1442	2744263	16
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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25
Sample ID: 706092003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	0.700	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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25
Sample ID: 706092003

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	7.85 ug/L	6.91	114	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.151 ug/L	0.192	78	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.138 ug/L	0.192	72	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	49.4 ug/L	50.0	99	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	54.7 ug/L	50.0	109	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.9 ug/L	50.0	102	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW364UG2-25
Sample ID: 706092004
Matrix: WG
Collect Date: 28-JAN-25 07:50
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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	N	0.0581	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1757	2741839	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	BAJ	02/12/25	1125	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	SW846 3005A/6020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25
Sample ID: 706092005
Matrix: WG
Collect Date: 28-JAN-25 08:32
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0194	0.00872	0.0194	ug/L	0.969	1	LL2	02/01/25	0603	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	1.31	0.330	2.00	mg/L		1	KB3	02/04/25	0649	2743576	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1134	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens		21.4	3.33	10.0	ug/L		1	JS13	02/24/25	1839	2755225	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1315	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/29/25	1314	2741108	7
Chloride	J	1.65	0.0670	250	mg/L		1					
Fluoride	J	0.355	0.0330	4.00	mg/L		1					
Nitrate-N	J	1.26	0.132	10.0	mg/L		4	CH6	01/30/25	0104	2741108	8
Sulfate		49.2	0.532	1.60	mg/L		4					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1023	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	J	0.0230	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2020	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0772	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		19.9	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00141	0.000300	0.00100	mg/L	1.00	1					
Copper		0.00223	0.000300	0.00200	mg/L	1.00	1					

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25
Sample ID: 706092005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
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					
Magnesium		9.48	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.00659	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000236	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.00485	0.000600	0.00200	mg/L	1.00	1					
Potassium	J	0.260	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					
Uranium		0.000206	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					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1318	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		51.3	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1732	2741468	12
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1112	2753044	13
Boron	J	0.00696	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.110	0.0366	0.110	ug/L	0.00110	1	JXM	02/18/25	2053	2751900	14
Aroclor-1221	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-1232	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-1242	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-1248	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-1254	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-1260	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-1268	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Aroclor-Total	U	0.110	0.0366	0.110	ug/L	0.00110	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	235	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	15
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25
Sample ID: 706092005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	16
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1535	2744263	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					

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25
Sample ID: 706092005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25
Sample ID: 706092005

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	7.40 ug/L	6.92	107	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.242 ug/L	0.220	110	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.166 ug/L	0.220	76	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	51.3 ug/L	50.0	103	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	54.0 ug/L	50.0	108	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.2 ug/L	50.0	102	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW365UG2-25
Sample ID: 706092006
Matrix: WG
Collect Date: 28-JAN-25 08:32
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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	N	0.0812	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1801	2741839	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium		0.000201	0.0000670	0.000200	mg/L	1.00	1	BAJ	02/12/25	1126	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	SW846 3005A/6020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW366UG2-25 Project: FRNP00607
Sample ID: 706092007 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 09:20
Receive Date: 29-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0190	0.00855	0.0190	ug/L	0.950	1	LL2	02/01/25	0637	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.541	0.330	2.00	mg/L		1	KB3	02/04/25	0721	2743576	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1135	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	4.42	3.33	10.0	ug/L		1	RMJ	02/25/25	0227	2755505	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1327	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.485	0.0670	0.200	mg/L		1	CH6	01/29/25	1447	2741108	7
Fluoride	J	0.185	0.0330	4.00	mg/L		1					
Chloride	J	41.2	0.335	250	mg/L		5	CH6	01/30/25	0135	2741108	8
Nitrate-N	J	0.954	0.165	10.0	mg/L		5					
Sulfate		48.6	0.665	2.00	mg/L		5					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1025	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2022	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0969	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		32.6	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	0.000555	0.000300	0.00200	mg/L	1.00	1					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW366UG2-25
Sample ID: 706092007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
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					
Magnesium		14.2	0.0100	0.0300	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		1.98	0.0800	0.300	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		49.5	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					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1319	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1114	2753044	12
Boron		0.0805	0.00520	0.0150	mg/L	1.00	1					
Selenium	J	0.00222	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.100	0.0334	0.100	ug/L	0.00100	1	JXM	02/18/25	2105	2751900	13
Aroclor-1221	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1232	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1242	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1248	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1254	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1260	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-1268	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Aroclor-Total	U	0.100	0.0334	0.100	ug/L	0.00100	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	260	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Sample ID: 706092007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1601	2744263	16
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					

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW366UG2-25
Sample ID: 706092007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW366UG2-25
Sample ID: 706092007

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.76 ug/L	6.79	100	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.180 ug/L	0.200	90	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.156 ug/L	0.200	78	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	47.9 ug/L	50.0	96	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	51.7 ug/L	50.0	103	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	49.4 ug/L	50.0	99	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	MW366UG2-25	Project:	FRNP00607
Sample ID:	706092008	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	28-JAN-25 09:20		
Receive Date:	29-JAN-25		
Collector:	Client		

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	N	0.101	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1814	2741839	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	BAJ	02/12/25	1127	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25 Project: FRNP00607
Sample ID: 706092009 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 10:08
Receive Date: 29-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00862	0.0191	ug/L	0.957	1	LL2	02/01/25	0711	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	U	2.00	0.330	2.00	mg/L		1	KB3	02/04/25	2345	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1136	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RMJ	02/25/25	0316	2755505	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1340	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.217	0.0670	0.200	mg/L		1	CH6	01/29/25	1518	2741108	7
Fluoride	J	0.104	0.0330	4.00	mg/L		1					
Chloride	J	15.0	0.134	250	mg/L		2	CH6	01/30/25	0206	2741108	8
Nitrate-N	U	10.0	0.0660	10.0	mg/L		2					
Sulfate		26.8	0.266	0.800	mg/L		2					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1027	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2025	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00206	0.00200	0.00500	mg/L	1.00	1					
Barium		0.123	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		15.5	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00632	0.000300	0.00100	mg/L	1.00	1					
Copper	J	0.000468	0.000300	0.00200	mg/L	1.00	1					

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25
Sample ID: 706092009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron		3.46	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		8.49	0.0100	0.0300	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.00209	0.000600	0.00200	mg/L	1.00	1					
Potassium		2.95	0.0800	0.300	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		21.5	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	0.0104	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1319	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Manganese	N1	0.235	0.00100	0.00500	mg/L	1.00	1	PRB	02/19/25	1441	2751794	12
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1115	2753044	13
Boron		0.0221	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.104	0.0345	0.104	ug/L	0.00104	1	JXM	02/18/25	2118	2751900	14
Aroclor-1221	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-1232	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-1242	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-1248	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-1254	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-1260	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-1268	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Aroclor-Total	U	0.104	0.0345	0.104	ug/L	0.00104	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	119	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	15
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25
Sample ID: 706092009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	16
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1627	2744263	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					

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Company : Four Rivers Nuclear Partnership, LLC
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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25
Sample ID: 706092009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	0.780	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 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	HS2	02/17/25	1510	2751792
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25
Sample ID: 706092009

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	9.00 ug/L	6.84	132	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.171 ug/L	0.207	83	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.153 ug/L	0.207	74	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	52.1 ug/L	50.0	104	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	56.1 ug/L	50.0	112	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	49.4 ug/L	50.0	99	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW367UG2-25
Sample ID: 706092010
Matrix: WG
Collect Date: 28-JAN-25 10:08
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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	N	0.132	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1818	2741839	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	BAJ	02/12/25	1130	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	SW846 3005A/6020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25
Sample ID: 706092011
Matrix: WG
Collect Date: 28-JAN-25 10:51
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00860	0.0191	ug/L	0.956	1	LL2	02/01/25	0744	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.903	0.330	2.00	mg/L		1	KB3	02/05/25	0017	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1137	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RMJ	02/25/25	0349	2755505	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1549	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/29/25	1549	2741108	7
Chloride	J	2.04	0.0670	250	mg/L		1					
Fluoride	J	0.246	0.0330	4.00	mg/L		1					
Nitrate-N	U	10.0	0.0330	10.0	mg/L		1					
Sulfate		93.8	1.33	4.00	mg/L		10	CH6	01/30/25	0237	2741108	8
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1028	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		0.377	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2027	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	J	0.00316	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0472	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		41.5	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	0.000514	0.000300	0.00200	mg/L	1.00	1					

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25
Sample ID: 706092011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron		0.211	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		11.3	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.00682	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000669	0.000200	0.00100	mg/L	1.00	1					
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.466	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					
Uranium		0.000201	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	J	0.00421	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.00411	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1320	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		69.2	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1734	2741468	12
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1117	2753044	13
Boron	U	0.0150	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.105	0.0350	0.105	ug/L	0.00105	1	JXM	02/18/25	2130	2751900	14
Aroclor-1221	U	0.105	0.0350	0.105	ug/L	0.00105	1					
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	ug/L	0.00105	1					
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 Received"												
Total Dissolved Solids	*	292	4.76	20.0	mg/L			RR4	01/31/25	1245	2742400	15
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25
Sample ID: 706092011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	16
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1653	2744263	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25
Sample ID: 706092011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25
Sample ID: 706092011

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.84 ug/L	6.83	100	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.120 ug/L	0.210	57	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.141 ug/L	0.210	67	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.7 ug/L	50.0	97	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	51.8 ug/L	50.0	104	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	45.1 ug/L	50.0	90	(89%-112%)

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW368UG2-25 Project: FRNP00607
Sample ID: 706092012 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 10:51
Receive Date: 29-JAN-25
Collector: Client

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	N	0.0488	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1822	2741839	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium	J	0.000172	0.0000670	0.000200	mg/L	1.00	1	BAJ	02/12/25	1131	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25
Sample ID: 706092013
Matrix: WG
Collect Date: 28-JAN-25 10:31
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00858	0.0191	ug/L	0.954	1	LL2	02/01/25	0818	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.657	0.330	2.00	mg/L		1	KB3	02/05/25	0049	2743988	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1138	2741364	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	U	10.0	3.33	10.0	ug/L		1	RMJ	02/25/25	0439	2755505	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1602	2741107	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.354	0.0670	0.200	mg/L		1	CH6	01/29/25	1620	2741108	6
Fluoride	J	0.198	0.0330	4.00	mg/L		1					
Sulfate		8.48	0.133	0.400	mg/L		1					
Chloride	J	27.5	0.335	250	mg/L		5	CH6	01/30/25	0308	2741108	7
Nitrate-N	J	0.989	0.165	10.0	mg/L		5					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1030	2748341	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		0.0555	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2030	2741468	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.353	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		16.2	0.0800	0.200	mg/L	1.00	1					
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Cobalt		0.00442	0.000300	0.00100	mg/L	1.00	1					
Copper		0.00237	0.000300	0.00200	mg/L	1.00	1					

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25
Sample ID: 706092013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron	J	0.0652	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		6.91	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00141	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.00314	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.576	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					
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	0.00423	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1321	2741468	10
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		47.7	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1734	2741468	11
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1118	2753044	12
Boron		0.0153	0.00520	0.0150	mg/L	1.00	1					
Selenium	J	0.00299	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0943	0.0314	0.0943	ug/L	0.000943	1	JXM	02/21/25	1942	2754144	13
Aroclor-1221	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-1232	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-1242	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-1248	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-1254	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-1260	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-1268	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Aroclor-Total	U	0.0943	0.0314	0.0943	ug/L	0.000943	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	205	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25
Sample ID: 706092013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1721	2744263	16
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					

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25
Sample ID: 706092013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	0.970	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 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/21/25	1107	2754142

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25
Sample ID: 706092013

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	8.62 ug/L	6.81	126	(56%-149%)
4cmx	8082A, PCB Liquids "As Received"	0.159 ug/L	0.189	84	(26%-108%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.165 ug/L	0.189	88	(30%-135%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	44.3 ug/L	50.0	89	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	53.3 ug/L	50.0	107	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	47.9 ug/L	50.0	96	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW369UG2-25 Project: FRNP00607
Sample ID: 706092014 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 10:31
Receive Date: 29-JAN-25
Collector: Client

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	N	0.381	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1827	2741839	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	BAJ	02/12/25	1132	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25
Sample ID: 706092015
Matrix: WG
Collect Date: 28-JAN-25 08:52
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	US	0.0193	0.00871	0.0193	ug/L	0.967	1	LL2	02/01/25	0851	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.636	0.330	2.00	mg/L		1	KB3	02/05/25	0121	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1145	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens		52.3	3.33	10.0	ug/L		1	RMJ	02/25/25	0508	2755505	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1353	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.551	0.0670	0.200	mg/L		1	CH6	01/29/25	1651	2741108	7
Fluoride	J	0.185	0.0330	4.00	mg/L		1					
Chloride	J	41.5	0.335	250	mg/L		5	CH6	01/30/25	0339	2741108	8
Nitrate-N	J	1.01	0.165	10.0	mg/L		5					
Sulfate		20.3	0.665	2.00	mg/L		5					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1031	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2032	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.209	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		29.2	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		0.00360	0.000300	0.00200	mg/L	1.00	1					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25
Sample ID: 706092015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
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					
Magnesium		12.9	0.0100	0.0300	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		2.47	0.0800	0.300	mg/L	1.00	1					
Silver	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Sodium		45.9	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	0.00761	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1322	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1119	2753044	12
Boron		0.0826	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0967	0.0322	0.0967	ug/L	0.000967	1	JXM	02/18/25	2217	2751900	13
Aroclor-1221	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1232	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1242	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1248	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1254	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1260	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-1268	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Aroclor-Total	U	0.0967	0.0322	0.0967	ug/L	0.000967	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	212	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Client Sample ID: MW370UG2-25
Sample ID: 706092015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1748	2744263	16
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					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25
Sample ID: 706092015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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		1.80	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	BB2	02/19/25	1105	2753043
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25
Sample ID: 706092015

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A		
14	EPA 160.1		
15	EPA 410.4		
16	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	6.91	155*	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.161 ug/L	0.193	83	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.151 ug/L	0.193	78	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	46.2 ug/L	50.0	92	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	53.4 ug/L	50.0	107	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.0 ug/L	50.0	100	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW370UG2-25
Sample ID: 706092016
Matrix: WG
Collect Date: 28-JAN-25 08:52
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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	N	0.226	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1831	2741839	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	BAJ	02/12/25	1133	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	SW846 3005A/6020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	MW371UG2-25	Project:	FRNP00607
Sample ID:	706092017	Client ID:	FRNP006
Matrix:	WG		
Collect Date:	28-JAN-25 09:39		
Receive Date:	29-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0189	0.00853	0.0189	ug/L	0.947	1	LL2	02/01/25	1013	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	1.48	0.330	2.00	mg/L		1	KB3	02/05/25	0153	2743988	2
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1146	2741364	3
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	3.74	3.33	10.0	ug/L		1	RMJ	02/25/25	0554	2755505	4
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1615	2741107	5
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/29/25	1823	2741108	6
Chloride	J	3.65	0.0670	250	mg/L		1					
Fluoride	J	0.248	0.0330	4.00	mg/L		1					
Sulfate		10.8	0.133	0.400	mg/L		1					
Nitrate-N	U	10.0	0.0660	10.0	mg/L		2	CH6	01/30/25	0410	2741108	7
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1036	2748341	8
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum		0.100	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2040	2741468	9
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.178	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		48.9	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		0.00235	0.000300	0.00200	mg/L	1.00	1					

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Certificate of Analysis

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25
Sample ID: 706092017

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron	J	0.0827	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		18.1	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.0104	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000435	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.00134	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.376	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					
Uranium		0.00150	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.00501	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1325	2741468	10
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		79.7	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1735	2741468	11
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1124	2753044	12
Boron	U	0.0150	0.00520	0.0150	mg/L	1.00	1					
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0983	0.0327	0.0983	ug/L	0.000983	1	JXM	02/18/25	2229	2751900	13
Aroclor-1221	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-1232	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-1242	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-1248	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-1254	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-1260	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-1268	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Aroclor-Total	U	0.0983	0.0327	0.0983	ug/L	0.000983	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	334	4.76	20.0	mg/L			RR4	01/31/25	1245	2742400	14
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25
Sample ID: 706092017

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	15
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1213	2744263	16
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	UQ	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					

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25
Sample ID: 706092017

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	LOF	01/31/25	1119	2741210
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25
Sample ID: 706092017

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 3535A/8082A	
14	EPA 160.1	
15	EPA 410.4	
16	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.90 ug/L	6.77	102	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.139 ug/L	0.197	71	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.159 ug/L	0.197	81	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.6 ug/L	50.0	97	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	50.2 ug/L	50.0	100	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.0 ug/L	50.0	102	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW371UG2-25
Sample ID: 706092018
Matrix: WG
Collect Date: 28-JAN-25 09:39
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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	N	0.191	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1835	2741839	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium		0.00155	0.0000670	0.000200	mg/L	1.00	1	BAJ	02/12/25	1134	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	SW846 3005A/6020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25 Project: FRNP00607
Sample ID: 706092019 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 14:24
Receive Date: 29-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00858	0.0191	ug/L	0.953	1	LL2	02/01/25	1047	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.772	0.330	2.00	mg/L		1	KB3	02/05/25	0225	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1147	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens		25.1	3.33	10.0	ug/L		1	RMJ	02/25/25	0623	2755505	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1627	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.483	0.0670	0.200	mg/L		1	CH6	01/29/25	1854	2741108	7
Fluoride	J	0.202	0.0330	4.00	mg/L		1					
Chloride	J	37.5	0.335	250	mg/L		5	CH6	01/30/25	0441	2741108	8
Nitrate-N	J	0.903	0.165	10.0	mg/L		5					
Sulfate		149	1.33	4.00	mg/L		10	CH6	01/30/25	0511	2741108	9
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1038	2748341	10
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2042	2741468	11
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0541	0.000670	0.00400	mg/L	1.00	1					
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	0.00162	0.000300	0.00200	mg/L	1.00	1					
Iron	U	0.100	0.0330	0.100	mg/L	1.00	1					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25
Sample ID: 706092019

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		24.3	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00215	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel	J	0.000643	0.000600	0.00200	mg/L	1.00	1					
Potassium		2.27	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					
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					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1326	2741468	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Calcium		66.9	0.800	2.00	mg/L	1.00	10	BCD1	02/06/25	1736	2741468	13
Sodium		59.5	0.800	2.50	mg/L	1.00	10					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1125	2753044	14
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Boron		1.54	0.104	0.300	mg/L	1.00	20	BAJ	02/20/25	1159	2753044	15
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.103	0.0344	0.103	ug/L	0.00103	1	JXM	02/18/25	2242	2751900	16
Aroclor-1221	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-1232	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-1242	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-1248	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-1254	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-1260	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-1268	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Aroclor-Total	U	0.103	0.0344	0.103	ug/L	0.00103	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	446	4.76	20.0	mg/L			RR4	01/31/25	1245	2742400	17
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25
Sample ID: 706092019

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	18
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1240	2744263	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	UQ	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					

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25
Sample ID: 706092019

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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		2.94	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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25
Sample ID: 706092019

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	7.42 ug/L	6.81	109	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.182 ug/L	0.207	88	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.167 ug/L	0.207	81	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.8 ug/L	50.0	98	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	49.9 ug/L	50.0	100	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.2 ug/L	50.0	102	(89%-112%)

Notes:

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Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25
Sample ID: 706092019

Project: FRNP00607
Client ID: FRNP006

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW372UG2-25 Project: FRNP00607
Sample ID: 706092020 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 14:24
Receive Date: 29-JAN-25
Collector: Client

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	N	0.0594	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1839	2741839	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	BAJ	02/12/25	1136	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25 Project: FRNP00607
Sample ID: 706092021 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 12:38
Receive Date: 29-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00859	0.0191	ug/L	0.954	1	LL2	02/01/25	1121	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.953	0.330	2.00	mg/L		1	KB3	02/05/25	0257	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1148	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	BN1	35.7	3.33	10.0	ug/L		1	JS13	02/25/25	1345	2755260	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1406	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.448	0.0670	0.200	mg/L		1	CH6	01/29/25	1925	2741108	7
Fluoride	J	0.204	0.0330	4.00	mg/L		1					
Chloride	J	30.5	0.335	250	mg/L		5	CH6	01/30/25	0644	2741108	8
Nitrate-N	J	0.562	0.165	10.0	mg/L		5					
Sulfate		211	2.66	8.00	mg/L		20	CH6	01/30/25	0715	2741108	9
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1040	2748341	10
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	U	0.0500	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2045	2741468	11
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.0330	0.000670	0.00400	mg/L	1.00	1					
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	J	0.000877	0.000300	0.00100	mg/L	1.00	1					
Copper		0.00326	0.000300	0.00200	mg/L	1.00	1					
Iron	J	0.0562	0.0330	0.100	mg/L	1.00	1					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092021

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		33.9	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.136	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	U	0.00100	0.000200	0.00100	mg/L	1.00	1					
Nickel		0.00212	0.000600	0.00200	mg/L	1.00	1					
Potassium		3.03	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					
Uranium	J	0.000126	0.0000670	0.000200	mg/L	1.00	1					
Vanadium	U	0.0200	0.00330	0.0200	mg/L	1.00	1					
Zinc	J	0.00584	0.00330	0.0200	mg/L	1.00	1					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1326	2741468	12
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Calcium		91.0	1.60	4.00	mg/L	1.00	20	BCD1	02/06/25	1737	2741468	13
Sodium		73.2	1.60	5.00	mg/L	1.00	20					
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1127	2753044	14
Selenium	U	0.00500	0.00150	0.00500	mg/L	1.00	1					
Boron		2.47	0.104	0.300	mg/L	1.00	20	BAJ	02/20/25	1200	2753044	15
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0966	0.0322	0.0966	ug/L	0.000966	1	JXM	02/18/25	2254	2751900	16
Aroclor-1221	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-1232	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-1242	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-1248	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-1254	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-1260	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-1268	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Aroclor-Total	U	0.0966	0.0322	0.0966	ug/L	0.000966	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	562	4.76	20.0	mg/L			RR4	01/31/25	1245	2742400	17
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092021

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	18
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1308	2744263	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	UQ	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092021

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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		2.50	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	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	PB1	01/30/25	1430	2741467
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092021

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	7.61 ug/L	6.81	112	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.142 ug/L	0.193	74	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.147 ug/L	0.193	76	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.8 ug/L	50.0	98	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	49.5 ug/L	50.0	99	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.2 ug/L	50.0	102	(89%-112%)

Notes:

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092021

Project: FRNP00607
Client ID: FRNP006

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW373UG2-25
Sample ID: 706092022
Matrix: WG
Collect Date: 28-JAN-25 12:38
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

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	N	0.0363	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1843	2741839	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium	J	0.000122	0.0000670	0.000200	mg/L	1.00	1	BAJ	02/12/25	1137	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	SW846 3005A/6020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25
Sample ID: 706092023
Matrix: WG
Collect Date: 28-JAN-25 13:29
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00858	0.0191	ug/L	0.954	1	LL2	02/01/25	1155	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average		2.04	0.330	2.00	mg/L		1	KB3	02/05/25	0328	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1149	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	BN1	46.6	3.33	10.0	ug/L		1	JS13	02/25/25	1712	2755260	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1419	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide		0.463	0.0670	0.200	mg/L		1	CH6	01/29/25	1956	2741108	7
Fluoride	J	0.200	0.0330	4.00	mg/L		1					
Sulfate		15.8	0.133	0.400	mg/L		1					
Chloride	J	42.8	0.335	250	mg/L		5	CH6	01/30/25	0746	2741108	8
Nitrate-N	J	0.815	0.165	10.0	mg/L		5					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1041	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	J	0.0468	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2048	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.124	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		25.6	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	0.00104	0.000300	0.00200	mg/L	1.00	1					

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Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25
Sample ID: 706092023

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Iron		0.221	0.0330	0.100	mg/L	1.00	1					
Lead	U	0.00200	0.000500	0.00200	mg/L	1.00	1					
Magnesium		6.17	0.0100	0.0300	mg/L	1.00	1					
Manganese		0.0787	0.00100	0.00500	mg/L	1.00	1					
Molybdenum	J	0.000234	0.000200	0.00100	mg/L	1.00	1					
Nickel	U	0.00200	0.000600	0.00200	mg/L	1.00	1					
Potassium		0.498	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					
Uranium		0.000527	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					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1327	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		120	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1738	2741468	12
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1202	2753044	13
Boron	J	0.0108	0.00520	0.0150	mg/L	1.00	1					
Selenium		0.00884	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.0991	0.0330	0.0991	ug/L	0.000991	1	JXM	02/18/25	2306	2751900	14
Aroclor-1221	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-1232	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-1242	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-1248	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-1254	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-1260	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-1268	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Aroclor-Total	U	0.0991	0.0330	0.0991	ug/L	0.000991	1					
Solids Analysis												
160.1, Dissolved Solids "As Received"												
Total Dissolved Solids	*	338	4.76	20.0	mg/L			RR4	01/31/25	1245	2742400	15
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25
Sample ID: 706092023

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	16
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1336	2744263	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	UQ	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					

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Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25
Sample ID: 706092023

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25
Sample ID: 706092023

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.65 ug/L	6.81	98	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.106 ug/L	0.198	54	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.141 ug/L	0.198	71	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	48.9 ug/L	50.0	98	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	49.4 ug/L	50.0	99	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.1 ug/L	50.0	102	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW374UG2-25 Project: FRNP00607
Sample ID: 706092024 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 13:29
Receive Date: 29-JAN-25
Collector: Client

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	N	0.135	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1848	2741839	1
Chromium	U	0.0100	0.00300	0.0100	mg/L	1.00	1					
Uranium		0.000526	0.0000670	0.000200	mg/L	1.00	1	BAJ	02/12/25	1138	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25
Sample ID: 706092025
Matrix: WG
Collect Date: 28-JAN-25 12:38
Receive Date: 29-JAN-25
Collector: Client

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0193	0.00869	0.0193	ug/L	0.966	1	LL2	02/01/25	1229	2741211	1
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average	J	0.606	0.330	2.00	mg/L		1	KB3	02/05/25	0523	2743988	3
Flow Injection Analysis												
9012B, Cyanide, Total "As Received"												
Cyanide, Total	UN	0.200	0.00167	0.200	mg/L	1.00	1	AXH3	01/30/25	1150	2741364	4
Halogen Analysis												
9020B, TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	4.90	3.33	10.0	ug/L		1	RMJ	02/25/25	0040	2755505	5
Ion Chromatography												
300.0, Iodide in Liquid "As Received"												
Iodide	U	0.500	0.167	0.500	mg/L		1	CH6	01/29/25	1640	2741107	6
SW846 9056A Anions (5 elements) "As Received"												
Bromide	U	0.200	0.0670	0.200	mg/L		1	CH6	01/29/25	2128	2741108	7
Chloride	J	3.13	0.0670	250	mg/L		1					
Fluoride	J	0.293	0.0330	4.00	mg/L		1					
Nitrate-N	J	0.832	0.0660	10.0	mg/L		2	CH6	01/30/25	0918	2741108	8
Sulfate		22.0	0.266	0.800	mg/L		2					
Mercury Analysis-CVAA												
7470, Mercury Liquid "As Received"												
Mercury	U	0.000200	0.0000670	0.000200	mg/L	1.00	1	JP2	02/12/25	1043	2748341	9
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
Aluminum	J	0.0257	0.0193	0.0500	mg/L	1.00	1	BCD1	02/05/25	2050	2741468	10
Antimony	U	0.00300	0.00100	0.00300	mg/L	1.00	1					
Arsenic	U	0.00500	0.00200	0.00500	mg/L	1.00	1					
Barium		0.164	0.000670	0.00400	mg/L	1.00	1					
Cadmium	U	0.00100	0.000300	0.00100	mg/L	1.00	1					
Calcium		12.8	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	0.000348	0.000300	0.00200	mg/L	1.00	1					

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25
Sample ID: 706092025

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP-MS												
6020, Metals (15+ elements) "As Received"												
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					
Magnesium		5.44	0.0100	0.0300	mg/L	1.00	1					
Manganese	J	0.00314	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	J	0.263	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					
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					
Rhodium	U	0.00500	0.00160	0.00500	mg/L	1.00	1	BCD1	02/06/25	1328	2741468	11
Tantalum	U	0.00500	0.00100	0.00500	mg/L	1.00	1					
Sodium		51.0	0.400	1.25	mg/L	1.00	5	BCD1	02/06/25	1741	2741468	12
Beryllium	U	0.000500	0.000200	0.000500	mg/L	1.00	1	BAJ	02/20/25	1129	2753044	13
Boron	J	0.00781	0.00520	0.0150	mg/L	1.00	1					
Selenium	J	0.00188	0.00150	0.00500	mg/L	1.00	1					
Semi-Volatiles-PCB												
8082A, PCB Liquids "As Received"												
Aroclor-1016	U	0.100	0.0333	0.100	ug/L	0.00100	1	JXM	02/18/25	2318	2751900	14
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 Received"												
Total Dissolved Solids	*	149	2.38	10.0	mg/L			RR4	01/31/25	1245	2742400	15
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25
Sample ID: 706092025

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Spectrometric Analysis												
410.4, Chem. Oxygen Demand "As Received"												
COD	U	20.0	8.95	20.0	mg/L		1	JW2	01/29/25	1629	2741113	16
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1404	2744263	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	UQ	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					

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25
Sample ID: 706092025

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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 3535A	SW3535A PCB SPE Extraction	DG3	02/18/25	1042	2751765
SW846 3005A	ICP-MS 3005A PREP	PB1	01/30/25	1430	2741467
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	JM13	02/11/25	1200	2748339
SW846 8011 PREP	8011 Prep	LOF	01/31/25	1119	2741210
SW846 3005A	ICP-MS 3005A PREP	BB2	02/19/25	1105	2753043
SW846 9010C Distillation	SW846 9010C Prep	ES2	01/30/25	1019	2741363

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Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25
Sample ID: 706092025

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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The following Analytical 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 Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1-Chloro-2-fluorobenzene	8011 VOA- 1,2-Dibromo-3-chloropropane "As Received"	6.61 ug/L	6.90	96	(56%-149%)
Decachlorobiphenyl	8082A, PCB Liquids "As Received"	0.144 ug/L	0.200	72	(30%-135%)
4cmx	8082A, PCB Liquids "As Received"	0.140 ug/L	0.200	70	(26%-108%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	49.3 ug/L	50.0	99	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	50.1 ug/L	50.0	100	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.3 ug/L	50.0	103	(89%-112%)

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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: MW375UG2-25 Project: FRNP00607
Sample ID: 706092026 Client ID: FRNP006
Matrix: WG
Collect Date: 28-JAN-25 12:38
Receive Date: 29-JAN-25
Collector: Client

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	N	0.169	0.000670	0.00400	mg/L	1.00	1	JD2	02/05/25	1852	2741839	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	BAJ	02/12/25	1139	2741839	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 160	Laboratory Filtration	SD	01/30/25	1115	2741260
SW846 3005A	ICP-MS 3005A PREP	TB2	02/04/25	1525	2741836

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3005A/6020B	
2	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

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID:	TB2UG2-25	Project:	FRNP00607
Sample ID:	706092027	Client ID:	FRNP006
Matrix:	WATER		
Collect Date:	28-JAN-25 06:30		
Receive Date:	29-JAN-25		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0191	0.00859	0.0191	ug/L	0.954	1	LL2	02/01/25	1411	2741211	1
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1432	2744263	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	UQ	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	J	0.430	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					

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Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB2UG2-25
Sample ID: 706092027

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	LOF	01/31/25	1119	2741210

The following Analytical Methods were performed:

Method	Description	Analyst Comments
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"	7.24 ug/L	6.82	106	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	49.1 ug/L	50.0	98	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	50.2 ug/L	50.0	100	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	51.2 ug/L	50.0	102	(89%-112%)

Notes:

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Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB2UG2-25
Sample ID: 706092027

Project: FRNP00607
Client ID: FRNP006

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

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Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB3UG2-25 Project: FRNP00607
Sample ID: 706092028 Client ID: FRNP006
Matrix: WATER
Collect Date: 28-JAN-25 07:17
Receive Date: 29-JAN-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	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	U	0.0190	0.00854	0.0190	ug/L	0.949	1	LL2	02/01/25	1445	2741211	1
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
1,1,1,2-Tetrachloroethane	U	1.00	0.333	1.00	ug/L		1	PXY1	02/04/25	1459	2744263	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	UQ	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	J	0.430	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					

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Project: Ms. Jaime Morrow
C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB3UG2-25
Sample ID: 706092028

Project: FRNP00607
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
8260D, Volatiles- full suite "As Received"												
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	LOF	01/31/25	1119	2741210

The following Analytical Methods were performed:

Method	Description	Analyst Comments
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"	7.79 ug/L	6.78	115	(56%-149%)
Bromofluorobenzene	8260D, Volatiles- full suite "As Received"	49.1 ug/L	50.0	98	(85%-114%)
1,2-Dichloroethane-d4	8260D, Volatiles- full suite "As Received"	49.8 ug/L	50.0	100	(81%-118%)
Toluene-d8	8260D, Volatiles- full suite "As Received"	50.8 ug/L	50.0	102	(89%-112%)

Notes:

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C-746-U Landfill Quarterly(UG25-02)

Client Sample ID: TB3UG2-25
Sample ID: 706092028

Project: FRNP00607
Client ID: FRNP006

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

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APPENDIX D

**STATISTICAL ANALYSES AND
QUALIFICATION STATEMENT**

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RESIDENTIAL/CONTAINED—QUARTERLY, 1st CY 2025
Facility: U.S. DOE—Paducah Gaseous Diffusion Plant
Permit Number: SW07300014, SW07300015, SW07300045

Finds/Unit: KY8-980-008-982/1
LAB ID: None

GROUNDWATER STATISTICAL COMMENTS

Introduction

The statistical analyses conducted on the first quarter 2025 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 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 2025 data used to conduct the statistical analyses were collected in January 2025. 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 tolerance limit (UTL) and lower tolerance limit (UTL) 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 ^a	Groundwater Unit
MW357	TW	URGA
MW358	TW	LRGA
MW359 ^b	TW	UCRS
MW360	TW	URGA
MW361	TW	LRGA
MW362 ^b	TW	UCRS
MW363	TW	URGA
MW364	TW	LRGA
MW365 ^b	TW	UCRS
MW366	TW	URGA
MW367	TW	LRGA
MW368 ^b	TW	UCRS
MW369	BG	URGA
MW370	BG	LRGA
MW371 ^c	BG	UCRS
MW372	BG	URGA
MW373	BG	LRGA
MW374 ^b	BG	UCRS
MW375 ^b	SG	UCRS
MW376 ^{b,c}	SG	UCRS
MW377 ^{b,c}	SG	UCRS

^a BG: upgradient or background wells; TW: downgradient or test wells; SG: sidegradient wells.

^b 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.

^c Well was dry this quarter, and a groundwater sample could not be collected.

For those parameters that are determined to exceed the historical background concentration, a second one-sided tolerance interval statistical test, or a two-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 UTL 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 UTL and LTL 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.

A stepwise list of the one-sided tolerance interval statistical procedure applied to the data is summarized below.¹

1. The tolerance limit 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 $CV \leq 1.0$, 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 UTL 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 UTL is calculated using the following equation:

— $TL = X + (K \times S)$
2. Each observation from downgradient wells is compared to the calculated one-sided UTL in Step 1. If an observation value exceeds the tolerance limit, 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 URGAs, and the LRGAs, 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 2025. 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.

¹ For pH, two-sided tolerance limits (upper and lower) were calculated with an adjusted K factor using the following equations: $UTL = X + (K \times S)$ and $LTU = X - (K \times S)$.

**Exhibit D.2. List of Parameters Tested Using the One-Sided Upper Tolerance Level
Test with Historical Background**

Parameters
Aluminum
Beryllium
Boron
Bromide
Calcium
Chemical Oxygen Demand (COD)
Chloride
Cobalt
Conductivity
Copper
Dissolved Oxygen
Dissolved Solids
Iron
Magnesium
Manganese
Molybdenum
Nickel
Oxidation-Reduction Potential ^a
Polychlorinated biphenyl (PCB) Total
PCB-1242
pH ^b
Potassium
Sodium
Sulfate
Technetium-99
Thorium-230
Total Organic Carbon (TOC)
Total Organic Halides (TOX)
Vanadium
Zinc

^a Oxidation-Reduction Potential calibrated as Eh.

^b For pH, the test well results were compared to both UTL and LTL 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	7	7	0	No
1,1,2,2-Tetrachloroethane	7	7	0	No
1,1,2-Trichloroethane	7	7	0	No
1,1-Dichloroethane	7	7	0	No
1,2,3-Trichloropropane	7	7	0	No
1,2-Dibromo-3-chloropropane	7	7	0	No
1,2-Dibromoethane	7	7	0	No
1,2-Dichlorobenzene	7	7	0	No
1,2-Dichloropropane	7	7	0	No
2-Butanone	7	7	0	No
2-Hexanone	7	7	0	No
4-Methyl-2-pentanone	7	7	0	No
Acetone	7	7	0	No
Acrolein	7	7	0	No
Acrylonitrile	7	7	0	No
Aluminum	7	0	7	Yes
Antimony	7	7	0	No
Beryllium	7	6	1	Yes
Boron	7	2	5	Yes
Bromide	7	6	1	Yes
Bromochloromethane	7	7	0	No
Bromodichloromethane	7	7	0	No
Bromoform	7	7	0	No
Bromomethane	7	7	0	No
Calcium	7	0	7	Yes
Carbon disulfide	7	7	0	No
COD	7	6	1	Yes
Chloride	7	0	7	Yes
Chlorobenzene	7	7	0	No
Chloroethane	7	7	0	No
Chloroform	7	7	0	No
Chloromethane	7	7	0	No
<i>cis</i> -1,2-Dichloroethene	7	7	0	No
<i>cis</i> -1,3-Dichloropropene	7	7	0	No
Cobalt	7	5	2	Yes
Conductivity	7	0	7	Yes
Copper	7	0	7	Yes
Cyanide	7	7	0	No
Dibromochloromethane	7	7	0	No
Dibromomethane	7	7	0	No
Dimethylbenzene, total	7	7	0	No
Dissolved Oxygen	7	0	7	Yes
Dissolved Solids	7	0	7	Yes
Ethylbenzene	7	7	0	No
Iodide	7	7	0	No
Iodomethane	7	7	0	No
Iron	7	2	5	Yes
Magnesium	7	0	7	Yes
Manganese	7	0	7	Yes
Methylene Chloride	7	7	0	No
Molybdenum	7	2	5	Yes
Nickel	7	3	4	Yes
Oxidation-Reduction Potential	7	0	7	Yes

Exhibit D.3. Summary of Censored and Uncensored Data—UCRS (Continued)

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
PCB, Total	7	7	0	No
PCB-1016	7	7	0	No
PCB-1221	7	7	0	No
PCB-1232	7	7	0	No
PCB-1242	7	7	0	No
PCB-1248	7	7	0	No
PCB-1254	7	7	0	No
PCB-1260	7	7	0	No
PCB-1268	7	7	0	No
pH	7	0	7	Yes
Potassium	7	0	7	Yes
Radium-226	7	7	0	No
Rhodium	7	7	0	No
Sodium	7	0	7	Yes
Styrene	7	7	0	No
Sulfate	7	0	7	Yes
Tantalum	7	7	0	No
Technetium-99	7	7	0	No
Tetrachloroethene	7	7	0	No
Thallium	7	7	0	No
Thorium-230	7	6	1	Yes
Toluene	7	7	0	No
TOC	7	0	7	Yes
TOX	7	2	5	Yes
<i>trans</i> -1,2-Dichloroethene	7	7	0	No
<i>trans</i> -1,3-Dichloropropene	7	7	0	No
<i>trans</i> -1,4-Dichloro-2-Butene	7	7	0	No
Trichlorofluoromethane	7	7	0	No
Vanadium	7	4	3	Yes
Vinyl Acetate	7	7	0	No
Zinc	7	3	4	Yes

NOTE: Bold text 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-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	3	3	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	6	0	No
Chloride	6	0	6	Yes
Chlorobenzene	6	6	0	No
Chloroethane	6	6	0	No
Chloroform	6	6	0	No
Chloromethane	6	6	0	No
<i>cis</i> -1,2-Dichloroethene	6	6	0	No
<i>cis</i> -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	2	4	Yes
Magnesium	6	0	6	Yes
Manganese	6	1	5	Yes
Methylene Chloride	6	6	0	No
Molybdenum	6	6	0	No
Nickel	6	2	4	Yes
Oxidation-Reduction Potential	6	0	6	Yes

Exhibit D.4. Summary of Censored and Uncensored Data—URGA (Continued)

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
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	5	1	Yes
PCB-1248	6	6	0	No
PCB-1254	6	6	0	No
PCB-1260	6	6	0	No
PCB-1268	6	6	0	No
pH	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
<i>trans</i> -1,2-Dichloroethene	6	6	0	No
<i>trans</i> -1,3-Dichloropropene	6	6	0	No
<i>trans</i> -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	3	3	Yes

NOTE: Bold text 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	0	6	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	0	6	Yes
Chlorobenzene	6	6	0	No
Chloroethane	6	6	0	No
Chloroform	6	6	0	No
Chloromethane	6	6	0	No
<i>cis</i> -1,2-Dichloroethene	6	6	0	No
<i>cis</i> -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	2	4	Yes
Magnesium	6	0	6	Yes
Manganese	6	1	5	Yes
Methylene Chloride	6	6	0	No
Molybdenum	6	5	1	Yes
Nickel	6	2	4	Yes
Oxidation-Reduction Potential	6	0	6	Yes

Exhibit D.5. Summary of Censored and Uncensored Data—LRGA (Continued)

Parameters	Observations	Censored Observation	Uncensored Observation	Statistical Analysis?
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
pH	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	1	5	Yes
TOX	6	1	5	Yes
<i>trans</i> -1,2-Dichloroethene	6	6	0	No
<i>trans</i> -1,3-Dichloropropene	6	6	0	No
<i>trans</i> -1,4-Dichloro-2-Butene	6	6	0	No
Trichlorofluoromethane	6	6	0	No
Vanadium	6	6	0	No
Vinyl Acetate	6	6	0	No
Zinc	6	0	6	Yes

NOTE: Bold text denotes parameters with at least one uncensored observation.

Discussion of Results from Historical Background Comparison

For the UCRS, URGAs, 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, URGAs, and LRGA, the test was applied to 27, 26, and 24 parameters, respectively, including those listed in bold print in Exhibits D.3, D.4, and D.5, which include 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

Because gradients in the UCRS are downward (vertical), there are no hydrogeologically downgradient UCRS wells; however, it should be noted that this quarter's results identified historical background exceedances for dissolved oxygen, oxidation-reduction potential, sulfate, and thorium-230.

URGA

This quarter's results identified historical background exceedances for calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sulfate, and technetium-99.

LRGA

This quarter's results identified historical background exceedances for calcium, dissolved oxygen, magnesium, oxidation-reduction potential, pH, and technetium-99.

Statistical Summary

Summaries of the results of the statistical tests conducted on data obtained from wells in the UCRS, the URGAs, 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
<p>MW359: Dissolved oxygen, oxidation-reduction potential,* sulfate, and thorium-230</p> <p>MW362: Dissolved oxygen, oxidation-reduction potential,* and sulfate</p> <p>MW365: Dissolved oxygen, oxidation-reduction potential,* and sulfate</p> <p>MW368: Dissolved oxygen, oxidation-reduction potential,* and sulfate</p> <p>MW371: Dissolved oxygen and oxidation-reduction potential*</p> <p>MW374: Dissolved oxygen, oxidation-reduction potential,* and sulfate</p> <p>MW375: Oxidation-reduction potential* and sulfate</p>	<p>MW357: Oxidation-reduction potential*</p> <p>MW360: Oxidation-reduction potential*</p> <p>MW363: Oxidation-reduction potential*</p> <p>MW366: Oxidation-reduction potential* and technetium-99</p> <p>MW369: Oxidation-reduction potential*</p> <p>MW372: Calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential,* and sulfate</p>	<p>MW358: Oxidation-reduction potential*</p> <p>MW361: Oxidation-reduction potential* and technetium-99</p> <p>MW364: Dissolved oxygen, oxidation-reduction potential,* and technetium-99</p> <p>MW367: Oxidation-reduction potential* and ph</p> <p>MW370: Dissolved oxygen and oxidation-reduction potential*</p> <p>MW373: Calcium, magnesium, and oxidation-reduction potential*</p>

*Oxidation-reduction potential calibrated as Eh.

Exhibit D.7. Test Summaries for Qualified Parameters for Historical Background—UCRS

Parameter	Performed Test	CV Normality Test^a	Results of Tolerance Interval Test Conducted
Aluminum	Tolerance Interval	2.08	No exceedance of statistically derived historical background concentration.
Beryllium	Tolerance Interval	1.12	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.
COD	Tolerance Interval	0.97	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	Current results exceed statistically derived historical background concentration in MW359, MW362, MW365, MW368, MW371, and MW374.
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	No exceedance of statistically derived historical background concentration.
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 ^b	Tolerance Interval	3.54	Current results exceed statistically derived historical background concentration in MW359, MW362, MW365, MW368, MW371, MW374, and MW375.
pH	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 MW359, MW362, MW365, MW368, MW374, and MW375.
Thorium-230	Tolerance Interval	1.25	Current results exceed statistically derived historical background concentration in MW359.
TOC	Tolerance Interval	1.38	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^a	Results of Tolerance Interval Test Conducted
TOX	Tolerance Interval	1.08	No exceedance of statistically derived historical background concentration.
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.

^a If CV is > 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^a	Results of Tolerance Interval Test Conducted
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.
Nickel	Tolerance Interval	0.91	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential ^b	Tolerance Interval	1.26	Current results exceed statistically derived historical background concentration in MW357, MW360, MW363, MW366, MW369, and MW372.
PCB, Total	Tolerance Interval	0.90	No exceedance of statistically derived historical background concentration.
PCB-1242	Tolerance Interval	1.36	No exceedance of statistically derived historical background concentration.
pH	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^a	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	Current results exceed statistically derived historical background concentration in MW366.
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.

^a If CV is > 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^a	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.
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 MW364 and 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	Current results exceed statistically derived historical background concentration in MW373.
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	No exceedance of statistically derived historical background concentration.
Oxidation-Reduction Potential ^b	Tolerance Interval	1.31	Current results exceed statistically derived historical background concentration in MW358, MW361, MW364, MW367, MW370, and MW373.
pH	Tolerance Interval	0.03	Current results exceed statistically derived historical background concentration in MW367.
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^a	Results of Tolerance Interval Test Conducted
Zinc	Tolerance Interval	0.67	No exceedance of statistically derived historical background concentration.

^a If CV is > 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, URGAs, and LRGA that exceeded the tolerance limit 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, URGAs, and LRGA, the test was applied to 4, 7, and 6 parameters, respectively, because these parameter concentrations exceeded the historical background tolerance limit.

UCRS

Because gradients in the UCRS are downward (vertical), there are no hydrogeologically downgradient UCRS wells. It should be noted; however, that this quarter's results identified current background UTL exceedances in downgradient wells for dissolved oxygen, sulfate, and thorium-230.

URGA

This quarter's results did not identify any current background UTL exceedances in downgradient wells.

LRGA

This quarter's results identified current background UTL exceedances in downgradient wells for pH and technetium-99.

Statistical Summary

Summaries of the statistical tests conducted on data obtained from wells in the UCRS, the URGAs, 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
Dissolved Oxygen	Tolerance Interval	0.73	MW362 and MW365 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Oxidation-Reduction Potential*	Tolerance Interval	0.17	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Sulfate	Tolerance Interval	0.66	MW365 and MW368 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
Thorium-230	Tolerance Interval	1.03	MW359 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.

*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	0.63	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Conductivity	Tolerance Interval	0.37	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Dissolved Solids	Tolerance Interval	0.42	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Magnesium	Tolerance Interval	0.57	None of the test wells exceeded the UTL, 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	0.12	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Sulfate	Tolerance Interval	0.93	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Technetium-99	Tolerance Interval	0.44	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.

*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	0.48	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Dissolved Oxygen	Tolerance Interval	0.44	None of the test wells exceeded the UTL, which is evidence that concentrations in these wells are not different from current background concentrations to a statistically significant level.
Magnesium	Tolerance Interval	0.40	None of the test wells exceeded the UTL, 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	0.14	MW370 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.
pH	Tolerance Interval	0.01	MW367 was below the LTL, which is evidence of statistically different pH with respect to current background data.
Technetium-99	Tolerance Interval	0.80	MW361 and MW364 exceeded the UTL, which is evidence of elevated concentration with respect to current background data.

*Oxidation-reduction potential calibrated as Eh.

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ATTACHMENT D1

**COMPARISON OF CURRENT DATA TO
ONE-SIDED UPPER TOLERANCE INTERVAL TEST
CALCULATED USING
HISTORICAL BACKGROUND DATA**

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C-746-U First Quarter 2025 Statistical Analysis Historical Background Comparison

Aluminum

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= 3.300 S= 6.859 CV(1)=2.078 K factor**= 2.523 TL(1)= 2.06E+01 LL(1)=N/A

Statistics-Transformed Background Data X= -0.371 S= 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

Date Collected	Result	LN(Result)
10/8/2002	2.13E+01	3.06E+00
1/7/2003	2.00E+01	3.00E+00
4/2/2003	4.11E+00	1.41E+00
7/9/2003	1.41E+00	3.44E-01
10/7/2003	1.09E+00	8.62E-02
1/6/2004	8.54E-01	-1.58E-01
4/7/2004	2.00E-01	-1.61E+00
7/14/2004	2.00E-01	-1.61E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	8.85E-02	N/A	-2.42E+00	NO
MW362	Downgradient	Yes	4.25E+00	N/A	1.45E+00	NO
MW365	Downgradient	Yes	2.30E-02	N/A	-3.77E+00	NO
MW368	Downgradient	Yes	3.77E-01	N/A	-9.76E-01	NO
MW371	Upgradient	Yes	1.00E-01	N/A	-2.30E+00	NO
MW374	Upgradient	Yes	4.68E-02	N/A	-3.06E+00	NO
MW375	Sidegradient	Yes	2.57E-02	N/A	-3.66E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Beryllium

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= 0.002 S= 0.003 CV(1)=1.125 K factor**= 2.523 TL(1)= 8.87E-03 LL(1)=N/A

Statistics-Transformed Background Data X= -6.462 S= 0.812 CV(2)=-0.126 K factor**= 2.523 TL(2)= -4.41E+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-03	-5.30E+00
4/22/2002	5.00E-03	-5.30E+00
7/15/2002	5.00E-03	-5.30E+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

Date Collected	Result	LN(Result)
10/8/2002	1.00E-02	-4.61E+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
10/7/2003	1.00E-03	-6.91E+00
1/6/2004	1.00E-03	-6.91E+00
4/7/2004	1.00E-03	-6.91E+00
7/14/2004	1.00E-03	-6.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	No	5.00E-04	N/A	-7.60E+00	N/A
MW362	Downgradient	Yes	2.02E-04	N/A	-8.51E+00	NO
MW365	Downgradient	No	5.00E-04	N/A	-7.60E+00	N/A
MW368	Downgradient	No	5.00E-04	N/A	-7.60E+00	N/A
MW371	Upgradient	No	5.00E-04	N/A	-7.60E+00	N/A
MW374	Upgradient	No	5.00E-04	N/A	-7.60E+00	N/A
MW375	Sidegradient	No	5.00E-04	N/A	-7.60E+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.

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, $S = \left[\frac{\text{Sum}([(\text{background result}-X)^2]}{[\text{count of background results} - 1]} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Boron

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= 0.650 S= 0.805 CV(1)=1.238 K factor**= 2.523 TL(1)= 2.68E+00 LL(1)=N/A

Statistics-Transformed Background Data X= -1.034 S= 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

Date Collected	Result	LN(Result)
10/8/2002	2.00E+00	6.93E-01
1/7/2003	2.00E-01	-1.61E+00
4/2/2003	2.00E-01	-1.61E+00
7/9/2003	2.00E-01	-1.61E+00
10/7/2003	2.00E-01	-1.61E+00
1/6/2004	2.00E-01	-1.61E+00
4/7/2004	2.00E-01	-1.61E+00
7/14/2004	2.00E-01	-1.61E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	1.29E-02	N/A	-4.35E+00	NO
MW362	Downgradient	Yes	2.96E-02	N/A	-3.52E+00	NO
MW365	Downgradient	Yes	6.96E-03	N/A	-4.97E+00	NO
MW368	Downgradient	No	1.50E-02	N/A	-4.20E+00	N/A
MW371	Upgradient	No	1.50E-02	N/A	-4.20E+00	N/A
MW374	Upgradient	Yes	1.08E-02	N/A	-4.53E+00	NO
MW375	Sidegradient	Yes	7.81E-03	N/A	-4.85E+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.

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, $S = \sqrt{[\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Bromide

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= 1.394 S= 0.474 CV(1)=0.340 K factor**= 2.523 TL(1)= 2.59E+00 LL(1)=N/A

Statistics-Transformed Background Data X= 0.279 S= 0.332 CV(2)=1.190 K factor**= 2.523 TL(2)= 1.12E+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+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

Date Collected	Result	LN(Result)
10/8/2002	2.10E+00	7.42E-01
1/7/2003	2.10E+00	7.42E-01
4/2/2003	1.90E+00	6.42E-01
7/9/2003	1.00E+00	0.00E+00
10/7/2003	1.90E+00	6.42E-01
1/6/2004	1.90E+00	6.42E-01
4/7/2004	1.80E+00	5.88E-01
7/14/2004	1.60E+00	4.70E-01

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW362	Downgradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW365	Downgradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW368	Downgradient	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	4.63E-01	NO	-7.70E-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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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Historical Background Comparison

Calcium

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= 34.100 S= 13.637 CV(1)=0.400 K factor**= 2.523 TL(1)= 6.85E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 3.466 S= 0.356 CV(2)=0.103 K factor**= 2.523 TL(2)= 4.36E+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	1.72E+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	
Date Collected	Result	LN(Result)
10/8/2002	6.73E+01	4.21E+00
1/7/2003	6.06E+01	4.10E+00
4/2/2003	4.72E+01	3.85E+00
7/9/2003	3.47E+01	3.55E+00
10/7/2003	3.71E+01	3.61E+00
1/6/2004	3.77E+01	3.63E+00
4/7/2004	3.22E+01	3.47E+00
7/14/2004	2.69E+01	3.29E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	5.12E+00	NO	1.63E+00	N/A
MW362	Downgradient	Yes	1.99E+01	NO	2.99E+00	N/A
MW365	Downgradient	Yes	1.99E+01	NO	2.99E+00	N/A
MW368	Downgradient	Yes	4.15E+01	NO	3.73E+00	N/A
MW371	Upgradient	Yes	4.89E+01	NO	3.89E+00	N/A
MW374	Upgradient	Yes	2.56E+01	NO	3.24E+00	N/A
MW375	Sidegradient	Yes	1.28E+01	NO	2.55E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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Chemical Oxygen Demand (COD) 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= 72.938 S= 70.749 CV(1)=0.970 K factor**= 2.523 TL(1)= 2.51E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 4.000 S= 0.702 CV(2)=0.175 K factor**= 2.523 TL(2)= 5.77E+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	3.50E+01	3.56E+00
4/22/2002	3.50E+01	3.56E+00
7/15/2002	3.50E+01	3.56E+00
10/8/2002	3.50E+01	3.56E+00
1/8/2003	3.50E+01	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: MW374

Date Collected	Result	LN(Result)
10/8/2002	2.60E+02	5.56E+00
1/7/2003	2.14E+02	5.37E+00
4/2/2003	1.47E+02	4.99E+00
7/9/2003	7.20E+01	4.28E+00
10/7/2003	5.60E+01	4.03E+00
1/6/2004	6.80E+01	4.22E+00
4/7/2004	3.50E+01	3.56E+00
7/14/2004	3.50E+01	3.56E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	No	2.00E+01	N/A	3.00E+00	N/A
MW362	Downgradient	Yes	1.40E+01	NO	2.64E+00	N/A
MW365	Downgradient	No	2.00E+01	N/A	3.00E+00	N/A
MW368	Downgradient	No	2.00E+01	N/A	3.00E+00	N/A
MW371	Upgradient	No	2.00E+01	N/A	3.00E+00	N/A
MW374	Upgradient	No	2.00E+01	N/A	3.00E+00	N/A
MW375	Sidegradient	No	2.00E+01	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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Date Collected	Result	LN(Result)
10/8/2002	1.99E+02	5.29E+00
1/7/2003	2.00E+02	5.30E+00
4/2/2003	1.72E+02	5.15E+00
7/9/2003	1.79E+02	5.19E+00
10/7/2003	1.76E+02	5.17E+00
1/6/2004	1.70E+02	5.14E+00
4/7/2004	1.56E+02	5.05E+00
7/14/2004	1.45E+02	4.97E+00

Dry/Partially Dry Wells

Well No. Gradient

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)
MW359	Downgradient	Yes	6.52E-01	NO	-4.28E-01	N/A
MW362	Downgradient	Yes	1.74E+00	NO	5.54E-01	N/A
MW365	Downgradient	Yes	1.65E+00	NO	5.01E-01	N/A
MW368	Downgradient	Yes	2.04E+00	NO	7.13E-01	N/A
MW371	Upgradient	Yes	3.65E+00	NO	1.29E+00	N/A
MW374	Upgradient	Yes	4.28E+01	NO	3.76E+00	N/A
MW375	Sidegradient	Yes	3.13E+00	NO	1.14E+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.

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, $S = \sqrt{[\text{Sum}([(\text{background result}-X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 Background Data X= -5.843 S= 1.392 CV(2)=-0.238 K factor**= 2.523 TL(2)= -2.33E+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	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

Date Collected	Result	LN(Result)
10/8/2002	1.00E-02	-4.61E+00
1/7/2003	1.00E-02	-4.61E+00
4/2/2003	1.00E-02	-4.61E+00
7/9/2003	1.61E-03	-6.43E+00
10/7/2003	1.00E-03	-6.91E+00
1/6/2004	1.00E-03	-6.91E+00
4/7/2004	1.00E-03	-6.91E+00
7/14/2004	1.00E-03	-6.91E+00

Dry/Partially Dry Wells

Well No. Gradient

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)
MW359	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW362	Downgradient	Yes	3.08E-03	N/A	-5.78E+00	NO
MW365	Downgradient	Yes	1.41E-03	N/A	-6.56E+00	NO
MW368	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW371	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW374	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Conductivity UNITS: umho/cm 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= 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= 6.705 S= 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

Date Collected	Result	LN(Result)
3/18/2002	1.01E+03	6.91E+00
10/8/2002	1.68E+03	7.43E+00
1/7/2003	1.72E+03	7.45E+00
4/2/2003	1.72E+02	5.15E+00
7/9/2003	1.23E+03	7.12E+00
10/7/2003	1.21E+03	7.10E+00
1/6/2004	1.17E+03	7.07E+00
4/7/2004	1.15E+03	7.04E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	1.92E+02	NO	5.26E+00	N/A
MW362	Downgradient	Yes	6.18E+02	NO	6.43E+00	N/A
MW365	Downgradient	Yes	3.84E+02	NO	5.95E+00	N/A
MW368	Downgradient	Yes	5.54E+02	NO	6.32E+00	N/A
MW371	Upgradient	Yes	6.99E+02	NO	6.55E+00	N/A
MW374	Upgradient	Yes	6.79E+02	NO	6.52E+00	N/A
MW375	Sidegradient	Yes	3.48E+02	NO	5.85E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 Background Data X= -3.395 S= 0.915 CV(2)=-0.270 K factor**= 2.523 TL(2)= -1.09E+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	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

Date Collected	Result	LN(Result)
10/8/2002	2.00E-01	-1.61E+00
1/7/2003	2.00E-01	-1.61E+00
4/2/2003	2.00E-01	-1.61E+00
7/9/2003	2.00E-02	-3.91E+00
10/7/2003	2.00E-02	-3.91E+00
1/6/2004	2.00E-02	-3.91E+00
4/7/2004	2.00E-02	-3.91E+00
7/14/2004	2.00E-02	-3.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	1.31E-03	N/A	-6.64E+00	NO
MW362	Downgradient	Yes	7.61E-03	N/A	-4.88E+00	NO
MW365	Downgradient	Yes	2.23E-03	N/A	-6.11E+00	NO
MW368	Downgradient	Yes	5.14E-04	N/A	-7.57E+00	NO
MW371	Upgradient	Yes	2.35E-03	N/A	-6.05E+00	NO
MW374	Upgradient	Yes	1.04E-03	N/A	-6.87E+00	NO
MW375	Sidegradient	Yes	3.48E-04	N/A	-7.96E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Dissolved Oxygen

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= 1.138 S= 0.621 CV(1)=0.546 K factor**= 2.523 TL(1)= 2.70E+00 LL(1)=N/A

Statistics-Transformed Background Data X= -0.013 S= 0.577 CV(2)=-43.069 K factor**= 2.523 TL(2)= 1.44E+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	2.26E+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

Date Collected	Result	LN(Result)
3/18/2002	6.00E-01	-5.11E-01
10/8/2002	6.70E-01	-4.00E-01
1/7/2003	2.30E-01	-1.47E+00
4/2/2003	6.50E-01	-4.31E-01
7/9/2003	9.20E-01	-8.34E-02
10/7/2003	9.90E-01	-1.01E-02
1/6/2004	1.11E+00	1.04E-01
4/7/2004	8.80E-01	-1.28E-01

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	5.48E+00	YES	1.70E+00	N/A
MW362	Downgradient	Yes	6.97E+00	YES	1.94E+00	N/A
MW365	Downgradient	Yes	1.04E+01	YES	2.34E+00	N/A
MW368	Downgradient	Yes	3.21E+00	YES	1.17E+00	N/A
MW371	Upgradient	Yes	5.23E+00	YES	1.65E+00	N/A
MW374	Upgradient	Yes	3.52E+00	YES	1.26E+00	N/A
MW375	Sidegradient	Yes	2.57E+00	NO	9.44E-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

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

MW359
MW362
MW365
MW368
MW371
MW374

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Dissolved Solids

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= 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= 6.308 S= 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	
Date Collected	Result	LN(Result)
10/8/2002	1.14E+03	7.04E+00
1/7/2003	1.10E+03	7.00E+00
4/2/2003	8.63E+02	6.76E+00
7/9/2003	6.82E+02	6.53E+00
10/7/2003	5.89E+02	6.38E+00
1/6/2004	6.03E+02	6.40E+00
4/7/2004	6.01E+02	6.40E+00
7/14/2004	5.82E+02	6.37E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	1.26E+02	NO	4.84E+00	N/A
MW362	Downgradient	Yes	4.38E+02	NO	6.08E+00	N/A
MW365	Downgradient	Yes	2.35E+02	NO	5.46E+00	N/A
MW368	Downgradient	Yes	2.92E+02	NO	5.68E+00	N/A
MW371	Upgradient	Yes	3.34E+02	NO	5.81E+00	N/A
MW374	Upgradient	Yes	3.38E+02	NO	5.82E+00	N/A
MW375	Sidegradient	Yes	1.49E+02	NO	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

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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Date Collected	Result	LN(Result)
10/8/2002	2.30E+01	3.14E+00
1/7/2003	1.39E+01	2.63E+00
4/2/2003	1.40E+01	2.64E+00
7/9/2003	1.42E+01	2.65E+00
10/7/2003	7.92E+00	2.07E+00
1/6/2004	7.86E+00	2.06E+00
4/7/2004	4.82E+00	1.57E+00
7/14/2004	4.87E+00	1.58E+00

Dry/Partially Dry Wells

Well No. Gradient

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)
MW359	Downgradient	Yes	9.63E-02	NO	-2.34E+00	N/A
MW362	Downgradient	Yes	3.42E+00	NO	1.23E+00	N/A
MW365	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW368	Downgradient	Yes	2.11E-01	NO	-1.56E+00	N/A
MW371	Upgradient	Yes	8.27E-02	NO	-2.49E+00	N/A
MW374	Upgradient	Yes	2.21E-01	NO	-1.51E+00	N/A
MW375	Sidegradient	No	1.00E-01	N/A	-2.30E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Magnesium

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= 11.347 S= 3.019 CV(1)=0.266 K factor**= 2.523 TL(1)= 1.90E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 2.401 S= 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	
Date Collected	Result	LN(Result)
10/8/2002	2.00E+01	3.00E+00
1/7/2003	1.61E+01	2.78E+00
4/2/2003	1.31E+01	2.57E+00
7/9/2003	1.03E+01	2.33E+00
10/7/2003	1.11E+01	2.41E+00
1/6/2004	1.10E+01	2.40E+00
4/7/2004	9.69E+00	2.27E+00
7/14/2004	8.49E+00	2.14E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	2.86E+00	NO	1.05E+00	N/A
MW362	Downgradient	Yes	8.43E+00	NO	2.13E+00	N/A
MW365	Downgradient	Yes	9.48E+00	NO	2.25E+00	N/A
MW368	Downgradient	Yes	1.13E+01	NO	2.42E+00	N/A
MW371	Upgradient	Yes	1.81E+01	NO	2.90E+00	N/A
MW374	Upgradient	Yes	6.17E+00	NO	1.82E+00	N/A
MW375	Sidegradient	Yes	5.44E+00	NO	1.69E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Manganese

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= 0.248 S= 0.222 CV(1)=0.894 K factor**= 2.523 TL(1)= 8.09E-01 LL(1)=N/A

Statistics-Transformed Background Data X= -1.873 S= 1.068 CV(2)=-0.570 K factor**= 2.523 TL(2)= 8.21E-01 LL(2)=N/A

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

Date Collected	Result	LN(Result)
10/8/2002	5.96E-01	-5.18E-01
1/7/2003	5.65E-01	-5.71E-01
4/2/2003	6.75E-01	-3.93E-01
7/9/2003	3.97E-01	-9.24E-01
10/7/2003	3.12E-01	-1.16E+00
1/6/2004	2.99E-01	-1.21E+00
4/7/2004	3.29E-01	-1.11E+00
7/14/2004	3.42E-01	-1.07E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	1.25E-03	NO	-6.68E+00	N/A
MW362	Downgradient	Yes	6.10E-02	NO	-2.80E+00	N/A
MW365	Downgradient	Yes	6.59E-03	NO	-5.02E+00	N/A
MW368	Downgradient	Yes	6.82E-03	NO	-4.99E+00	N/A
MW371	Upgradient	Yes	1.04E-02	NO	-4.57E+00	N/A
MW374	Upgradient	Yes	7.87E-02	NO	-2.54E+00	N/A
MW375	Sidegradient	Yes	3.14E-03	NO	-5.76E+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.

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, $S = \left[\frac{\text{Sum} \left(\left[(\text{background result} - X)^2 \right] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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.

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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 Background Data X= -6.108 S= 1.239 CV(2)=-0.203 K factor**= 2.523 TL(2)= -2.98E+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	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

Date Collected	Result	LN(Result)
10/8/2002	2.22E-03	-6.11E+00
1/7/2003	2.01E-03	-6.21E+00
4/2/2003	1.59E-03	-6.44E+00
7/9/2003	2.42E-03	-6.02E+00
10/7/2003	1.00E-03	-6.91E+00
1/6/2004	1.00E-03	-6.91E+00
4/7/2004	1.00E-03	-6.91E+00
7/14/2004	1.00E-03	-6.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW362	Downgradient	Yes	1.07E-03	N/A	-6.84E+00	NO
MW365	Downgradient	Yes	2.36E-04	N/A	-8.35E+00	NO
MW368	Downgradient	Yes	6.69E-04	N/A	-7.31E+00	NO
MW371	Upgradient	Yes	4.35E-04	N/A	-7.74E+00	NO
MW374	Upgradient	Yes	2.34E-04	N/A	-8.36E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Nickel

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= 0.023 S= 0.022 CV(1)=0.980 K factor**= 2.523 TL(1)= 7.82E-02 LL(1)=N/A

Statistics-Transformed Background Data X= -4.349 S= 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

Date Collected	Result	LN(Result)
10/8/2002	5.00E-02	-3.00E+00
1/7/2003	5.00E-02	-3.00E+00
4/2/2003	5.00E-02	-3.00E+00
7/9/2003	7.94E-03	-4.84E+00
10/7/2003	5.00E-03	-5.30E+00
1/6/2004	5.00E-03	-5.30E+00
4/7/2004	5.00E-03	-5.30E+00
7/14/2004	5.00E-03	-5.30E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	9.83E-04	NO	-6.92E+00	N/A
MW362	Downgradient	Yes	3.85E-03	NO	-5.56E+00	N/A
MW365	Downgradient	Yes	4.85E-03	NO	-5.33E+00	N/A
MW368	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW371	Upgradient	Yes	1.34E-03	NO	-6.62E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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Oxidation-Reduction Potential UNITS: mV 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= 22.281 S= 78.889 CV(1)=3.541 K factor**= 2.523 TL(1)= 2.21E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 3.642 S= 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

Date Collected	Result	LN(Result)
3/18/2002	1.35E+02	4.91E+00
4/2/2003	-5.60E+01	#Func!
7/9/2003	-6.80E+01	#Func!
10/7/2003	-5.00E+01	#Func!
1/6/2004	-8.50E+01	#Func!
4/7/2004	6.00E+00	1.79E+00
7/14/2004	-3.80E+01	#Func!
10/7/2004	1.00E+00	0.00E+00

Dry/Partially Dry Wells

Well No. Gradient

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)
MW359	Downgradient	Yes	4.86E+02	N/A	6.19E+00	YES
MW362	Downgradient	Yes	4.40E+02	N/A	6.09E+00	YES
MW365	Downgradient	Yes	4.58E+02	N/A	6.13E+00	YES
MW368	Downgradient	Yes	3.00E+02	N/A	5.70E+00	YES
MW371	Upgradient	Yes	5.15E+02	N/A	6.24E+00	YES
MW374	Upgradient	Yes	3.82E+02	N/A	5.95E+00	YES
MW375	Sidegradient	Yes	4.28E+02	N/A	6.06E+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

MW359
MW362
MW365
MW368
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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Potassium

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= 1.262 S= 0.907 CV(1)=0.718 K factor**= 2.523 TL(1)= 3.55E+00 LL(1)=N/A

Statistics-Transformed Background Data X= -0.023 S= 0.752 CV(2)=-32.218 K factor**= 2.523 TL(2)= 1.87E+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	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

Date Collected	Result	LN(Result)
10/8/2002	3.04E+00	1.11E+00
1/7/2003	2.83E+00	1.04E+00
4/2/2003	2.00E+00	6.93E-01
7/9/2003	1.09E+00	8.62E-02
10/7/2003	8.02E-01	-2.21E-01
1/6/2004	8.97E-01	-1.09E-01
4/7/2004	6.89E-01	-3.73E-01
7/14/2004	7.16E-01	-3.34E-01

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	1.05E-01	NO	-2.25E+00	N/A
MW362	Downgradient	Yes	6.39E-01	NO	-4.48E-01	N/A
MW365	Downgradient	Yes	2.60E-01	NO	-1.35E+00	N/A
MW368	Downgradient	Yes	4.66E-01	NO	-7.64E-01	N/A
MW371	Upgradient	Yes	3.76E-01	NO	-9.78E-01	N/A
MW374	Upgradient	Yes	4.98E-01	NO	-6.97E-01	N/A
MW375	Sidegradient	Yes	2.63E-01	NO	-1.34E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Sodium

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= 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= 5.146 S= 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

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

Date Collected	Result	LN(Result)
10/8/2002	3.36E+02	5.82E+00
1/7/2003	3.29E+02	5.80E+00
4/2/2003	2.87E+02	5.66E+00
7/9/2003	1.81E+02	5.20E+00
10/7/2003	1.82E+02	5.20E+00
1/6/2004	2.06E+02	5.33E+00
4/7/2004	1.82E+02	5.20E+00
7/14/2004	1.98E+02	5.29E+00

Dry/Partially Dry Wells

Well No. Gradient

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)
MW359	Downgradient	Yes	3.15E+01	NO	3.45E+00	N/A
MW362	Downgradient	Yes	1.25E+02	NO	4.83E+00	N/A
MW365	Downgradient	Yes	5.13E+01	NO	3.94E+00	N/A
MW368	Downgradient	Yes	6.92E+01	NO	4.24E+00	N/A
MW371	Upgradient	Yes	7.97E+01	NO	4.38E+00	N/A
MW374	Upgradient	Yes	1.20E+02	NO	4.79E+00	N/A
MW375	Sidegradient	Yes	5.10E+01	NO	3.93E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 Background Data X= 1.794 S= 0.357 CV(2)=0.199 K factor**= 2.523 TL(2)= 2.69E+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	1.63E+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	
Date Collected	Result	LN(Result)
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	5.60E+00	1.72E+00
10/7/2003	5.00E+00	1.61E+00
1/6/2004	5.00E+00	1.61E+00
4/7/2004	1.13E+01	2.42E+00
7/14/2004	5.00E+00	1.61E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	3.64E+01	YES	3.59E+00	N/A
MW362	Downgradient	Yes	3.05E+01	YES	3.42E+00	N/A
MW365	Downgradient	Yes	4.92E+01	YES	3.90E+00	N/A
MW368	Downgradient	Yes	9.38E+01	YES	4.54E+00	N/A
MW371	Upgradient	Yes	1.08E+01	NO	2.38E+00	N/A
MW374	Upgradient	Yes	1.58E+01	YES	2.76E+00	N/A
MW375	Sidegradient	Yes	2.20E+01	YES	3.09E+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

MW359
MW362
MW365
MW368
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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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 2025 Statistical Analysis**Historical Background Comparison****Thorium-230****UNITS: pCi/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= 0.141 S= 0.175 CV(1)=1.246 K factor**= 2.523 TL(1)= 5.84E-01 LL(1)=N/A

Statistics-Transformed Background Data X= -2.364 S= 1.204 CV(2)=-0.509 K factor**= 2.523 TL(2)= -4.81E-01 LL(2)=N/A

**Historical Background Data from
Upgradient Wells with Transformed Result**

Well Number: MW371

Date Collected	Result	LN(Result)
10/7/2004	6.18E-01	-4.81E-01
1/12/2005	2.21E-01	-1.51E+00
4/7/2005	1.27E-01	-2.06E+00
7/25/2005	1.38E-01	-1.98E+00
10/12/2005	7.92E-02	-2.54E+00
1/4/2006	2.48E-02	-3.70E+00
4/5/2006	4.11E-02	-3.19E+00
7/6/2006	1.14E-01	-2.17E+00

Well Number: MW374

Date Collected	Result	LN(Result)
10/7/2004	1.87E-01	-1.68E+00
1/11/2005	4.11E-01	-8.89E-01
4/13/2005	2.48E-02	-3.70E+00
7/26/2005	-2.16E-02	#Func!
10/11/2005	2.89E-01	-1.24E+00
1/5/2006	3.66E-02	-3.31E+00
4/6/2006	9.54E-03	-4.65E+00
7/10/2006	-4.54E-02	#Func!

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	2.96E+00	N/A	1.09E+00	YES
MW362	Downgradient	No	1.27E+00	N/A	2.39E-01	N/A
MW365	Downgradient	No	7.55E-01	N/A	-2.81E-01	N/A
MW368	Downgradient	No	1.05E+00	N/A	4.88E-02	N/A
MW371	Upgradient	No	-2.62E-01	N/A	#Error	N/A
MW374	Upgradient	No	4.10E-01	N/A	-8.92E-01	N/A
MW375	Sidegradient	No	1.07E-01	N/A	-2.23E+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

MW359

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, $S = \left[\frac{\sum [(background\ result - X)^2]}{[count\ of\ background\ results - 1]} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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 2025 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

Date Collected	Result	LN(Result)
10/8/2002	9.00E+01	4.50E+00
1/7/2003	6.40E+01	4.16E+00
4/2/2003	2.50E+01	3.22E+00
7/9/2003	1.60E+01	2.77E+00
10/7/2003	1.30E+01	2.56E+00
1/6/2004	1.00E+01	2.30E+00
4/7/2004	7.20E+00	1.97E+00
7/14/2004	1.20E+01	2.48E+00

Dry/Partially Dry Wells

Well No. Gradient

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)
MW359	Downgradient	Yes	4.59E-01	N/A	-7.79E-01	NO
MW362	Downgradient	Yes	1.99E+00	N/A	6.88E-01	NO
MW365	Downgradient	Yes	1.31E+00	N/A	2.70E-01	NO
MW368	Downgradient	Yes	9.03E-01	N/A	-1.02E-01	NO
MW371	Upgradient	Yes	1.48E+00	N/A	3.92E-01	NO
MW374	Upgradient	Yes	2.04E+00	N/A	7.13E-01	NO
MW375	Sidegradient	Yes	6.06E-01	N/A	-5.01E-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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Total Organic Halides (TOX)

UNITS: ug/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= 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= 4.867 S= 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	
Date Collected	Result	LN(Result)
10/8/2002	9.03E+02	6.81E+00
1/7/2003	5.39E+02	6.29E+00
4/2/2003	2.95E+02	5.69E+00
7/9/2003	2.72E+02	5.61E+00
10/7/2003	1.97E+02	5.28E+00
1/6/2004	3.30E+02	5.80E+00
4/7/2004	1.83E+02	5.21E+00
7/14/2004	2.25E+02	5.42E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW362	Downgradient	Yes	7.46E+00	N/A	2.01E+00	NO
MW365	Downgradient	Yes	2.14E+01	N/A	3.06E+00	NO
MW368	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW371	Upgradient	Yes	3.74E+00	N/A	1.32E+00	NO
MW374	Upgradient	Yes	4.66E+01	N/A	3.84E+00	NO
MW375	Sidegradient	Yes	4.90E+00	N/A	1.59E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

Historical Background Comparison

Vanadium

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= 0.055 S= 0.072 CV(1)=1.319 K factor**= 2.523 TL(1)= 2.37E-01 LL(1)=N/A

Statistics-Transformed Background Data X= -3.438 S= 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	
Date Collected	Result	LN(Result)
10/8/2002	2.00E-01	-1.61E+00
1/7/2003	2.00E-01	-1.61E+00
4/2/2003	2.00E-01	-1.61E+00
7/9/2003	2.00E-02	-3.91E+00
10/7/2003	2.00E-02	-3.91E+00
1/6/2004	2.00E-02	-3.91E+00
4/7/2004	2.00E-02	-3.91E+00
7/14/2004	2.00E-02	-3.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	3.34E-03	N/A	-5.70E+00	NO
MW362	Downgradient	Yes	1.07E-02	N/A	-4.54E+00	NO
MW365	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW368	Downgradient	Yes	4.21E-03	N/A	-5.47E+00	NO
MW371	Upgradient	No	2.00E-02	N/A	-3.91E+00	N/A
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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Zinc

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= 0.060 S= 0.083 CV(1)=1.380 K factor**= 2.523 TL(1)= 2.70E-01 LL(1)=N/A

Statistics-Transformed Background Data X= -3.259 S= 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

Date Collected	Result	LN(Result)
10/8/2002	2.50E-02	-3.69E+00
1/7/2003	3.50E-01	-1.05E+00
4/2/2003	3.50E-02	-3.35E+00
7/9/2003	2.00E-02	-3.91E+00
10/7/2003	2.00E-02	-3.91E+00
1/6/2004	2.00E-02	-3.91E+00
4/7/2004	2.00E-02	-3.91E+00
7/14/2004	2.00E-02	-3.91E+00

Dry/Partially Dry Wells

Well No.	Gradient
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)
MW359	Downgradient	Yes	3.69E-03	N/A	-5.60E+00	NO
MW362	Downgradient	Yes	1.34E-02	N/A	-4.31E+00	NO
MW365	Downgradient	No	2.00E-02	N/A	-3.91E+00	N/A
MW368	Downgradient	Yes	4.11E-03	N/A	-5.49E+00	NO
MW371	Upgradient	Yes	5.01E-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.

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, $S = \sqrt{[\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
1/8/2003	2.00E-01	-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
7/16/2002	1.14E+00	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
10/7/2003	2.00E-01	-1.61E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.29E-02	N/A	-3.41E+00	NO
MW360	Downgradient	Yes	5.78E-02	N/A	-2.85E+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	5.55E-02	N/A	-2.89E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.00E-01	-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
7/16/2002	2.00E+00	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.17E-01	NO	-1.15E+00	N/A
MW360	Downgradient	Yes	1.92E-02	NO	-3.95E+00	N/A
MW363	Downgradient	Yes	1.76E-02	NO	-4.04E+00	N/A
MW366	Downgradient	Yes	8.05E-02	NO	-2.52E+00	N/A
MW369	Upgradient	Yes	1.53E-02	NO	-4.18E+00	N/A
MW372	Upgradient	Yes	1.54E+00	NO	4.32E-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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 Background Data X= 0.000 S= 0.000 CV(2)=#Num! K factor**= 2.523 TL(2)= 0.00E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well Number: MW369

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
7/8/2003	1.00E+00	0.00E+00
10/6/2003	1.00E+00	0.00E+00

Well Number: MW372

Date Collected	Result	LN(Result)
3/19/2002	1.00E+00	0.00E+00
4/23/2002	1.00E+00	0.00E+00
7/16/2002	1.00E+00	0.00E+00
10/8/2002	1.00E+00	0.00E+00
1/7/2003	1.00E+00	0.00E+00
4/2/2003	1.00E+00	0.00E+00
7/9/2003	1.00E+00	0.00E+00
10/7/2003	1.00E+00	0.00E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.48E-01	NO	-1.06E+00	N/A
MW360	Downgradient	Yes	1.60E-01	NO	-1.83E+00	N/A
MW363	Downgradient	No	2.00E-01	N/A	-1.61E+00	N/A
MW366	Downgradient	Yes	4.85E-01	NO	-7.24E-01	N/A
MW369	Upgradient	Yes	3.54E-01	NO	-1.04E+00	N/A
MW372	Upgradient	Yes	4.83E-01	NO	-7.28E-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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 X= 32.763 S= 9.391 CV(1)=0.287 K factor**= 2.523 TL(1)= 5.65E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 3.449 S= 0.299 CV(2)=0.087 K factor**= 2.523 TL(2)= 4.20E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
10/8/2002	2.19E+01	3.09E+00
1/8/2003	2.09E+01	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
7/16/2002	4.04E+01	3.70E+00
10/8/2002	3.88E+01	3.66E+00
1/7/2003	4.11E+01	3.72E+00
4/2/2003	4.29E+01	3.76E+00
7/9/2003	3.51E+01	3.56E+00
10/7/2003	4.66E+01	3.84E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	2.41E+01	NO	3.18E+00	N/A
MW360	Downgradient	Yes	1.86E+01	NO	2.92E+00	N/A
MW363	Downgradient	Yes	2.05E+01	NO	3.02E+00	N/A
MW366	Downgradient	Yes	3.26E+01	NO	3.48E+00	N/A
MW369	Upgradient	Yes	1.62E+01	NO	2.79E+00	N/A
MW372	Upgradient	Yes	6.69E+01	YES	4.20E+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

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

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Chloride UNITS: mg/L URG

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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	4.57E+01	3.82E+00
4/3/2003	4.74E+01	3.86E+00
7/8/2003	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
1/7/2003	3.94E+01	3.67E+00
4/2/2003	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
4/5/2004	4.20E+01	3.74E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	2.91E+01	NO	3.37E+00	N/A
MW360	Downgradient	Yes	5.47E+00	NO	1.70E+00	N/A
MW363	Downgradient	Yes	1.27E+01	NO	2.54E+00	N/A
MW366	Downgradient	Yes	4.12E+01	NO	3.72E+00	N/A
MW369	Upgradient	Yes	2.75E+01	NO	3.31E+00	N/A
MW372	Upgradient	Yes	3.75E+01	NO	3.62E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	5.48E-03	-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
7/16/2002	2.50E-02	-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

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	1.11E-03	NO	-6.80E+00	N/A
MW363	Downgradient	Yes	8.47E-04	NO	-7.07E+00	N/A
MW366	Downgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW369	Upgradient	Yes	4.42E-03	NO	-5.42E+00	N/A
MW372	Upgradient	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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Conductivity UNITS: umho/cm URG

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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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+00
7/15/2002	3.94E+02	5.98E+00
10/8/2002	4.03E+02	6.00E+00
1/8/2003	5.20E+02	6.25E+00
4/3/2003	4.87E+02	6.19E+00
7/8/2003	4.78E+02	6.17E+00
10/6/2003	4.76E+02	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
7/16/2002	5.07E+02	6.23E+00
10/8/2002	4.95E+02	6.20E+00
1/7/2003	5.09E+02	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.88E+02	NO	5.96E+00	N/A
MW360	Downgradient	Yes	4.88E+02	NO	6.19E+00	N/A
MW363	Downgradient	Yes	3.36E+02	NO	5.82E+00	N/A
MW366	Downgradient	Yes	4.84E+02	NO	6.18E+00	N/A
MW369	Upgradient	Yes	3.43E+02	NO	5.84E+00	N/A
MW372	Upgradient	Yes	7.58E+02	YES	6.63E+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

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, $S = \sqrt{[\text{Sum} ([(\text{background result}-X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.00E-02	-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
7/16/2002	5.00E-02	-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
10/7/2003	2.00E-02	-3.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	1.19E-03	NO	-6.73E+00	N/A
MW360	Downgradient	Yes	1.71E-03	NO	-6.37E+00	N/A
MW363	Downgradient	Yes	7.57E-04	NO	-7.19E+00	N/A
MW366	Downgradient	Yes	5.55E-04	NO	-7.50E+00	N/A
MW369	Upgradient	Yes	2.37E-03	NO	-6.04E+00	N/A
MW372	Upgradient	Yes	1.62E-03	NO	-6.43E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 S= 1.351 CV(1)=0.759 K factor**= 2.523 TL(1)= 5.19E+00 LL(1)=N/A

Statistics-Transformed Background Data X= 0.228 S= 1.065 CV(2)=4.665 K factor**= 2.523 TL(2)= 2.92E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.69E+00	9.90E-01
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
1/7/2003	4.00E-01	-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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	5.11E+00	NO	1.63E+00	N/A
MW360	Downgradient	Yes	2.18E+00	NO	7.79E-01	N/A
MW363	Downgradient	Yes	1.01E+00	NO	9.95E-03	N/A
MW366	Downgradient	Yes	3.10E+00	NO	1.13E+00	N/A
MW369	Upgradient	Yes	4.72E+00	NO	1.55E+00	N/A
MW372	Upgradient	Yes	3.71E+00	NO	1.31E+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.

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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.69E+02	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
7/16/2002	3.29E+02	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
10/7/2003	3.37E+02	5.82E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	2.04E+02	NO	5.32E+00	N/A
MW360	Downgradient	Yes	1.93E+02	NO	5.26E+00	N/A
MW363	Downgradient	Yes	2.17E+02	NO	5.38E+00	N/A
MW366	Downgradient	Yes	2.60E+02	NO	5.56E+00	N/A
MW369	Upgradient	Yes	2.05E+02	NO	5.32E+00	N/A
MW372	Upgradient	Yes	4.46E+02	YES	6.10E+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

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 S= 6.991 CV(1)=0.947 K factor**= 2.523 TL(1)= 2.50E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 1.358 S= 1.323 CV(2)=0.974 K factor**= 2.523 TL(2)= 4.70E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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+00
1/8/2003	1.85E+01	2.92E+00
4/3/2003	1.49E+01	2.70E+00
7/8/2003	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
1/7/2003	3.55E+00	1.27E+00
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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	6.54E-02	NO	-2.73E+00	N/A
MW360	Downgradient	Yes	9.36E-02	NO	-2.37E+00	N/A
MW363	Downgradient	Yes	3.46E-02	NO	-3.36E+00	N/A
MW366	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW369	Upgradient	Yes	6.52E-02	NO	-2.73E+00	N/A
MW372	Upgradient	No	1.00E-01	N/A	-2.30E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 Background Data X= 2.517 S= 0.290 CV(2)=0.115 K factor**= 2.523 TL(2)= 3.25E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	7.89E+00	2.07E+00
4/3/2003	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
7/16/2002	1.54E+01	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	1.03E+01	NO	2.33E+00	N/A
MW360	Downgradient	Yes	7.69E+00	NO	2.04E+00	N/A
MW363	Downgradient	Yes	7.88E+00	NO	2.06E+00	N/A
MW366	Downgradient	Yes	1.42E+01	NO	2.65E+00	N/A
MW369	Upgradient	Yes	6.91E+00	NO	1.93E+00	N/A
MW372	Upgradient	Yes	2.43E+01	YES	3.19E+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

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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	8.28E-01	-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
7/16/2002	2.10E-01	-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
10/7/2003	2.54E-01	-1.37E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	9.41E-03	NO	-4.67E+00	N/A
MW360	Downgradient	Yes	1.25E-02	NO	-4.38E+00	N/A
MW363	Downgradient	Yes	1.55E-01	NO	-1.86E+00	N/A
MW366	Downgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW369	Upgradient	Yes	1.41E-03	NO	-6.56E+00	N/A
MW372	Upgradient	Yes	2.15E-03	NO	-6.14E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	5.00E-03	-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
4/23/2002	5.00E-02	-3.00E+00
7/16/2002	5.00E-02	-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
10/7/2003	5.00E-03	-5.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW360	Downgradient	Yes	1.07E-03	NO	-6.84E+00	N/A
MW363	Downgradient	Yes	1.12E-02	NO	-4.49E+00	N/A
MW366	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW369	Upgradient	Yes	3.14E-03	NO	-5.76E+00	N/A
MW372	Upgradient	Yes	6.43E-04	NO	-7.35E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Historical Background Comparison

Oxidation-Reduction Potential UNITS: mV URG

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!
7/8/2003	-6.70E+01	#Func!
10/6/2003	-1.00E+00	#Func!
1/7/2004	5.50E+01	4.01E+00

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!
10/7/2003	1.38E+02	4.93E+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)
MW357	Downgradient	Yes	4.60E+02	N/A	6.13E+00	YES
MW360	Downgradient	Yes	4.17E+02	N/A	6.03E+00	YES
MW363	Downgradient	Yes	4.48E+02	N/A	6.11E+00	YES
MW366	Downgradient	Yes	4.74E+02	N/A	6.16E+00	YES
MW369	Upgradient	Yes	4.63E+02	N/A	6.14E+00	YES
MW372	Upgradient	Yes	4.10E+02	N/A	6.02E+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

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, $S = \sqrt{[\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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PCB, Total

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= 0.390 S= 0.350 CV(1)=0.897 K factor**= 2.523 TL(1)= 1.27E+00 LL(1)=N/A

Statistics-Transformed Background Data X= -1.238 S= 0.737 CV(2)=-0.595 K factor**= 2.523 TL(2)= 6.22E-01 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well Number: MW369

Date Collected	Result	LN(Result)
3/18/2002	1.00E+00	0.00E+00
4/22/2002	1.70E-01	-1.77E+00
7/15/2002	1.70E-01	-1.77E+00
7/8/2003	1.15E+00	1.40E-01
10/6/2003	6.05E-01	-5.03E-01
7/13/2004	4.20E-01	-8.68E-01
7/20/2005	2.80E-01	-1.27E+00
4/4/2006	2.30E-01	-1.47E+00

Well Number: MW372

Date Collected	Result	LN(Result)
3/19/2002	1.00E+00	0.00E+00
4/23/2002	1.70E-01	-1.77E+00
7/16/2002	1.70E-01	-1.77E+00
7/9/2003	1.70E-01	-1.77E+00
10/7/2003	1.70E-01	-1.77E+00
7/14/2004	1.80E-01	-1.71E+00
7/21/2005	1.70E-01	-1.77E+00
4/5/2006	1.80E-01	-1.71E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW360	Downgradient	No	1.02E-01	N/A	-2.28E+00	N/A
MW363	Downgradient	Yes	4.22E-02	NO	-3.17E+00	N/A
MW366	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW369	Upgradient	No	9.43E-02	N/A	-2.36E+00	N/A
MW372	Upgradient	No	1.03E-01	N/A	-2.27E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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Historical Background Comparison

PCB-1242

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= 0.281 S= 0.383 CV(1)=1.361 K factor**= 2.523 TL(1)= 1.25E+00 LL(1)=N/A

Statistics-Transformed Background Data X= -1.835 S= 0.938 CV(2)=-0.511 K factor**= 2.523 TL(2)= 5.32E-01 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

Well Number: MW369

Date Collected	Result	LN(Result)
3/18/2002	1.00E+00	0.00E+00
4/22/2002	1.10E-01	-2.21E+00
7/15/2002	1.10E-01	-2.21E+00
7/8/2003	1.15E+00	1.40E-01
10/6/2003	9.00E-02	-2.41E+00
7/13/2004	1.00E-01	-2.30E+00
7/20/2005	1.00E-01	-2.30E+00
4/4/2006	1.00E-01	-2.30E+00

Well Number: MW372

Date Collected	Result	LN(Result)
3/19/2002	1.00E+00	0.00E+00
4/23/2002	1.10E-01	-2.21E+00
7/16/2002	1.10E-01	-2.21E+00
7/9/2003	1.30E-01	-2.04E+00
10/7/2003	9.00E-02	-2.41E+00
7/14/2004	1.00E-01	-2.30E+00
7/21/2005	1.00E-01	-2.30E+00
4/5/2006	1.00E-01	-2.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW360	Downgradient	No	1.02E-01	N/A	-2.28E+00	N/A
MW363	Downgradient	Yes	4.22E-02	N/A	-3.17E+00	NO
MW366	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW369	Upgradient	No	9.43E-02	N/A	-2.36E+00	N/A
MW372	Upgradient	No	1.03E-01	N/A	-2.27E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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 X= 6.274 S= 0.194 CV(1)=0.031 K factor**= 2.904 TL(1)= 6.84E+00 LL(1)=5.71E+00

Statistics-Transformed Background Data X= 1.836 S= 0.031 CV(2)=0.017 K factor**= 2.904 TL(2)= 1.93E+00 LL(2)=1.75E+00

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well Number: MW369

Date Collected	Result	LN(Result)
3/18/2002	6.10E+00	1.81E+00
4/22/2002	6.10E+00	1.81E+00
7/15/2002	6.10E+00	1.81E+00
10/8/2002	6.50E+00	1.87E+00
1/8/2003	6.50E+00	1.87E+00
4/3/2003	6.60E+00	1.89E+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
7/16/2002	6.10E+00	1.81E+00
10/8/2002	6.06E+00	1.80E+00
1/7/2003	6.26E+00	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)? Result <LL(1)?	LN(Result)	LN(Result) >TL(2)? LN(Result) <LL(2)?
MW357	Downgradient	Yes	6.01E+00	NO	1.79E+00	N/A
MW360	Downgradient	Yes	6.02E+00	NO	1.80E+00	N/A
MW363	Downgradient	Yes	6.02E+00	NO	1.80E+00	N/A
MW366	Downgradient	Yes	5.98E+00	NO	1.79E+00	N/A
MW369	Upgradient	Yes	6.25E+00	NO	1.83E+00	N/A
MW372	Upgradient	Yes	6.27E+00	NO	1.84E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 X= 1.663 S= 0.488 CV(1)=0.293 K factor**= 2.523 TL(1)= 2.89E+00 LL(1)=N/A

Statistics-Transformed Background Data X= 0.456 S= 0.362 CV(2)=0.794 K factor**= 2.523 TL(2)= 1.37E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	7.27E-01	-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
7/16/2002	2.00E+00	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
10/7/2003	1.79E+00	5.82E-01

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	1.64E+00	NO	4.95E-01	N/A
MW360	Downgradient	Yes	7.23E-01	NO	-3.24E-01	N/A
MW363	Downgradient	Yes	1.78E+00	NO	5.77E-01	N/A
MW366	Downgradient	Yes	1.98E+00	NO	6.83E-01	N/A
MW369	Upgradient	Yes	5.76E-01	NO	-5.52E-01	N/A
MW372	Upgradient	Yes	2.27E+00	NO	8.20E-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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	6.79E+01	4.22E+00
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
10/7/2003	4.31E+01	3.76E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.97E+01	NO	3.68E+00	N/A
MW360	Downgradient	Yes	5.85E+01	NO	4.07E+00	N/A
MW363	Downgradient	Yes	3.90E+01	NO	3.66E+00	N/A
MW366	Downgradient	Yes	4.95E+01	NO	3.90E+00	N/A
MW369	Upgradient	Yes	4.77E+01	NO	3.86E+00	N/A
MW372	Upgradient	Yes	5.95E+01	NO	4.09E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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+00
7/15/2002	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
7/16/2002	7.41E+01	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
10/7/2003	8.81E+01	4.48E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.44E+01	NO	3.54E+00	N/A
MW360	Downgradient	Yes	9.74E+00	NO	2.28E+00	N/A
MW363	Downgradient	Yes	3.01E+01	NO	3.40E+00	N/A
MW366	Downgradient	Yes	4.86E+01	NO	3.88E+00	N/A
MW369	Upgradient	Yes	8.48E+00	NO	2.14E+00	N/A
MW372	Upgradient	Yes	1.49E+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

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

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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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.

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Techneium-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
1/8/2003	3.49E+00	1.25E+00
4/3/2003	9.34E+00	2.23E+00
7/8/2003	1.75E+01	2.86E+00
10/6/2003	1.70E+01	2.83E+00

Well Number: MW372

Date Collected	Result	LN(Result)
3/19/2002	4.48E+01	3.80E+00
4/23/2002	8.02E-01	-2.21E-01
7/16/2002	1.98E+01	2.99E+00
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!
10/7/2003	3.69E+01	3.61E+00

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)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.67E+01	NO	3.60E+00	N/A
MW360	Downgradient	No	-2.76E+00	N/A	#Error	N/A
MW363	Downgradient	No	-5.60E+00	N/A	#Error	N/A
MW366	Downgradient	Yes	8.72E+01	YES	4.47E+00	N/A
MW369	Upgradient	Yes	5.27E+01	NO	3.96E+00	N/A
MW372	Upgradient	No	7.82E+00	N/A	2.06E+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

MW366

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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 S= 4.307 CV(1)=1.226 K factor**= 2.523 TL(1)= 1.44E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 0.851 S= 0.828 CV(2)=0.973 K factor**= 2.523 TL(2)= 2.94E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
1/8/2003	9.00E+00	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+00
4/23/2002	1.20E+00	1.82E-01
7/16/2002	1.00E+00	0.00E+00
10/8/2002	1.00E+00	0.00E+00
1/7/2003	1.60E+00	4.70E-01
4/2/2003	1.50E+00	4.05E-01
7/9/2003	3.00E+00	1.10E+00
10/7/2003	1.50E+00	4.05E-01

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	4.20E-01	N/A	-8.68E-01	NO
MW360	Downgradient	Yes	8.07E-01	N/A	-2.14E-01	NO
MW363	Downgradient	Yes	8.42E-01	N/A	-1.72E-01	NO
MW366	Downgradient	Yes	5.41E-01	N/A	-6.14E-01	NO
MW369	Upgradient	Yes	6.57E-01	N/A	-4.20E-01	NO
MW372	Upgradient	Yes	7.72E-01	N/A	-2.59E-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.

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, $S = \left[\frac{\sum [(background\ result - X)^2]}{[count\ of\ background\ results - 1]} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	1.77E+02	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
7/16/2002	5.00E+01	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	5.84E+01	NO	4.07E+00	N/A
MW360	Downgradient	Yes	1.73E+01	NO	2.85E+00	N/A
MW363	Downgradient	Yes	9.98E+00	NO	2.30E+00	N/A
MW366	Downgradient	Yes	4.42E+00	NO	1.49E+00	N/A
MW369	Upgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW372	Upgradient	Yes	2.51E+01	NO	3.22E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.00E-02	-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
4/23/2002	3.70E-02	-3.30E+00
7/16/2002	2.50E-02	-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
10/7/2003	2.00E-02	-3.91E+00

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	5.33E-03	NO	-5.23E+00	N/A
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

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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
1/8/2003	3.50E-02	-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
4/23/2002	1.00E-01	-2.30E+00
7/16/2002	1.00E-01	-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
10/7/2003	2.00E-01	-1.61E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW357	Downgradient	Yes	3.97E-03	N/A	-5.53E+00	NO
MW360	Downgradient	Yes	8.14E-03	N/A	-4.81E+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	Yes	4.23E-03	N/A	-5.47E+00	NO
MW372	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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
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: MW373

Date Collected	Result	LN(Result)
3/18/2002	2.27E+01	3.12E+00
4/23/2002	1.46E+00	3.78E-01
7/16/2002	2.53E-01	-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
10/7/2003	2.00E-01	-1.61E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	No	5.00E-02	N/A	-3.00E+00	N/A
MW361	Downgradient	Yes	3.24E-02	N/A	-3.43E+00	NO
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 - 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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
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: MW373

Date Collected	Result	LN(Result)
3/18/2002	2.00E+00	6.93E-01
4/23/2002	2.00E+00	6.93E-01
7/16/2002	2.00E+00	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.16E-01	NO	-1.15E+00	N/A
MW361	Downgradient	Yes	1.84E-01	NO	-1.69E+00	N/A
MW364	Downgradient	Yes	1.88E-01	NO	-1.67E+00	N/A
MW367	Downgradient	Yes	2.21E-02	NO	-3.81E+00	N/A
MW370	Upgradient	Yes	8.26E-02	NO	-2.49E+00	N/A
MW373	Upgradient	Yes	2.47E+00	NO	9.04E-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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 Background Data X= 0.000 S= 0.000 CV(2)=#Num! K factor**= 2.523 TL(2)= 0.00E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well Number: MW370

Date Collected	Result	LN(Result)
3/17/2002	1.00E+00	0.00E+00
4/23/2002	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: MW373

Date Collected	Result	LN(Result)
3/18/2002	1.00E+00	0.00E+00
4/23/2002	1.00E+00	0.00E+00
7/16/2002	1.00E+00	0.00E+00
10/8/2002	1.00E+00	0.00E+00
1/7/2003	1.00E+00	0.00E+00
4/2/2003	1.00E+00	0.00E+00
7/9/2003	1.00E+00	0.00E+00
10/7/2003	1.00E+00	0.00E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	4.12E-01	NO	-8.87E-01	N/A
MW361	Downgradient	Yes	4.69E-01	NO	-7.57E-01	N/A
MW364	Downgradient	Yes	4.66E-01	NO	-7.64E-01	N/A
MW367	Downgradient	Yes	2.17E-01	NO	-1.53E+00	N/A
MW370	Upgradient	Yes	5.51E-01	NO	-5.96E-01	N/A
MW373	Upgradient	Yes	4.48E-01	NO	-8.03E-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.

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, $S = \left[\frac{\text{Sum} \left(\left[(\text{background result} - X)^2 \right] / [\text{count of background results} - 1] \right) \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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+00
7/15/2002	3.32E+01	3.50E+00
10/8/2002	2.92E+01	3.37E+00
1/8/2003	3.13E+01	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
7/16/2002	4.76E+01	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+00
7/9/2003	5.27E+01	3.96E+00
10/7/2003	6.49E+01	4.17E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.12E+01	NO	3.44E+00	N/A
MW361	Downgradient	Yes	3.29E+01	NO	3.49E+00	N/A
MW364	Downgradient	Yes	3.24E+01	NO	3.48E+00	N/A
MW367	Downgradient	Yes	1.55E+01	NO	2.74E+00	N/A
MW370	Upgradient	Yes	2.92E+01	NO	3.37E+00	N/A
MW373	Upgradient	Yes	9.10E+01	YES	4.51E+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

MW373

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 X= 45.919 S= 7.524 CV(1)=0.164 K factor**= 2.523 TL(1)= 6.49E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 3.814 S= 0.165 CV(2)=0.043 K factor**= 2.523 TL(2)= 4.23E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	5.29E+01	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
1/7/2003	3.90E+01	3.66E+00
4/2/2003	3.84E+01	3.65E+00
7/9/2003	3.81E+01	3.64E+00
10/7/2003	3.80E+01	3.64E+00
1/6/2004	3.79E+01	3.63E+00
4/7/2004	3.88E+01	3.66E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.36E+01	NO	3.51E+00	N/A
MW361	Downgradient	Yes	3.68E+01	NO	3.61E+00	N/A
MW364	Downgradient	Yes	3.64E+01	NO	3.59E+00	N/A
MW367	Downgradient	Yes	1.50E+01	NO	2.71E+00	N/A
MW370	Upgradient	Yes	4.15E+01	NO	3.73E+00	N/A
MW373	Upgradient	Yes	3.05E+01	NO	3.42E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
1/8/2003	1.05E-02	-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
7/16/2002	2.50E-02	-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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	9.95E-03	N/A	-4.61E+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	6.32E-03	N/A	-5.06E+00	NO
MW370	Upgradient	No	1.00E-03	N/A	-6.91E+00	N/A
MW373	Upgradient	Yes	8.77E-04	N/A	-7.04E+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.

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, $S = \sqrt{[\text{Sum} ((\text{background result}-X)^2)/(\text{count of background results} - 1)]}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	4.86E+02	6.19E+00
4/3/2003	4.66E+02	6.14E+00
7/9/2003	4.79E+02	6.17E+00
10/6/2003	4.35E+02	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
7/16/2002	7.74E+02	6.65E+00
10/8/2002	6.80E+02	6.52E+00
1/7/2003	6.87E+02	6.53E+00
4/2/2003	7.63E+02	6.64E+00
7/9/2003	8.28E+02	6.72E+00
10/7/2003	8.14E+02	6.70E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	4.37E+02	NO	6.08E+00	N/A
MW361	Downgradient	Yes	4.86E+02	NO	6.19E+00	N/A
MW364	Downgradient	Yes	4.65E+02	NO	6.14E+00	N/A
MW367	Downgradient	Yes	2.72E+02	NO	5.61E+00	N/A
MW370	Upgradient	Yes	4.16E+02	NO	6.03E+00	N/A
MW373	Upgradient	Yes	9.45E+02	NO	6.85E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 S= 0.010 CV(1)=0.399 K factor**= 2.523 TL(1)= 5.03E-02 LL(1)=N/A

Statistics-Transformed Background Data X= -3.739 S= 0.308 CV(2)=-0.082 K factor**= 2.523 TL(2)= -2.96E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
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: MW373

Date Collected	Result	LN(Result)
3/18/2002	2.60E-02	-3.65E+00
4/23/2002	2.50E-02	-3.69E+00
7/16/2002	5.00E-02	-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
10/7/2003	2.00E-02	-3.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	7.82E-04	NO	-7.15E+00	N/A
MW361	Downgradient	Yes	1.49E-03	NO	-6.51E+00	N/A
MW364	Downgradient	Yes	7.66E-04	NO	-7.17E+00	N/A
MW367	Downgradient	Yes	4.68E-04	NO	-7.67E+00	N/A
MW370	Upgradient	Yes	3.60E-03	NO	-5.63E+00	N/A
MW373	Upgradient	Yes	3.26E-03	NO	-5.73E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	3.08E+00	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
7/16/2002	2.30E-01	-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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	7.30E-01	NO	-3.15E-01	N/A
MW361	Downgradient	Yes	3.61E+00	NO	1.28E+00	N/A
MW364	Downgradient	Yes	5.85E+00	YES	1.77E+00	N/A
MW367	Downgradient	Yes	9.40E-01	NO	-6.19E-02	N/A
MW370	Upgradient	Yes	6.23E+00	YES	1.83E+00	N/A
MW373	Upgradient	Yes	2.08E+00	NO	7.32E-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

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

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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.82E+02	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
7/16/2002	4.64E+02	6.14E+00
10/8/2002	4.08E+02	6.01E+00
1/7/2003	4.04E+02	6.00E+00
4/2/2003	4.50E+02	6.11E+00
7/9/2003	4.87E+02	6.19E+00
10/7/2003	4.81E+02	6.18E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.33E+02	NO	5.45E+00	N/A
MW361	Downgradient	Yes	2.30E+02	NO	5.44E+00	N/A
MW364	Downgradient	Yes	2.74E+02	NO	5.61E+00	N/A
MW367	Downgradient	Yes	1.19E+02	NO	4.78E+00	N/A
MW370	Upgradient	Yes	2.12E+02	NO	5.36E+00	N/A
MW373	Upgradient	Yes	5.62E+02	NO	6.33E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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 X= 9.230 S= 8.841 CV(1)=0.958 K factor**= 2.523 TL(1)= 3.15E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 1.942 S= 0.713 CV(2)=0.367 K factor**= 2.523 TL(2)= 3.74E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	7.04E+00	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+01	2.37E+00
10/8/2002	3.75E+00	1.32E+00
1/7/2003	3.87E+00	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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.06E+00	NO	1.12E+00	N/A
MW361	Downgradient	Yes	1.62E-01	NO	-1.82E+00	N/A
MW364	Downgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW367	Downgradient	Yes	3.46E+00	NO	1.24E+00	N/A
MW370	Upgradient	No	1.00E-01	N/A	-2.30E+00	N/A
MW373	Upgradient	Yes	5.62E-02	NO	-2.88E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	1.15E+01	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
7/16/2002	1.88E+01	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
10/7/2003	2.69E+01	3.29E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	1.44E+01	NO	2.67E+00	N/A
MW361	Downgradient	Yes	1.44E+01	NO	2.67E+00	N/A
MW364	Downgradient	Yes	1.41E+01	NO	2.65E+00	N/A
MW367	Downgradient	Yes	8.49E+00	NO	2.14E+00	N/A
MW370	Upgradient	Yes	1.29E+01	NO	2.56E+00	N/A
MW373	Upgradient	Yes	3.39E+01	YES	3.52E+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

MW373

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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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.

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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 Background Data X= -0.114 S= 0.658 CV(2)=-5.762 K factor**= 2.523 TL(2)= 1.55E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	7.29E-01	-3.16E-01
4/3/2003	6.37E-01	-4.51E-01
7/9/2003	2.51E+00	9.20E-01
10/6/2003	1.05E+00	4.88E-02

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
7/16/2002	1.39E+00	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
10/7/2003	5.70E-01	-5.62E-01

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	7.73E-01	NO	-2.57E-01	N/A
MW361	Downgradient	Yes	2.76E-02	NO	-3.59E+00	N/A
MW364	Downgradient	Yes	1.38E-03	NO	-6.59E+00	N/A
MW367	Downgradient	Yes	2.35E-01	NO	-1.45E+00	N/A
MW370	Upgradient	No	5.00E-03	N/A	-5.30E+00	N/A
MW373	Upgradient	Yes	1.36E-01	NO	-2.00E+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.

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, $S = \sqrt{[\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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	1.13E-03	-6.79E+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: MW373

Date Collected	Result	LN(Result)
3/18/2002	2.50E-02	-3.69E+00
4/23/2002	2.50E-02	-3.69E+00
7/16/2002	2.50E-02	-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
10/7/2003	1.00E-03	-6.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.92E-04	N/A	-8.14E+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

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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	5.00E-03	-5.30E+00
4/3/2003	5.00E-03	-5.30E+00
7/9/2003	2.64E-02	-3.63E+00
10/6/2003	9.71E-03	-4.63E+00

Well Number: MW373

Date Collected	Result	LN(Result)
3/18/2002	5.00E-02	-3.00E+00
4/23/2002	5.00E-02	-3.00E+00
7/16/2002	5.00E-02	-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
10/7/2003	5.00E-03	-5.30E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.96E-02	NO	-3.52E+00	N/A
MW361	Downgradient	Yes	6.32E-04	NO	-7.37E+00	N/A
MW364	Downgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW367	Downgradient	Yes	2.09E-03	NO	-6.17E+00	N/A
MW370	Upgradient	No	2.00E-03	N/A	-6.21E+00	N/A
MW373	Upgradient	Yes	2.12E-03	NO	-6.16E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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!
10/6/2003	4.00E+01	3.69E+00
1/7/2004	1.01E+02	4.62E+00
4/7/2004	1.05E+02	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!
10/8/2002	1.00E+01	2.30E+00
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
1/6/2004	5.20E+01	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	2.04E+02	N/A	5.32E+00	YES
MW361	Downgradient	Yes	4.37E+02	N/A	6.08E+00	YES
MW364	Downgradient	Yes	4.38E+02	N/A	6.08E+00	YES
MW367	Downgradient	Yes	2.92E+02	N/A	5.68E+00	YES
MW370	Upgradient	Yes	6.02E+02	N/A	6.40E+00	YES
MW373	Upgradient	Yes	4.28E+02	N/A	6.06E+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

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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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 X= 6.283 S= 0.159 CV(1)=0.025 K factor**= 2.904 TL(1)= 6.74E+00 LL(1)=5.82E+00

Statistics-Transformed Background Data X= 1.837 S= 0.025 CV(2)=0.014 K factor**= 2.904 TL(2)= 1.91E+00 LL(2)=1.76E+00

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well Number: MW370

Date Collected	Result	LN(Result)
3/17/2002	6.30E+00	1.84E+00
4/23/2002	6.40E+00	1.86E+00
7/15/2002	6.30E+00	1.84E+00
10/8/2002	6.30E+00	1.84E+00
1/8/2003	6.40E+00	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
1/7/2003	6.35E+00	1.85E+00
4/2/2003	6.14E+00	1.81E+00
7/9/2003	6.10E+00	1.81E+00
10/7/2003	6.00E+00	1.79E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)? Result <LL(1)?	LN(Result)	LN(Result) >TL(2)? LN(Result) <LL(2)?
MW358	Downgradient	Yes	6.10E+00	NO	1.81E+00	N/A
MW361	Downgradient	Yes	5.92E+00	NO	1.78E+00	N/A
MW364	Downgradient	Yes	5.85E+00	NO	1.77E+00	N/A
MW367	Downgradient	Yes	5.78E+00	YES	1.75E+00	N/A
MW370	Upgradient	Yes	6.28E+00	NO	1.84E+00	N/A
MW373	Upgradient	Yes	6.14E+00	NO	1.81E+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

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

MW367

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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 CV(1)=0.185 K factor**= 2.523 TL(1)= 4.14E+00 LL(1)=N/A

Statistics-Transformed Background Data X= 1.024 S= 0.167 CV(2)=0.163 K factor**= 2.523 TL(2)= 1.45E+00 LL(2)=N/A

Historical Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	2.41E+00	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
7/16/2002	2.93E+00	1.08E+00
10/8/2002	2.30E+00	8.33E-01
1/7/2003	2.45E+00	8.96E-01
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

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.61E+00	NO	9.59E-01	N/A
MW361	Downgradient	Yes	2.39E+00	NO	8.71E-01	N/A
MW364	Downgradient	Yes	1.97E+00	NO	6.78E-01	N/A
MW367	Downgradient	Yes	2.95E+00	NO	1.08E+00	N/A
MW370	Upgradient	Yes	2.47E+00	NO	9.04E-01	N/A
MW373	Upgradient	Yes	3.03E+00	NO	1.11E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	4.46E+01	3.80E+00
4/3/2003	4.19E+01	3.74E+00
7/9/2003	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
7/16/2002	8.77E+01	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
10/7/2003	4.96E+01	3.90E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.53E+01	NO	3.56E+00	N/A
MW361	Downgradient	Yes	4.17E+01	NO	3.73E+00	N/A
MW364	Downgradient	Yes	4.25E+01	NO	3.75E+00	N/A
MW367	Downgradient	Yes	2.15E+01	NO	3.07E+00	N/A
MW370	Upgradient	Yes	4.59E+01	NO	3.83E+00	N/A
MW373	Upgradient	Yes	7.32E+01	NO	4.29E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
1/8/2003	1.44E+01	2.67E+00
4/3/2003	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
7/16/2002	1.09E+02	4.70E+00
10/8/2002	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
10/7/2003	1.93E+02	5.26E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	5.08E+01	N/A	3.93E+00	NO
MW361	Downgradient	Yes	7.73E+01	N/A	4.35E+00	NO
MW364	Downgradient	Yes	6.56E+01	N/A	4.18E+00	NO
MW367	Downgradient	Yes	2.68E+01	N/A	3.29E+00	NO
MW370	Upgradient	Yes	2.03E+01	N/A	3.01E+00	NO
MW373	Upgradient	Yes	2.11E+02	N/A	5.35E+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.

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, $S = \sqrt{[\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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Techneium-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
1/8/2003	-5.12E+00	#Func!
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	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	3.58E+01	N/A	3.58E+00	NO
MW361	Downgradient	Yes	5.44E+01	N/A	4.00E+00	YES
MW364	Downgradient	Yes	5.33E+01	N/A	3.98E+00	YES
MW367	Downgradient	No	1.93E+00	N/A	6.58E-01	N/A
MW370	Upgradient	No	1.10E+01	N/A	2.40E+00	N/A
MW373	Upgradient	No	-6.18E+00	N/A	#Error	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

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is greater than 1, the natural logarithm of background and test well results were calculated utilizing TL(2) for comparison.

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
1/8/2003	3.00E+00	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
7/16/2002	4.90E+01	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
10/7/2003	1.20E+00	1.82E-01

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	7.04E-01	N/A	-3.51E-01	NO
MW361	Downgradient	Yes	4.91E-01	N/A	-7.11E-01	NO
MW364	Downgradient	Yes	4.61E-01	N/A	-7.74E-01	NO
MW367	Downgradient	No	2.00E+00	N/A	6.93E-01	N/A
MW370	Upgradient	Yes	6.36E-01	N/A	-4.53E-01	NO
MW373	Upgradient	Yes	9.53E-01	N/A	-4.81E-02	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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	7.24E+01	4.28E+00
4/3/2003	2.66E+01	3.28E+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
7/16/2002	1.77E+02	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
10/7/2003	1.39E+01	2.63E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	9.30E+01	NO	4.53E+00	N/A
MW361	Downgradient	Yes	4.57E+01	NO	3.82E+00	N/A
MW364	Downgradient	Yes	7.88E+00	NO	2.06E+00	N/A
MW367	Downgradient	No	1.00E+01	N/A	2.30E+00	N/A
MW370	Upgradient	Yes	5.23E+01	NO	3.96E+00	N/A
MW373	Upgradient	Yes	3.57E+01	NO	3.58E+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.

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 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

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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
1/8/2003	3.50E-02	-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
4/23/2002	1.00E-01	-2.30E+00
7/16/2002	1.00E-01	-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
10/7/2003	2.00E-02	-3.91E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	6.64E-03	NO	-5.01E+00	N/A
MW361	Downgradient	Yes	5.49E-03	NO	-5.20E+00	N/A
MW364	Downgradient	Yes	1.85E-02	NO	-3.99E+00	N/A
MW367	Downgradient	Yes	1.04E-02	NO	-4.57E+00	N/A
MW370	Upgradient	Yes	7.61E-03	NO	-4.88E+00	N/A
MW373	Upgradient	Yes	5.84E-03	NO	-5.14E+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.

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, $S = \left[\frac{\text{Sum} \left([(\text{background result} - X)^2] / [\text{count of background results} - 1] \right)}{0.5} \right]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results}) / (\text{count of background results})$

** 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.

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ATTACHMENT D2

**COMPARISON OF CURRENT DATA TO
ONE-SIDED UPPER TOLERANCE INTERVAL TEST
CALCULATED USING
CURRENT BACKGROUND DATA**

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C-746-U First Quarter 2025 Statistical Analysis

Current Background Comparison

Dissolved Oxygen

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 X= 2.334 S= 1.695 CV(1)=0.726 K factor**= 2.523 TL(1)= 6.61E+00 LL(1)=N/A

Statistics-Transformed Background Data X= 0.674 S= 0.572 CV(2)=0.848 K factor**= 2.523 TL(2)= 2.12E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW371

Date Collected	Result	LN(Result)
1/19/2023	1.24E+00	2.15E-01
4/25/2023	7.75E+00	2.05E+00
7/25/2023	3.30E+00	1.19E+00
10/11/2023	1.33E+00	2.85E-01
1/24/2024	1.97E+00	6.78E-01
4/10/2024	3.03E+00	1.11E+00
7/30/2024	4.00E+00	1.39E+00
10/10/2024	1.55E+00	4.38E-01

Well Number: MW374

Date Collected	Result	LN(Result)
1/19/2023	9.00E-01	-1.05E-01
4/25/2023	2.30E+00	8.33E-01
7/25/2023	1.01E+00	9.95E-03
10/11/2023	1.84E+00	6.10E-01
1/25/2024	2.20E+00	7.88E-01
4/10/2024	1.33E+00	2.85E-01
7/30/2024	1.10E+00	9.53E-02
10/10/2024	2.50E+00	9.16E-01

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW359	Downgradient	Yes	5.48E+00	NO	1.70E+00	N/A
MW362	Downgradient	Yes	6.97E+00	YES	1.94E+00	N/A
MW365	Downgradient	Yes	1.04E+01	YES	2.34E+00	N/A
MW368	Downgradient	Yes	3.21E+00	NO	1.17E+00	N/A
MW371	Upgradient	Yes	5.23E+00	NO	1.65E+00	N/A
MW374	Upgradient	Yes	3.52E+00	NO	1.26E+00	N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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

MW362
MW365

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Oxidation-Reduction Potential	Current Background Comparison UNITS: mV
	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 X= 392.000 S= 67.930 CV(1)=0.173 K factor**= 2.523 TL(1)= 5.63E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 5.951 S= 0.230 CV(2)=0.039 K factor**= 2.523 TL(2)= 6.53E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW371

Date Collected	Result	LN(Result)
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
1/24/2024	4.52E+02	6.11E+00
4/10/2024	3.60E+02	5.89E+00
7/30/2024	4.47E+02	6.10E+00
10/10/2024	4.54E+02	6.12E+00

Well Number: MW374

Date Collected	Result	LN(Result)
1/19/2023	1.72E+02	5.15E+00
4/25/2023	4.21E+02	6.04E+00
7/25/2023	3.51E+02	5.86E+00
10/11/2023	3.98E+02	5.99E+00
1/25/2024	4.55E+02	6.12E+00
4/10/2024	3.69E+02	5.91E+00
7/30/2024	4.11E+02	6.02E+00
10/10/2024	4.10E+02	6.02E+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)
MW359	Downgradient	Yes	4.86E+02	NO	6.19E+00	N/A
MW362	Downgradient	Yes	4.40E+02	NO	6.09E+00	N/A
MW365	Downgradient	Yes	4.58E+02	NO	6.13E+00	N/A
MW368	Downgradient	Yes	3.00E+02	NO	5.70E+00	N/A
MW371	Upgradient	Yes	5.15E+02	NO	6.24E+00	N/A
MW374	Upgradient	Yes	3.82E+02	NO	5.95E+00	N/A
MW375	Sidegradient	Yes	4.28E+02	NO	6.06E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

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 X= 17.509 S= 11.534 CV(1)=0.659 K factor**= 2.523 TL(1)= 4.66E+01 LL(1)=N/A

Statistics-Transformed Background Data X= 2.740 S= 0.460 CV(2)=0.168 K factor**= 2.523 TL(2)= 3.90E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW371

Date Collected	Result	LN(Result)
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
1/24/2024	9.84E+00	2.29E+00
4/10/2024	9.92E+00	2.29E+00
7/30/2024	1.04E+01	2.34E+00
10/10/2024	8.19E+00	2.10E+00

Well Number: MW374

Date Collected	Result	LN(Result)
1/19/2023	1.39E+01	2.63E+00
4/25/2023	1.65E+01	2.80E+00
7/25/2023	1.56E+01	2.75E+00
10/11/2023	1.42E+01	2.65E+00
1/25/2024	1.54E+01	2.73E+00
4/10/2024	1.76E+01	2.87E+00
7/30/2024	1.71E+01	2.84E+00
10/10/2024	1.82E+01	2.90E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW359	Downgradient	Yes	3.64E+01	NO	3.59E+00	N/A
MW362	Downgradient	Yes	3.05E+01	NO	3.42E+00	N/A
MW365	Downgradient	Yes	4.92E+01	YES	3.90E+00	N/A
MW368	Downgradient	Yes	9.38E+01	YES	4.54E+00	N/A
MW374	Upgradient	Yes	1.58E+01	NO	2.76E+00	N/A
MW375	Sidegradient	Yes	2.20E+01	NO	3.09E+00	N/A

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

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

MW365

MW368

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, $S = \sqrt{\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis
Thorium-230

Current Background Comparison
UNITS: pCi/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	X= 0.697	S= 0.721	CV(1)=1.035	K factor**= 2.523	TL(1)= 2.52E+00	LL(1)=N/A
Statistics-Transformed Background Data	X= -0.718	S= 1.293	CV(2)=-1.800	K factor**= 2.523	TL(2)= 8.88E-01	LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW371

Date Collected	Result	LN(Result)
1/19/2023	3.81E-01	-9.65E-01
4/25/2023	2.02E+00	7.03E-01
7/25/2023	1.39E+00	3.29E-01
10/11/2023	-7.85E-02	#Func!
1/24/2024	-1.48E-02	#Func!
4/10/2024	1.02E+00	1.98E-02
7/17/2024	1.25E-01	-2.08E+00
10/10/2024	2.99E-01	-1.21E+00

Well Number: MW374

Date Collected	Result	LN(Result)
1/19/2023	3.03E-01	-1.19E+00
4/25/2023	7.01E-01	-3.55E-01
7/25/2023	9.16E-01	-8.77E-02
10/11/2023	2.43E+00	8.88E-01
1/25/2024	6.57E-01	-4.20E-01
4/10/2024	1.43E-02	-4.25E+00
7/17/2024	4.33E-01	-8.37E-01
10/10/2024	5.48E-01	-6.01E-01

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)
MW359	Downgradient	Yes	2.96E+00	N/A	1.09E+00	YES

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

MW359

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, $S = [\text{Sum}([(background\ result-X)^2]/[\text{count of background results}-1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

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 X= 40.056 S= 25.268 CV(1)=0.631 K factor**= 2.523 TL(1)= 1.04E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 3.459 S= 0.730 CV(2)=0.211 K factor**= 2.523 TL(2)= 5.30E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369

Date Collected	Result	LN(Result)
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
1/24/2024	1.64E+01	2.80E+00
4/10/2024	1.49E+01	2.70E+00
7/17/2024	1.51E+01	2.71E+00
10/10/2024	1.55E+01	2.74E+00

Well Number: MW372

Date Collected	Result	LN(Result)
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
1/25/2024	7.14E+01	4.27E+00
4/11/2024	6.53E+01	4.18E+00
7/17/2024	6.59E+01	4.19E+00
10/10/2024	6.45E+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	Upgradient	Yes	6.69E+01	NO	4.20E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis
Conductivity

Current Background Comparison
URGA

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= 554.938	S= 204.851	CV(1)=0.369	K factor**= 2.523	TL(1)= 1.07E+03	LL(1)=N/A
Statistics-Transformed Background Data	X= 6.250	S= 0.388	CV(2)=0.062	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)
1/19/2023	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
1/24/2024	3.41E+02	5.83E+00
4/10/2024	3.47E+02	5.85E+00
7/30/2024	3.36E+02	5.82E+00
10/10/2024	4.08E+02	6.01E+00

Well Number: MW372

Date Collected	Result	LN(Result)
1/19/2023	7.54E+02	6.63E+00
4/25/2023	7.33E+02	6.60E+00
7/25/2023	7.59E+02	6.63E+00
10/11/2023	7.47E+02	6.62E+00
1/25/2024	7.27E+02	6.59E+00
4/11/2024	7.58E+02	6.63E+00
7/30/2024	7.49E+02	6.62E+00
10/10/2024	7.91E+02	6.67E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW372	Upgradient	Yes	7.58E+02	NO	6.63E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result-X)^2]/[\text{count of background results} -1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

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**= 317.063 **S**= 133.481 **CV(1)**=0.421 **K factor****= 2.523 **TL(1)**= 6.54E+02 **LL(1)**=N/A

Statistics-Transformed Background Data **X**= 5.669 **S**= 0.446 **CV(2)**=0.079 **K factor****= 2.523 **TL(2)**= 6.79E+00 **LL(2)**=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369

Date Collected	Result	LN(Result)
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
1/24/2024	1.89E+02	5.24E+00
4/10/2024	1.86E+02	5.23E+00
7/30/2024	2.13E+02	5.36E+00
10/10/2024	1.78E+02	5.18E+00

Well Number: MW372

Date Collected	Result	LN(Result)
1/19/2023	4.28E+02	6.06E+00
4/25/2023	4.28E+02	6.06E+00
7/25/2023	4.23E+02	6.05E+00
10/11/2023	4.47E+02	6.10E+00
1/25/2024	4.38E+02	6.08E+00
4/11/2024	4.59E+02	6.13E+00
7/30/2024	4.96E+02	6.21E+00
10/10/2024	4.42E+02	6.09E+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	Upgradient	Yes	4.46E+02	NO	6.10E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

Current 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 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=** 14.551 **S=** 8.346 **CV(1)=**0.574 **K factor**=** 2.523 **TL(1)=** 3.56E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 2.495 **S=** 0.644 **CV(2)=**0.258 **K factor**=** 2.523 **TL(2)=** 4.12E+00 **LL(2)=**N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369

Date Collected	Result	LN(Result)
1/19/2023	6.56E+00	1.88E+00
4/24/2023	6.87E+00	1.93E+00
7/25/2023	6.17E+00	1.82E+00
10/11/2023	6.42E+00	1.86E+00
1/24/2024	7.13E+00	1.96E+00
4/10/2024	6.41E+00	1.86E+00
7/17/2024	6.22E+00	1.83E+00
10/10/2024	6.34E+00	1.85E+00

Well Number: MW372

Date Collected	Result	LN(Result)
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
1/25/2024	2.51E+01	3.22E+00
4/11/2024	2.25E+01	3.11E+00
7/17/2024	2.26E+01	3.12E+00
10/10/2024	2.24E+01	3.11E+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	Upgradient	Yes	2.43E+01	NO	3.19E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Oxidation-Reduction Potential	Current Background Comparison 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 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= 421.750 S= 51.159 CV(1)=0.121 K factor**= 2.523 TL(1)= 5.51E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 6.037 S= 0.128 CV(2)=0.021 K factor**= 2.523 TL(2)= 6.36E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369

Date Collected	Result	LN(Result)
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
1/24/2024	4.23E+02	6.05E+00
4/10/2024	3.12E+02	5.74E+00
7/30/2024	4.62E+02	6.14E+00
10/10/2024	4.69E+02	6.15E+00

Well Number: MW372

Date Collected	Result	LN(Result)
1/19/2023	4.03E+02	6.00E+00
4/25/2023	4.70E+02	6.15E+00
7/25/2023	3.87E+02	5.96E+00
10/11/2023	3.40E+02	5.83E+00
1/25/2024	4.83E+02	6.18E+00
4/11/2024	3.81E+02	5.94E+00
7/30/2024	4.52E+02	6.11E+00
10/10/2024	4.56E+02	6.12E+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	4.60E+02	NO	6.13E+00	N/A
MW360	Downgradient	Yes	4.17E+02	NO	6.03E+00	N/A
MW363	Downgradient	Yes	4.48E+02	NO	6.11E+00	N/A
MW366	Downgradient	Yes	4.74E+02	NO	6.16E+00	N/A
MW369	Upgradient	Yes	4.63E+02	NO	6.14E+00	N/A
MW372	Upgradient	Yes	4.10E+02	NO	6.02E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

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 X= 77.293 S= 71.719 CV(1)=0.928 K factor**= 2.523 TL(1)= 2.58E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 3.537 S= 1.498 CV(2)=0.424 K factor**= 2.523 TL(2)= 7.32E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369

Date Collected	Result	LN(Result)
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+00
10/11/2023	8.72E+00	2.17E+00
1/24/2024	8.49E+00	2.14E+00
4/10/2024	7.81E+00	2.06E+00
7/30/2024	7.92E+00	2.07E+00
10/10/2024	8.91E+00	2.19E+00

Well Number: MW372

Date Collected	Result	LN(Result)
1/19/2023	1.35E+02	4.91E+00
4/25/2023	1.51E+02	5.02E+00
7/25/2023	1.45E+02	4.98E+00
10/11/2023	1.43E+02	4.96E+00
1/25/2024	1.48E+02	5.00E+00
4/11/2024	1.40E+02	4.94E+00
7/30/2024	1.64E+02	5.10E+00
10/10/2024	1.46E+02	4.98E+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	Upgradient	Yes	1.49E+02	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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis Technetium-99	Current Background Comparison URGA
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= 54.231	S= 24.061	CV(1)=0.444	K factor**= 2.523	TL(1)= 1.15E+02	LL(1)=N/A
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Statistics-Transformed Background Data	X= 3.878	S= 0.529	CV(2)=0.136	K factor**= 2.523	TL(2)= 5.21E+00	LL(2)=N/A
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Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW369

Date Collected	Result	LN(Result)
1/19/2023	6.16E+01	4.12E+00
4/24/2023	3.91E+01	3.67E+00
7/25/2023	5.61E+01	4.03E+00
10/11/2023	7.67E+01	4.34E+00
1/24/2024	6.27E+01	4.14E+00
4/10/2024	7.09E+01	4.26E+00
7/17/2024	4.27E+01	3.75E+00
10/10/2024	8.38E+01	4.43E+00

Well Number: MW372

Date Collected	Result	LN(Result)
1/19/2023	8.54E+01	4.45E+00
4/25/2023	3.63E+01	3.59E+00
7/25/2023	2.00E+01	3.00E+00
10/11/2023	2.25E+01	3.11E+00
1/25/2024	3.89E+01	3.66E+00
4/11/2024	6.15E+01	4.12E+00
7/17/2024	1.75E+01	2.86E+00
10/10/2024	9.20E+01	4.52E+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)
MW366	Downgradient	Yes	8.72E+01	NO	4.47E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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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 X= 53.981 S= 25.821 CV(1)=0.478 K factor**= 2.523 TL(1)= 1.19E+02 LL(1)=N/A

Statistics-Transformed Background Data X= 3.871 S= 0.509 CV(2)=0.132 K factor**= 2.523 TL(2)= 5.16E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW370

Date Collected	Result	LN(Result)
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
1/24/2024	3.00E+01	3.40E+00
4/10/2024	2.84E+01	3.35E+00
7/17/2024	2.90E+01	3.37E+00
10/10/2024	2.85E+01	3.35E+00

Well Number: MW373

Date Collected	Result	LN(Result)
1/19/2023	6.46E+01	4.17E+00
4/25/2023	7.11E+01	4.26E+00
7/25/2023	7.87E+01	4.37E+00
10/11/2023	7.90E+01	4.37E+00
1/25/2024	8.40E+01	4.43E+00
4/10/2024	8.35E+01	4.42E+00
7/17/2024	8.59E+01	4.45E+00
10/10/2024	8.13E+01	4.40E+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)
MW373	Upgradient	Yes	9.10E+01	NO	4.51E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

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= 2.971 S= 1.301 CV(1)=0.438 K factor**= 2.523 TL(1)= 6.25E+00 LL(1)=N/A

Statistics-Transformed Background Data X= 0.984 S= 0.491 CV(2)=0.498 K factor**= 2.523 TL(2)= 2.22E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW370

Date Collected	Result	LN(Result)
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
1/24/2024	4.65E+00	1.54E+00
4/10/2024	3.09E+00	1.13E+00
7/30/2024	4.22E+00	1.44E+00
10/10/2024	4.30E+00	1.46E+00

Well Number: MW373

Date Collected	Result	LN(Result)
1/19/2023	2.11E+00	7.47E-01
4/25/2023	2.00E+00	6.93E-01
7/25/2023	1.69E+00	5.25E-01
10/11/2023	2.00E+00	6.93E-01
1/25/2024	1.30E+00	2.62E-01
4/10/2024	2.61E+00	9.59E-01
7/30/2024	1.14E+00	1.31E-01
10/10/2024	1.52E+00	4.19E-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)
MW364	Downgradient	Yes	5.85E+00	NO	1.77E+00	N/A
MW370	Upgradient	Yes	6.23E+00	NO	1.83E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

Current 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 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=** 20.306 **S=** 8.116 **CV(1)=**0.400 **K factor**=** 2.523 **TL(1)=** 4.08E+01 **LL(1)=**N/A

Statistics-Transformed Background Data **X=** 2.930 **S=** 0.420 **CV(2)=**0.143 **K factor**=** 2.523 **TL(2)=** 3.99E+00 **LL(2)=**N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW370

Date Collected	Result	LN(Result)
1/19/2023	1.28E+01	2.55E+00
4/24/2023	1.32E+01	2.58E+00
7/25/2023	1.21E+01	2.49E+00
10/11/2023	1.21E+01	2.49E+00
1/24/2024	1.35E+01	2.60E+00
4/10/2024	1.23E+01	2.51E+00
7/17/2024	1.21E+01	2.49E+00
10/10/2024	1.21E+01	2.49E+00

Well Number: MW373

Date Collected	Result	LN(Result)
1/19/2023	2.53E+01	3.23E+00
4/25/2023	2.76E+01	3.32E+00
7/25/2023	2.66E+01	3.28E+00
10/11/2023	2.78E+01	3.33E+00
1/25/2024	2.99E+01	3.40E+00
4/10/2024	2.93E+01	3.38E+00
7/17/2024	2.91E+01	3.37E+00
10/10/2024	2.91E+01	3.37E+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)
MW373	Upgradient	Yes	3.39E+01	NO	3.52E+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.

CV Coefficient-of-Variation, $CV = S/X$ If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis
Oxidation-Reduction Potential

Current Background Comparison
LRGA

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 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= 429.125 S= 60.612 CV(1)=0.141 K factor**= 2.523 TL(1)= 5.82E+02 LL(1)=N/A

Statistics-Transformed Background Data

X= 6.052 S= 0.145 CV(2)=0.024 K factor**= 2.523 TL(2)= 6.42E+00 LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Because CV(1) is less than or equal to 1, assume normal distribution and continue with statistical analysis utilizing TL(1).

Well Number: MW370

Date Collected	Result	LN(Result)
1/19/2023	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
1/24/2024	5.30E+02	6.27E+00
4/10/2024	3.45E+02	5.84E+00
7/30/2024	4.64E+02	6.14E+00
10/10/2024	4.96E+02	6.21E+00

Well Number: MW373

Date Collected	Result	LN(Result)
1/19/2023	3.99E+02	5.99E+00
4/25/2023	4.57E+02	6.12E+00
7/25/2023	3.84E+02	5.95E+00
10/11/2023	3.57E+02	5.88E+00
1/25/2024	4.93E+02	6.20E+00
4/10/2024	3.83E+02	5.95E+00
7/30/2024	4.37E+02	6.08E+00
10/10/2024	4.78E+02	6.17E+00

Current Quarter Data

Well No.	Gradient	Detected?	Result	Result >TL(1)?	LN(Result)	LN(Result) >TL(2)
MW358	Downgradient	Yes	2.04E+02	NO	5.32E+00	N/A
MW361	Downgradient	Yes	4.37E+02	NO	6.08E+00	N/A
MW364	Downgradient	Yes	4.38E+02	NO	6.08E+00	N/A
MW367	Downgradient	Yes	2.92E+02	NO	5.68E+00	N/A
MW370	Upgradient	Yes	6.02E+02	YES	6.40E+00	N/A
MW373	Upgradient	Yes	4.28E+02	NO	6.06E+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

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, $S = \sqrt{\text{Sum}([(background\ result-X)^2]/[\text{count of background results}-1])}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis

Current 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 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= 6.065 S= 0.071 CV(1)=0.012 K factor**= 2.904 TL(1)= 6.27E+00 LL(1)=5.86E+00

Statistics-Transformed Background Data X= 1.802 S= 0.012 CV(2)=0.007 K factor**= 2.904 TL(2)= 1.84E+00 LL(2)=1.77E+00

Current Background Data from Upgradient Wells with Transformed Result

Well Number: MW370

Date Collected	Result	LN(Result)
1/19/2023	6.05E+00	1.80E+00
4/24/2023	6.12E+00	1.81E+00
7/25/2023	6.12E+00	1.81E+00
10/11/2023	6.10E+00	1.81E+00
1/24/2024	6.20E+00	1.82E+00
4/10/2024	5.93E+00	1.78E+00
7/30/2024	6.06E+00	1.80E+00
10/10/2024	5.98E+00	1.79E+00

Well Number: MW373

Date Collected	Result	LN(Result)
1/19/2023	6.09E+00	1.81E+00
4/25/2023	6.12E+00	1.81E+00
7/25/2023	6.08E+00	1.81E+00
10/11/2023	6.14E+00	1.81E+00
1/25/2024	6.03E+00	1.80E+00
4/10/2024	6.02E+00	1.80E+00
7/30/2024	6.04E+00	1.80E+00
10/10/2024	5.96E+00	1.79E+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)?	LN(Result)	LN(Result) >TL(2)? LN(Result) <LL(2)?
MW367	Downgradient	Yes	5.78E+00	YES	1.75E+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

MW367

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, $S = [\text{Sum}([(background\ result - X)^2]/[\text{count of background results} - 1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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 2025 Statistical Analysis
Technetium-99

Current Background Comparison
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 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= 13.429	S= 10.720	CV(1)=0.798	K factor**= 2.523	TL(1)= 4.05E+01	LL(1)=N/A
Statistics-Transformed Background Data	X= 2.631	S= 0.676	CV(2)=0.257	K factor**= 2.523	TL(2)= 3.42E+00	LL(2)=N/A

Current Background Data from Upgradient Wells with Transformed Result

Well Number:	MW370	
Date Collected	Result	LN(Result)
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
1/24/2024	1.03E+01	2.33E+00
4/10/2024	2.29E+01	3.13E+00
7/17/2024	-4.19E+00	#Func!
10/10/2024	2.06E+01	3.03E+00

Well Number:	MW373	
Date Collected	Result	LN(Result)
1/19/2023	1.25E+01	2.53E+00
4/25/2023	1.40E+01	2.64E+00
7/25/2023	1.33E+01	2.59E+00
10/11/2023	1.47E+01	2.69E+00
1/25/2024	6.70E+00	1.90E+00
4/10/2024	2.12E+00	7.51E-01
7/17/2024	-8.77E+00	#Func!
10/10/2024	1.28E+01	2.55E+00

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)?	LN(Result)	LN(Result) >TL(2)
MW361	Downgradient	Yes	5.44E+01	YES	4.00E+00	N/A
MW364	Downgradient	Yes	5.33E+01	YES	3.98E+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, $S = [\text{Sum}([(background\ result-X)^2]/[\text{count of background results}-1])]^{0.5}$

TL Upper Tolerance Limit, $TL = X + (K * S)$, LL Lower Tolerance Limit, $LL = X - (K * S)$

X Mean, $X = (\text{sum of background results})/(\text{count of background results})$

** 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.

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ATTACHMENT D3

STATISTICIAN QUALIFICATION STATEMENT

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April 29, 2025

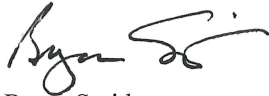
Mr. Dennis Greene
Four Rivers Nuclear Partnership, LLC
5511 Hobbs Road
Kevil, KY 42053

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 2025 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

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APPENDIX E

GROUNDWATER FLOW RATE AND DIRECTION

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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, Section 11. The uppermost aquifer below the C-746-U 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 2025 and determine groundwater flow rate and direction.

Water levels during this reporting period were measured on January 21-22, 2025. As shown on Figure E.1, all UCRS wells had sufficient water to permit water level measurement 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 Landfill, as measured along the defined groundwater flow directions, were 5.35×10^{-4} ft/ft and 5.54×10^{-4} ft/ft, respectively. Water level measurements in wells at the C-746-U 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 Landfill was 3.16×10^{-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_e). The RGA hydraulic conductivity values used are reported in the Administrative Application for the New Solid Waste Landfill Permit No. SW07300045NWC1 and range from 4.25×10^2 to 7.25×10^2 ft/day (1.50×10^{-1} to 2.56×10^{-1} 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 Landfill typically trends northeastward toward the Ohio River. As demonstrated on the potentiometric maps for January 2025, the groundwater flow direction in the immediate area of the landfill was to the north.

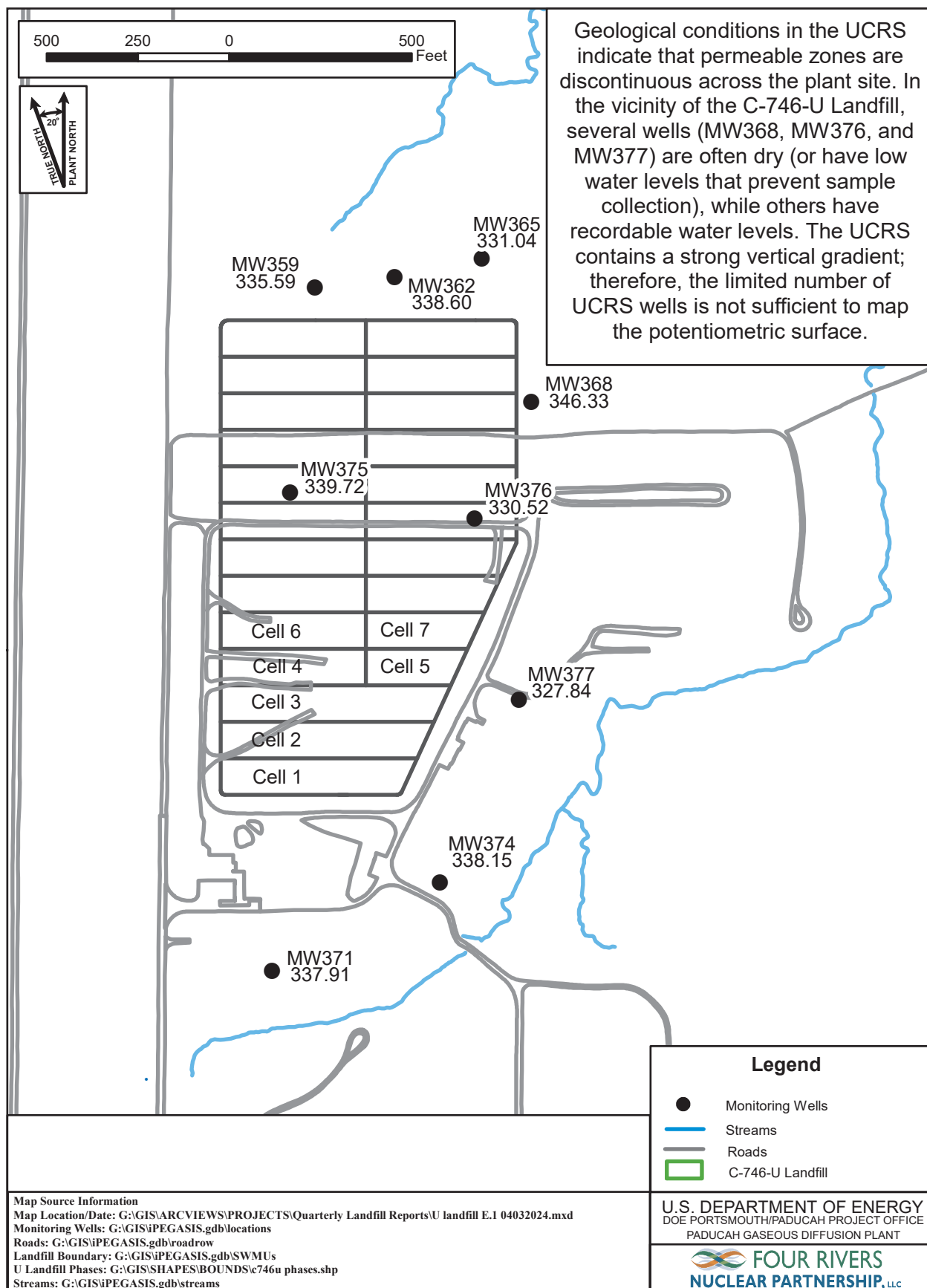


Figure E.1. Potentiometric Measurements of the Upper Continental Recharge System at the C-746-U Landfill, January 21–22, 2025

Table E.1. C-746-U Landfill First Quarter 2025 (January) Water Levels

C-746-U Landfill (January 2025) Water Levels										
Date	Time	Well	Formation	Datum Elev (ft amsl)	BP (in Hg)	Delta BP (ft H2O)	Raw Data		*Corrected Data	
							DTW (ft)	Elev (ft amsl)	DTW (ft)	Elev (ft amsl)
1/21/2025	9:24	MW357	URGA	368.77	30.66	0.00	46.60	322.17	46.60	322.17
1/21/2025	9:22	MW358	LRGA	368.92	30.66	0.00	46.75	322.17	46.75	322.17
1/21/2025	9:23	MW359	UCRS	368.91	30.66	0.00	33.32	335.59	33.32	335.59
1/21/2025	9:48	MW360	URGA	362.07	30.46	0.23	39.64	322.43	39.87	322.20
1/21/2025	9:28	MW361	LRGA	361.32	30.66	0.00	39.22	322.10	39.22	322.10
1/21/2025	9:26	MW362	UCRS	361.85	30.66	0.00	23.25	338.60	23.25	338.60
1/22/2025	9:34	MW363	URGA	368.56	30.66	0.00	46.51	322.05	46.51	322.05
1/21/2025	9:35	MW364	LRGA	368.17	30.66	0.00	46.20	321.97	46.20	321.97
1/21/2025	9:36	MW365	UCRS	368.14	30.66	0.00	37.10	331.04	37.10	331.04
1/21/2025	9:40	MW366	URGA	368.95	30.66	0.00	46.84	322.11	46.84	322.11
1/21/2025	9:41	MW367	LRGA	369.37	30.66	0.00	47.22	322.15	47.22	322.15
1/21/2025	9:39	MW368	UCRS	368.98	30.66	0.00	22.65	346.33	22.65	346.33
1/21/2025	10:04	MW369	URGA	364.23	30.66	0.00	41.23	323.00	41.23	323.00
1/22/2025	10:06	MW370	LRGA	365.12	30.66	0.00	42.12	323.00	42.12	323.00
1/21/2025	10:05	MW371	UCRS	364.64	30.66	0.00	26.73	337.91	26.73	337.91
1/21/2025	9:58	MW372	URGA	359.42	30.66	0.00	36.41	323.01	36.41	323.01
1/21/2025	10:00	MW373	LRGA	359.73	30.66	0.00	36.70	323.03	36.70	323.03
1/21/2025	9:59	MW374	UCRS	359.44	30.66	0.00	21.29	338.15	21.29	338.15
1/21/2025	9:50	MW375	UCRS	370.36	30.66	0.00	30.64	339.72	30.64	339.72
1/21/2025	9:52	MW376	UCRS	370.39	30.66	0.00	39.87	330.52	39.87	330.52
1/21/2025	9:55	MW377	UCRS	365.74	30.66	0.00	37.90	327.84	37.90	327.84
Reference Barometric Pressure			30.66							
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										

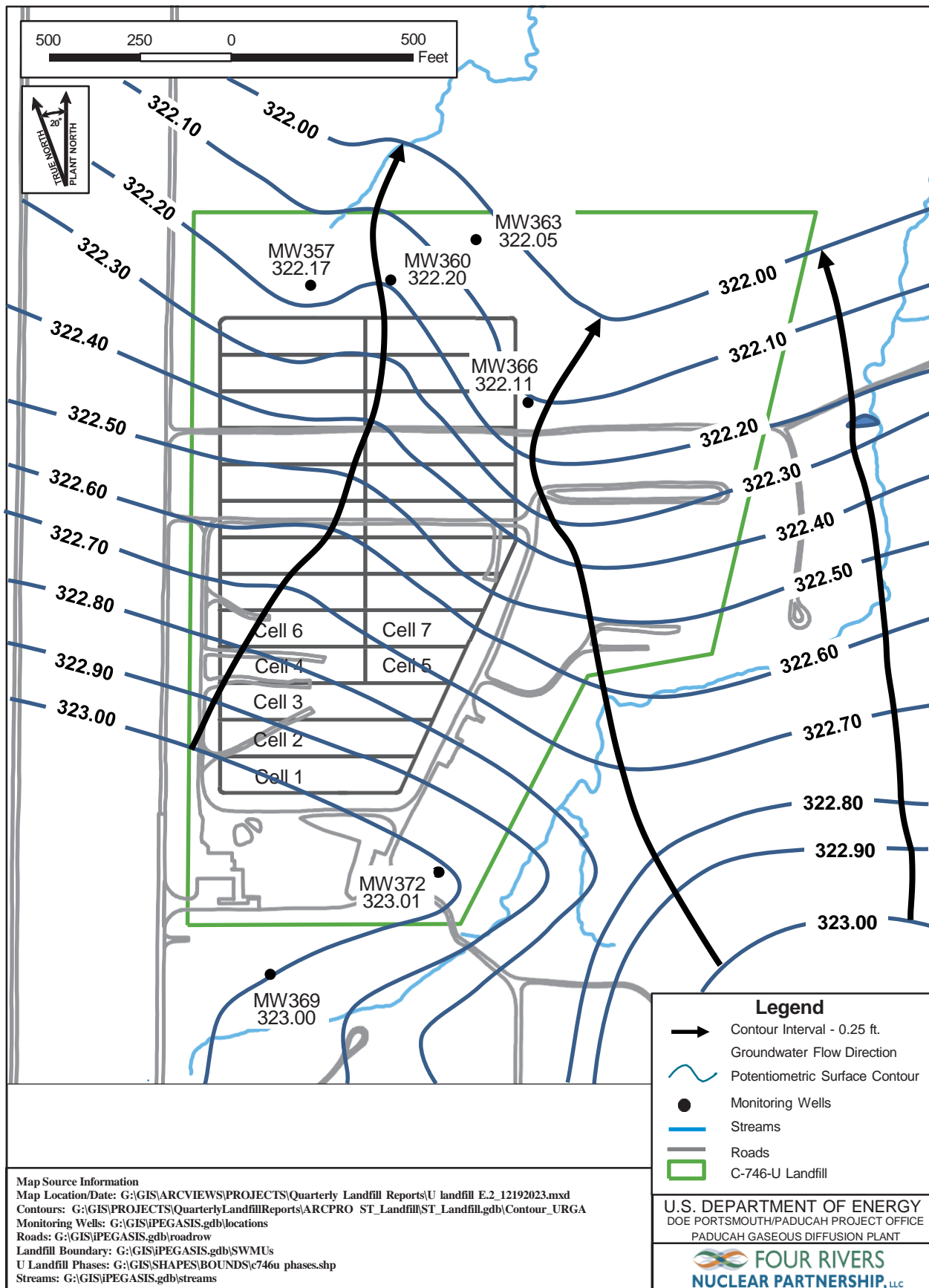


Figure E.2. Potentiometric Surface of the Upper Regional Gravel Aquifer at the C-746-U Landfill, January 21-22, 2025

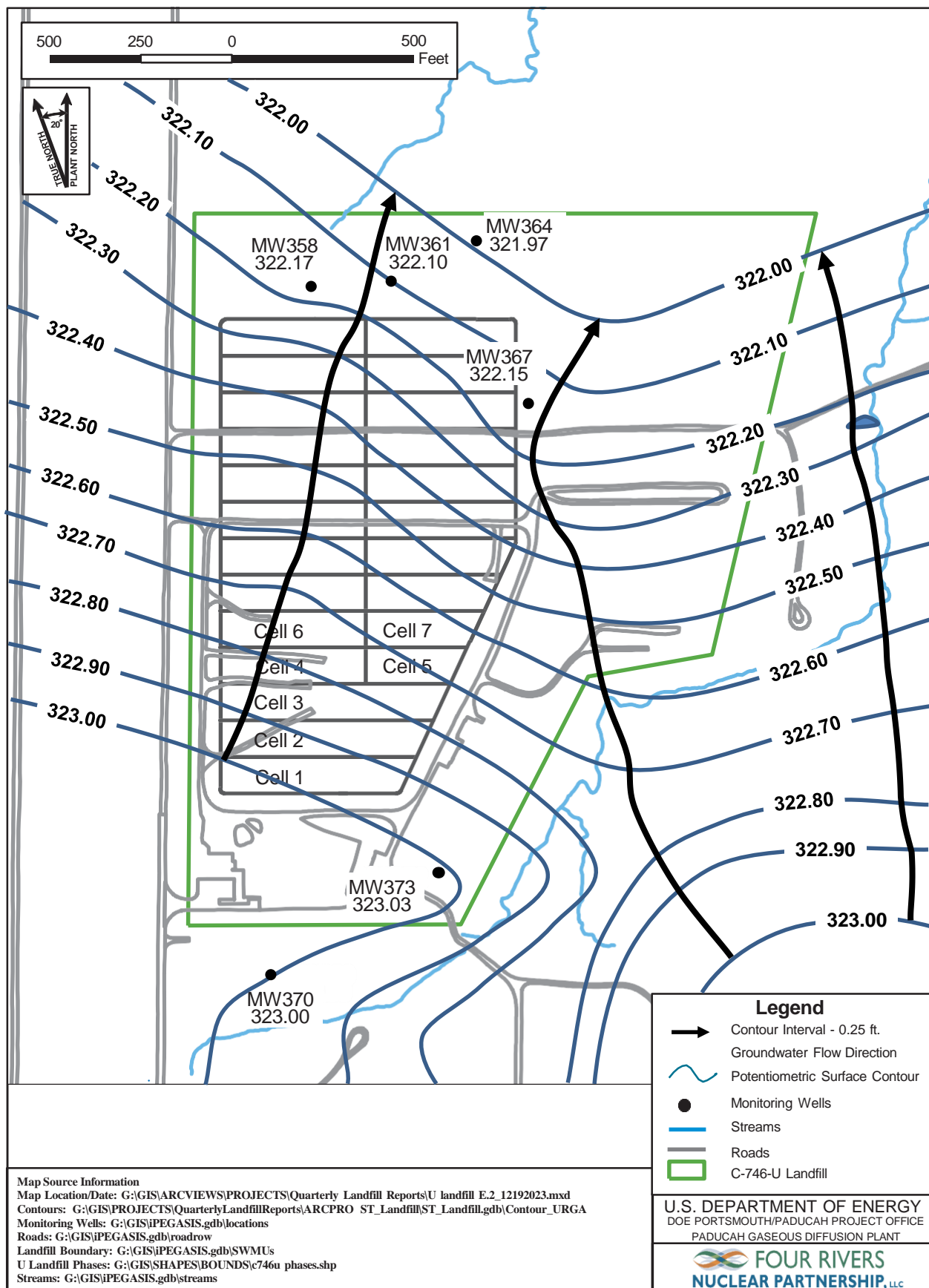


Figure E.3. Potentiometric Surface of the Lower Regional Gravel Aquifer at the C-746-U Landfill, January 21–22, 2025

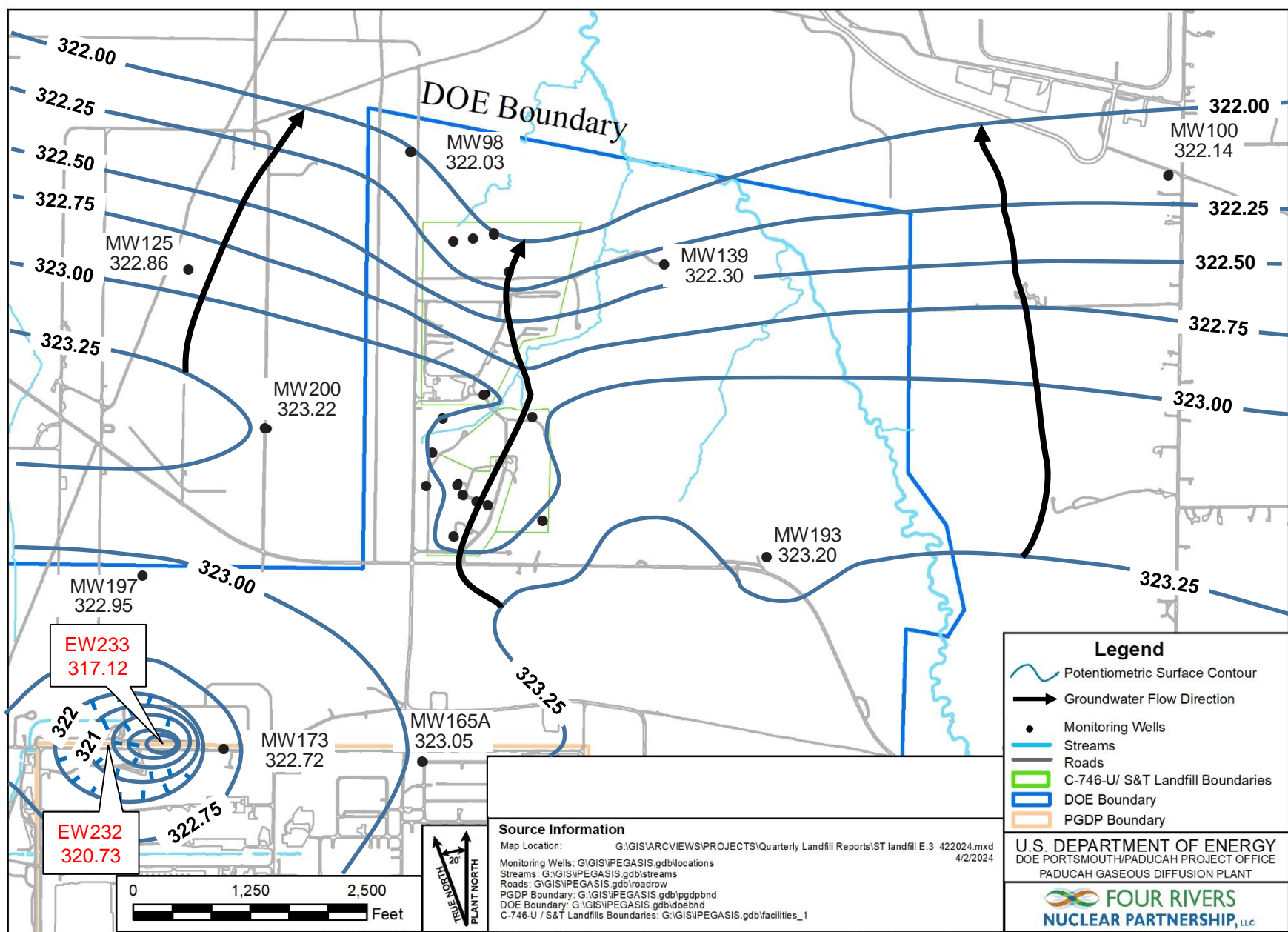


Figure E.4. Vicinity Potentiometric Surface of the Regional Gravel Aquifer, January 21–22, 2025

Table E.2. C-746-U Landfill Hydraulic Gradients

	ft/ft
Beneath Landfill—Upper RGA	5.35×10^{-4}
Beneath Landfill—Lower RGA	5.54×10^{-4}
Vicinity	3.16×10^{-4}

Table E.3. C-746-U Landfill Groundwater Flow Rate

Hydraulic Conductivity (K)		Specific Discharge (q)		Average Linear Velocity (v)	
ft/day	cm/s	ft/day	cm/s	ft/day	cm/s
<u>Upper RGA</u>					
7.25×10^2	2.56×10^{-1}	3.88×10^{-1}	1.37×10^{-4}	1.55	5.47×10^{-4}
4.25×10^2	1.50×10^{-1}	2.27×10^{-1}	8.02×10^{-5}	9.09×10^{-1}	3.21×10^{-4}
<u>Lower RGA</u>					
7.25×10^2	2.56×10^{-1}	4.02×10^{-1}	1.42×10^{-4}	1.61	5.68×10^{-4}
4.25×10^2	1.50×10^{-1}	2.36×10^{-1}	8.31×10^{-5}	9.42×10^{-1}	3.33×10^{-4}
<u>Vicinity</u>					
7.25×10^2	2.56×10^{-1}	2.29×10^{-1}	8.10×10^{-5}	9.17×10^{-1}	3.24×10^{-4}
4.25×10^2	1.50×10^{-1}	1.34×10^{-1}	4.74×10^{-5}	5.38×10^{-1}	1.90×10^{-4}

Table E.4. Regional First Quarter 2025 (January) Water Levels

Regional (January 2025) Water Levels										
Date	Time	Well	Aquifer	Datum Elev (ft amsl)	BP (in Hg)	Delta BP (ft H2O)	Raw Data	*Corrected Data		
							DTW (ft)	Elev (ft amsl)	DTW (ft)	Elev (ft amsl)
1/21/2025	9:30	MW98	RGA	370.55	30.66	0.00	48.52	322.03	48.52	322.03
1/21/2025	12:32	MW100	RGA	373.39	30.65	0.01	51.24	322.15	51.25	322.14
1/21/2025	12:50	MW125	RGA	375.57	30.65	0.01	52.70	322.87	52.71	322.86
1/21/2025	9:43	MW139	RGA	363.75	30.66	0.00	41.45	322.30	41.45	322.30
1/21/2025	14:14	MW165A	RGA	380.94	30.62	0.05	57.84	323.10	57.89	323.05
1/21/2025	14:09	MW173	RGA	373.63	30.62	0.05	50.86	322.77	50.91	322.72
1/21/2025	12:38	MW193	RGA	368.30	30.65	0.01	45.09	323.21	45.10	323.20
1/21/2025	12:57	MW197	RGA	368.39	30.63	0.03	45.41	322.98	45.44	322.95
1/21/2025	12:45	MW200	RGA	378.70	30.65	0.01	55.47	323.23	55.48	323.22
Reference Barometric Pressure			30.66							
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										

APPENDIX F
NOTIFICATIONS

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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 2025 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>	<u>Monitoring Well</u>
Upper Continental Recharge System	Thorium-230	MW359
Upper Regional Gravel Aquifer	Technetium-99	MW366
Lower Regional Gravel Aquifer	Technetium-99	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.

3/4/2025

**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
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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

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Chart of MCL and Historical UTL Exceedances for the C-746-U Contained Landfill

Groundwater Flow System	UCRS								URGA					LRGA							
	D	S	S	S	D	D	U	U	D	D	D	U	U	D	D	D	U	U			
Gradient	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
Monitoring Well																					
ACETONE																					
Quarter 3, 2002										*	*	*									
Quarter 4, 2002										*	*	*									
Quarter 1, 2003										*	*	*									
Quarter 2, 2003										*	*	*									
Quarter 3, 2003	*						*			*	*	*		*			*				
Quarter 4, 2003						*	*			*				*							
Quarter 3, 2004						*										*					
Quarter 3, 2005						*															
Quarter 4, 2005						*															
ALPHA ACTIVITY																					
Quarter 1, 2004																					■
Quarter 2, 2004						■															
Quarter 3, 2009						■															
ALUMINUM																					
Quarter 3, 2003										*											
BETA ACTIVITY																					
Quarter 1, 2004															■						
Quarter 2, 2004															■						■
Quarter 3, 2004															■						
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Quarter 2, 2020															■						■
Quarter 3, 2020																					■
Quarter 4, 2020																					■
BROMIDE																					
Quarter 2, 2004													*								

**Chart of MCL and Historical UTL Exceedances
for the C-746-U Contained Landfill (Continued)**

Groundwater Flow System	UCRS								URGA				LRGA								
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	U	U	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															*						
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CARBON DISULFIDE																					
Quarter 3, 2003										*											
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Quarter 4, 2010													*		*						
Quarter 1, 2011															*						
CHEMICAL OXYGEN DEMAND																					
Quarter 3, 2002										*	*	*	*	*	*						
Quarter 4, 2002										*	*	*	*	*	*						
Quarter 1, 2003										*	*	*	*	*	*						
Quarter 2, 2003										*	*	*	*	*	*						
Quarter 3, 2003	*									*	*	*	*	*	*	*					
Quarter 4, 2003						*				*	*	*	*	*	*						
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Quarter 4, 2005						*				*	*	*	*	*	*		*	*	*		
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Quarter 4, 2024											*	*	*	*	*						
CHLORIDE																					
Quarter 1, 2006																				*	
Quarter 2, 2014															*						
COBALT																					
Quarter 3, 2003	*					*				*	*		*	*	*	*	*	*	*	*	*
Quarter 1, 2004													*	*	*	*	*	*	*	*	*
Quarter 2, 2016														*	*						

**Chart of MCL and Historical UTL Exceedances
for the C-746-U Contained Landfill (Continued)**

Groundwater Flow System	UCRS								URGA					LRGA							
Gradient	D	S	S	S	D	D	D	U	D	D	D	D	U	U	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										*	*										
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Quarter 3, 2024														*	*						
Quarter 4, 2024														*	*						
Quarter 1, 2025														*	*						
DISSOLVED OXYGEN																					
Quarter 1, 2003					*	*				*											
Quarter 3, 2003					*	*				*											
Quarter 4, 2003					*	*				*											
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Quarter 2, 2007					*	*				*	*										
Quarter 3, 2007					*	*				*	*										
Quarter 1, 2008					*	*				*	*							*			
Quarter 2, 2008					*	*				*	*										
Quarter 3, 2008					*	*				*	*										

**Chart of MCL and Historical UTL Exceedances
for the C-746-U Contained Landfill (Continued)**

Groundwater Flow System	UCRS									URGA					LRGA						
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	U	U	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 OXYGEN																					
Quarter 1, 2009							*														
Quarter 2, 2009					*			*	*												
Quarter 3, 2009						*		*	*												
Quarter 1, 2010					*		*														
Quarter 2, 2010					*	*		*	*										*	*	
Quarter 3, 2010					*	*															
Quarter 4, 2010							*				*								*		
Quarter 1, 2011						*															
Quarter 2, 2011					*	*	*	*	*				*								
Quarter 3, 2011						*			*												
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Quarter 2, 2012	*			*	*	*		*	*												
Quarter 3, 2012						*															
Quarter 4, 2012									*												
Quarter 1, 2013						*			*												
Quarter 2, 2013							*		*												
Quarter 3, 2013	*				*			*	*												
Quarter 4, 2013								*	*										*		
Quarter 2, 2014	*				*	*	*	*	*								*				
Quarter 3, 2014	*				*	*	*	*	*												
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Quarter 2, 2015					*	*	*	*	*												
Quarter 3, 2015					*	*	*	*	*												
Quarter 4, 2015	*				*	*	*	*	*												
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Quarter 2, 2016	*	*			*	*	*	*	*			*									
Quarter 3, 2016					*	*	*	*	*				*								
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Quarter 1, 2017						*	*	*	*			*									
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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 3, 2022	*	*			*	*	*	*	*		*					*			*		
Quarter 4, 2022	*	*			*	*	*	*	*										*		
Quarter 2, 2023	*				*	*	*	*	*							*					
Quarter 3, 2023					*	*	*	*	*												
Quarter 4, 2023		*			*	*	*	*	*										*		
Quarter 1, 2024						*	*	*	*										*		
Quarter 2, 2024	*				*	*	*	*	*								*				
Quarter 3, 2024	*				*	*	*	*	*							*					
Quarter 4, 2024					*	*	*	*	*												
Quarter 1, 2025	*				*	*	*	*	*								*		*		
DISSOLVED SOLIDS																					
Quarter 4, 2002										*											
Quarter 1, 2003										*											
Quarter 2, 2003										*											
Quarter 3, 2003						*				*	*										
Quarter 4, 2003										*											
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Quarter 3, 2013														*	*						
Quarter 4, 2013														*	*						

Chart of MCL and Historical UTL Exceedances for the C-746-U Contained Landfill (Continued)

Groundwater Flow System	UCRS								URGA					LRGA							
	D	S	S	S	D	D	U	U	D	D	D	U	U	D	D	D	U	U			
Gradient	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
Monitoring Well																					
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															*						
Quarter 2, 2024															*						
Quarter 3, 2024															*						
Quarter 4, 2024															*						
Quarter 1, 2025															*						
IODIDE																					
Quarter 2, 2003																*					
Quarter 3, 2003	*									*											
Quarter 4, 2003							*														
Quarter 3, 2010						*		*				*					*				
IODINE-131																					
Quarter 3, 2010																					
IODOMETHANE																					
Quarter 4, 2003						*															
IRON																					
Quarter 4, 2002						*															
Quarter 3, 2003																*					
Quarter 4, 2003											*					*					
Quarter 1, 2004											*					*					
Quarter 2, 2004											*					*					
Quarter 3, 2004											*					*					
Quarter 3, 2005																*					
MAGNESIUM																					
Quarter 2, 2005															*						*
Quarter 3, 2005						*										*					*
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															*						
Quarter 3, 2012															*						
Quarter 4, 2012															*						
Quarter 1, 2013															*						
Quarter 2, 2013															*						
Quarter 3, 2013															*						
Quarter 4, 2013															*						
Quarter 2, 2014															*						
Quarter 4, 2014															*						
Quarter 2, 2015															*						
Quarter 3, 2015															*						
Quarter 4, 2015															*						
Quarter 1, 2016															*						
Quarter 2, 2016															*						
Quarter 3, 2016	*																				
Quarter 4, 2016	*																				
Quarter 2, 2017	*																				
Quarter 3, 2017	*																				
Quarter 1, 2018	*																				
Quarter 3, 2018	*																				
Quarter 3, 2019	*																				
Quarter 4, 2019															*						
Quarter 2, 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 1, 2023								*							*						
Quarter 2, 2023															*						
Quarter 1, 2024								*							*						
Quarter 2, 2024															*						
Quarter 3, 2024															*						
Quarter 4, 2024															*						
Quarter 1, 2025															*						*

**Chart of MCL and Historical UTL Exceedances
for the C-746-U Contained Landfill (Continued)**

Groundwater Flow System	UCRS								URGA					LRGA							
	D	S	S	S	D	D	D	U	U	D	D	D	U	U	D	D	D	U	U		
Gradient	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373
Monitoring Well																					
MANGANESE																					
Quarter 3, 2002										*	*	*									
Quarter 4, 2002		*				*	*			*	*	*	*	*							
Quarter 2, 2003										*	*	*	*	*							
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 4, 2005										*	*	*	*	*			*	*	*		
Quarter 1, 2006										*	*	*	*	*			*	*	*		
Quarter 2, 2006							*			*	*	*	*	*			*	*	*		
Quarter 3, 2006										*	*	*	*	*			*	*	*		
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							*			*	*	*	*	*			*	*	*		
Quarter 1, 2009							*			*	*	*	*	*			*	*	*		
Quarter 2, 2009							*			*	*	*	*	*			*	*	*		
Quarter 3, 2009		*			*	*	*	*	*	*	*	*	*	*			*	*	*		
Quarter 4, 2009		*			*	*	*	*	*	*	*	*	*	*			*	*	*		
Quarter 1, 2010		*			*	*	*	*	*	*	*	*	*	*			*	*	*		
Quarter 2, 2010		*			*	*	*	*	*	*	*	*	*	*			*	*	*		
Quarter 3, 2010		*			*	*	*	*	*	*	*	*	*	*	*		*	*	*		
Quarter 4, 2010		*			*	*	*	*	*	*	*	*	*	*			*	*	*		
Quarter 1, 2011		*			*	*	*	*	*	*	*	*	*	*			*	*	*		
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	*	*		*	*	*	*	*	*	*	*	*	*	*	*		*	*	*		

Chart of MCL and Historical UTL Exceedances for the C-746-U Contained Landfill (Continued)

Groundwater Flow System	UCRS												URGA					LRGA				
	D	S	S	S	D	D	U	U	D	D	D	D	U	U	D	D	D	D	U	U		
Gradient	368	375	376	377	359	362	365	371	374	366	360	363	357	369	372	367	361	364	358	370	373	
Monitoring Well																						
OXIDATION-REDUCTION POTENTIAL																						
Quarter 1, 2016	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
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 3, 2022	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2022	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2023	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 2, 2023	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2023	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2023	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2024	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 2, 2024	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 3, 2024	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 4, 2024	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Quarter 1, 2025	*	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PCB-TOTAL																						
Quarter 4, 2003																	*					
Quarter 3, 2004												*										
Quarter 3, 2005							*															
Quarter 2, 2006							*															
Quarter 3, 2006							*															
Quarter 1, 2007							*															
Quarter 2, 2007							*															
Quarter 3, 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 2, 2006							*					*										
Quarter 1, 2007							*															
Quarter 2, 2007							*															
Quarter 3, 2007							*															
Quarter 2, 2008							*															
Quarter 4, 2008							*															
Quarter 3, 2009							*															
Quarter 1, 2010							*															
Quarter 2, 2010							*															
Quarter 4, 2010							*															
PCB-1242																						
Quarter 3, 2006						*						*										
Quarter 4, 2006										*												
Quarter 1, 2008						*																
Quarter 2, 2012						*																
PCB-1248																						
Quarter 2, 2008						*																
PCB-1260																						
Quarter 2, 2006						*																
pH																						
Quarter 3, 2002										*												
Quarter 4, 2002										*												
Quarter 1, 2003										*												
Quarter 2, 2003										*												
Quarter 3, 2003	*					*				*												
Quarter 4, 2003						*											*					
Quarter 1, 2004						*											*					
Quarter 3, 2005						*												*		*		
Quarter 4, 2005						*													*			
Quarter 3, 2006																	*					
Quarter 2, 2011																	*					
Quarter 3, 2011																	*					
Quarter 4, 2011																	*					
Quarter 1, 2012																	*	*				
Quarter 2, 2012												*					*					
Quarter 1, 2013										*	*						*					
Quarter 3, 2015																	*				*	*
Quarter 2, 2016																				*	*	*
Quarter 3, 2016																				*	*	*
Quarter 2, 2017																	*					

Chart of MCL and Historical UTL Exceedances for the C-746-U Contained Landfill (Continued)

Groundwater Flow System	UCRS								URGA					LRGA							
	D	S	S	S	D	D	D	U	U	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
pH					*					*	*					*	*	*			
Quarter 3, 2018					*					*	*					*	*	*			
Quarter 4, 2018																*	*				
Quarter 3, 2019																*					
Quarter 1, 2021																*	*		*		
Quarter 3, 2021																*				*	
Quarter 4, 2021																*				*	
Quarter 1, 2025																*					
POTASSIUM																					
Quarter 1, 2014																*					
RADIUM-228																					
Quarter 2, 2005																					
Quarter 4, 2005						■						■						■			
SELENIUM																					
Quarter 4, 2003									■												
SODIUM																					
Quarter 3, 2002										*	*		*								
Quarter 4, 2002										*	*		*								
Quarter 1, 2003										*	*			*							
Quarter 2, 2003										*	*										
Quarter 3, 2003										*	*										
Quarter 2, 2003										*	*										
Quarter 3, 2003										*	*										
Quarter 1, 2007										*											
Quarter 1, 2012														*							
Quarter 1, 2014															*						
Quarter 3, 2014										*											
Quarter 4, 2014										*											
Quarter 4, 2015										*											
Quarter 1, 2016										*											
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 3, 2018										*											
STRONTIUM-90																					
Quarter 4, 2008						■															
SULFATE																					
Quarter 1, 2003							*														
Quarter 2, 2003							*	*													
Quarter 3, 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		*				*	*	*	*	*					*						
Quarter 1, 2009		*				*	*	*	*	*					*						
Quarter 2, 2009		*				*	*	*	*	*					*						
Quarter 3, 2009		*				*	*	*	*	*					*						
Quarter 4, 2009		*				*	*	*	*	*					*						
Quarter 1, 2010		*				*	*	*	*	*					*						
Quarter 2, 2010		*				*	*	*	*	*					*						
Quarter 3, 2010		*				*	*	*	*	*					*						
Quarter 4, 2010		*				*	*	*	*	*					*						
Quarter 1, 2011		*				*	*	*	*	*					*						
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	*	*	*	*	*	*	*	*	*	*					*						

**Chart of MCL and Historical UTL Exceedances
for the C-746-U Contained Landfill (Continued)**

Groundwater Flow System	UCRS								URGA					LRGA							
	D	S	S	S	D	D	D	U	U	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
SULFATE																					
Quarter 2, 2015	*	*			*		*							*							
Quarter 3, 2015	*	*			*	*	*	*						*							
Quarter 4, 2015	*	*			*	*	*	*													
Quarter 1, 2016	*	*			*	*	*	*													
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 3, 2022	*	*			*	*	*	*	*	*					*						
Quarter 4, 2022	*	*			*	*	*	*	*	*					*						
Quarter 1, 2023	*	*			*	*	*	*	*						*						
Quarter 2, 2023	*	*			*	*	*	*	*	*					*						
Quarter 3, 2023	*	*			*	*	*	*	*	*					*						
Quarter 4, 2023	*	*			*	*	*	*	*	*					*						
Quarter 1, 2024	*	*			*	*	*	*	*	*					*						
Quarter 2, 2024	*	*			*	*	*	*	*	*					*						
Quarter 3, 2024	*	*			*	*	*	*	*	*					*						
Quarter 4, 2024	*	*			*	*	*	*	*	*					*						
Quarter 1, 2025	*	*			*	*	*	*	*	*					*						
TECHNETIUM-99																					
Quarter 4, 2002																*	*	*	*		
Quarter 2, 2003							*					*			*	*	*	*		*	
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 4, 2005															*	*	*	*		*	
Quarter 1, 2006															*	*	*	*		*	
Quarter 2, 2006		*						*							*	*	*	*		*	
Quarter 3, 2006															*	*	*	*		*	
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							*	*				*		*	*	*	*	*		*	
Quarter 1, 2009							*	*				*		*	*	*	*	*		*	
Quarter 2, 2009							*	*				*		*	*	*	*	*		*	
Quarter 3, 2009							*	*				*		*	*	*	*	*		*	
Quarter 4, 2009							*	*				*		*	*	*	*	*		*	
Quarter 1, 2010							*	*				*		*	*	*	*	*		*	
Quarter 2, 2010							*	*				*		*	*	*	*	*		*	
Quarter 3, 2010							*	*				*		*	*	*	*	*		*	
Quarter 4, 2010							*	*				*		*	*	*	*	*		*	
Quarter 1, 2011		*					*	*				*		*	*	*	*	*		*	
Quarter 2, 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 4, 2016							*	*				*		*	*	*	*	*		*	
Quarter 1, 2017							*	*				*		*	*	*	*	*		*	
Quarter 2, 2017							*	*				*		*	*	*	*	*		*	
Quarter 3, 2017							*	*				*		*	*	*	*	*		*	
Quarter 4, 2017							*	*				*	*	*	*	*	*	*		*	
Quarter 1, 2018							*	*				*	*	*	*	*	*	*		*	

**Chart of MCL and Historical UTL Exceedances
for the C-746-U Contained Landfill (Continued)**

Groundwater Flow System	UCRS								URGA					LRGA							
Gradient	D	S	S	S	D	D	D	U	U	D	D	D	D	U	U	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
TECHNETIUM-99																					
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 3, 2022														*	*	*	*	*	*	*	
Quarter 4, 2022														*	*	*	*	*	*	*	
Quarter 1, 2023										*				*	*	*	*	*	*	*	
Quarter 2, 2023										*				*	*	*	*	*	*	*	
Quarter 3, 2023														*	*	*	*	*	*	*	
Quarter 4, 2023														*	*	*	*	*	*	*	
Quarter 1, 2024														*	*	*	*	*	*	*	
Quarter 2, 2024														*	*	*	*	*	*	*	
Quarter 3, 2024										*				*	*	*	*	*	*	*	
Quarter 4, 2024										*				*	*	*	*	*	*	*	
Quarter 1, 2025										*				*	*	*	*	*	*	*	
THORIUM-230																					
Quarter 4, 2015																*					
Quarter 2, 2016										*						*			*		
Quarter 4, 2016	*										*		*			*			*		
Quarter 4, 2017													*	*							
Quarter 2, 2018										*			*	*							
Quarter 2, 2021									*												
Quarter 1, 2025					*																
TOLUENE																					
Quarter 2, 2014										*				*							
TOTAL ORGANIC CARBON																					
Quarter 3, 2002										*	*	*		*						*	
Quarter 4, 2002										*	*	*		*							
Quarter 1, 2003										*	*	*		*							
Quarter 3, 2003	*									*	*	*		*		*					
Quarter 4, 2003										*	*	*		*							
Quarter 1, 2004										*	*	*		*							
Quarter 3, 2005						*				*				*	*		*	*	*	*	
Quarter 4, 2005						*				*				*	*		*	*	*	*	
Quarter 1, 2006																	*	*	*	*	
TOTAL ORGANIC HALIDES																					
Quarter 4, 2002										*											
Quarter 1, 2003										*											
Quarter 2, 2003										*											
Quarter 1, 2004																*					
TRICHLOROETHENE																					
Quarter 3, 2002														■						■	
Quarter 4, 2002															■					■	
Quarter 1, 2003																				■	
Quarter 2, 2003																■				■	
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 4, 2005																				■	
Quarter 1, 2006																				■	
Quarter 2, 2006																				■	
Quarter 3, 2006																				■	
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																				■	
Quarter 1, 2009																				■	
Quarter 2, 2009																				■	
Quarter 3, 2009																				■	
Quarter 4, 2009							■	■				■		■	■		■			■	
Quarter 1, 2010														■	■					■	
Quarter 2, 2010														■	■					■	
Quarter 3, 2010														■	■					■	
Quarter 4, 2010														■	■					■	
Quarter 2, 2011															■					■	
Quarter 3, 2011															■					■	
Quarter 4, 2011															■					■	
Quarter 1, 2012															■					■	
Quarter 2, 2012																■				■	

Chart of MCL and Historical UTL Exceedances for the C-746-U Contained Landfill (Continued)

Groundwater Flow System	UCRS								URGA					LRGA							
Gradient	D	S	S	S	D	D	D	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
TRICHLOROETHENE																					
Quarter 3, 2012																					
Quarter 4, 2012																					
Quarter 1, 2013																					
Quarter 2, 2013																					
Quarter 3, 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 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 3, 2022																					
Quarter 1, 2023																					
Quarter 2, 2023																					
Quarter 3, 2023																					
TURBIDITY																					
Quarter 1, 2003																					
URANIUM																					
Quarter 4, 2002																					
Quarter 4, 2006																					
ZINC																					
Quarter 3, 2005																					
* Statistical test results indicate an elevated concentration (i.e., a statistical exceedance).																					
■ 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																					

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APPENDIX H
METHANE MONITORING DATA

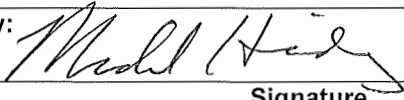
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CP3-WM-0017-F04 - C-746-U LANDFILL METHANE MONITORING REPORT

PADUCAH GASEOUS DIFFUSION PLANT

Permit #: 073-00045

McCracken County, Kentucky

Date:	January 29, 2025	Time:	1315	Monitor:	Michael Hideg
Weather Conditions: Mostly sunny, Approximately 59°, humidity: 30%					
Monitoring Equipment: Multi RAE – Serial # 11881					
Monitoring Location					Reading (% LEL)
C-746-U1	Checked at close to ground level				0
C-746-U2	Checked at close to ground level				0
C-746-U-T-14	Checked at close to ground level				0
C-746-U15	Checked at close to ground 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 Areas	No problems noted				None
Remarks: N/A					
Performed by: 					
					2/3/2025
Signature					Date

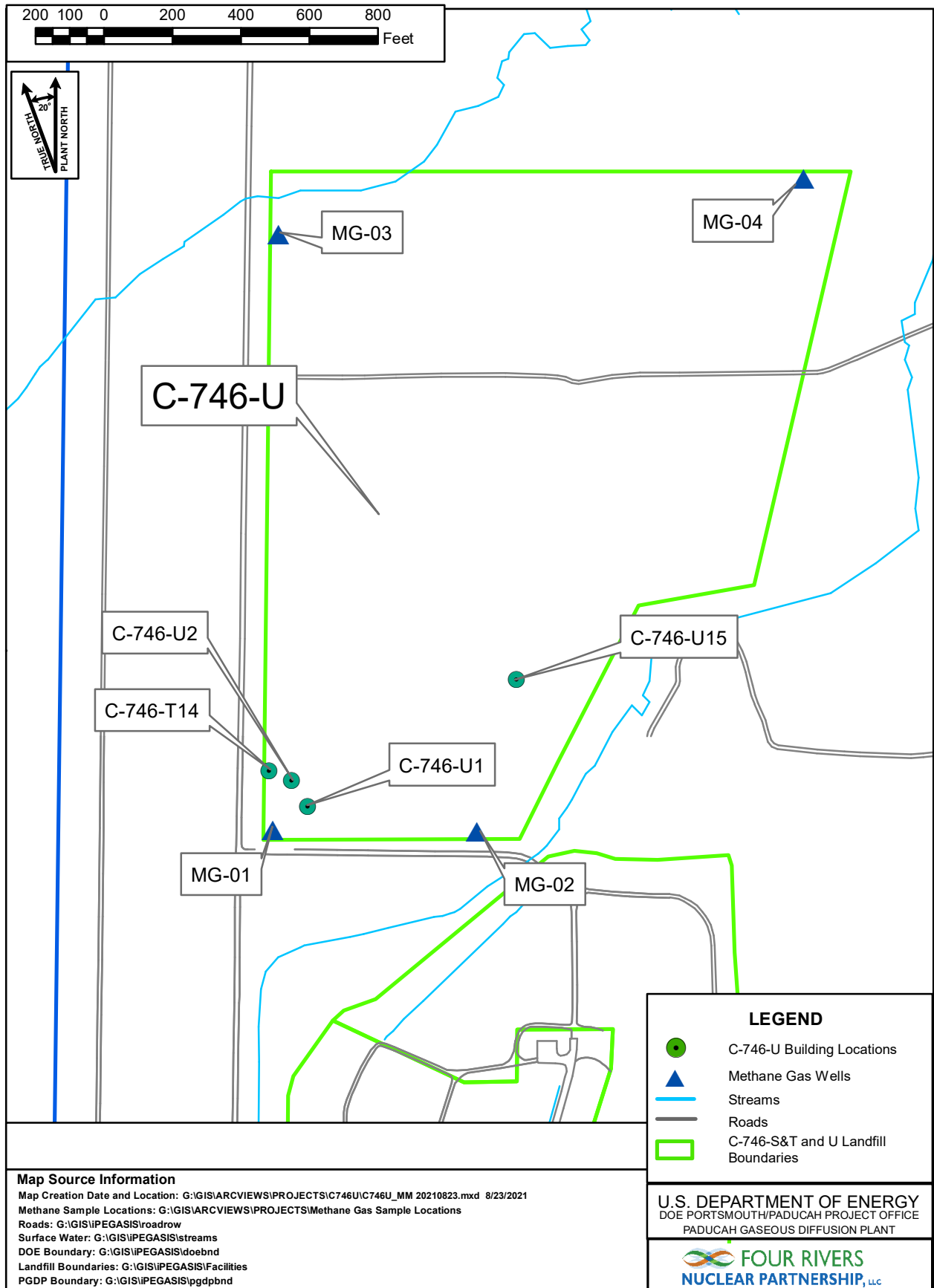


Figure H.1. C-746-U Landfill Methane Monitoring Locations

APPENDIX I

SURFACE WATER ANALYSES AND LABORATORY REPORTS

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**Paducah OREIS
SURFACE WATER MONITORING REPORT**

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

Sampling Point: L150 INSTREAM **Period:** 1st Quarter 2025

SAMPLE ID: L150US2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride	W	67.9	mg/L	2	1/31/2025			EPA-300.0	X
Sulfate		70.7	mg/L	2	1/31/2025			EPA-300.0	X
Conductivity		625	µmhos/cm		1/31/2025				X
pH		7.94	Std Unit		1/31/2025				X
Iron		2.07	mg/L	0.1	1/31/2025			EPA-200.8	X
Sodium		58	mg/L	1.25	1/31/2025			EPA-200.8	X
Uranium		0.003	mg/L	0.0002	1/31/2025			EPA-200.8	X
Alpha activity	U	3.52	pCi/L	6.32	1/31/2025	4	4.04	SW846-9310	X
Beta activity	U	7.69	pCi/L	9.19	1/31/2025	5.87	6.01	SW846-9310	X
Dissolved Solids		377	mg/L	10	1/31/2025			EPA-160.1	X
Suspended Solids		21.1	mg/L	3.33	1/31/2025			EPA-160.2	X
Chemical Oxygen Demand (COD)	J	18.7	mg/L	20	1/31/2025			EPA-410.4	X
Total Solids		437	mg/L	10	1/31/2025			SM-2540B	X
Total Organic Carbon (TOC)		8.6	mg/L	1	1/31/2025			SW846-9060A	X

**Paducah OREIS
SURFACE WATER MONITORING REPORT**

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

Sampling Point: L150 INSTREAM **Period:** 1st Quarter 2025

SAMPLE ID: L150US2-25-2 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride		21.1	mg/L	2	3/15/2025			EPA-300.0	X
Conductivity		366	µmhos/cm		3/15/2025				X
pH		7.84	Std Unit		3/15/2025				X
Sodium		23.5	mg/L	0.25	3/15/2025			EPA-200.8	X

**Paducah OREIS
SURFACE WATER MONITORING REPORT**

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

Sampling Point: L154 INSTREAM **Period:** 1st Quarter 2025

SAMPLE ID: L154US2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride	W	3.36	mg/L	0.2	1/31/2025			EPA-300.0	X
Sulfate		2.02	mg/L	0.4	1/31/2025			EPA-300.0	X
Conductivity		62	µmhos/cm		1/31/2025				X
pH		7.58	Std Unit		1/31/2025				X
Iron		1.61	mg/L	0.1	1/31/2025			EPA-200.8	X
Sodium		2.21	mg/L	0.25	1/31/2025			EPA-200.8	X
Uranium		0.00095	mg/L	0.0002	1/31/2025			EPA-200.8	X
Alpha activity	U	3.38	pCi/L	5.79	1/31/2025	3.66	3.71	SW846-9310	X
Beta activity	U	9.13	pCi/L	9.47	1/31/2025	6.12	6.32	SW846-9310	X
Dissolved Solids		55	mg/L	10	1/31/2025			EPA-160.1	X
Suspended Solids		13.1	mg/L	2.5	1/31/2025			EPA-160.2	X
Chemical Oxygen Demand (COD)		21	mg/L	20	1/31/2025			EPA-410.4	X
Total Solids		117	mg/L	10	1/31/2025			SM-2540B	X
Total Organic Carbon (TOC)		10	mg/L	1	1/31/2025			SW846-9060A	X

**Paducah OREIS
SURFACE WATER MONITORING REPORT**

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

Sampling Point: L351 DOWNSTREAM **Period:** 1st Quarter 2025

SAMPLE ID: L351US2-25 **Sample Type:** REG

Parameter	Qualifier	Result	Units	Reporting Limit	Date Collected	Counting Error (+/-)	TPU	Method	Validation
Chloride	W	4.08	mg/L	0.2	1/31/2025			EPA-300.0	X
Sulfate		5.03	mg/L	0.4	1/31/2025			EPA-300.0	X
Conductivity		93	µmhos/cm		1/31/2025				X
pH		7.95	Std Unit		1/31/2025				X
Iron		2.47	mg/L	0.1	1/31/2025			EPA-200.8	X
Sodium		3.56	mg/L	0.25	1/31/2025			EPA-200.8	X
Uranium		0.00134	mg/L	0.0002	1/31/2025			EPA-200.8	X
Alpha activity	U	-0.422	pCi/L	9.16	1/31/2025	4.27	4.27	SW846-9310	X
Beta activity		11.4	pCi/L	9.62	1/31/2025	6.5	6.77	SW846-9310	X
Dissolved Solids		97	mg/L	10	1/31/2025			EPA-160.1	X
Suspended Solids		55.2	mg/L	5	1/31/2025			EPA-160.2	X
Chemical Oxygen Demand (COD)		25.5	mg/L	20	1/31/2025			EPA-410.4	X
Total Solids		179	mg/L	10	1/31/2025			SM-2540B	X
Total Organic Carbon (TOC)		8.1	mg/L	1	1/31/2025			SW846-9060A	X

Qualifier Code Definitions	
*	Duplicate analysis not within control limits.
B	Analyte was detected in the associated blank.
H	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.
Q	Quality issue exists with instrument calibration.
P	Difference between results from two GC columns outside control limits.
S	Sample surrogate recovery outside acceptance criteria.
T	Tracer recovery outside control limits of 30-110%.
U	Not detected. RADS: Value reported is < MDA and/or TPU.
W	Post-digestion spike recovery out of control limits.
W1	Post-digestion spike and post-digestion spike duplicate RPD out of control limits.
X	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 Type Code Definitions	
REG	Regular
FR	Field Replicate (code used for Field Duplicate)
RI	Equipment Rinsate Blank
FB	Field Blank
TB	Trip Blank

Validation 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.
X	Not validated

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ATTACHMENT II

GEL LABORATORIES CERTIFICATE OF ANALYSIS

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GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L150US2-25
Sample ID: 707005001
Matrix: WS
Collect Date: 31-JAN-25
Receive Date: 04-FEB-25
Collector: Client

Project: FRNP00612
Client ID: FRNP006

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
<i>GFPC, Gross A/B, liquid "As Received"</i>														
Alpha	U	3.52	+/-4.00	6.32	+/-4.04	15.0	pCi/L			AH4	02/13/25	1619	2745852	1
Beta	U	7.69	+/-5.87	9.19	+/-6.01	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

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L154US2-25

Project: FRNP00612

Sample ID: 707005002

Client ID: FRNP006

Matrix: WS

Collect Date: 31-JAN-25

Receive Date: 04-FEB-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
<i>GFPC, Gross A/B, liquid "As Received"</i>														
Alpha	U	3.38	+/-3.66	5.79	+/-3.71	15.0	pCi/L			AH4	02/13/25	1619	2745852	1
Beta	U	9.13	+/-6.12	9.47	+/-6.32	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

GEL LABORATORIES LLC

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 29, 2025

Contact: Ms. Jaime Morrow

Project: C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L351US2-25

Project: FRNP00612

Sample ID: 707005003

Client ID: FRNP006

Matrix: WS

Collect Date: 31-JAN-25

Receive Date: 04-FEB-25

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
<i>GFPC, Gross A/B, liquid "As Received"</i>														
Alpha	U	-0.422	+/-4.27	9.16	+/-4.27	15.0	pCi/L			AH4	02/13/25	1619	2745852	1
Beta		11.4	+/-6.50	9.62	+/-6.77	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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L150US2-25 Project: FRNP00612
Sample ID: 707005001 Client ID: FRNP006
Matrix: WS
Collect Date: 31-JAN-25 07:55
Receive Date: 04-FEB-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average		8.60	0.330	1.00	mg/L		1	KB3	02/20/25	0932	2753062	1
Ion Chromatography												
EPA 300.0 Anions (Chloride and Sulfate) "As Received"												
Sulfate		70.7	0.665	2.00	mg/L		5	CWW	02/07/25	2231	2744565	2
Chloride	W	67.9	0.670	2.00	mg/L		10	CWW	02/08/25	1550	2744565	3
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals- Fe Na U "As Received"												
Iron		2.07	0.0330	0.100	mg/L	1.00	1	JD2	02/11/25	1830	2744698	4
Uranium		0.00300	0.0000670	0.000200	mg/L	1.00	1	JD2	02/12/25	1231	2744698	5
Sodium		58.0	0.400	1.25	mg/L	1.00	5	BAJ	02/13/25	1519	2744698	6
Solids Analysis												
EPA 160.1 Solids, Dissolved "As Received"												
Total Dissolved Solids		377	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	7
EPA 160.2 Total Suspended Liq "As Received"												
Total Suspended Solids		21.1	0.760	3.33	mg/L			RR4	02/06/25	0816	2745761	8
SM 2540 B Solids, Total "As Received"												
Total Solids		437	6.29	10.0	mg/L			RR4	02/07/25	0937	2746633	9
Spectrometric Analysis												
EPA 410.4 Chem. Oxygen Demand "As Received"												
COD	J	18.7	8.95	20.0	mg/L		1	JW2	02/05/25	1312	2745049	10

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	BB2	02/08/25	0950	2744697

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L150US2-25
Sample ID: 707005001

Project: FRNP00612
Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
The following Analytical Methods were performed:												
Method	Description										Analyst Comments	
1	SW846 9060A											
2	EPA 300.0											
3	EPA 300.0											
4	EPA 200.8											
5	EPA 200.8											
6	EPA 200.8											
7	EPA 160.1											
8	EPA 160.2											
9	SM 2540B											
10	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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L154US2-25 Project: FRNP00612
Sample ID: 707005002 Client ID: FRNP006
Matrix: WS
Collect Date: 31-JAN-25 08:10
Receive Date: 04-FEB-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average		10.0	0.330	1.00	mg/L		1	KB3	02/20/25	1108	2753062	1
Ion Chromatography												
EPA 300.0 Anions (Chloride and Sulfate) "As Received"												
Chloride	W	3.36	0.0670	0.200	mg/L		1	CWW	02/08/25	0110	2744565	2
Sulfate		2.02	0.133	0.400	mg/L		1					
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals- Fe Na U "As Received"												
Iron		1.61	0.0330	0.100	mg/L	1.00	1	JD2	02/11/25	1834	2744698	3
Uranium		0.000950	0.0000670	0.000200	mg/L	1.00	1	JD2	02/12/25	1233	2744698	4
Sodium		2.21	0.0800	0.250	mg/L	1.00	1	BAJ	02/13/25	1520	2744698	5
Solids Analysis												
EPA 160.1 Solids, Dissolved "As Received"												
Total Dissolved Solids		55.0	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	6
EPA 160.2 Total Suspended Liq "As Received"												
Total Suspended Solids		13.1	0.570	2.50	mg/L			RR4	02/06/25	0816	2745761	7
SM 2540 B Solids, Total "As Received"												
Total Solids		117	6.29	10.0	mg/L			RR4	02/07/25	0937	2746633	8
Spectrometric Analysis												
EPA 410.4 Chem. Oxygen Demand "As Received"												
COD		21.0	8.95	20.0	mg/L		1	JW2	02/05/25	1312	2745049	9

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	BB2	02/08/25	0950	2744697

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L154US2-25

Sample ID: 707005002

Project: FRNP00612

Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
The following Analytical Methods were performed:												
Method	Description										Analyst Comments	
1	SW846 9060A											
2	EPA 300.0											
3	EPA 200.8											
4	EPA 200.8											
5	EPA 200.8											
6	EPA 160.1											
7	EPA 160.2											
8	SM 2540B											
9	EPA 410.4											

Notes:

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L351US2-25 Project: FRNP00612
Sample ID: 707005003 Client ID: FRNP006
Matrix: WS
Collect Date: 31-JAN-25 07:36
Receive Date: 04-FEB-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060A, Total Organic Carbon "As Received"												
Total Organic Carbon Average		8.10	0.330	1.00	mg/L		1	KB3	02/20/25	1141	2753062	1
Ion Chromatography												
EPA 300.0 Anions (Chloride and Sulfate) "As Received"												
Chloride	W	4.08	0.0670	0.200	mg/L		1	CWW	02/08/25	0142	2744565	2
Sulfate		5.03	0.133	0.400	mg/L		1					
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals- Fe Na U "As Received"												
Iron		2.47	0.0330	0.100	mg/L	1.00	1	JD2	02/11/25	1838	2744698	3
Uranium		0.00134	0.0000670	0.000200	mg/L	1.00	1	JD2	02/12/25	1236	2744698	4
Sodium		3.56	0.0800	0.250	mg/L	1.00	1	BAJ	02/13/25	1521	2744698	5
Solids Analysis												
EPA 160.1 Solids, Dissolved "As Received"												
Total Dissolved Solids		97.0	2.38	10.0	mg/L			RR4	02/06/25	1317	2745814	6
EPA 160.2 Total Suspended Liq "As Received"												
Total Suspended Solids		55.2	1.14	5.00	mg/L			RR4	02/06/25	0816	2745761	7
SM 2540 B Solids, Total "As Received"												
Total Solids		179	6.29	10.0	mg/L			RR4	02/07/25	0937	2746633	8
Spectrometric Analysis												
EPA 410.4 Chem. Oxygen Demand "As Received"												
COD		25.5	8.95	20.0	mg/L		1	JW2	02/05/25	1312	2745049	9

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	BB2	02/08/25	0950	2744697

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L351US2-25

Sample ID: 707005003

Project: FRNP00612

Client ID: FRNP006

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
The following Analytical Methods were performed:												
Method	Description										Analyst Comments	
1	SW846 9060A											
2	EPA 300.0											
3	EPA 200.8											
4	EPA 200.8											
5	EPA 200.8											
6	EPA 160.1											
7	EPA 160.2											
8	SM 2540B											
9	EPA 410.4											

Notes:

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: April 29, 2025

Company : Four Rivers Nuclear Partnership, LLC
Address : 5600 Hobbs Road

Contact: Kevil, Kentucky 42053
Project: Ms. Jaime Morrow
C-746-U Landfill Surface Water Quarterly (US25-02)

Client Sample ID: L150US2-25-2 Project: FRNP00612
Sample ID: 714533001 Client ID: FRNP006
Matrix: WS
Collect Date: 15-MAR-25 08:55
Receive Date: 18-MAR-25
Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
EPA 300.0 Anions (Chloride) "As Received"												
Chloride		21.1	0.670	2.00	mg/L		10	RXB5	03/21/25	1922	2770040	1
Metals Analysis-ICP-MS												
200.8/200.2 MIMICP Metals- Sodium "As Received"												
Sodium		23.5	0.0800	0.250	mg/L	1.00	1	JD2	03/28/25	0852	2771115	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-MS 200.2 PREP	PB1	03/26/25	0845	2771114

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 200.8	

Notes:

Column headers are defined as follows:

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

APPENDIX J

ANALYTICAL LABORATORY CERTIFICATION

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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.

A blue ink signature of Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2567.01
Valid to June 30, 2025

For the tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.

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APPENDIX K

LABORATORY ANALYTICAL METHODS

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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)

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APPENDIX L

MICRO-PURGING STABILITY PARAMETERS

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**Micro-Purge Stability Parameters
for the C-746-U Contained Landfill**

	Temperature (°F) Conductivity (µmhos/cm) pH (Std Unit) Dissolved oxygen (mg/L) Turbidity (NTU)						Temperature (°F) Conductivity (µmhos/cm) pH (Std Unit) Dissolved oxygen (mg/L) Turbidity (NTU)				
MW357						MW358					
Date Collected: 1/27/2025						Date Collected: 1/27/2025					
0926	56.0	404	6.05	6.45	3.95	1318	58.8	492	6.44	3.81	53.40
0929	55.7	388	6.01	5.15	3.35	1321	57.3	436	6.13	0.79	28.35
0932	55.4	388	6.01	5.11	3.30	1324	57.5	437	6.10	0.73	27.91
MW359						MW360					
Date Collected: 1/27/2025						Date Collected: 1/27/2025					
1022	59.7	223	6.11	7.71	10.51	0732	54.4	494	6.10	2.81	6.10
1025	54.4	193	5.83	5.48	3.88	0735	54.3	493	6.03	2.21	3.79
1028	54.1	192	5.81	5.48	3.90	0738	54.2	488	6.02	2.18	3.80
MW361						MW362					
Date Collected: 1/27/2025						Date Collected: 1/27/2025					
0837	55.5	461	6.00	2.31	4.90	1228	56.9	607	6.95	6.85	213.70
0840	55.1	486	5.94	3.54	4.76	1231	56.7	616	6.96	6.96	189.32
0843	54.9	486	5.92	3.61	3.91	1234	56.8	618	6.97	6.97	183.20
MW363						MW364					
Date Collected: 1/28/2025						Date Collected: 1/28/2025					
0655	51.7	347	6.11	4.32	4.23	0743	55.2	449	5.92	5.89	1.97
0658	52.3	339	6.02	1.22	3.52	0746	55.3	463	5.84	5.84	1.64
0701	51.6	336	6.02	1.01	2.80	0749	53.7	465	5.85	5.85	1.68
MW365						MW366					
Date Collected: 1/28/2025						Date Collected: 1/28/2025					
0825	56.6	387	6.36	9.87	1.93	0913	55.0	486	5.97	3.12	1.49
0828	56.0	384	6.36	10.03	1.94	0916	55.7	485	5.97	3.14	1.46
0831	55.6	384	6.36	10.38	1.98	0919	55.0	484	5.98	3.10	1.52
MW367						MW368					
Date Collected: 1/28/2025						Date Collected: 1/28/2025					
1001	57.9	434	6.01	3.04	4.04	1044	59.0	472	5.75	1.45	4.12
1004	56.7	273	5.78	0.96	3.70	1047	58.2	547	6.31	3.15	3.86
1007	56.3	272	5.78	0.94	3.50	1050	58.2	554	6.33	3.21	3.72
MW369						MW370					
Date Collected: 1/28/2025						Date Collected: 1/28/2025					
1024	57.1	340	6.37	5.03	2.17	0845	54.3	408	6.18	6.40	45.14
1027	57.0	341	6.26	4.77	2.21	0848	53.5	416	6.22	6.11	45.36
1030	57.0	343	6.25	4.72	2.25	0851	52.9	416	6.28	6.23	46.34
MW371						MW372					
Date Collected: 1/28/2025						Date Collected: 1/28/2025					
0932	57.9	690	6.74	5.50	1.88	1417	60.0	758	6.27	3.81	1.57
0935	57.8	694	6.74	5.31	1.61	1420	60.0	758	6.27	3.75	2.01
0938	57.4	699	6.75	5.23	1.38	1423	60.0	758	6.27	3.71	2.62
MW373						MW374					
Date Collected: 1/28/2025						Date Collected: 1/28/2025					
1231	58.6	941	6.15	2.37	1.01	1322	59.4	675	6.90	4.03	0.39
1234	58.6	943	6.14	2.19	0.93	1325	59.4	676	6.89	3.65	0.42
1237	58.6	945	6.14	2.08	0.99	1328	59.2	679	6.88	3.52	0.37
MW375											
Date Collected: 1/28/2025											
1231	59.0	353	6.41	4.77	2.26						
1234	59.2	349	6.35	2.61	1.96						
1237	59.3	348	6.35	2.57	1.90						

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